

# Variation among preterm infants is the norm

20 November 2014, by Kelsey Anderson

One in 10 infants in the United States is born preterm—less than 36 weeks gestation—each year.

Infants born early are at a higher risk for long-term health problems and neurodevelopmental and cognitive delays. According to a new study that followed preterm infants in Wisconsin, not all [premature infants](#) experience the same challenges. Children who experienced significant, quality parental interactions displayed better learning abilities and social skills than preterm children who did not experience similar parental interactions.

The long-term study completed by Waisman Center investigator Julie Poehlmann-Tynan, PhD, illustrates that the challenges often associated with preterm infants are not identical and that variation within groups of preterm infants is common. The study titled "Risk and resilience in preterm children at age 6" was published in the September edition of the journal *Development and Psychopathology* and followed preterm infants during their first six years. The study followed 173 infants born before 36 weeks gestation from three [neonatal intensive care](#) units in Wisconsin. Infants were assessed at several time points, beginning just before they were discharged from the NICU and ending at six years of age. This study was one of the first to provide evidence on resilience during a premature child's transition to school and to identify individual and family factors that may contribute to resilience.

"To focus on the most medically fragile or the most preterm infants is to miss many high-risk children. Extending developmental screenings to all infants born preterm is important, as is including parents and families in the screening process," says Poehlmann-Tynan.

In addition to health information obtained shortly after birth, researchers conducted multiple in-home visits to observe mother-child play interaction. The [preterm children](#) also participated in two mother-child play interactions and assessments of cognitive development and self-regulation at the Waisman Center. Mothers also completed

questionnaires that addressed their child's abilities, strengths and skills in academic, social, and behavior areas.

The study showed that preterm infants could be categorized into three groups: resilient, at-risk, and having problems. Children who were considered resilient (31% of participants) were well-adjusted and had positive social and academic development despite the risks associated with their preterm births. Children categorized as at-risk or having problems (69% of participants) at age six exhibited significantly lower levels of functioning compared to their resilient peers. The at-risk and having problems groups were more prone to ADHD and had difficulty with social activities and maintaining peer relationships amongst other outcomes associated with premature birth. The at-risk and having problems groups showed less optimal self-regulation, social skills and academic performance compared to their peers in the resilient group.

Poehlmann-Tynan focused on how [children](#) born prematurely demonstrated the ability to thrive across three developmental markers—behavior, social, and academic—despite the risks associated with their prematurity. She also looked at the role of mothers in the development of preterm infants.

"It's important to follow [preterm infants](#) as they grow older, especially as they reach school-age. Some challenges, such as attention problems, are difficult to identify before that time," says Poehlmann-Tynan, director of the Waisman Center Infant-Parent Interaction Lab and professor of human ecology. "Many infants born in the late preterm period—34 to 36 weeks—are at risk for behavioral difficulties." Poehlmann-Tynan collaborated with Emily Gerstein, PhD, a former Waisman Center postdoctoral fellow who is now on the faculty at the University of Missouri-St. Louis, and A.J. Schwichtenberg, PhD, of Purdue University.

**More information:** "Risk and resilience in preterm children at age 6." *Development and Psychopathology* / FirstView Article. DOI:

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