Sur le spectre
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Magazine of the Collective for Research, Evaluation and Intervention in Autism of Montreal

Sur le spectre

Number 20 – **FALL 2025**

SUMMARY

CREIA
Collective of Research, Evaluation and Intervention in Autism of Montreal

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Official Magazine of the Montreal Collective of Research, Evaluation and Intervention in Autism (CREIA).

CREIA is a Collective of expertise in autism, located at Rivière-des-Prairies Hospital in Montreal. In addition to providing autism assessment and intervention services, CRÉIA unites 6 university researchers, professors in 4 Quebec universities. The research conducted at CRÉIA ranges from understanding brain function and autistic perception, to mental health and intervention, to the strengths and interests of people with autism.

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The graphic design was made possible thanks to the financial support of the Sacré-Coeur Foundation.

The writing and editing of the texts were done on a volunteer basis by researchers, clinicians, and students from CRÉIA and their collaborators.

Sur le spectre:

Recent research published between 2024 and 2025

In this 20th issue of Sur le spectre, we are pleased to present several articles based on recent research published between 2024 and 2025, covering a variety of topics. The first article, by David Gagnon, a doctoral student in Dr. Laurent Mottron's lab, addresses language development. By examining the phenomenon of unexpected bilingualism, this recent study shows how some autistic children can learn languages they do not hear in their surroundings, revealing original learning pathways that rely less on social interaction. The second article, written by Florence Beaudin and Loran Carpentier, both students in Dr. Isabelle Soulières' lab, explores findings from a recent study on the nature of passions in autistic individuals. While these special interests are often seen as overwhelming, they can also be a source of well-being, learning, and identity. The third article summarizes a research report by Dr. Anne-Marie Nader, which explores what makes housing a true refuge for autistic adults. This research, conducted by a multidisciplinary team in Quebec (occupational therapy, psychology, sociology, and architecture) in collaboration with autistic adults, aimed to identify the conditions necessary for a truly adapted living environment. The fourth article, written by Noémie Cusson, a doctoral student co-supervised by Dr. Laurent Mottron and Dr. Isabelle Soulières, presents her meta-analysis on empathy in autistic individuals. Contrary to the stereotype that autistic people lack empathy, research shows that autistic individuals do feel others' emotions but may have more difficulty decoding them. The fifth article, written by Florence Lajeunesse and Mégane Plourde, students in Dr. Valérie Courchesne's lab, presents a recent study by Duvall and colleagues, published this year, examining how autistic and non-autistic children differ during diagnostic evaluation. This study highlights the complexity of the diagnostic process and the importance of a holistic assessment of each child. Finally, Gabrielle Gingras, a doctoral student in Dr. Isabelle Soulières' lab, presents the potential of art therapy to support the social development of autistic children, summarizing a 2017 study by D'Amico and Lalonde. This approach promotes emotional expression, communication, and cooperation, making art a genuine bridge toward connection and inclusion.

You will also find calls for participation in various ongoing research projects.

Many thanks to all our contributors and to our loyal financial partners: the Marcel and Rolande Gosselin Research Chair in Fundamental and Applied Cognitive Neuroscience of the Autism Spectrum at the Université de Montréal, and the Fondation de l'Hôpital du Sacré-Cœur.

Enjoy your reading!

Daphné Silvestre, editor-in-chief

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editor-in-chief

In this 20th issue of Sur le spectre, we are pleased to present several articles based on recent research published between 2024 and 2025, covering a variety of topics.

According to parents, non-interactive media (e.g., tablets, television, YouTube videos) were the only plausible sources explaining their child's knowledge of the unexpected language.

An Unexpected Language

By DAVID GAGNON

What Kind of "Language" Is Useful to an Autistic Child?

A delay, around age two, in the onset of speech or the loss of words that had already been acquired are signs frequently observed in autistic children. These children also often go through a "plateau" period, meaning several years without clear progress in communicative language development, during which their social interaction skills are at their most limited.

Most autistic children without intellectual disabilities will nonetheless eventually develop fluent speech before adulthood, though to varying levels of proficiency. It is important to emphasize that a plateau in early language development does not imply a poor prognosis. Some children may catch up quickly and even surpass age expectations. However, the compensatory mechanisms that enable this late language catch-up remain poorly understood by science.

During this plateau period, the child interacts only with difficulty with their social environment and speaks little or not at all. One might be tempted to assume that these language difficulties result from social interaction challenges, following the logic that if a child interacts less (or differently) with their parent, they receive insufficient linguistic exposure.

However, research by Dr. Mottron's team has shown that social interaction does not hold the same value for language acquisition in autistic children as it does for non-autistic children. Their studies have also demonstrated that interest in written language and numbers is preserved during the plateau period among preschool-age autistic children and is even stronger than in non-autistic children in a significant proportion of cases.

Although it is generally accepted that social interactions are the richest source of language learning for non-

autistic children, this may not hold true for autistic children. The research group's findings led to the hypothesis that non-social or more precisely, non-interactive language material (e.g., written language) may represent a useful source of linguistic input for autistic children. This hypothesis suggests that while interest in communicative language may be reduced due to social interaction difficulties, interest in language itself remains intact.

It remains difficult to assess the relative importance of different sources of linguistic input in a child's language development, given the complexity of their environment. However, one phenomenon that has recently captured the attention of the scientific community may hold the key to resolving this puzzle: unexpected bilingualism.

Unexpected Bilingualism

The phenomenon of unexpected bilingualism refers to a child's use of a language that is not spoken in their social environment, for example, by parents or at school. It represents a form of self-taught learning that emerges in early childhood. This phenomenon is much more common among autistic children than among non-autistic peers and has been documented internationally.

A recent study by Gagnon et al. (2025) investigated the use, by autistic children, of language not spoken in their social environments. This was the first large-scale study on the topic, including a substantial number of minimally verbal children, and focused on the phenomenon of unexpected bilingualism. Specifically, the study examined the language choices used within the very limited, and generally non-communicative, vocabulary of autistic children.

