



Sur le

Number 12  
Fall 2021

# spectre

The Montreal Cognitive Neuroscience Autism Research Group

05



The female phenotype

07



For a Radical Change in Autism Research?

09



A better quality of life in Québec than in France

12



Twice-exceptional



02

## Autism and language: delay, regression, catch-up, what does science say?



page **02**  
Autism and language:  
delay, regression,  
catch-up, what  
does science say?



 **05**

The female  
phenotype:  
what do  
expert  
clinicians  
think?



 **07**

For a Radical  
Change  
in Autism  
Research:  
Back to the  
Prototype



 **09**

Autistic adults  
have a better  
quality of life  
in Québec than  
in France



 **12**

Twice-exceptional:  
high intellectual  
potential and  
autism



Official magazine of the The Montreal Cognitive Neuroscience Autism Research Group

The Montreal Cognitive Neuroscience Autism Research Group focuses on brain function, auditory and visual perception, exceptional skills and interventions in autism.

The translation is a courtesy of the Chaire de recherche Marcel et Rolande Gosselin en neurosciences cognitives fondamentales et appliquées du spectre autistique

This project is also supported by the Research CIUSSS-NIM

The graphics and design is a courtesy of the Réseau national d'expertise en TSA.

The printed version is a courtesy of the Fondation les petits trésors. [petitstresors.ca](http://petitstresors.ca)

## Comité de rédaction

### Chief editor:

Valérie Courchesne

### Assistant editor:

Janie Degré-Pelletier

### Text editing and Translation:

Alexa Meilleur  
Julie Cumin

### Editorial board:

Vicky Caron  
Catherine Cimon-Paquet  
Isabelle Courcy  
Julie Cumin  
David Gagnon  
Laurent Mottron  
Chloée Paquette Houde  
Isabelle Soulières

### Graphics / Design:

Alibi Acapella Inc.

Sur le spectre :

# Stay tuned, a video clip on the genetics of autism, will be posted on our Youtube channel in the fall.

It is once again with great pleasure that we present this 12<sup>th</sup> issue of *Sur le Spectre*. This fall edition has once again been made possible thanks to the support of our financial partners: the Marcel and Rolande Gosselin Research Chair in Cognitive Neuroscience and Autism of the Université de Montréal and the National Network of Expertise in ASD (RNETSA) and the support of the Petits Trésors Foundation and of the CIUSSS-NIM Research.

We also invite you to stay tuned, as we are currently working on the development of a video on the genetics of autism, which will be posted on our [YouTube channel](#) in the fall. This second video is being produced thanks to the support of the [Petits Trésors Foundation](#), which is once again renewing its support for the project and the mission of *Sur le Spectre* with this financial support. We invite you to visit their brand-new website by clicking on the link above to learn more about the projects they support in autism and mental health. We would also like to thank all our readers who have subscribed to our YouTube channel. Thanks to your support, we have not only obtained funding for this second video but have also applied for additional funding from the Fonds de Recherche en Santé du Québec. We hope to obtain funding to produce 2 other types of videos, keep reading, we will keep you informed in future editions of the magazine!

In this issue you will find an article on language development in autism, specifically what to expect following language regression. You will also find an article on the diagnosis of adult women, written by our contributor Julie Cumin. Then, an article co-authored by professor and neuropsychologist Isabelle Soulières and Catherine Cimon-Paquet, will inform you about twice exceptionality (i.e., giftedness in autism). Finally, you will be able to read an article popularizing the results of a study comparing the quality of life of autistic adults in France and in Quebec and the report of a debate between researchers, initiated by Laurent Mottron, on the impact of diagnostic practices in autism on research.

Enjoy reading! 



Valérie Courchesne  
Ph.D.

Chief editor

Thanks to your support, we have not only obtained funding for this second video but have also applied for additional funding from the Fonds de Recherche en Santé du Québec.



---

Non-verbal intelligence is currently the best predictor of future language level for children.



# Autism and language: delay, regression, catch-up, what does science say?

By DAVID GAGNON

The first signs of autism are rarely noticed by parents before children reach two years of age. Language delays or loss of previously acquired language are typically the first symptoms leading parents to consult a professional.

Generally, predicting the developmental trajectory of language in an autistic child is difficult, as is determining the level of language they'll ultimately develop. Some will remain mostly non-verbal, others will have a delayed development and others will never show language difficulties. Non-verbal intelligence is currently the best predictor of future language level for children.

