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Autistic Children Show a Greater Interest in Letters and Numbers than Non-Autistic Children.

Two Studies from Dr. Laurent Mottron's Laboratory

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Among the children who come to the Clinique d'évaluation pour les troubles du spectre de l'autisme (CÉ TSA) for a diagnostic evaluation, some spend the entire appointment playing with letters on a magnetic board. This keen interest prompted researchers to conduct a study on the subject. Over a four-year period, they assessed and compared the interest in letters and numbers of autistic and non-autistic children. The results show a distinct pattern of interest for autistic children compared with the other two groups, so let's take a closer look.

Who Were the Project Participants?

Study 1 - Review of 701 Clinical Records

The clinical records of 701 children under the age of 7 referred to CÉ TSA over a 4-year period were investigated. Of these, 391 children were diagnosed with autism (the autistic group) and 310 children were diagnosed with a diagnosis other than autism or simply received no diagnosis (the clinical group). The majority of autistic children (76%) had very limited or no oral



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language while this was the case for 37% of the children in the clinical group. The children's interest was assessed based on medical reports, using a grid to evaluate interest in written material, i.e. letters, numbers, and written words. Based on input from the diagnostic team, two assessors rated the strength of the child's interest in letters and numbers as absent, moderate, intense, or exclusive.

Study 2 - Telephone Questionnaire

The parents of all the children were contacted to ask them to take part in a telephone questionnaire about their child's interest in written material, and 355 of them agreed (138 from the autistic group and 99 from the clinical group). Again, most of the autistic children (84%) were minimally verbal or non-verbal, whereas a minority of the children in the clinical group (27%) and none of the typically developing children were. The questionnaire lasted around 45 minutes, and asked parents about behaviours demonstrating their child's interest in letters and numbers, and their use of oral language. For example, they were asked: "Does your child name the letters they observe? If so, at what age and in what language?"

What Were the Results?

1. Autistic Children Were More Interested in Letters and Numbers

Although many autistic children had very limited oral language, their interest in letters was more pronounced than in the other groups. Medical records showed intense or exclusive interest in 20% of children with autism, compared with 3% of children in the clinical group. The questionnaire revealed an even more striking figure: 37% of autistic children had an intense or exclusive interest in letters, compared with 23% of the clinical group and 25% of typically developing children. The autistic children's level of oral language had no impact on the level of interest. Results for interest in numbers were similar. In other words, having a diagnosis of autism increased the odds of having a higher level of interest in letters and numbers at the same age by a factor of about 3!

The age at which interest in letters and numbers began was similar between autistic and typically developing children at around 2 and a half years. Where as, it was later in the clinical group, around

3 years of age. Despite their language delay, autistic children develop an interest in written material at a perfectly normal age.

2. Different Behaviours

The questionnaire revealed that autistic and non-autistic children showed different levels of interest. More than half the parents of autistic children indicated that letters were special to their child. Children with autism had less social letter interest behaviors, which didn't require interaction with another person. For example, they enjoyed manipulating and aligning letters, or looking at books alone. In comparison, the other two groups presented more social behaviors related to their interest, such as bringing a book to an adult to ask to read it or pretending to read for others.

For example, very few children in the three groups could read complete sentences, but the three autistic children who could do so had started to do so before they were three, two years earlier than those in the other two groups. Other autistic children showed unexpected bilingualism: they had taught themselves to speak in a language that was not present in their environment, for example, with the help of video subtitles.

What do These Results Mean?

This large-scale study is the first to demonstrate a greater interest in letters and numbers in children with autism. This interest develops at the same age as in typically developing children but manifests itself in different ways. Whereas typically developing children's interest in letters begins when oral language is already well developed, and manifests itself in shared reading, autistic children engage alone in their letter-related activities and make little use of oral language at the same age. The more solitary behaviours of autistic children can sometimes delay the detection of this interest by parents. For some autistic children, this intense interest can lead to the early development of reading skills. The fact that this interest manifests itself independently of the child's level of oral language points to a potential alternative pathway to language acquisition, through the written word. If letters are special for more than half of autistic children, this interest needs to be considered in intervention methods based on the child's strengths. 🌟