The study focused on the language used to name letters and numbers, a common area of interest among autistic children. Parents of 119 autistic children, 102 children with another non-autistic clinical condition, and 75 typically developing children, all aged 2 to 6 years, were surveyed regarding their child's interests and language use. They were also asked to estimate the relative proportion of each language to which their children were exposed in their social environments.

Results revealed that 39% of autistic children used a language not spoken in their social environment. For example, some autistic children spoke Italian, Portuguese, Russian, Mandarin, or German, even though no one in their environment (e.g., parents, caregivers, or daycare peers) spoke that language. Autistic children were four times more likely than typically developing children to exhibit unexpected bilingualism, while children with other clinical conditions did not differ from typically developing peers.

Interestingly, the use of a language not spoken in the child's environment was not associated with the child's level of spoken language. This means it is neither a skill that disappears as verbal abilities improve nor one limited to children with already advanced language.

According to parents, non-interactive media (e.g., tablets, television, YouTube videos) were the only plausible sources explaining their child's knowledge of the unexpected language. Furthermore, when considering the languages spoken in the child's environment, autistic children were eight times more likely than typically developing children to use a non-dominant language from their environment (in this case, English). For example, an autistic child living in a French-speaking household in Quebec but exposed to English at daycare was eight times more likely to use English than a non-autistic child.

Why This Discovery Matters?

Although parents' spoken language is typically the main source of linguistic exposure during the first years of life, in autistic children, non-interactive sources may temporarily, but effectively, compete with it at the onset of development.

In the absence of a natural bias toward social interaction to guide and enhance the benefits of communicative language exposure, autistic children may derive more linguistic input from non-interactive sources available in their environment. The phenomenon of unexpected bilingualism may thus reflect a broader language development process that does not rely on social interaction and that may, for some autistic children, represent the main or even sole pathway to language during the developmental plateau.

In summary, autistic children depend less on their social environment for certain aspects of language development. Non-interactive linguistic material may serve as a significant source of language and could promote later language development in some autistic children, including those who are minimally verbal.

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Reference:

[1] Gagnon, D., Ostrolenk, A., & Mottron, L. (2025). *Early manifestations of unexpected bilingualism in minimally verbal autism. Journal of Child Psychology and Psychiatry.*

The Interests of Autistic People:

Better Understanding the Boundary Between Passion and Obsession

By FLORENCE BEAUDIN and LORAN CARPENTIER

Passion refers to a strong interest in an activity or domain that becomes an integral part of a person's identity and takes up a significant amount of their time and energy.

Reading, video games, mathematics, history… there are countless activities that can spark strong interest, and they vary from one individual to another. For some people, these interests become particularly intense and take on a central role in daily life. This is often the case for autistic people, whose special interests typically appear very early—sometimes as young as age three—and tend to intensify over the years.

Scientific literature has long focused on the difficulties that such intense interests can bring, emphasizing, among other things, the risk of hindering certain personal goals, narrowing the range of possible activities, or disrupting daily routines—for instance, by affecting sleep or hygiene.

However, focusing only on the negative aspects gives an incomplete picture of reality. These interests can also be sources of strength: they foster learning, contribute to identity building, support emotional well-being, and much more. When shared with others, they can also become an opportunity for connection and friendship.

A recent study conducted by researcher Alexa Meilleur and her collaborators (2024) sought to better understand these strong interests in autism. This article highlights the key findings of that research.

The Dualistic Model of Passion

Passion refers to a strong interest in an activity or domain that becomes an integral part of a person's identity and takes up a significant amount of their time and energy. According to the Dualistic Model of Passion, a passion can be experienced either harmoniously or obsessively (Vallerand, 2015). *A harmonious passion* is integrated voluntarily and flexibly into daily life, whereas an obsessive passion is experienced in a more rigid and constraining way. The same individual may experience both types of passion to varying degrees, depending on the context.

Psychological Processes and Optimal Functioning

When someone engages in a passion, it is accompanied

by various psychological processes such as emotions, the state of *flow* (immersion), rumination, and conflict. These psychological experiences influence what researchers call optimal functioning, which refers to a person's overall well-being. Harmonious passion, positive emotions, and immersion predict higher optimal functioning, while obsessive passion, negative emotions, conflict, and rumination tend to undermine it.

From this perspective, studying passion among autistic individuals—both in its harmonious and obsessive forms—helps us better understand the diversity of their experiences. At the same time, the concept of optimal functioning provides a framework that goes beyond a deficit-based view focused solely on severity and impairments, incorporating instead subjective well-being, health, relationship quality, academic or professional performance, and social participation.

The Study

The study by Meilleur and her colleagues had two main objectives. The first was to characterize the passions of autistic people to determine whether they are experienced harmoniously or obsessively. The second was to examine how these two forms of passion might predict emotions, immersion, conflict, rumination, and, more broadly, optimal functioning.

To meet these goals, the researchers recruited 108 autistic participants aged 14 to 33, who completed online questionnaires about their passions. Participants were asked to select one activity they loved and practiced regularly. Among the questionnaires used, the Passion Scale assessed whether participants' passions were expressed in a harmonious (well-integrated) or obsessive (rigid and constraining) way.

Additional questionnaires evaluated other dimensions of passion, measuring factors such as positive and negative emotions experienced during the activity, the state of immersion, conflict between the passion and other daily activities, rumination about the activity, and overall functioning (well-being, health, performance, relationships, and social contribution).

Key Findings

Descriptive results revealed that participants were passionate about a wide range of activities, with the most common being video games, knowledge acquisition, and the arts. On average, participants devoted more than 25 hours per week to their activity and had been practicing it for around 10 years. Most participants engaged in their activity alone and occasionally with others. Interests also varied by gender: men tended to be more drawn to gaming, while women favored knowledge acquisition and the arts. All autistic participants showed a higher level of passion than that typically observed in the general population.

One of the study's objectives was to examine whether autistic people experienced their passions harmoniously or obsessively. The results showed that participants' harmonious passion levels were higher than their obsessive passion levels and were similar to those seen in the general population. However, obsessive passion was more pronounced among autistic participants than among neurotypical individuals.