Initial language development in children that ultimately receive an autism diagnostic is often characterized by one of these three situations: (1) a language delay, (2) a typical language development, or (3) a language regression. The latter is defined by a more or less sudden loss of previously acquired language. This typically happens when the child is between 2 and 3 years of age, following an initially typical language development.

Language regression, when it presents itself, can be experienced by parents as an alarming event. It can be common for parents to look for external causes to this event. It is important to mention that language regression is in fact a phenomenon that is specific to autism, without any environmental triggers, that is not associated to vaccination, nor any infectious or inflammatory

disturbance. Language regression is rarely seen in other neurodevelopmental conditions and is generally associated with a "frank" presentation of autism.

The language regression phenomenon has been reported since the first and earlier descriptions of autism and has been associated for a long time with an unfavourable prognostic of language development. However, this prognostic was based on speculations and lacked scientific evidence.

A recent article published by Gagnon et al. (2021) in the *Molecular Autism* journal, contributed to the understanding of language developmental trajectories and the regression phenomenon in autism. The study used data from the *Simons Simplex Collection*, a database with more than 2000 autistic children from the ages of 4 to 18.

## Main results:

The study confirmed that children experiencing language regressions produce their first words, even their first sentence in some cases, at the same age as do typically developing children. They don't show language delays before the regression occurs. However, after the regression, the language level stagnates (doesn't improve), and it takes about 21 months before language comes back to the level at which it was before the regression. During this period, children accumulate a

It is important to mention that language regression is in fact a phenomenon that is specific to autism, without any environmental triggers, that is not associated to vaccination, nor any infectious or inflammatory disturbance.

## Original article:

Gagnon, D., Zeribi, A., Douard, É., Courchesne, V., Rodríguez-Herreros, B., Huguet, G., Jacquemont, S., et al. (2021). Bayonet-shaped language development in autism with regression : A retrospective study. *Molecular Autism*, 12(1), 35.pnppb.2019.02.012. Epub 2019 Feb 20. PMID:30797015.28545751.



It is also interesting to note that, during the period in which language stagnates in the case of a language regression, autistic children can experience more social difficulties compared to other autistic children their age who did not have a language regression.

delay in the development of language. There's a 50-month period between the production of the first sentence and the ability to produce fluent and flexible language, which corresponds to twice the amount of time needed for other autistic children who didn't have a regression. A language regression therefore delays the age at which a child with autism is expected to produce fluent and flexible language, although it doesn't affect a child's chances of developing fluent language before the age of 18.

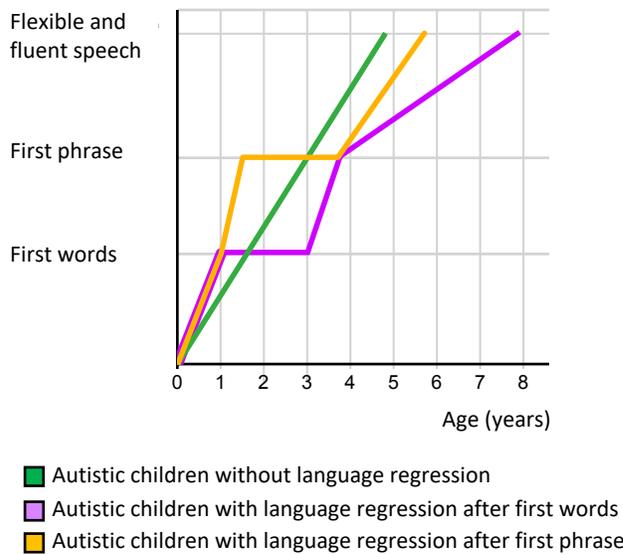
Moreover, once a fluent and flexible language is acquired, the child's communication level is not lower compared to other autistic children the same age. Essentially, a language regression does not predict an unfavourable prognostic for language development, although it can bring on a delayed language development. Cognitive evaluations remain a better tool for predicting the chances of fluent and flexible language, whether a

regression occurs or not. It is also interesting to note that, during the period in which language stagnates in the case of a language regression, autistic children can experience more social difficulties compared to other autistic children their age who did not have a language regression.

**The takeaway:**

In conclusion, autistics that experience language regression when growing up have a three-step language development: (1) first words are learned at an early or typical age; (2) a break, or a plateau, of a few years during language development doubles the expected time between first phrase production and fluent and flexible language; and (3) a catch-up in expressive and receptive language level, to reach the same level as their autistic peers who did not experience language regression.

