

## Study suggests peer solicitation is of benefit to children with autism

A recent study by researchers at Vanderbilt University (TN, USA) suggests that peer solicitation can improve reciprocal social interaction among children with autism. The team studied playground interactions between children with autism and typically developing peers and reported that the two groups play similarly when engaged in independent play with children they just met.

While children with autism initiated and engaged in less play overall, the team observed that other children can facilitate and increase interactions by simple requests. These findings highlight the pivotal role that peers have in social interaction, noting that it only takes a single child to prompt other children, with or without autism, to interact.

Discussing the study Blythe Corbett (Vanderbilt University), one of the study's authors commented, "Most children consider playgrounds a fun place to interact with other kids, but for children with autism,

this may be a very challenging and stressful environment," Corbett added that, "one of the key places we learn about social rules growing up is during play, but if you don't participate, chances are you're not going to learn the rules or be motivated to interact with other children."

In the study, Corbett and colleagues studied over 30 peer interactions in children 8–12 years old on an actual playground by using state-of-the-art technology, including four remotely operated cameras and battery-operated microphones. Three children were on the playground for the observations – a typically developing child trained as a research assistant, called a 'confederate'; another typically developing child there for play only; and a child with autism.

The researchers trained the confederate to invite the other two children to play and received instructions from the researchers through an ear microphone.

Cortisol, a stress hormone, was measured through saliva samples taken at home and several times after the playground interactions to compare the stress level of participants in a typical environment versus playtime with peers. The children with autism demonstrated elevated stress during social interactions, with higher cortisol levels observed in children who showed less motivation to play with the other children.

"Although children with autism may experience increased stress in social interactions, it was encouraging to see that reciprocal socialization can be facilitated by peer solicitation," Corbett said. "It all starts with a simple bid to play."

## News & Views

### News

### Journal Watch

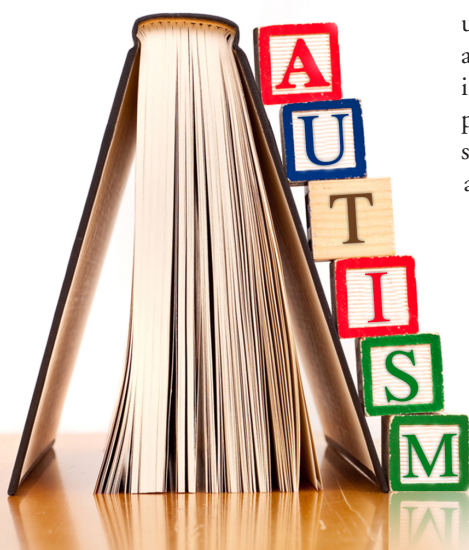
### Interview

### Ask the Experts

"The team studied playground interactions between children with autism and typically developing peers and reported that the two groups play similarly when engaged in independent play with children they just met."

– Written by Dominic Chamberlain  
Illustration by Clare Dolan

Source: Vanderbilt University Press Release. Children with autism benefit from peer solicitation: <http://news.vanderbilt.edu/2013/12/children-with-autism-benefit-from-peer-solicitation>



## Caught up in the net: student internet use shares symptoms of addiction

Researchers at Missouri University of Science and Technology (MO, USA) and Duke University (NC, USA) have published a study suggesting that young adults who are heavy users of the internet may also exhibit signs of addiction.

A total of 69 students completed a 20-question survey called the Internet-Related Problem Scale (IRPS). Developed to identify characteristics of addiction, such as introversion, withdrawal, craving, tolerance and negative life consequences, the survey measures the level of problems a person is having due to internet usage. Simultaneously, the researchers tracked campus internet usage of participating students over 2 months.

The team reported that the range of IRPS scores among participating students over the 2-month period ranged from 30–134 on the 200-point scale, with an average score of 75. The researchers also observed that specific symptoms measured by the scale correlated with specific categories of internet usage, for example introversion was closely tied to gaming and chatting; craving

to gaming, chatting and file downloading; and loss of control to gaming.

High-scoring students on the introversion scale spent 25% more time on instant messaging than low-scoring students, and students who reported increased craving on the IRPS downloaded 60% more content than those who scored low. Additionally, students who scored high on the IRPS spent approximately 10% of their internet time on gaming, compared with 5% for the low-scoring group.

“...students who scored high on the Internet-Related Problem Scale spent approximately 10% of their internet time on gaming, compared with 5% for the low-scoring group.”

Discussing the results one of the study's authors, Murali Doraiswamy (Duke University), commented, “About 5 to 10 percent of all internet users appear to show web dependency, and brain imaging studies show that compulsive internet use may induce changes in some brain reward pathways that are similar to that seen in

drug addiction.” Doraiswamy added that, “We tend to take drug-related addictions more seriously than if someone were using the internet as a drug,” and highlighted the fact that, “The negative consequences of the internet may be quite underappreciated.”

The researchers believe that results from this study and others could help understand the potential of the internet to affect our behavioral and emotional wellbeing, and highlighted that there is a need to establish criteria for normal versus problematic usage in various age groups.

Importantly, the team is quick to mention that the current study is exploratory and therefore does not establish a cause and effect relationship between internet usage and addictive behavior.

– Written by Dominic Chamberlain

Source: Missouri University of Science and Technology press release. College students' heavy internet use shares symptoms of addiction: <http://news.mst.edu/2013/12/college-students-heavy-internet-use-shares-symptoms-of-addiction/>

## Research shows genetic overlap between schizophrenia and cognitive ability

In a study recently published in *Molecular Psychiatry*, a team of investigators from the Feinstein Institute for Medical Research (NY, USA) have reported the first direct evidence of a genetic correlation between schizophrenia and general cognitive ability.

