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'Play' may be more stressful for kids with autism: study

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Brain scans also reveal apparent lack of social recognition during video play, researchers say.

(HealthDay)—Children with autism appear to approach play differently than typically developing children, a recent study contends.

"Children with autism lack a social component to their play and don't 'adjust' their play accordingly when another is involved," said study co-author Blythe Corbett, an associate professor of psychiatry at Vanderbilt University in Nashville.

"For example, they tend to interact less with other children and show a preference to play alone or nearby with objects even when other children are near," she said.

Autism is a developmental disorder in which children have trouble communicating with others and exhibit repetitive or obsessive behaviors. About one in 68 children in the United States has been diagnosed with autism spectrum disorder, according to the U.S. Centers for Disease Control and Prevention.

In the new study, researchers conducted a series of experiments with 42 children, aged 8 to 12, who either had an autism spectrum disorder or were typically developing. The investigators collected samples of cortisol, a stress hormone, from the children's saliva before and after playing on the playground with another child.

"The arousal level of the children with autism during play suggests that interaction with peers can be quite stressful," Corbett said. "In this study, we also found a relationship between brain activity during play, behavior and stress level."

All of the children underwent brain scans while playing a computer game in which they believed they were playing a real person half the time and a computer the other half.

"Typical children showed vast differences based on play with human versus computer partners," Corbett said. "While we know that children with autism have difficulty with social play, the current study showed that the brain patterns of children with autism spectrum disorders activate similar brain regions regardless of whether they are playing with a child they met or playing with a computer partner."

One expert said the study, published recently in the journal *Social Cognitive and Affective Neuroscience*, had limitations.

"This study is attempting to provide some level of physiological measure to assess how children with autism spectrum disorders respond

differently from neurotypical children during play," said Dr. Glen Elliott, chief psychiatrist and medical director of Children's Health Council in Palo Alto, Calif.

But he pointed out aspects of the study that limit its usefulness, such as only including children with autism who had higher IQs (at least 80). The study also only showed that changes in the brains of children with autism existed, but not why they existed.

"We cannot use the data to infer an understanding of how brains of children with autism spectrum disorders differ from those without autism," Elliott said. "It may well be that the children with autism understood the rules in ways different from [comparison] children. If so, that difference in understanding may be the cause of the difference in brain scan results."

So what does "play" look like for children with autism? Elliott said that depends on the severity of their condition, their interest in an activity and their level of mental functioning.

"In general, children with autism are less able to do pretend play and less able to put themselves in the position of trying to understand what someone else may be thinking or feeling," Elliott said.

The aspect of the study that rang true for parenting a child with autism was the stress of socializing, said Shannon Des Roches Rosa, of Redwood City, Calif., whose 14-year-old son has autism. That stress may even be greater under artificial circumstances, such as a lab, she said.

"Mostly I've learned to let my son do the kind of play that makes him happy rather than prod him toward the kind he 'should' be doing," Des Roches Rosa said. "What may not look like play by non-autistic

standards is deeply satisfying to kids like my son."

Her son's play usually involves intense sensory activities, such as kicking balls back and forth or jumping on a trampoline, she said. He also enjoys his iPad, particularly apps that can be activated with focused tapping, she added.

Corbett said that the play of children with autism tends to be more repetitive and more focused on computers, videos and technology than on engagement with other children.

For children with autism, some social-skills programs with peers might help increase interest in social play while reducing stress, she suggested.

"Parents can provide opportunities for children with autism spectrum disorders to play with positive, supportive peers to enhance their interest, motivation and aptitude to play with others," Corbett said. "It may help to reduce the amount of computer use and play with videos."

Elliott said this study may not offer many insights to parents of children with autism because they already know that getting them to play with peers is difficult.

"Perhaps they [parents] can take heart in the possibility that studies like this are beginning to map out what parts of the brain engage in certain activities," Elliott said. "But that is a long way from figuring out how to change the observed differences."

More information: The U.S. National Library of Medicine has more about autism.