**"Bayonet-shaped" language development**



**Further reflection:**

The study showed that despite a delayed/plateaued language development and more social interaction difficulties, autistics that experienced a language regression succeed in acquiring a fluent and flexible language. Their atypical language development and greater social difficulties suggest that autistics experiencing language regression use compensatory strategies to develop language. More research conducted by our research team focuses on better understanding these strategies to eventually integrate them to language interventions in autism.

# The female phenotype: what do expert clinicians think?

By JULIE CUMIN

The issue of autism in women has elicited much clinical and research attention in the past few years. As early as the 90s, researcher-clinicians wondered whether very low rates of autism without intellectual disability or speech-onset delay (formerly Asperger's Syndrome) in women could perhaps be due to a "female version" of autism, more likely to go undetected. Indeed, autistic women may have better imitation skills, allowing them to hide some of their difficulties and remain undiagnosed (camouflaging). Many studies have described the lived experience of women diagnosed later in life (post-adolescence) as well as the consequences of this **underdiagnosis**: missed opportunities for accommodations at school and at work, bullying, abuse, and mental health issues.

30 years on, this debate persists. Is autism in women a truly different manifestation of autism, requiring its own diagnostic tools and criteria, or does it simply reflect differences between men and women found in the general population? A 2017 meta-analysis concluded that, "individuals with Autism Spectrum Conditions are fundamentally similar to typically developing individuals in regard to their sex/gender variation in core autism characteristics" (Hull et al, 2017). However, the "female phenotype" hypothesis has largely been accepted as a fact by the media and much of the autistic community, particularly online (forums, social media). With autism being a less stigmatized and more desirable diagnosis than some psychiatric conditions, some clinicians fear

a situation in which **overdiagnosis** would also become possible. This twofold issue (under and over diagnosis) is problematic in that it could prevent access to appropriate care and slow research efforts, which rely on accurate diagnosis.

These are some of the issues addressed by a new study published in *Autism*. The researchers aimed to better understand how clinicians made **differential diagnoses** in adult women and which factors complicated the process.

In the absence of clear diagnostic criteria, the research team decided to source the opinions of **expert clinicians** to better understand how they detected autism in adult women.

The researchers chose the Delphi method, often used to collect the opinions of medical experts and create clinical guidelines over several rounds of revisions. The Delphi method allows for an initial exploration of different themes of interest during interviews, then the creation of clinical guidelines which the same experts revise until they reach a consensus.

The researchers noticed a remarkable level of agreement between the 20 clinicians despite practices located in 7 different countries. The complete list of clinical guidelines having obtained consensus can be found in the original paper. The list is comprised of 37 statements based on clinical observations, two of which are presented below:

## Differential diagnosis

Process during which a clinician develops several diagnostic hypotheses which could explain the observed symptoms and eliminates them one by one to make the correct diagnosis.

## Expert clinician

The accuracy of a diagnostic tool is determined by inter-rater agreement (how often two clinicians get the same result when using the same tool). For autism, the highest inter-rater agreement (and therefore highest accuracy) is reached when clinicians with a lot of career experience diagnosing autism are allowed to freely use their judgment. The researchers therefore recruited psychologists and psychiatrists having assessed at least 100 autistic women over the past 5 years.



Autistic women may have better imitation skills, allowing them to hide some of their difficulties and remain undiagnosed (camouflaging).

**Original article:**

Cumin, J., Pelaez, S., & Mottron, L. (2021). Positive and differential diagnosis of autism in verbal women of typical intelligence: A Delphi study. *Autism*. <https://doi.org/10.1177/13623613211042719>

**Self-diagnosis is increasingly present and can be difficult to manage in adult women**

**Example 1**

LClinicians have noticed over the past few years that more and more women have done a lot of research on autism and are presenting for assessment. They highlighted that self-diagnosis was often correct, but worried about the impact of refusing an autism diagnosis when a patient had already invested a lot of energy in this hypothesis.

*“They’ve access online resources, maybe joined support groups, and have very strongly identified with the autism spectrum” Participant 4.*

*“They very often have a specific belief or hope that they have autism rather than something else. And that’s what could get in the way of the diagnostic process because we are trying to understand their real experience without being biased by their beliefs” Participant 11.*

Many clinicians were worried about potentially activating depressive symptoms when disappointing a patient. They therefore explained to their patients from the very beginning that a diagnosis of autism was not guaranteed.

**Example 2**

Clinicians also noted that **autism in women could superficially resemble Borderline Personality Disorder (BPD)**. BPD was seen simultaneously as a misdiagnosis that many autistic women received prior to an autism diagnosis, AND a differential diagnosis that many clinicians noticed in their practice.

