

## UW scientists to study foster children - Brain development Research will measure the effects of neglect on infants' and children's minds

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SPOKANE — Some of the world's pre-eminent brain scientists will attempt this year to measure the effects of abuse and neglect on the minds of Washington children in foster care.

The research will be conducted by the University of Washington's Institute for Learning and Brain Sciences (I-LABS), codirected by Patricia Kuhl and Andrew Meltzoff. Since it was founded in 2003, I-LABS has revolutionized how we look at early childhood education and development, according to experts familiar with its work.

"Twenty years ago, we thought that babies were born as this blank slate and when they got to be about 4 or 5 they started to learn," said Nina Auerbach, president and CEO of Thrive by Five Washington, a public-private organization. "Now we know that from day one they are actively learning, and the most important brain development is going on in those first three years."

Transforming the scientific research into information of use to educators, policymakers and parents is the job of Gina Lebedeva, translation, outreach and education director at I-LABS.

"There can be a gap between what the scientists and professionals know and what people outside of that know," Lebedeva said. "Our goal is to bridge that gap."

She will speak about her work and that of I-LABS at the Our Kids: Our Business luncheon on Thursday. Lebedeva will stress that the first relationships in life set the stage for all other learning, and that there is continuity between infancy and later childhood and beyond.

"Relationships in that home environment are what allow further learning to occur," Lebedeva said. "Cognitive development, language acquisition, problem solving, social and emotional development — all of these things we know are really important can only occur in the context of a healthy relationship."

Play is one of the things we do naturally that improves brain development, Lebedeva said, but it also can be enhanced to promote those first relationships.

Ever since cognitive psychology began as a science in the 1960s and '70s, it was thought that we are all a little different — some learn at different rates — and that's true, Lebedeva said. But there has been a revolution in the past generation of scientists, who now know we can predict how a child will do in school based on how the child interacts with parents as early as infancy.

"Long-term research data show relationships, how we interact with children, what kind of input, the quality and quantity of that input early on, can predict kindergarten and school readiness much earlier than we think," Lebedeva said.

Among the institute's most significant work is in the area of language acquisition.

"People who are bilingual early on in life have a certain advantage in other domains outside of language," Lebedeva said.

Research by I-LABS has shown that multilingual people, including children, are more flexible thinkers and therefore better at problem-solving.

"We also know the brain picks up languages early, so if you want a child to pick up a second language, the best thing to do is expose them early on," Lebedeva said.

How a brain responds to language and other stimuli can be measured by a device called a magnetoencephalograph, or MEG, which will enable I-LABS to understand "the neuro-mechanisms behind learning — not what you are learning, but how and what parts of the brain interact with each other," Lebedeva said.

I-LABS is working with Seattle-based Casey Family Programs on a study, using imaging, of brain and behavioral development of children in foster care.

It is believed to be the first time such a population has been studied using brain-imaging technology, according to David Sanders,

executive vice president of systems improvement at Casey Family Programs.

In cooperation with the state Department of Social and Health Services, 40 children in foster care will be selected to participate in the study, Sanders said.

Previous research has shown that persistent fear and anxiety at an early age affect a child's ability to learn throughout life. Sanders believes there is an impact on brain development from abuse and neglect and from changing caregivers.

"We would like to understand what that impact is and what if anything should be done to help mitigate the effect," he said. "We hope to use the information to better shape policy and practice into the future."

- Caption: photo Benjamin Benschneider / The Seattle Times, 2005: Patricia Kuhl will codirect research conducted by the University of Washington's Institute for Learning and Brain Sciences. Andrew Meltzoff

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