Deficits in cognitive ability have long been associated with schizophrenia. The fact that cognitive deficits have often been reported in first-degree relatives of patients with schizophrenia has led to speculation

that there may be a genetic overlap between risk for schizophrenia and cognitive deficits. However, until now, this overlap has not been tested on a molecular level.

“...alleles associated with reduced cognitive ability also increase risk for schizophrenia.”

Previous large-scale genome-wide association studies have reported that the

heritability of both schizophrenia and general cognitive ability may be explained by a polygenic component consisting of many common single-nucleotide polymorphisms. This study aimed to supply a genetic test of the endophenotype hypothesis; that alleles associated with reduced cognitive ability also increase risk for schizophrenia.

Using polygenic risk scores derived from the Cognitive Genomics

## Two-drug combination for children with ADHD and aggression

A collaboration of researchers from the Ohio State University Wexner Medical Center, the University of Pittsburgh (PA, USA), Stony Brook Hospital (NY, USA) and Case Western Reserve University (OH, USA) have presented evidence that prescribing the combination of a stimulant and an antipsychotic drug to children with ADHD and aggression, alongside parental teaching of behavior management, may lead to behavioral improvement. The results of the TOSCA study were recently published in the *Journal of the American Academy of Child and Adolescent Psychiatry*.

“...although doctors have often used stimulants and antipsychotics together in recent years, we did not have good evidence until now that they would work more effectively when carefully staged and given together.”

In the 9-week study, researchers randomized 168 children, aged 6–12 years, with diagnosed ADHD and oppositional-defiant disorder or conduct disorder into two groups; ‘basic’ and ‘augmented’. For the full 9 weeks, both groups were given a psychostimulant drug (OROS® methylphenidate; ALZA Corporation, CA, USA) and the subjects’ parents received behavioral training. This combination was referred to as ‘basic’. Provided that there was ‘room for improvement’, 3 weeks into the study, children in the ‘basic’ group were given a placebo, and those in the ‘augmented’ group were given the antipsychotic drug risperidone.

Compared with the basic group, children in the augmented group, who received the stimulant drug, parental training and risperidone, showed a statistically significant improvement on the parent-reported Nisonger Child Behavior Rating Form Disruptive Total subscale, the Nisonger Child Behavior Rating Form Social Competence subscale, and Antisocial Behavior Scale Reactive Aggression subscale. Both groups were associated with an improvement on the blinded clinician-reported Clinical Global Impressions scale.

The addition of risperidone to the basic regimen of a psychostimulant drug plus parental teaching provided improvement in aggressive and disruptive behaviors in children with previously diagnosed ADHD and severe aggression.

Lead author Michael Aman (Ohio State University) stated that, “although doctors have often used stimulants and antipsychotics together in recent years, we did not have good evidence until now that they would work more effectively when carefully staged and given together.”

– Written by Caroline Telfer

Sources: Aman MG, Bukstein OG, Gadow KD *et al.* What does risperidone add to parent training and stimulant for severe aggression in child attention-deficit/hyperactivity disorder? *J. Am. Acad. Child Adolesc. Psychiatry* 53(1), 47–60.e1. (2014); Two-drug combo helps adolescents with ADHD, aggression: [www.sciencedaily.com/releases/2013/12/131220143035.htm?utm\\_source=feedburner&utm\\_medium=feed&utm\\_campaign=Feed%3A+sciencedaily%2Fmind\\_brain%2Fparenting+\(ScienceDaily%3A+Parenting+News\)](http://www.sciencedaily.com/releases/2013/12/131220143035.htm?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+sciencedaily%2Fmind_brain%2Fparenting+(ScienceDaily%3A+Parenting+News))

consortium (COGENT), a large-scale cognitive genome-wide association study comprising approximately 5000 people from nine nonclinical cohorts, the team tested the endophenotype hypothesis in four case–control cohorts.

“The fact that cognitive deficits have often been reported in first-degree relatives of patients with schizophrenia has led to speculation that there may be a genetic overlap between risk for schizophrenia and cognitive deficits.”

When compared with controls, the individuals with schizophrenia had significantly lower cognitive polygenic scores. Supporting this, polygenic risk scores for schizophrenia were associated with lower general cognitive ability. Significant cognitive associations were also observed for some single-nucleotide polymorphisms that had been previously shown to have a strong association with schizophrenia susceptibility.

This study provides the first direct evidence that there is a genetic overlap between schizophrenia risk genes and those that regulate cognitive ability, thereby providing insight into the pathophysiology of the disorder.

– Written by Caroline Telfer

Sources: Lencz T, Knowles E, Davies G *et al.* Molecular genetic evidence for overlap between general cognitive ability and risk for schizophrenia: a report from the Cognitive Genomics consortium (COGENT). *Mol. Psychiatry* doi:10.1038/mp.2013.166 (2013) (Epub ahead of print); Researchers show genetic overlap in schizophrenia, cognitive ability: [www.sciencedaily.com/releases/2013/12/131217085323.htm](http://www.sciencedaily.com/releases/2013/12/131217085323.htm)

### About the News

The News highlights some of the most important events and research. If you have newsworthy information, please contact: Adam Williams, Commissioning Editor, *Neuropsychiatry* Future Medicine Ltd, Unitec House, 2 Albert Place, London, N3 1QB, UK Tel.: +44 (0)20 8371 6090 Fax: +44 (0)20 8343 2313 [a.williams@futuremedicine.com](mailto:a.williams@futuremedicine.com)