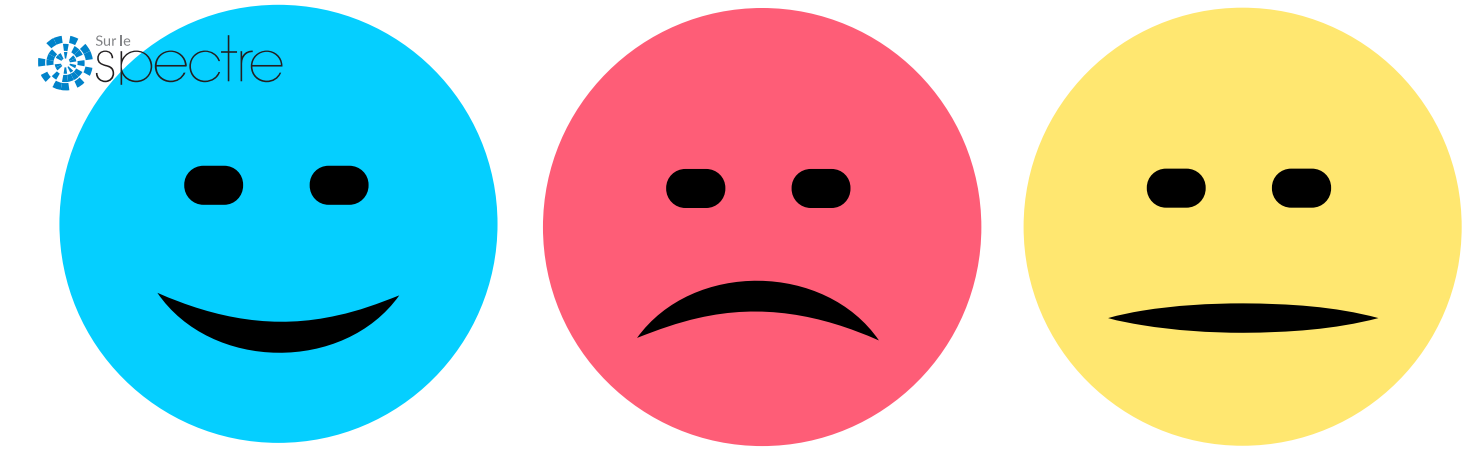


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# Does the Emotional Expression of Young Autistic Children Differ from that of Neurotypical Children?

## The Importance of Context: The Sequel!

**By ALLYSON BASTIEN and CATHERINA LACELLE**

In a previous issue, we presented an article highlighting the importance of context in the study of emotional expression in young children with autism. In this study, conducted by Claudine Jacques and her colleagues, autistic and neurotypical children aged 2 to 5 were exposed to the Montreal Stimulation Situation (MSS), a natural context adapted to the particular characteristics of autistic children. The frequency and duration of the children's emotional expressions, and the number of children who displayed each emotional expression were then recorded. According to the results obtained, there was no difference between autistic and neurotypical children in terms of expressing positive, negative, and neutral emotions, but autistic children expressed more unknown emotions (i.e., emotions that were difficult to interpret).

Two years later, in 2024, Northrup and his colleagues published a study in the journal Autism that also looked at the emotional experience of young autistic children in a natural context. Below is a summary of Northrup's study and a comparison with Jacques' 2022 article.

### How does the Northrup's study examine emotional expressions in young autistic children?

This study uses the Lab-TAB task with 17 children with autism and 20 children without autism aged 2 years old (22 to 28 months). This task, consisting of nine short activities simulating everyday situations, aims to elicit three emotions: joy, frustration, and discomfort. It is important to note that the tasks that elicit unpleasant emotions are followed by a pleasant moment.


The children are filmed during the situations; the videos are then divided into 10-second intervals for analysis. These intervals are then manually coded by two research assistants who characterise the valence (positive, negative, neutral) and intensity of the emotion expressed during each interval on a scale of -3 to +3.