The study also explored the relationship between the nature of participants' interests, their passion profiles, and their well-being. Harmonious passion was positively associated with optimal functioning, positive emotions, and immersion, and negatively associated with negative emotions. Conversely, obsessive passion correlated with negative emotions, conflict with daily activities, and rumination, and was negatively associated with optimal functioning. Interestingly, the number of hours spent on the activity was not related to these outcomes.

What to Take Away

As the literature shows, autistic people tend to be deeply passionate about their interests. The *nature* of that passion—harmonious or obsessive—appears to play a key role in their well-being, beyond the amount

Harmonious passion, positive emotions, and immersion predict higher optimal functioning, while obsessive passion, negative emotions, conflict, and rumination tend to undermine it.

Original reference:
Meilleur, A., Cusson, N., Vallerand, R. J., Couture, M., Gilbert, E., Soulières, I., & Bussières, E.-L. (2024). *Association Between Passion and Optimal Functioning in Autistic Individuals: The Dualistic Model of Passion. Autism in Adulthood.* https://doi.org/10.1089/aut.2024.0166

Vallerand, R. J. (2015). *The Psychology of Passion: A Dualistic Model.* Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199777600.001.0001

of time spent on the activity. The type of passion may therefore help explain why autistic individuals' specific interests can have both positive and negative effects.

While obsessive passions are linked to lower optimal functioning, some studies suggest that they may also help fulfill unmet psychological needs. Moreover, autistic individuals' passions can foster a sense of control, security, and competence, and are often used as a way to form social connections. The literature thus emphasizes the importance of preserving these interests while striving for a balanced life.

In sum, these findings pave the way for a better recognition of special interests as a source of fulfillment for autistic people, while also helping to understand and mitigate their less adaptive effects. Future research on the experience of passion could play a key role in destigmatizing autistic passions and promoting a more nuanced and positive view of these interests.

A Place That Becomes a Home:

The Housing Preferences of Autistic Adults

By ANNA-MAUDE ST-LAURENT-GAUVIN, ISABELLE VIGNEAULT-MOUSSEAU, MAEVA CUSSON, and ANNE-MARIE NADER

"My home is a sanctuary where few people are invited."

These words, spoken by an autistic woman, reflect a reality shared by many: a home is far more than just a place to live. It is a refuge—an environment of comfort, safety, and personal growth.

Yet for many autistic people, housing does not always meet their specific needs.

Why This Research?

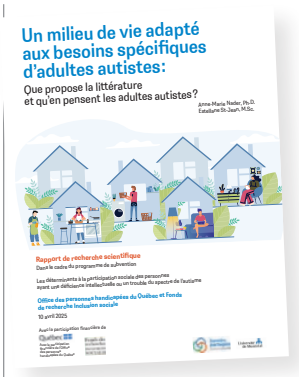
Access to appropriate housing has been identified as a major issue for the autistic community, both in Canada and worldwide[1]. While research consistently shows that home plays a central role in well-being, few studies have given autistic people a voice to explain what makes a living environment truly feel like "home."

This study—led by a multidisciplinary team in Quebec, combining occupational therapy, psychology, sociology, and architecture—was conducted in collaboration with autistic adults. Its goal was to explore which physical (e.g., space layout) and social (e.g., neighborhood relationships) environmental factors help create a living environment that supports the well-being of autistic adults[2].

How was the Study conducted?

A total of 42 autistic adults took part in semi-structured interviews. Participants represented a range of housing contexts (renters, homeowners, subsidized housing, etc.) and came from both urban and rural regions.

To ensure comfort and accessibility, the main interview questions were sent one week in advance, allowing participants time to reflect and prepare. Each



The research report

Participants further emphasized the need to incorporate autistic perspectives into urban and community planning.

participant could also choose their preferred communication mode (spoken, written, or drawn) and the interview setting (at home, online, or at the research center).

Discussions focused on participants' current homes, their ideal living situations, facilitators and barriers, neighborhood experiences, and their proposed solutions. Participants were also invited to share additional thoughts by email in the week following the interview. All transcripts were analyzed qualitatively to identify emerging themes and patterns.

What Participants Identified as Important

Results were first analyzed by individual, built, and social environmental factors, and then by examining intersections between them to highlight key themes and common challenges.

The findings point to three fundamental principles, comprising ten components, for designing living environments that meet the needs of autistic people (see Figure 1):

1) **Access to Adapted Living Spaces**

   Participants emphasized the importance of a comfortable sensory environment—with every participant mentioning the need to control noise. They also valued access to multiple modes of communication, predictable and easy-to-understand spaces, and proximity to nature, green spaces, and supportive services.

2) **The Ability to Make Choices**

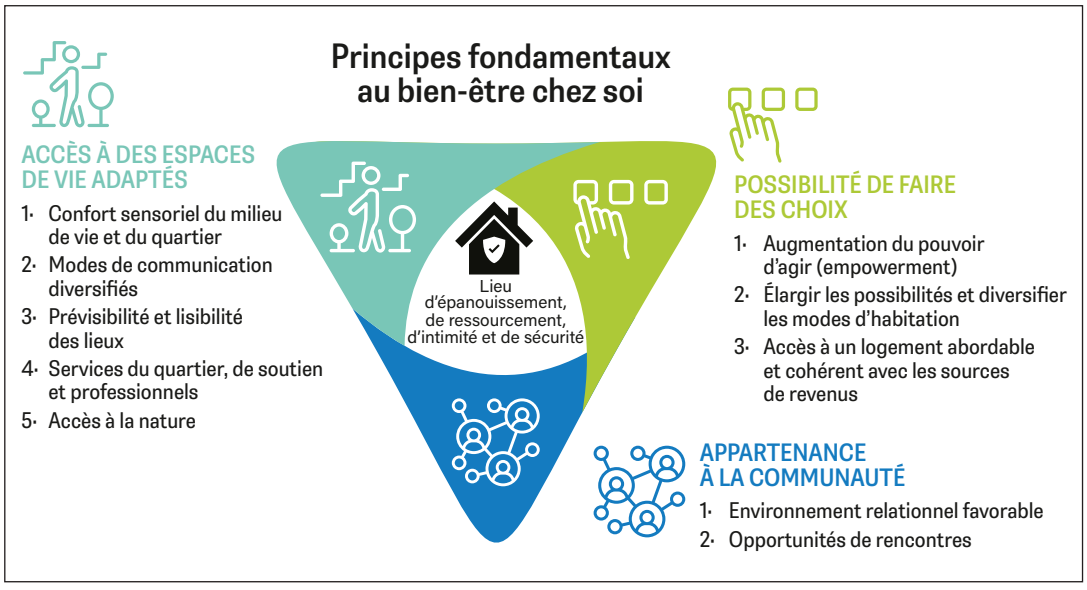
   Having control over one's environment is essential. This includes access to a greater variety of housing models, safe and affordable options, and above all, the freedom to choose according to one's preferences and needs.

