

VIEWPOINT

Learning when to treat repetitive behaviors in autism

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Autism spectrum disorder involves two core deficits: problems with social communication and restricted and **repetitive behaviors**. Although therapies for improving critical social communication skills have advanced rapidly, researchers are less clear on whether and when to intervene for

restricted and repetitive behaviors.

This conundrum arises from a considerable lack of understanding about why these restricted and repetitive behaviors (RRBs) develop, the mechanisms underlying them and how to manage them. Some of the behaviors may have hidden benefits for people with autism. For example, hand flapping can help children with autism cope in new or anxious situations or better communicate when they are frustrated.

As a result, uninformed attempts to halt these behaviors may not be successful or welcomed by individuals with autism. Instead, we should work with families to find a happy medium between acceptance and change. This approach is likely to include thinking about alternative ways to fulfill the need that prompted the original behavior.

RRBs are present in various neurodevelopmental disorders but are considered a hallmark feature of autism. The term defines a wide range of idiosyncratic actions, including stereotyped movements, repetitive self-injury, compulsive or ritualistic behaviors, insistence on sameness, repetitive language, and unusual or intense preoccupations.

These behaviors fall into two categories. So-called 'lower-order' RRBs typically include repeated motor actions such as hand flapping and sensory manipulation of objects such as peering at objects from different angles. 'Higher-order' RRBs are more cognitive in nature and include routines, rituals, insistence on sameness, and narrow and intense interests.

Poor progress:

These behaviors occur early in individuals with autism and are often red flags for clinicians and researchers¹. Studying the emergence of RRBs in children with autism can be difficult, however, given that some of the behaviors are similar to those present in typical early development. Repeating certain actions with toys and uttering the same sounds or words over and over again is a normal part of infancy and toddlerhood and considered vital for developmental progress. Although these early behaviors look similar in children with autism and typical children, in those with autism they do not decline as quickly and interfere much more.

Determining how to deal with these behaviors in autism is crucial because they can impede learning and restrict social opportunities. Studies have found that an increased rate and severity of RRBs can track with poor outcome in a wide array of skills, such as language and play development².

RRBs can create social problems as well. Intense interests often interfere with a child's ability to socialize, because other children cannot relate to them, leading to further isolation.

Motor RRBs can be even more concerning to parents and caregivers from a social perspective

than defined social deficits are, as these unusual actions can be obvious and off-putting to others. A boy who talks insistently about road signs may be viewed as quirky and a girl who does not make eye contact considered shy. But a child who is flapping his or her hands or rocking back and forth may really stick out as odd, and caregivers feel the stigma associated with these behaviors.

What's more, caregivers are often at a loss for how to deal with these behaviors in the moment. Attempts to redirect the child can make the situation worse, as children can become agitated or aggressive and occasionally hurt themselves or others.

Caregivers report feeling stressed by these behaviors and unsure how best to respond to them. Unfortunately, clinicians cannot confidently prescribe an intervention, as there are few established ones for these behaviors^{3, 4}. Common strategies include blocking, redirecting and teaching alternative behaviors. These techniques can be successful in the short term but can also have negative repercussions, such as self-injury, and are not proven long-term solutions.

Anxiety relief:

People with autism often feel differently from those who care for them, however. At the **2015 International Meeting for Autism Research** in Salt Lake City, Utah, **Robyn Steward**, a visiting research associate at The Centre for Research in Autism and Education in London and a person on the spectrum, presented her research on why adults with autism 'stim,' or engage in self-stimulating motor RRBs such as twirling, hand flapping or rocking.

According to Steward, adults with autism may stim to calm themselves down and relieve anxiety. When such behaviors involve self-injury, she said, intervention is often necessary. But in other cases, rather than try to stop this behavior, the best strategy is to find other ways for that individual to relieve stress, she says.

Steward says motor RRBs can also serve to communicate excitement or frustration. In those cases, any attempt to diminish these behaviors should be accompanied by alternative ways to communicate those same emotions.

In some instances, certain higher-order RRBs, such as an intense interest in Japanese anime or the video game Minecraft, can facilitate social interaction instead of hindering it, allowing a child with autism to find common ground with her peers. In some cases, narrow interests have helped people with autism develop social communication skills and even find employment opportunities.

Coaching caregivers:

With young children, teaching caregivers to implement an intervention shows the most promise, particularly for addressing social-communication behaviors. So far, only a few small studies have taught caregivers to address RRBs in their children^{5, 6}. In a study we conducted this year, we

sought to establish a baseline for interventions by determining how caregivers respond to RRBs naturally, without any training⁷.

We looked at the ways in which caregivers react to their child's RRBs while they play together. We found that caregivers naturally ignore about half of these behaviors but try to curtail others that seem to affect their interaction with their child.

In particular, caregivers do not acknowledge some of the most obvious motor or verbal repetitive behaviors, such as repeating words or hand flapping. Yet they frequently redirect a child when she is engaged in visual self-stimulatory behaviors such as the close inspection of objects or repetitive play with an object — for example, pressing buttons over and over. Knowing how caregivers instinctively respond gave us an excellent starting point for thinking about the best ways to train parents to help their children.

Earlier this year, researchers from Newcastle University in the U.K. tested a short-term 16-hour caregiver training program they call Managing Repetitive Behaviors⁵. The researchers taught 25 caregivers how to identify triggers for RRBs and when and how to intervene. Another 20 caregivers received the intervention at a later date and were the comparison group. The researchers delivered the training in a group setting, allowing for opportunities for support and sharing of experiences and strategies between caregivers. Caregivers identified target RRBs to work on and videotaped the behavior at home.

Following the training, caregivers rated how confident they felt in dealing with these behaviors, and researchers examined how well the caregivers were able to redirect and potentially reduce their child's RRBs.

In this small sample, the researchers reported that the trained caregivers were more confident than the untrained ones about their ability to redirect RRBs effectively at the right time. The participants also rated the training as useful and practical. The caregivers reported that their child's behaviors improved, but the researchers did not see as much of an effect. That may be because of a placebo effect or because caregivers consider many more situations across the child's life than researchers have access to.

To know when and how to intervene with RRBs, we need to better understand why these behaviors occur as well as how they may change over time. We need large controlled studies to evaluate how well evidence-based interventions for autism generally affect the behaviors. Those that focus on social skills and communication rarely include measures of potential change in RRBs.

Sometimes, RRBs subside on their own. Others, however, are more entrenched and require targeted intervention. Some persist throughout adulthood despite attempts to ameliorate them at a younger age. In the end, Steward may be right that it's best to leave them alone until we can provide definitive answers and proven interventions.

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