\*trigger warning\* mention of self-harm

*“Autistic women have sometimes seen a clinician who told them, “well you have BPD because that’s what women who cut themselves have.” Participant 15*

*“Sometimes autistic women have been diagnosed BPD, have had the therapy and learned a lot about BPD and now act borderline because that’s what they learned in therapy” Participant 19*

Clinicians insisted on the fact that these conditions could be differentiated by the presence (BPD) or lack (autism) of attachment difficulties (emotional instability caused by a fear of abandonment).

This study concludes that the ability to make differential diagnoses is essential when assessing adult women for autism. However, many clinicians are not trained in differentiating autism from social anxiety, ADHD or BPD. Some institutions also limit the role of the clinician to a binary yes or no answer to a diagnosis of autism, without giving the tools to provide the person with alternative answers. Adult women are particularly susceptible to complex psychiatric histories and clinical presentations, making it crucial that clinicians are trained in differential diagnosis.





# For a Radical Change in Autism Research:

## Back to the Prototype

By LAURENT MOTTRON

Is research in autism being done with the people that are most knowledgeable about the condition? Should all people being diagnosed with autism today be included in basic research, i.e., research that aims to understand the underlying neurobiological mechanisms of autism? INSAR's (International Society for Autism Research) official journal has devoted, by my initiative, a debate on the question: which "kinds" of autism would allow the progression of scientific knowledge?

In my article, I proposed a radical change of practices on that subject. I argued that the current diagnostic criteria for autism in the DSM-5 are too broad and allow for the inclusion of people whose autism is almost "invisible", to people who are completely dependent on their environment. This encourages a constant increase in the number of autistic people being diagnosed, which has certain consequences on society, but also on autism research. Consequently, the very large population we are now studying in research is increasingly

heterogeneous and includes individuals who are less and less "typically" autistic. This effect can lead to studies finding no difference between the autistic individuals and the general population - thus preventing scientific progress in the understanding of autism. We have therefore made the following proposal for the scientific study of autism: to study in priority the "prototypical" autistic individuals rather than all the people currently included in this category.

### What is a prototype?

When we recognize an object, animal, or action, our brain compares it to a prototype, which is a sort of average of the characters of all the exemplars of that category of objects to which we have been exposed. For birds, for example, ostriches will be judged less prototypical of the bird category than, say, sparrows. It has been shown that this prototype is very similar across individuals exposed to "families" of all kinds of birds. Birds closer to the prototype are recognized more quickly

The very large population we are now studying in research is increasingly **heterogeneous and includes individuals who are less and less "typically" autistic.**



I hypothesize that we would learn more about the mechanisms of autism by studying "very" autistic people.

and with greater certainty, and these are the birds that are most easily distinguished from other categories of the same level.

For the autism diagnosis, an experienced clinician, having been exposed to several hundred autistic individuals of the same age group in diagnostic assessments, will compare the person in front of them to a "prototype" of autism - this is what we call clinical judgment. This prototype does not tell us for sure whether the person autistic or not. It does tell us which individuals are more likely to be autistic, in the eyes of a larger number of

people. There is probably a prototype of autism by age group, very close to what led to Kanner's discovery of autism. In the absence of biological markers that can determine if an individual is autistic or not, clinical judgment remains the only way to identify populations for research. This is not perfect, but it would be better than current instruments that favour fidelity (multiple users of the instrument will reach the same conclusion about whether autism is present), rather than their specificity (distinguishing between autism and other conditions).

### What does this "prototype" of autism look like?

What are the characteristics of this prototype? In my experience, it is characterized by :

- 1 onset of signs around 18 months
- 2 Quasi-absence of verbal language until 3-4 years of age
- 3 presence of intense perceptual interests such as close inspection of objects
- 4 normal non-verbal intelligence
  - abilities in some visuo-spatial abilities
  - accelerated recognition of numbers and letters, or other patterns
- 5 apparent indifference to their surroundings (adults and children)
- 6 typical attachment profile with their parents
- 7 refusal to do shared tasks with an adult
- 8 no identified neurologic or genetic comorbidities such as epilepsy for example

My proposal is therefore to do research on groups of people who are as "prototypical" as possible: those who are most quickly recognized, with the greatest certainty, and who would be most readily used for learning about autism. I hypothesize that we would learn more about the mechanisms of autism by studying "very" autistic people.

