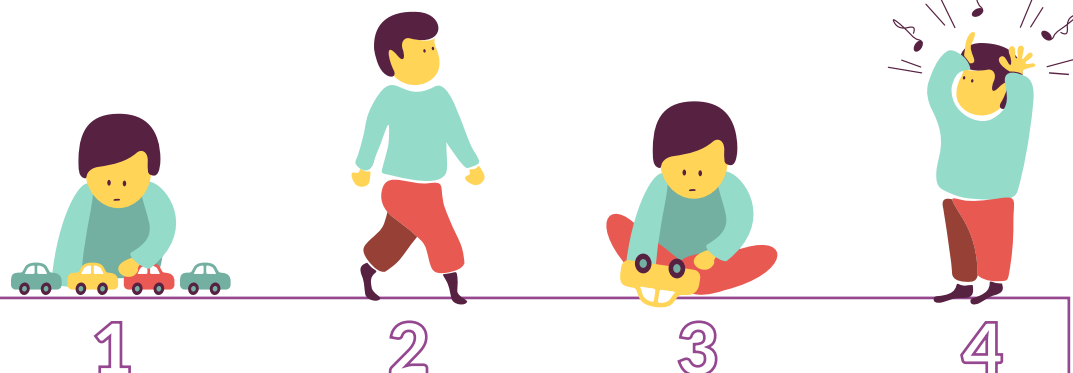


# Are repetitive behaviours and object exploration in young autistic children compatible?

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The DSM-5's second diagnostic domain is made up of four components:

- 1 Repetitive language, use of objects and movements (e.g. hand flapping, finger flicking, echolalia, lining up objects),
- 2 excessive adherence to routines, rituals, and resistance to change (e.g. always preferring the same route),
- 3 restricted or highly-focused interests (e.g. dinosaurs, cars, traffic lights),
- 4 hyper or hypo sensitivity to sensory stimulation, or unusual interest for certain sensations (e.g. lateral gaze, close staring, covering ears, sniffing objects).

Repetitive behaviours, which are included in the second diagnostic domain of autistic signs, are still perceived rather negatively by the medical and clinical establishment when compared to sociocommunicative signs. Indeed, we frequently hear that these behaviours interfere with daily functioning, attention and exploration of one's environment in autistic individuals, thereby lessening learning opportunities. But what if these behaviours served a more adaptive purpose than previously thought? Do these behaviours allow autistic people to explore their environment in their own way? Can we use autistic children's repetitive behaviours to guide learning?

It was these questions which led researcher Claudine Jacques to develop the Montreal Stimulation Situation (Situation de Stimulation de Montréal, or SSM in French) 10 years ago. This innovative play-based situation aimed to study and compare repetitive and stereotyped behaviours and object exploration in autistic and typically developing children. An article recently published in PLoS ONE details research findings based on 49 autistic and 43 neurotypical pre-school children exposed to the SSM.



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In terms of object preference, autistic children demonstrated more interest (in terms of frequency and duration) in literacy-related objects, such as books, dictionaries, and magnetic letters and numbers.

The **Montreal Stimulation Situation** lasts 30 minutes and is conducted in a play room stocked with 40 objects of interest to young autistic children (e.g. toy cars, miniature letters and numbers, trains, tablet etc.). The task is separated into 4 phases:

- 1 (1) Free play phase 1 (5 minutes), where the child is free to explore all objects in the room
- 2 (2) Semi-free play phase (5 minutes) where the child again explores objects in the room, but the experimenter activates or turns on the objects the child plays with
- 3 Semi-structured play phase (15 minutes) where the experimenter presents 11 objects hidden in a box in a successive manner, allowing the child to explore all available objects
- 4 Free play phase 2 (5 minutes), where the child is free to explore all objects in the room.

### What has the MSS found?

The results of this initial study using the MSS represent a first step towards redefining repetitive behaviours in autism. Firstly, this study confirmed that autistic children demonstrate more and longer lasting repetitive behaviours than typically developing children. The most frequent repetitive behaviours observed in autistic children during the situation were hand mannerisms (flapping), visual exploration (close up staring) and arm movements. The MSS also enabled an important discovery regarding childrens' exploration of their environment. As it turns out, autistic children explore the same number of objects for a similar duration of time as typically developing children. In terms of object


preference, autistic children demonstrated more interest (in terms of frequency and duration) in literacy-related objects, such as books, dictionaries, and magnetic letters and numbers.

### What do these findings suggest?

Contrary to widespread negative perceptions of repetitive behaviours, this study implies that, when allowed to explore a variety of objects in a stimulating and interesting environment, repetitive behaviours do not lead to less exploration of the environment. This begs us to reconsider the very principles of some autism interventions. Many such interventions aim to render the environment as uninteresting as possible by minimizing "non-social" distractors, aiming to reduce repetitive behaviours and therefore maximise learning.

### What now?

With a larger number of participants, we would like to better understand how repetitive behaviours change over time, depending on age, gender and cognitive abilities of autistic and typically developing children, as well as children with developmental delays. We predict that certain repetitive behaviours and preferred interests will later determine cognitive development in autistic children.

To study these hypotheses, a larger number of children are needed and recruitment is therefore ongoing. If you would like your child to participate, whether autistic, typically developing (no diagnosis) or presenting with developmental delays, please contact our team by phone (514-619-3505) or email ([recherche.autismemtl@gmail.com](mailto:recherche.autismemtl@gmail.com)). 

#### Original article:

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