Afterwards, the positive, negative, and neutral emotions are then analysed according to three indicators:

1) **Proportion** of time spent in positive, negative, and neutral emotional valence
2) **Intensity** of the emotions
3) **Range** of emotions: distance between maximum intensity and minimum intensity

## What results did they obtain?

1) **Proportion** of intervals spent in positive, negative and neutral affect:

**Positive emotions:** autistic < non-autistic

**Negative emotions:** autistic = non-autistic

**Neutrality:** autistic > non-autistic

2) **Intensity** of emotions:

Positive emotions were more intense in the joy task and negative emotions were more intense in the frustration and discomfort tasks in both groups.

The authors revealed the following results concerning the intensity of positive and negative emotions. However, these differences between the groups were not significant.

**Positive emotions:** autistic < non-autistic

**Negative emotions:** autistic > non-autistic

A non-significant difference means that the difference between two groups is not large enough to be considered.

3) **Range** of emotions:

**Positive emotions:** autistic = non-autistic

**Negative emotions:** autistic = non-autistic

**Neutrality:** autistic = non-autistic

## Let's compare these two studies!

In summary, in both studies, children with autism expressed as many negative emotions as the comparison group.

However, Northrup and his colleagues found that autistic children expressed fewer positive emotions and more neutral emotions than non-autistic children, whereas Jacques and her colleagues suggested that autistic children expressed as many positive and neutral emotions as neurotypical children.

## Why do the results differ?

The discrepancy in the results can be explained by a multitude of factors. The two studies sought to assess whether the valence of the emotions expressed differed in autistic children compared with neurotypical or non-autistic children. Although both methodologies allow emotions to be expressed in a natural context, the nature of these contexts differs. The task used by Northrup was originally created to assess neurotypical children in a structured context, whereas the situation used by Jacques was specifically designed to assess the behaviour of autistic children in a free play context.

In addition, these two studies share the same coding process involving two human observers who interpret the children's emotional expressions according to positive, negative and neutral valences. The two methods are also similar when it comes to analysing the duration of emotions. Nevertheless, several differences were identified which could also help to explain the divergence in results:

The importance of considering the context when interpreting emotional expressions.

| Methodological Differences | Northrup et al. (2024) | Jacques et al. (2022) |
|---|---|---|
| **Sample: Participants' age** | 22 to 28 months | 27 to 56 months |
| **Sample: Comparison group** | **Non-autistic:** potential developmental concerns | **Neurotypicals:** no developmental concerns |
| **Coding process** | 10 second intervals | Continuous |
| **Analysis process** | Intensity and range | Frequency |

## What we can learn

- These two studies highlight the importance of using natural situations to represent the wide range of emotional expressions of young children with autism.
- The results of both studies underline the relevance of taking context into account to better capture the emotional expressions of children with autism.
- In both studies, many similarities were found in the emotional expression of children with and without autism. The differences observed between the groups could therefore be explained by the context rather than by a fundamental difference in the expression of emotions.
- It should be kept in mind that the analysis and interpretation of the emotional expressions were carried out by neurotypical individuals, which may also have had an impact on the results. It is possible, for example, that autistic children express positive emotions differently, and that this is not as well captured by neurotypical observers.
- Although both studies focus solely on exploring facial expressions, the authors stress the value of considering other modalities of emotional expression such as body language, tone of voice, verbal expressions, and behaviours in future research.

**Original article:**

Articles originaux: Northrup, J. B., Cortez, K. B., Mazefsky, C. A., & Iverson, J. M. (2024). Expression and co-regulation of negative emotion in 18-month-olds at increased likelihood for autism with diverse developmental outcomes. Autism, 13623613241233664.

Jacques, C., Courchesne, V., Mineau, S., Dawson, M., & Mottron, L. (2022). Positive, negative, neutral—or unknown? The perceived valence of emotions expressed by young autistic children in a novel context suited to autism. Autism, 26(7), 1833-1848.