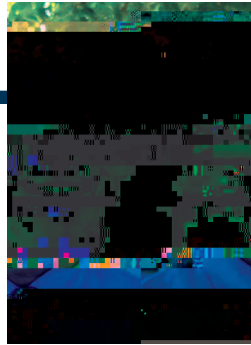


Improvements in neonatal intensive care have led to the increasing survival of children born with extreme prematurity. These children typically suffer from a range of neurodevelopmental and health problems that affect a variety of aspects of their lives, including their academic abilities. Extreme prematurity is defined as being born at less than 28 weeks gestational age and/or having a birth weight of less than 1000 grams. Of all premature or low birth weight children (birth weight <2500g, <37 weeks gestational age), these children are at highest risk for health, developmental, behavioral and other problems. These risks include serious medical concerns such as cerebral palsy, sensory deficits, motor impairment, global mental deficiency as well as cognitive impairment, behavioral problems, and deficits in academic achievement.¹

The health and neurodevelopmental effects of prematurity and low birth weight begin to show early in life. Young children born at low birth weight demonstrate poorer mental, motor, language, attentional, communicative and social skills when compared with children born at a normal birth weight.² Children with extreme prematurity represent the tiniest surviving infants and are at higher risk of impairments and other problems. For example, children with extreme prematurity are two to three times more likely to suffer from neurodevelopmental disorders than term-born normal birth weight children.³ Children with extreme prematurity are especially likely to suffer

from deficits in executive functioning, a set of abilities with implications for behavior and academic achievement. Executive functioning is broadly defined as those cognitive abilities necessary for goal-directed behaviors. Damage to the brain as a consequence of extreme prematurity impacts executive functioning, but more research is necessary to understand the implications of these deficits for learning and behavior at school entry.

Little is known about the problems children with extreme prematurity face at



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Dr. Taylor and colleagues sought to compare the early learning progress of children with extreme prematurity with normal birth weight children. Their research investigated the type and extent of educational issues among children with extreme prematurity during their first year of kindergarten. The researchers then followed these children for their first three years of school, to document the cohort's issues and progress in their early education. Broadly, Dr. Taylor and colleagues sought to understand what problems children with extreme prematurity have when they begin school, whether or not these problems continue, and what educational interventions children were accessing. The project also investigates the environmental and social factors that promote or impede educational and developmental progress. This research is unique because of its focus on children at the time of school entry and because of the multiple methods and assessments used to gain a wide range of information about the needs, challenges and abilities of children with extreme prematurity.

Methodology

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The research by Dr. Taylor and his colleagues is among the first to consider the issues of extremely premature children at school entry and to also consider their participation in educational interventions. It demonstrates that, although children with extreme prematurity are receiving more educational interventions than children with normal birth weight, they are not receiving all the services necessary to improve their likelihood of academic success. The research further shows that children already suffer from cognitive, behav-