

NEWS

Repetitive behaviors and ‘stimming’ in autism, explained

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Restricted interests and repetitive behaviors constitute one of two criteria that define autism in the diagnostic manual for psychiatry.

But this domain encompasses a wide range of traits that may appear in a variety of combinations, and with different severity, among people with autism. Here, we describe the changing understanding of the importance of **repetitive behaviors** in autism, and the movement for their acceptance.

What are repetitive behaviors?

Scientists categorize repetitive behaviors into two groups. So-called ‘lower-order’ repetitive behaviors are movements such as hand-flapping, fidgeting with objects or body rocking, and vocalizations such as grunting or repeating certain phrases. ‘Higher-order’ repetitive behaviors include autism traits such as routines and rituals, insistence on sameness and intense interests.

Is repetitive behavior unique to autism?

No. Repetitive motor behaviors are also seen in other conditions of the developing brain. For example, many girls with **Rett syndrome** constantly wring or clasp their hands. Repetitive behaviors are also characteristic of **attention deficit hyperactivity disorder**, **obsessive-compulsive disorder** and **schizophrenia**.

They are also part of typical development. Typical infants and toddlers may kick their legs repeatedly, rock back and forth while playing or flap their hands in excitement. These movements are increasingly thought to be important for helping children understand how their bodies work and to develop coordinated voluntary movements.

These early repetitive movements may be more intense in autistic people and persist well beyond childhood. That said, even typical adults may exhibit repetitive movements, such as jiggling a leg, drumming fingers on a table or chewing on the cap of a pen in concentration. They may also have an intense interest in a particular band or sports team, much like autistic people do in train schedules or butterfly taxonomy.

How did repetitive behaviors come to be understood as an important part of autism?

Repetitive behaviors are among the first signs of autism to emerge in toddlerhood. They are seen in people across the autism spectrum. They tend to be more pronounced in those with lower cognitive ability, however.

Repetitive behaviors have been recognized as part of autism since the condition was first described. **Leo Kanner** and Hans Asperger noted repetitive movements and insistence on sameness in the first children they described, as did **Grunya Sukhareva**, an early autism researcher.

However, for many decades autism research focused on the other major group of autism traits:

social difficulties and communication problems. As a result, repetitive behaviors were **not well studied** or understood.

Repetitive behaviors were not a required part of the criteria for an autism diagnosis as defined in the previous edition of the Diagnostic and Statistical Manual of Mental Disorders. Over the past decade, scientists have come to see these behaviors as central to autism's definition.

How does 'stimming' relate to repetitive behaviors?

A subset of repetitive movements such as twirling, hand-flapping or vocalizations are sometimes called 'stimming.' This is short for self-stimulatory behavior, a clinical term that some autistic people have adopted. They have also **spoken out about the importance** of their 'stims.'

However, some researchers criticize the term 'stimming,' saying it could in fact hamper the acceptance of repetitive behaviors.

"As soon as you call it that, you cease to entertain alternative conceptualizations about why [autistic people] might be doing this," says **Matthew Goodwin**, associate professor of health sciences and computer science at Northeastern University in Boston, Massachusetts. If the behaviors are seen as merely self-stimulatory, he says, autistic people may face pressure to suppress them.

Do repetitive behaviors have a function beyond self-stimulation?

There is little concrete research available to answer this question. Some researchers have suggested that repetitive behaviors offer autistic people a way to shut out the outside world. Others hold that the behaviors serve no function and simply reflect a disorganized nervous system.

Over the past several years, however, autistic people have described a **wide variety of functions** that their repetitive behaviors serve.

Sometimes, they say, engaging in these behaviors just feels good. But beyond that, repetitive behaviors may offer these individuals a way to calm their **anxiety**, generate or maintain awareness of their bodies, focus their concentration or deal with overwhelming sensations or emotions. They may also help autistic people communicate their mental or emotional state to others.

The same behavior may serve different purposes in different people, or even in the same person at different times, depending on the situation or mood.

Can repetitive behaviors be harmful?

Sometimes. Intense or constant repetitive behaviors prevent autistic people from engaging in

important activities, such as learning in school. Occasionally, they can result in harm to others or self-harm, such as when a person repeatedly bangs his head against a wall.

Beyond these harms, repetitive behaviors may distract other people or, if perceived as odd by others, may have social consequences for autistic people, making it harder for them to make friends or get a job.

How can repetitive behaviors best be managed?

There are **no reliable methods** to treat repetitive behaviors in autism.

For many years, clinicians focused on eliminating repetitive behaviors in people with autism. This sometimes involved extreme methods, such as prescribing powerful antipsychotic drugs, slapping the children or administering electric shocks to them when they engaged in these behaviors.

Many clinicians now question whether the behaviors even require intervention, unless they result in physical harm to the autistic person or others.

When a behavior is distracting or preventing an autistic person from participating in school or other activities, clinicians may try to identify the behavior's function. If spinning in circles in the classroom helps an autistic child soothe her anxiety, for example, her doctor may try to find ways to minimize the anxiety or suggest another calming behavior that is less disruptive.

In the case of behaviors that others may see as odd, autistic people may need help devising strategies to delay engaging in those behaviors until they are alone or with nonjudgmental people. Or it may simply be that it is society, and not autistic people, who must change.