3) **A Sense of Belonging to the Community**

   Participants highlighted the importance of positive social environments that offer opportunities for connection and community involvement—spaces where they can engage with others and invest in their interests, while still respecting their individual relational needs.

Figure 1

Fundamental principles for supporting autistic people's well-being at home (image from the research report[2]).



Solutions Proposed by Autistic Adults

Participants proposed several concrete solutions to improve living environments and promote well-being at home.

They first emphasized the need to integrate autistic needs into universal and inclusive design principles. Beyond physical accessibility, living environments should consider sensory, perceptual, and communication dimensions, while ensuring sustainability and adaptability.

For example, participants suggested financial assistance to help adapt homes or purchase materials that improve sensory comfort. They also expressed the need for predictable, logically organized spaces supported by clear visual and auditory cues.

Another key issue concerns the limited diversity of housing models. Participants noted that existing residential options and support models are often too narrow, forcing many autistic adults to live in settings that don't suit their needs.

Designing adapted housing should allow people to make choices based on their individual circumstances—such as building type, level of support, cohabitation preferences, or location—while ensuring equitable access to affordable housing.

Participants also called for simplified and diversified communication methods in housing-related processes. Navigating administrative systems—governmental, municipal, or community-based—can be challenging. Because communication preferences vary, access to multiple information formats (text, images, audio) and the ability to express oneself in different ways (written, oral, visual, or alternative) are essential.

Another top priority is improving service provision to support independent living. Participants highlighted the lack of adapted services, long waiting times, inappropriate offerings, and insufficient staff training. They called for a broader range of supports, including short-term, flexible assistance and community-driven service models better aligned with autistic people's expressed needs.

Support for household tasks and access to technological tools that facilitate daily living were also mentioned as promising avenues.

Participants further emphasized the need to incorporate autistic perspectives into urban and community planning. Neighborhood quality and cohesion significantly influence well-being. Urban planning should therefore include strategies to reduce noise, improve pedestrian infrastructure, increase green spaces, and adapt store hours (e.g., offering sensory-friendly periods).

Finally, the study highlights autistic adults' strong desire to participate actively in developing housing policies, programs, and services. Many expressed interest in being part of decision-making processes, and the idea of housing designed by and for autistic people came up frequently.

Research suggests that such participation promotes skill development and self-confidence, which can in turn facilitate the transition to independent living. However, this cannot happen without continued efforts to fight stigma, improve employment access, and diversify income sources—all of which are closely tied to residential stability.

* *This study was supported by the Office des personnes handicapées du Québec and the Fonds Recherche Inclusion Sociale, as part of a grant aimed at supporting the social participation of autistic people. The full report is available at:* https://cdn-contenu.quebec.ca/cdn-contenu/adm/org/ophq/Administration/PEPH/Rapports_recherche/Milieu-vie-adapte-adultes-autistes.pdf

The study highlights autistic adults' strong desire to participate actively in developing housing policies, programs, and services.

Reference:

[1] Salt, M., Schor, M., Daniels, S., Lai, J., Gergiades, S., & Singal, D. (2024, April). *Fostering Inclusion: Defining the Needs of Autistic Adults in Canada*. A survey led by autistic people. Canadian Autism Alliance. https://autismalliance.ca/wp-content/uploads/2024/04/2024_FR_Adult-Needs-Assessment-Survey.pdf

[2] Nader, A.M., & St-Jean, E. (2025). *Living Environments Adapted to the Specific Needs of Autistic Adults: What Does the Literature Propose, and What Do Autistic Adults Think?* Research report. Office des personnes handicapées du Québec. https://cdn-contenu.quebec.ca/cdn-contenu/adm/org/ophq/Administration/PEPH/Rapports_recherche/Milieu-vie-adapte-adultes-autistes.pdf

Appel à participation

Étude

ADAPTER LES APPRENTISSAGES AUX PERSONNES AUTISTES

Objectif de l'étude : Mieux comprendre les situations favorables aux apprentissages des personnes autistes

PROFIL DES PERSONNES AUTISTES RECHERCHÉES

- Personnes autistes âgées de 18 ans et plus
- Ayant fait son cheminement scolaire primaire et secondaire au Québec
- Être à l'aise pour participer à un entretien verbal (supports écrits et imagés)

DÉROULEMENT

- Entretien individuel d'environ 1h :
  - Pour connaître l'expérience de la personne autiste par rapport à son cheminement scolaire et ses apprentissages académiques;
  - Pour comprendre les contextes favorables aux apprentissages de la personne autiste ;
  - Cette rencontre peut être faite en visioconférence (Zoom), au domicile ou à l'hôpital Rivière-des-Prairies;
  - Compensation : 40 $.

Pour des questions ou participer à l'étude, contactez Estellane St-Jean :

estellane.st-jean.cnmtl@ssss.gouv.qc.ca (514) 323-7260 poste 2292

Projet mené par Anne-Marie Nader, PhD, professeure, département de psychologie de Université de Montréal
(approbation du CÉR du CIUSSS-NÎM, no 2025-2844)

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Autism and Empathy:

What Does Research Reveal?

By NOÉMIE CUSSON

"You may have heard that autistic people lack empathy." In fact, a lack of empathy is often considered one of the features to take into account when diagnosing autism. However, although numerous studies have examined empathy in autism, their results have often been mixed, or even contradictory. So, what's really going on? Do autistic individuals truly have less empathy than typical individuals?

To answer this question, we conducted a meta-analysis on empathy in autism.

What Is Empathy?

