

Children with brain injuries have problems with story-telling

July 26 2010

Children with brain injuries have difficulty developing story-telling skills even though other language abilities, such as vocabulary, tend to catch up with other children as they mature, research at the University of Chicago shows.

"Our findings suggest that there may be limitations to the remarkable flexibility for language functions displayed by [children](#) with brain injuries," said Özlem Ece Demir, a researcher at the University of Chicago and lead author of a paper reporting the research. It is estimated that 1 in 4,000 infants has a brain injury known as pre- or perinatal [brain lesions](#), mainly as a result of stroke, with risk factors involving both mothers and babies.

Demir is part of a University research team that has been studying children with brain lesions — areas of damaged tissue — to learn more about [language development](#). Studying children with brain injuries gives researchers insights into theories of [brain development](#), researchers said. For the study on story-telling, the team compared those children with children who have typical development.

Their findings are reported in "Narrative Skill in children with Early Unilateral [Brain Injury](#): A possible limit to Functional Plasticity" the paper, in the current issue of *Developmental Science*. Joining Demir were Chicago colleagues Susan Levine, the Stella M. Rowley Professor in Psychology, and Susan Goldin-Meadow, the Beardsley Rumelhart Distinguished Service Professor in Psychology.

The 11 children with brain injuries had a median age of six and included eight girls and three boys. The 20-member group of typically developing children included 11 girls and nine boys of approximately the same age as the children with brain injuries.

The children were asked to tell a story after given a situation that suggested a narrative, such as, "Once there was a little boy named Alan who had many different kinds of toys." They were prompted by questions such as "anything else?" until the children said they were done.

The stories were then analyzed for length, vocabulary diversity, syntactic complexity, overall structure and use of inference. The study found that the children with brain injuries produced shorter, less complex stories than typically developing children. Further testing showed that the children with brain injuries had similar vocabulary and sentence comprehension abilities to the typically developing children.

The ability to tell a story is a more complex activity than learning words and sentence structure, researchers said. Because that skill requires flexibility in using words, it may be more vulnerable to developmental delays than other aspects of language learning.

Because the children were just starting school, it is unclear if the difficulties in forming stories indicate a permanent condition or one that changes over time.

Other research has shown that parents can boost their children's story-telling skills by engaging them in conversations around narratives. The body of research may suggest that parents of children with brain injuries should pay extra attention to helping their children form narratives during their preschool years, researchers said.

Provided by University of Chicago

Citation: Children with brain injuries have problems with story-telling (2010, July 26) retrieved 19 April 2024 from

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