### And what did other researchers think?

The feedback on this proposal has been mixed. While everyone agrees that heterogeneity in research populations is a problem and a barrier to advancing knowledge, the proposed solution is not accepted unanimously! Many people believe that it excludes less prototypical individuals from services, and that the heterogeneity of autism is a "true" trait of autism.

So I have, in response to these criticisms, first clarified that this is a strategy to promote research into the mechanisms of autism - the profound nature of the brain differences between a person with autism and a

person without. This must be absolutely separate from services, which should not be delivered based on diagnosis, but on need.

As for heterogeneity as a characteristic of autism, we fully agree - it is one of the mysteries of autism - that children who are very similar at 3 years old can diverge enormously in adulthood (e.g., one going to college, the other remaining non-verbal). This, to me, is a reason why in research we should focus on individuals who, at the time of diagnosis, are very similar to each other in order to study how they diverge during development, and what makes it possible to predict this. 



# Autistic adults have a better quality of life in Québec than in France

By VICKY CARON and ISABELLE COURCY

The quality of life of autistic individuals lies at the centre of the development and evaluation of many intervention programs. It is typically evaluated based on a person's opinion of different aspects of life, such as health, perceived quality of interpersonal relationships, academic background, and work experience. Individual quality of life therefore varies according to personal aspirations and concerns and is also influenced by norms and social expectations. To this day, little is known about autistic individuals' quality of life in Québec. An interdisciplinary research team expert in neuropsychology, sociology, psychiatry, and other collaborators are working to fill that knowledge gap (Courcy et al., 2017). This article summarizes results from a first research paper recently published by this team, in the Autism journal.

## Quality of life in autistic adults: divergent results

Questionnaires used to determine quality of life usually do not measure certain aspects that are considered important to autistic adults, which lead to mixed results regarding their true quality of life. In collaboration with autistic adults, McConachie and colleagues (2018) developed a questionnaire measuring quality of life specifically for autistic adults. This questionnaire addresses aspects that are not included in other quality of life questionnaires, such as sensory difficulties, camouflage, or barriers to accessing health services. The study summarized within this article measured quality of life in 427 francophone autistic adults, using

Specifically, Quebecer participants reported having a significantly better quality of life compared to French participants.

1. <https://research.ncl.ac.uk/neurodisability/leafletsandmeasures/autismqualityoflifemeasure/asqolfrench/>



**Main References:**

Hong, J., Bishop-Fitzpatrick, L., Smith, L., Greenberg, J., & Mallick, M. (2016). Factors associated with subjective quality of life of adults with autism spectrum disorder: Self-Report versus maternal reports. *Journal of Autism and Developmental Disorders*, 46(4), 1368-1378. <https://doi.org/10.1007/s10803-015-2678-0>

McConachie, H., Mason, D., Parr, J. R., Garland, D., Wilson, C., & Rodgers, J. (2018). Enhancing the validity of a quality of life measure for autistic people. *Journal of Autism and Developmental Disorders*, 48(5), 1596-1611. <https://doi.org/10.1007/s10803-017-3402-z>

**Original Article:**

Caron, V., Jeanneret, N., Giroux, M., Guerrero, L., Ouimet, M., Forgeot d'Arc, B., Soulières, I., & Courcy, I. (2021). Socio-cultural context and autistics' quality of life: A comparison between Québec and France. *Autism*, Advance online publication. <https://doi.org/10.1177/13623613211035229>



McConachie and colleagues' questionnaire (French version<sup>1</sup>).

**Better quality of life in France or Quebec?**

Given that quality of life can vary depending on the physical and social environment surrounding a person's birth and upbringing, researchers wanted to know whether quality of life was different in French and Quebecer participants. Results indicate that different sociocultural contexts may in fact play a role in autistic adults' quality of life. Specifically, Quebecer participants reported having a significantly better quality of life compared to French participants.

**Can something explain autistic adults' quality of life in this study?**

First off, **stigma**, such as experiencing verbal or physical abuse, or cybervictimization because of being autistic, was an important determinant of one's quality of life. For participants living in Quebec, stigma was the most important factor in determining quality of life. Having more pronounced autistic traits also led to a worse quality of life, although this was only true for participants

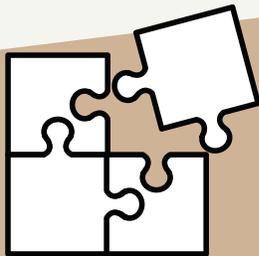
living in France. This difference may show that Quebec has a more sensitized and accepting population regarding autism. Other characteristics can also predict a better quality of life for French participants: being a man, having a job, and being more educated. Psychiatric and health characteristics also impact quality of life in autistic adults. Namely, having an anxiety disorder predicted lower quality of life in Quebecers, whereas the same was true in France for mood disorders (ex.: depression).