Empathy is generally understood as having two distinct components:

- Cognitive empathy, that is, being able to understand another person's emotions
- Affective empathy, that is, being able to share and feel another person's emotions

Empathy also involves recognizing that the emotion we feel is triggered by someone else's emotion. For example, if we see someone crying, understanding that they're sad (and not crying out of joy) falls under cognitive empathy. However, feeling sad ourselves when we see them cry falls under affective empathy.

How Do We Measure Empathy?

Empathy can be assessed in several ways. It's often measured using questionnaires filled out by the person themselves. Some of these questionnaires, such as the Empathy Quotient, provide an overall empathy score, whereas others, such as the Interpersonal Reactivity Index, provide distinct scores for different facets of empathy. Empathy can also be measured through behavioural tasks. For instance, in the Reading the Mind in the Eyes Test, the person is shown pictures of the eye regions and asked to identify the emotion being expressed. The number of correct answers indicates their level of cognitive empathy.

What Did We Do?

In short, empathy has multiple components and can be measured in many ways. This led us to ask: Do autistic individuals have difficulties with empathy? If so, are these difficulties mainly in cognitive empathy, affective empathy, or both? We also wondered whether the way empathy was measured influenced the results.

We began by identifying all studies comparing empathy in autistic and typical individuals using one or more empathy measures. In total, we found 205 studies whose results could be combined through statistical analysesly. This allowed us to see whether there were differences between autistic and typical individuals across 1) the two empathy components and 2) the three most commonly used empathy measures (that is, the Empathy Quotient, the Interpersonal Reactivity Index, and the Reading the Mind in the Eyes Test).

What Did We Find?

We found that there was a large difference between autistic and typical individuals for cognitive empathy,

If we see someone crying, understanding that they're sad (and not crying out of joy) falls under cognitive empathy. However, feeling sad ourselves when we see them cry falls under affective empathy.

As such, when we use this measure, we conclude that autistic individuals have more difficulties than typical individuals for cognitive empathy, but that their affective empathy profile is different from that of typical individuals.

but little difference for affective empathy. In other words, autistic individuals generally would have more difficulty understanding other people's emotions than typical individuals, but little difficulty feeling others' emotions.

We also found that the measure used to assess empathy had a significant impact on the results of the studies. For example, the Reading the Mind in the Eyes Test (a measure of cognitive empathy) showed large differences between autistic and typical individuals and the Empathy Quotient (a questionnaire that gives an overall empathy score) showed very large differences, among both adults and children. As such, when these empathy measures are used, studies tend to conclude that autistic people have more empathy difficulties than typical individuals.

Regarding the Interpersonal Reactivity Index, a questionnaire that measures several facets of cognitive and affective empathy, autistic individuals had lower scores than typical individuals on the scale measuring cognitive empathy. However, when analyzing the two affective empathy scales, we found particularly interesting results. Typical individuals scored higher on the scale measuring the tendency to feel compassion and concern for others in distress, while autistic individuals scored higher on the scale measuring the tendency to feel discomfort or overwhelm when witnessing others' negative experiences. As such, when we use this measure, we conclude that autistic individuals have more difficulties than typical individuals for cognitive empathy, but that their affective empathy profile is different from that of typical individuals.

What Does This Mean?

In short, autistic individuals generally find it harder to understand others' emotions, but they do feel them. This aligns with Smith's (2009) empathic imbalance hypothesis of autism, which suggests that this difference between cognitive and affective empathy in autistic individuals may cause them to become overwhelmed when experiencing another person's emotions. They may then feel personal distress rather than concern for the other and be less inclined to help spontaneously. As a result, they might appear unempathetic, even though this is not the case.

Moreover, the measure used to assess empathy has a significant impact on the conclusions reached. Whereas the Empathy Quotient, which only gives a single overall empathy score, consistently shows that autistic individuals have less empathy than typical individuals, the Interpersonal Reactivity Index, which measures different facets of empathy, reveals a more nuanced picture. This underscores the importance of measuring the different components of empathy, especially when assessing it in autistic individuals.

Finally, it's worth noting that most empathy measures were designed by and for typical individuals. However, it's possible that typical individuals have as much difficulty understanding autistic individuals' emotions as autistic individuals have understanding those of typical individuals. This raises a question: would we find different results if we compared empathy among autistic individuals to empathy between autistic and typical individuals?

Why Does It Matter?

Although autism is often perceived as involving a lack of empathy, our study suggests that these difficulties are less significant than current diagnostic tools imply. Recognizing this could lead to a more accurate and nuanced understanding of autism, as well as to new ways of assessing and supporting these individuals. Our study also challenges the misconception that autistic individuals lack empathy, thereby contributing to reducing the stigma associated with autism.

Typical individual: An individual from the general population without an autism diagnosis and who does not identify as autistic.

Meta-analysis: A method by which all studies on the topic of interest are identified. Statistical analyses are then used to combine their results and summarize what the research shows on the subject.

Original reference:

Cusson, N. M., Meilleur, A. J., Bernhardt, B. C., Soulières, I., & Mottron, L. (2025). A systematic review and meta-analysis of empathy in autism: The influence of measures. *Clinical Psychology Review, 120*, 102623. https://doi.org/10.1016/j.cpr.2025.102623

Smith, A. (2009). The empathy imbalance hypothesis of autism: A theoretical approach to cognitive and emotional empathy in autistic development. *The Psychological Record, 59*, 273–294. https://doi.org/10.1007/BF03395663

Précision : Le projet Une autre Intelligence présente un grand besoin de filles autistes âgées entre 6-12 ans.

ÉLÈVES AUTISTES D'ÂGE SCOLAIRE RECHERCHÉS POUR UNE ÉTUDE!

Centre intégré universitaire de santé et de services sociaux du Nord-de-l'Île-de-Montréal
Québec

UQÀM

Cette étude vise à documenter les profils d'habiletés scolaires des élèves autistes.

