

Study provides new insights into the implications of autism onset patterns

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Kennedy Krieger Institute announced today new study results showing that when and how autism symptoms appear in the first three years of life has vital implications to a child's developmental, diagnostic, and educational outcomes. Published this month in the *Journal of Autism and Developmental Disorders* (Epub ahead of print), this study found children with early developmental warning signs may actually be at lower risk for poor outcomes than children with less delayed early development who experience a loss or plateau in skills.

Researchers collected data from 2,720 parents through the Interactive Autism Network, the nation's largest online autism research project. Through custom questionnaires and standardized rating scales, researchers examined differences in early milestone achievement (e.g., first words, walking, phrase speech, etc.), autism symptom severity and diagnosis, and educational supports between children with three different patterns of autism symptom onset:

- Regression (n=44%): A loss of previously acquired social, communication or cognitive skills prior to 36 months
- Plateau (n=17%): Display of only mild developmental delays until the child experiences a gradual to abrupt developmental halt that restricts further advancement of skills
- No Loss and No Plateau (n=39%): Display of early warning signs



of autism spectrum disorders without loss or plateau

Results from the study, currently the largest to have examined regression in autism spectrum disorders, provides strong evidence for poorer developmental outcomes in children who experienced regression, a controversial topic among autism researchers. More specifically, children with regression had a significant increase in severity of autism symptoms, the greatest risk for not attaining conversational speech, and were more likely than any other group to require increased educational supports. These findings were markedly worse for the children whose parents reported the regression as severe.

This study was also one of the first to examine the implications of developmental plateau, which tended to occur around the child's second birthday. When compared to children with No Loss and No Plateau, these children were more likely to need educational supports and receive an autistic disorder diagnosis, which is typically more severe than other diagnoses on the autism spectrum (i.e., Asperger's syndrome or Pervasive Developmental Disorder - Not Otherwise Specified). Children with No Loss and No Plateau were at the least risk for poor outcomes.

"Children who plateau or regress have a later manifestation of autism, but when it manifests it devastates their development," said Dr. Paul Law, corresponding study author and Director of the Interactive Autism Network at Kennedy Krieger. "Children with developmental plateau are an especially under-researched group, and these findings have important implications for those designing and prioritizing clinical evaluations."

Previous studies have reached a variety of different conclusions concerning outcomes for children with regression. Some research has found these children fared worse in the long-term, while other studies found no differences in outcome between these children and those without regression. In examining these discrepancies, the current study



suggests researchers who require children to have near typical development prior to regression may be missing the most severely impaired children in their findings. In fact, 35 percent of parents in this study had concerns about their child's general development before they noticed the more obvious signs of skill loss.

"Parents have good instincts when it comes to their children," said Dr. Rebecca Landa, co-author and director of Kennedy Krieger's Center for Autism and Related Disorders. "If they're concerned, they shouldn't wait to see a professional for immediate in-depth screening and developmental surveillance. We know from other research that the sooner you can diagnose autism and start intervention, the better the child's outcomes."

Provided by Kennedy Krieger Institute

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