**Quality of life of autistic adults: what did we learn?**

A takeaway from this study is the importance of considering social aspects to understand quality of life in autistic adults. It also sheds light on the necessity to continue efforts in developing interventions and social policies which can address stigma directed toward autistic individuals. Moreover, although many determinants for quality of life were identified in this study, there are still more left to uncover to fully understand quality of life of autistic adults. It is crucial to pursue more collaborative work with autistic adults, documenting factors that have a direct influence on their quality of life so that, ultimately, service providers can be better informed.



# PARENTS DE JEUNES FILLES ET GARÇONS AUTISTES RECHERCHÉS



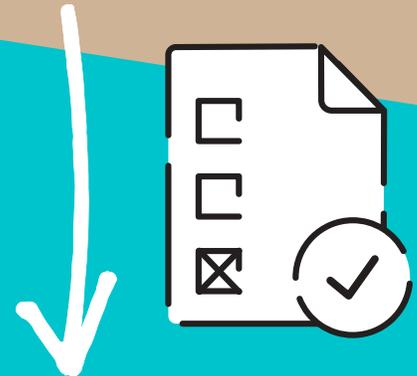
Dans le cadre de mon mémoire de maîtrise en psychoéducation à l'UQO, je suis à la recherche de parents de filles et garçons autistes âgés de 24 à 72 mois afin de documenter leurs forces et leurs intérêts à l'aide du nouveau Questionnaire sur les forces et les intérêts des enfants autistes d'âge préscolaire (QFIAP).

La participation à cette recherche consiste à remplir un questionnaire en ligne.

Pour participer à cette étude, les parents doivent :

- 1) Avoir un enfant âgé entre 24 à 72 mois.
- 2) Avoir une connaissance suffisante du français.

Courrez la chance de gagner une  
carte cadeau de 50\$



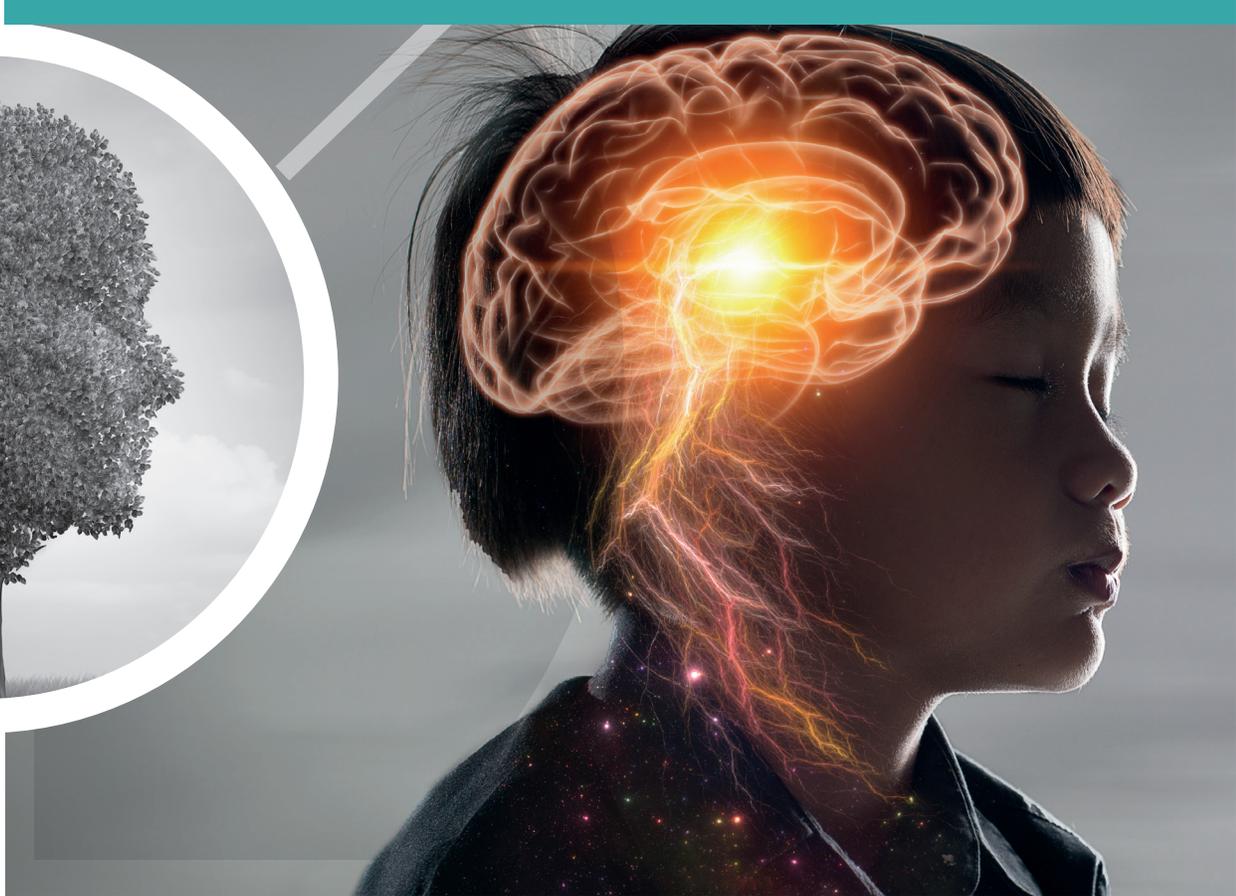
Pour participer, rendez-vous au lien suivant:  
<https://sondages.uqo.ca/index.php/795443?lang=fr>