Critères d'égibilité :
- Être âgé entre 6 et 12 ans
- Diagnostic d'autisme

Participation attendue :
- 2 séances de 1h30

Compensation :
- 30$ par séance (total 60$)

Lieu :
- Hôpital Rivière-des-Prairies **ou** Pavillon Adrien-Pinard, UQÀM

Pour participer, contactez Ève Picard au :

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projet.intelligence.cnmtl@ssss.gouv.qc.ca

Étude menée par :
Isabelle Soulières, UQÀM
Claudine Jacques, UQO
Valérie Courchesne, CAMH

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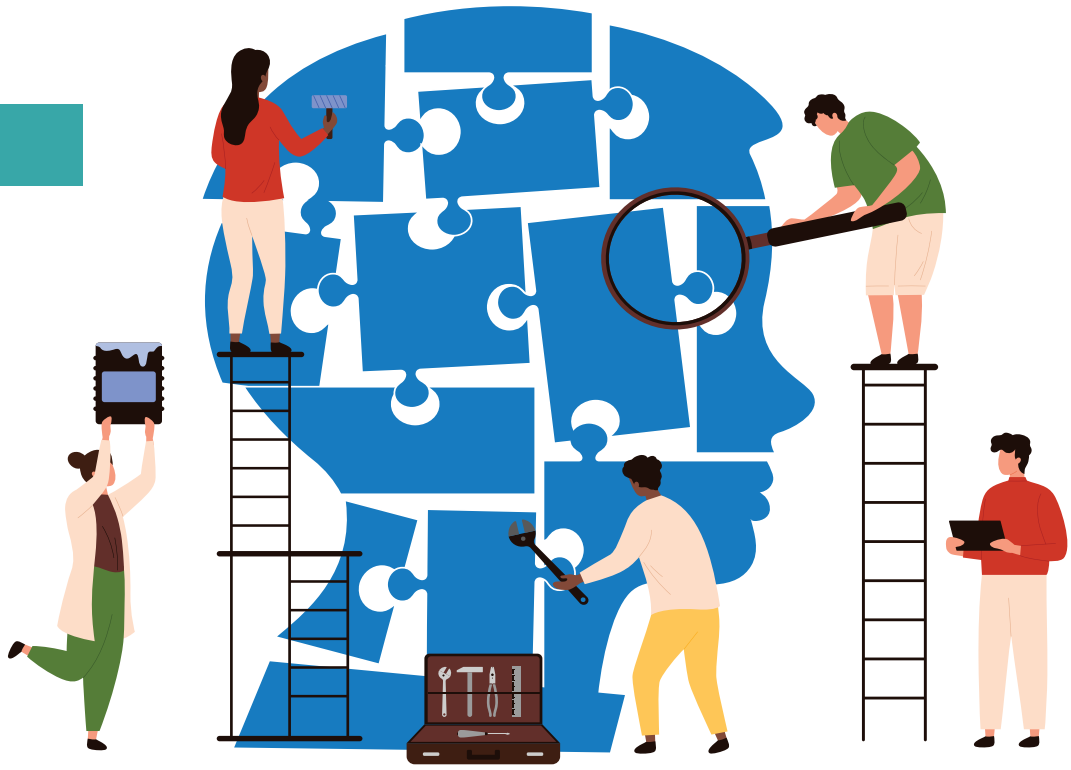


From Suspicion to Evaluation:

What Sets Autistic and Non-Autistic Children Apart?

By FLORENCE LAJEUNESSE and MÉGANE PLOURDE

In Quebec, about 5% of children aged 1 to 9 have an autism diagnosis. Among the young people referred for an autism evaluation within the healthcare system, about 30% will not receive this diagnosis, though they still present developmental characteristics that raise questions. Given that these numbers are significant, several research teams are working to identify what distinguishes, within this pool of evaluated children, those for whom the autism diagnosis is confirmed from those for whom it is ruled out. How are these two groups of children different? As it is often said, "there are as many forms of autism as there are autistic people," but researchers have nonetheless highlighted certain elements that can shed light on this question.

In a study, Duvall and colleagues (2025) recruited children with a community-based professional diagnosis of autism. These children were then re-evaluated in a research setting using a standardized procedure for all participants, as part of a larger study with multiple research objectives. The assessment included a set of cognitive tasks, autism evaluation tools such as the ADOS-2, and an evaluation conducted by at least one clinical psychologist. The researchers then divided the children into two groups: the first included those diagnosed as autistic by the research team, and the second included those for whom the research team ruled out an autism diagnosis. Let's now look at the similarities and differences between these two groups of children.

Where the Groups Are Similar

First, no significant differences were observed in demographic characteristics. The two groups had the same average age at the time of evaluation, the same sex distribution, and similar average household income. Ethnic background, the child's level of education, and place of residence were also similarly distributed between groups. Thus, the differences in diagnostic conclusions about autism among the children in the study do not appear to be attributable to any of these factors.

The authors also looked at the average age of parents' first concerns, the age of first words, and the age of first sentences. For all three milestones, no differences between groups were found. In both groups, parents' first concerns emerged around 24 months, and children produced their first words and first sentences at around 34 months.

Differences Beyond the Autism Profile

Although autistic children had the same level of functional language as non-autistic children at the time of their research evaluation, their language history differed significantly. Indeed, caregivers (for example, parents) of children in the autistic group more often reported speech or language delays or disorders, as well as a family history of language or articulation differences, compared to the general population.

Original reference:

Duvall, S. W., Greene, R. K., Phelps, R., Rutter, T. M., Markwardt, S., Grieser Painter, J., Cordova, M., Calame, B., Doyle, O., Nigg, J. T., Fombonne, E., & Fair, D. (2025). *Factors Associated with Confirmed and Unconfirmed Autism Spectrum Disorder Diagnosis in Children Volunteering for Research. Journal of Autism and Developmental Disorders.* https://doi.org/10.1007/s10803-024-06329-y

High, P., Silver, E. J., Stein, R. E. K., Roizen, N., Augustyn, M., & Blum, N. (2022). *Do Referral Factors Predict a Probable Autism Spectrum Disorder Diagnosis? A DBPNet Study. Academic Pediatrics*, 22(2), 271-278. https://doi.org/10.1016/j.acap.2021.05.025

Institut national de santé publique du Québec (2025). *Trouble du spectre de l'autisme | TSA*. https://www.inspq.qc.ca/indicateur/developpement-des-jeunes/trouble-spectre-autisme

Tsafrir, S., Barzilay, R., Gothelf, D., & Begin, M. (2025). *Longitudinal Analysis of Children Referred for ASD Evaluation: Exploring Outcomes for Individuals Without Confirmed ASD Diagnoses. Journal of Autism and Developmental Disorders.* https://doi.org/10.1007/s10803-025-06935-4

During the diagnostic evaluation process, the research team also investigated the presence of other neurodevelopmental or psychiatric conditions. Many children in the study received one or more such diagnoses. In the group of children for whom the autism diagnosis was ruled out, more participants had psychiatric diagnoses other than autism, but only during the evaluation process carried out by the research team. The authors suggest that the signs reported by families and certain professionals were more likely attributable to other psychiatric conditions rather than to autism.

