

# Stanford researchers investigate the emotional side of autism

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Psychology postdoctoral scholar Andrea Samson's research shows that adults with autism spectrum disorders report greater levels of negative emotion in general.

The diagnostic manual of the American Psychiatric Association defines autism in what seems to be a fairly comprehensive way: social impairment, difficulties with communication, repetitive behavior and restricted interests – the so-called "core symptoms" of the autism spectrum disorders.

But autism is a complex condition, and even a description as official and thorough as this one may leave out something important.

"If you talk to parents of children with autism, they'll say all these characteristics are important," said Stanford psychology Professor James

Gross. "But what's not featured in the diagnostic manual is the extreme difficulty many kids with autism have with emotion."

From a caretaker's perspective, sudden emotional outbursts can be one of the single most disruptive aspects of the disease. Still, emotion regulation in autism has attracted relatively little research.

In a survey of adults with high-functioning autism or Asperger's syndrome, Gross, psychology postdoctoral scholar Andrea Samson and University of Fribourg psychology Professor Oswald Huber found that individuals with the disorder consistently reported using less effective emotion regulation strategies than typically developing individuals.

Now, in an ongoing collaboration with Stanford School of Medicine psychiatry Associate Professor Antonio Hardan, Samson and Gross have begun to take a closer look at emotional development among children and youths with autism – and how this knowledge might lead to new treatments for the condition.

## **Choosing a strategy**

A person faced with a stressful or upsetting situation can choose to address this unpleasantness with one of any number of possible emotion regulation strategies. But two approaches – reappraisal and suppression – seem to exert an inordinate amount of influence.

Reappraisal involves casting an unpleasant experience in a new light. In his seminal work on the subject, Gross gives the example of a friend who doesn't greet you when you pass. You might take the sting out of this perceived slight by thinking that he may have been distracted and simply not have seen you.

"In reappraisal, you really work through the problem," said Samson.

"You don't simply clamp down on the emotion." The result is a highly effective regulation strategy, one that's been shown to reduce negative emotions without interfering with other cognitive processes.

Suppression, on the other hand, would involve hiding your true feelings – telling yourself not to show the upset you feel about your friend having just ignored you. This approach is simple, but it's also less effective in the long run. Not only is it less able to banish negative feelings, but the effort of keeping a lid on turbulent emotions can put a drag on cognitive performance.

"Suppression is a strategy which, in certain situations, can be good," said Samson. "But if it's the only strategy, it's not very adaptive."

Most people do make use of a mixture of emotion regulation strategies. But Samson and Gross found that adults with autism spectrum disorders, when compared with typically developing individuals, were significantly less likely to use reappraisal and more likely to use suppression. They also reported greater levels of negative emotion in general.

## **A side effect?**

The reasons for this disparity aren't yet clear. One theory that has been put forward in the past to explain the emotional difficulties of individuals with autism centers on a condition known as alexithymia – the inability to identify or describe one's own emotions.

But the new survey suggests that this is not the case. Even after controlling for alexithymia in their subjects, the researchers found that significant differences in emotion regulation remained between the autistic and typical groups.

The research paper, published in the journal *Emotion*, makes no claims

as to the mechanism behind the finding. But it does suggest that emotional coping issues are not "just side effects," as Samson put it, of some other component of the disease.

"These less adaptive emotion regulation strategies don't seem to be just another way of talking about autism's core features," Gross said.

## Emotion training

In order to tease out some of these answers, Gross and Samson have partnered with Hardan of the Stanford Autism Center at Lucile Packard Children's Hospital in a study of children and young adults.

"It was a no-brainer to get involved in this area when more than 60 percent of people on the autism spectrum have emotional problems," said Hardan.

In addition to repeating their survey, the researchers are beginning to take a look at physiological responses, including brain activation, heart rate, breathing and skin conductivity.

The goal is to use this combination of psychological and physical data to devise a training regimen to improve the emotion regulation performance of individuals with autism – and not only by steering them toward the strategies that work for typically developing individuals. Samson pointed out, for example, that people on the autism spectrum seem to have "a more highly developed ability to process and focus on details," and suggested encouraging the use of an emotion regulation strategy that plays to this strength.

And, although the research is in its early stages, there is also the hope that teaching [emotion regulation](#) strategies could help with other [autism](#) symptoms.

"There's very preliminary evidence of a connection between social deficits and emotional dysregulation," said Hardan. "If we have something that will help dysregulation but also helps with social deficits, that would be a great contribution to this field."

**More information:** Emotion regulation in Asperger's syndrome and high-functioning autism. Samson, Andrea C.; Huber, Oswald; Gross, James J. *Emotion*, Vol 12(4), Aug 2012, 659-665. [doi: 10.1037/a0027975](https://doi.org/10.1037/a0027975)

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