Pour toutes informations, merci de contacter Ariane Charbonneau par courriel au [chaa134@uqo.ca](mailto:chaa134@uqo.ca) ou de laisser un message au (819)-595-3900 au poste 1139.

Ariane Charbonneau,  
Étudiante à la maîtrise en psychoéducation

Ce projet de recherche est sous la supervision de Claudine Jacques, Ph.D. ps.ed., professeure au Département de psychoéducation et en psychologie de l'UQO. Le projet a reçu l'approbation du Comité d'éthique de la recherche de l'UQO.



Camouflage may be present in individuals with high intellectual potential, which may lead to a later diagnosis of autism.

## Twice-exceptional: high intellectual potential and autism

By CATHERINE CIMON-PAQUET and ISABELLE SOULIÈRES

### What does it mean to be twice-exceptional and how common is it?

Twice-exceptionality is a phenomenon that is attracting increasing attention from scientists and the general public. It is defined by the presence of high intellectual potential (HIP), also called intellectual giftedness, and a concomitant condition such as a learning disability (e.g., dyslexia) or autism spectrum disorder (ASD).

In the scientific literature, high intellectual potential is characterized by an individual's exceptional abilities in terms of cognitive functioning. However, researchers do not agree on the exact definition of high intellectual potential and on how to measure it. Depending on the definition used, people with high intellectual potential represent between

2.5 and 10% of the general population. Approximately 3% of autistic people are considered to have a high intellectual potential<sup>1</sup>. Therefore, the HIP-Autism twice-exceptionality is comprised of two cognitive developmental conditions that are extremely rare, hence its name.

### Characteristics of youth with twice-exceptionality

Several studies show that autistic individuals with high intellectual potential experience unique challenges. In 2019, a research team conducted a study in the United States to determine whether autistic children with high intellectual potential had a different educational trajectory than other autistic children<sup>2</sup>. This study shows that children with a HIP-Autism twice-exceptionality perform better academically upon entering school and



that their academic performance improves over time, which is not the case for other autistic children. In addition, while autistic children benefit from educational support services, professional services (e.g., speech therapy, occupational therapy) and technological assistance, twice-exceptional children particularly benefit from mental health services and the use of medication for any associated difficulties (e.g., if significant anxiety).

Adolescence would also be an important time for autistic individuals with HIP. A recent study examined **adaptive behaviors** in this population<sup>3</sup>. The study suggests that from childhood to adolescence, the gap between neurotypical and autistic youth with high intellectual potential widens in terms of adaptive behaviors. Despite their high intellectual potential, these young people often present certain weaknesses on the adaptive level, which are more salient in adolescence. These findings are a reminder that most autistic people, including those with HIP, have difficulties related to adaptive behaviours, and highlight the importance of offering adequate support to young autistic people.

### Challenges related to the identification of twice-exceptionality

The identification of twice-exceptionality for HIP-Autism poses several challenges for health care and school professionals. Indeed, many students are not adequately identified and do not receive services adapted to their twice-exceptionality. The manifestations of high intellectual potential and autism may overlap. Indeed, many people with HIP report difficulties in making friends, intense interest in certain subjects, asynchronous development (i.e., some areas of development are further ahead than others), and hypersensitivity. In contrast, many of the social skill challenges of individuals with HIP are resolved when their environment is appropriate (e.g., when children are included in a specialized classroom).