It is worth noting that the research evaluation process led to a higher number of psychiatric diagnoses overall among participants compared to what had initially been reported by families. The most frequent were Attention Deficit Hyperactivity Disorder (ADHD), anxiety, and behavioral disorders, but Tourette's syndrome, mood disorders, and adjustment disorders were also observed.

Conclusion

The study by Duvall and colleagues highlights how complex the diagnostic evaluation of autism can be. The researchers showed that although autistic and non-autistic children resembled each other in several aspects of development, their profiles mainly differed in language development and in the presence of other psychiatric conditions.

The fact that many children in the non-autistic group presented alternative psychiatric diagnoses such as ADHD and anxiety suggests that certain traits associated with these conditions can sometimes resemble those of autism, potentially leading to confusion during evaluation. In other words, some signs interpreted as manifestations of autism might actually stem from other sources.

These findings underscore the importance, especially for clinicians, of considering the child's overall profile and carefully assessing the potential presence of other psychiatric or neurodevelopmental conditions. Doing so not only leads to the most accurate diagnostic conclusion possible but also helps guide families toward the most appropriate services for their children.

The Power of Art Therapy

to Foster Social Relationships in Autistic Children

By GABRIELLE GINGRAS

Art therapy adds a playful and creative dimension to this process, encouraging problem-solving through artistic expression and offering new sensory and nonverbal experiences through diverse materials.

Autistic children often face challenges in forming social relationships, as their neurodevelopmental differences affect how they process information and interact with their surroundings. Their understanding of implicit social rules or nonverbal language may be limited, as may their ability to interpret others' behaviors, making conversation and understanding other people's thoughts or intentions more complex.

These difficulties also stem from the fact that neurotypical individuals often misunderstand autistic ways of communicating and relating. Thus, regardless of the degree of autism, building social connections remains an area of vulnerability. Persistent challenges can complicate the initiation and maintenance of friendships, increasing the risk of rejection or bullying, sometimes leading to social isolation, negative effects on mental health, and academic difficulties.

Art Therapy to Support Social Relationships

Interventions designed to help autistic children develop social skills often rely on positive reinforcement of specific behaviors and the reduction of those considered inappropriate. However, in group art therapy with peers of similar age, learning occurs in a more natural, flexible context that encourages a diversity of social interactions.

For example, one intervention uses mirrors to practice facial expressions for basic emotions (joy, sadness, anger, surprise, fear, disgust). These expressions are then replayed in pairs to reinforce this skill. Another cooperative intervention invites children to build a tower using newspaper, tape, and string. During the

What is Art Therapy?

According to the *Association des art-thérapeutes du Québec (AATQ)*, art therapy is a therapeutic process that uses artistic materials, creative processes, imagery, and dialogue. Its goal is to support self-expression, self-awareness, and/or personal change. No artistic talent or specific skills are required to benefit fully from art therapy.

Who Is a Professional Art Therapist?

The AATQ defines a professional art therapist as a master's-level (or equivalent) accredited professional (*Art-thérapeute professionnel du Québec – ATPQ*) who facilitates this process ethically and safely. The art therapist acts as a witness, guide, or catalyst, accompanying the person in expressing their creativity and "translating" their creative language into meaningful insights and personal awareness, in line with the client's therapeutic goals.

activity, the children must communicate and practice active listening to complete the task. A group discussion follows, focusing on their experiences, challenges, and positive aspects of teamwork.

These activities aim to enhance social functioning, address personal challenges, and provide opportunities to practice behaviors that foster self-esteem and well-being.

More Examples of Art Therapy Interventions

Masks – The group creates masks representing different emotions. Therapists invite reflection by asking: "*What does it feel like to be _____?*" The resulting images serve as prompts for group discussions and a circle game ("passing the face") to work on recognizing and understanding facial expressions.

Art therapy adds a playful and creative dimension to this process, encouraging problem-solving through artistic expression and offering new sensory and nonverbal experiences through diverse materials. This approach is particularly suited to autistic children, as it does not rely solely on verbal communication or cognitive reasoning to support self-expression.

The Impact of This Approach: Preliminary Research and Case Studies

Various art therapy interventions with autistic children have yielded encouraging results. Programs combining artistic activities with cognitive-behavioral strategies and social skills training have been shown to promote cooperation, assertiveness, self-control, and responsibility, while reducing hyperactivity.

The use of puppets in therapy sessions has also improved language and relational skills, particularly verbal and artistic communication. Other activities, such as sculpting or museum visits, have been linked to greater self-esteem, communication, and social participation.

Finally, certain art therapy interventions, such as "*Building a Face*", have helped children better recognize and verbalize emotions. Overall, these studies suggest that art therapy can support social, emotional, and behavioral development in autistic children by offering a creative and inclusive space for self-expression.

Art Therapy and Social Skills in Preadolescents

To better understand the impact of art therapy on autistic children's social interactions, Amico and Lalonde (2017) conducted a quasi-experimental study with preadolescents. The goal was to offer artistic activities and group processes that foster the development and practice of social skills.

The sample included six autistic children aged 10 to 12 (average age: 10.5 years), five boys and one girl, all from middle-class backgrounds and enrolled in either regular or adapted school programs (grades 5 and 6).

The study involved 21 weekly 75-minute sessions, led by trained art therapists from a university research center experienced with autistic populations. Sessions included a variety of activities: drawing, mask-making, collage, face painting, and the creation of a personal emotional board.

Creating a Personal Emotional Board

Children create an emotional board using collage materials, finding or drawing images to represent various emotions in separate quadrants. They then share their work in a group discussion, identifying moments when they felt or observed these emotions, sometimes using modeling clay as a tactile aid.

Certain art therapy interventions, such as "*Building a Face*", have helped children better recognize and verbalize emotions.

Preliminary research suggests that art therapy is a relevant and valuable approach for autistic individuals.

Key Findings: The Potential of Art Therapy

Artistic activities promoted emotional recognition and expression, communication, and group cohesion. For instance, collages and masks helped children identify and explore their feelings, while cooperative activities, like tower building, strengthened communication, active listening, and collaboration.

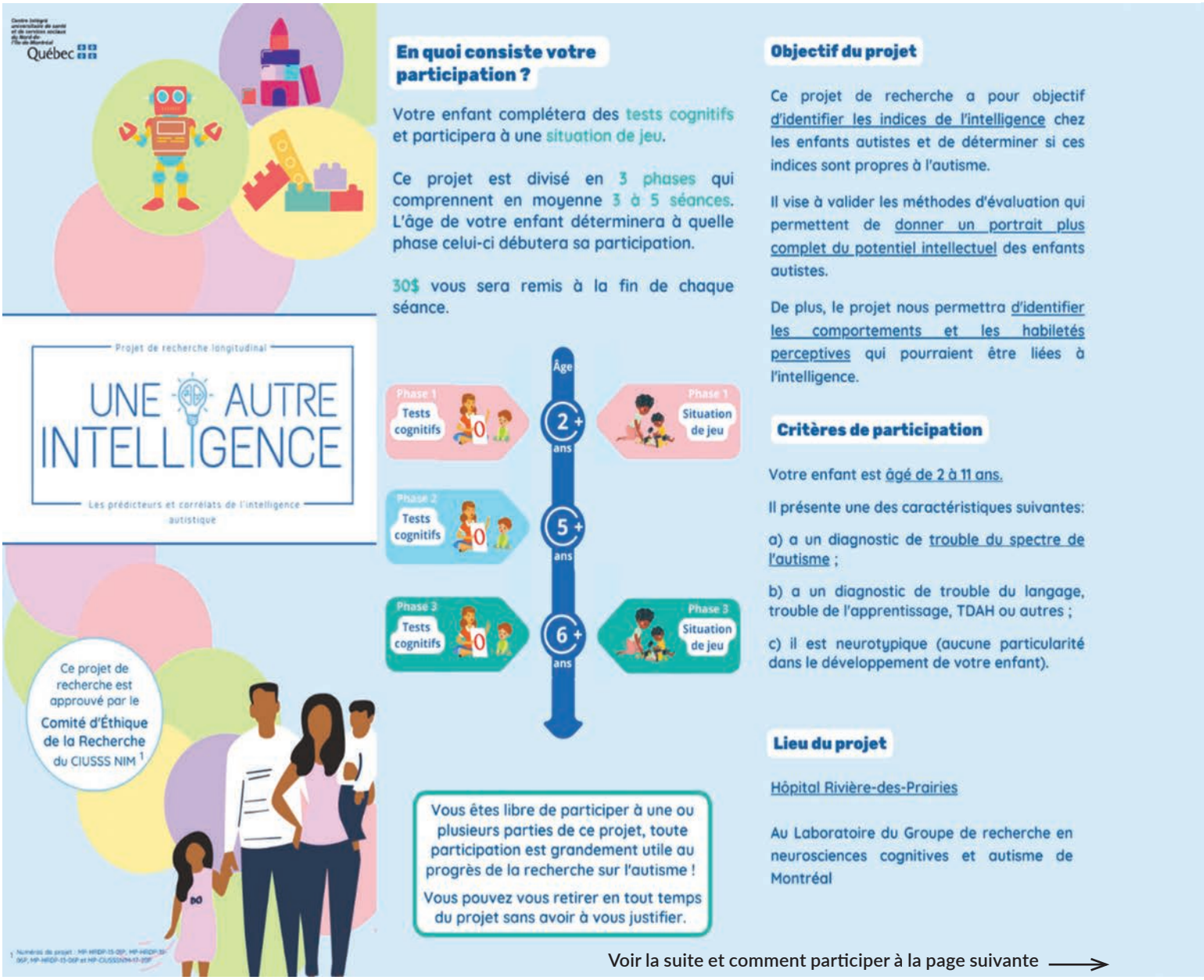
The study reported significant improvements in assertive behavior, along with reductions in hyperactivity and inattention. Although improvements in communication and cooperation did not reach statistical significance, the results suggest that art therapy is a promising approach for teaching social skills to autistic children.

It offers a space to express emotions, share thoughts, and manage behaviors in a supportive environment. In one session, for example, children created images representing their feelings about vacation, which encouraged speaking, listening, and active participation.

These experiences also indicate that art can enhance focus, academic engagement, and social participation, particularly in group contexts.

Research Limitations

The study has certain limitations, including the small sample size, composed of children without severe behavioral or developmental difficulties and primarily from middle-class backgrounds, which limits genera-



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lizability. The absence of a control group also made it difficult to clearly isolate the effects of the intervention.

Additionally, data relied mainly on self-assessments by children and parent questionnaires. Parents were already engaged in seeking social skills development opportunities for their children, which could introduce bias. Behavioral observations or teacher reports would have strengthened the study's validity.

Conclusion: Art Therapy as a Promising Approach

Preliminary research suggests that art therapy is a relevant and valuable approach for autistic individuals, though current studies remain limited. Beyond the data, it is clear that creation and play contribute to well-being.

What if art became a bridge, allowing one to connect with others beyond predefined social codes, opening the door to authentic encounters through difference? There's only one way to find out: to experience it firsthand.

Reference:

D'Amico, M., & Lalonde, C. (2017). *The effectiveness of art therapy for teaching social skills to children with autism spectrum disorder. Art Therapy*, 34(4), 176–182. https://doi.org/10.1080/07421656.2017.1384678

Association des art-thérapeutes du Québec. www.https://aatq.org/