Moreover, camouflage may be present in individuals with high intellectual potential, which may lead to a later diagnosis of autism. Camouflage, previously studied in women with autism, refers to the use of compensatory mechanisms to offset the difficulties they experience

### Adaptive behaviours

Adaptive behaviours are a set of behaviours that allow for daily functioning and social participation. They include communication skills, daily living tasks and socialization.

**Main References:**

<sup>1</sup> Charman, T., Pickles, A., Simonoff, E., Chandler, S., Loucas, T., & Baird, G. (2011). IQ in children with autism spectrum disorders: data from the Special Needs and Autism Project (SNAP). *Psychological Medicine*, 41(3), 619–627. <https://doi.org/10.1017/S0033291710000991>

<sup>2</sup> Cain, M. K., Kaboski, J. R., & Gilger, J. W. (2019). Profiles and academic trajectories of cognitively gifted children with Autism Spectrum Disorder. *Autism*, 23(7), 1663-1674. <https://doi.org/10.1177/1362361318804019>

<sup>3</sup> Dempsey, J., Ahmed, K., Simon, A. R., Hayutin, L. G., Monteiro, S., & Dempsey, A. G. (2021). Adaptive behavior profiles of intellectually gifted children with Autism Spectrum Disorder. *Journal of Developmental & Behavioral Pediatrics*, 42(5), 374-379. <https://doi.org/10.1097/DBP.0000000000000907>

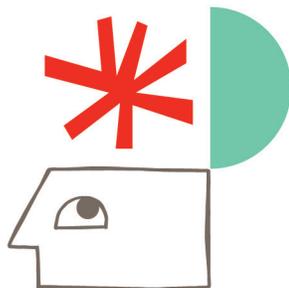
in relation to autism. For example, autistic individuals may camouflage their difficulties in detecting more subtle emotions or in understanding intentions or undertones, which allows them to socialize with their peers. Thus, a differential diagnosis is essential and can only be made by health professionals. In Quebec, only psychologists, neuropsychologists and specialized physicians can identify this twice-exceptionality.

It is important to note that twice-exceptional people benefit from interventions adapted to their two particularities. In addition, interventions related to autism or giftedness are quite distinct. Thus, diagnosing an HIP when the child is in fact autistic or detecting a twice-exceptionality when the child does not have an HIP can be detrimental to the child's development. Specifically, it could prevent them from receiving adequate services if their special needs are not correctly identified.

**In conclusion**

Although intelligence has been studied for a long time in the autistic population, we know relatively little about the experiences of autistic people with high intellectual potential. Most studies of twice-exceptionality have been conducted with children and adolescents in a school setting and very few have been conducted with adults. The variable quality of the studies that have been conducted and the wide variation in the way high intellectual potential is measured require some caution in interpreting their results.

In summary, twice-exceptionality is very rare, and a comprehensive assessment of cognitive functioning is required to identify it. However, despite its rarity, this identification is important because children with twice-exceptionality benefit greatly from services tailored to both their high intellectual potential and autism.



FONDATION  
**petits trésors**  
santé mentale • autisme



**Fondation les petits trésors** is proud to support the publication of **Sur le Spectre** magazine. Of course, we talk about what is being done in autism research, but above all we popularize it. Valérie Courchesne and her team tell us about the research, and it is fascinating.

We are pleased to present you our new visual identity and a revamped logo. Warm colors, a head-home that represents our own inner worlds, an asterisk that testifies to the uniqueness, the complexity, but also the beauty that lies within our heads. No matter what the state of our mental health, we are unique, different, original. It's up to you to find the qualities that drive you.

Moreover, a brand new team is taking the reins to make the Foundation grow and shine throughout Quebec. Having served for three years on the Foundation's Board of Directors, Michel Quintal is now at the helm of general management, accompanied by Sylvie Lauzon as project manager, Josiane Lapointe as operations manager and Émilie Tourigny Brouillette as executive assistant. An outstanding and complementary quartet, motivated to accomplish great things!

We hope that you will continue to support the Fondation les petits trésors in its efforts to support families, research, clinical care and awareness of mental health and autism. Together we can improve the lives of hundreds of young people and their families!

Visit our new website at [www.petitstresors.ca](http://www.petitstresors.ca)

