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KINDERGARTEN READINESS AND THE BRAIN

Posted on July 22, 2011 by Gerri Miller



■ It's a dilemma faced by many parents of children born close to the kindergarten entry cutoff date: Should they send a 4-year-old to school with older, bigger kids, or delay that start one year to allow the child to mature physically, intellectually and emotionally? Known as redshirting, it's a practice common in school athletics, in which younger players are sidelined to extend their eligibility, giving them the advantage of an extra year's development. In academics, it evens the playing field for a younger child that would otherwise be at a disadvantage. And, according to studies, experts and anecdotal observation, there is scientific reasoning behind it.

___In *Outliers: The Story of Success* (Little, Brown and Company, 2008), author Malcolm Gladwell quotes a study by economists Kelly Bedard and Elizabeth Dhuey that correlated fourth graders' performance in math and science with their months of birth, in which the oldest children scored between 4% and 12% better than the youngest. Gladwell offers this as an example of why the age gap "locks children into patterns of achievement and underachievement, encouragement and discouragement, that stretch on and on for years."

___A 2008 review of 14 studies by the Public Policy Institute of California examining the effects of entry age on student outcomes revealed that older kindergarteners are less likely to be diagnosed with such learning disabilities as attention deficit disorder and attention deficit hyperactivity disorder than younger ones. Other studies, however, have found no long-term advantage in delaying kindergarten, and that the performance gap tends to decrease and level off by the time a child reaches middle school. Clearly, the consensus is divided, in part because the neurological, behavioral and emotional development of 4- and 5-year-olds is more of a continuum than a paradigm.

___Dr. Jason Lerner, a pediatric neurologist at UCLA Medical Center, explains what's going on in a child's brain at that age. "Connections between nerve cells called synapses form throughout childhood, and the density increases the greatest from birth to 10 years. Therefore, the 4- to 5-year age-range is right in the middle of this critical time. In addition, myelination [the formation of an insulating sheath] of nerve cell axons also progressively increases throughout the early years. All of this is related to learning and memory. This is a continual growth and

maturation, therefore individuals at 5 years old should be further along in their growth and maturation than they were at 4 years old. However the rate is not exactly the same for everyone,” says Lerner, emphasizing that “each individual’s abilities should be evaluated, as opposed to having a specific age cutoff.”

___Dr. Eileen Kennedy-Moore, a Princeton, New Jersey–based psychologist and author whose upcoming fourth book, *Smart Parenting for Smart Kids: Nurturing Your Child’s True Potential* (Jossey-Bass/Wiley, March 2011), echoes that opinion. “I wouldn’t just rely on the calendar. There is a big developmental spread at the younger ages. There are 4-year-olds who have more social skills than some 5-year-olds,” she says, although she believes most of the former belong in preschool, which she sees as good preparation for the behavior and learning skills they’ll need later.

___“Can they be away from mommy? Can they pay attention? Can they be around peers and get along more often than not? Those are the things parents need to consider” when making a decision whether or not to redshirt a child, says Kennedy-Moore, the mother of four children aged 8 to 17. “But I’d consider it more for at-risk kids, not just those who are young, especially if they’re doing fine in nursery school and are eager to learn.”

___Those at-risk children, who may have ADD/ADHD, are more likely to be male. “A lot more boys have trouble in school because their higher activity level isn’t always appreciated by teachers,” says Dr. James Crist, a psychologist and clinical director of the Child and Family Counseling Center in Woodbridge, Virginia. “School situations, where what is valued is the ability to sit still, communicate your needs verbally and follow instructions, tend to favor girls.”

___While it’s possible that children are being diagnosed with attention disorders more frequently because we have a name for them now, “Boys are more readily diagnosed with ADHD because it’s a hyperactive behavior than girls with ADD, who might slip through the cracks,” says Dr. Lerner, noting that the cause of both is unknown and may involve both genetic and environmental factors. But according to Dr. Crist, some children are labeled hyperactive when in reality they’re simply more immature than their peers, due to starting school too early. “If you start them at 4 instead of 5, you may see what looks like hyperactivity—but really they’re just not developmentally ready to handle the requirements of school. Children with learning issues can become frustrated. Even in kindergarten, they’re expected to do a lot more academically than ever before, and that creates a lot of stress,” he says, noting that half-day kindergarten and nap time have largely been replaced by longer days and more learning than playtime in many schools.

___“In my practice I see a lot of kids who are acting out at young ages because they can’t handle the structured situation,” Dr. Crist says. “If there are issues with anger, mood instability or anxiety, and you push them before they’re really ready, they can have some pretty serious meltdowns. The danger is it can traumatize them and give them a negative attitude towards school.”

___While he finds that children whose home situations “are less than ideal may do much better at school,” particularly if they have an older sibling there, Crist is aware of more instances involving kids who are young for their grade “and never quite catch up. It’s still an issue as they get older, when all their friends are driving and they’re not.”

___Children who skip a grade are in the same young-for-the-year boat as the redshirted. “My niece was advanced a year, and she had retention issues and always lagged a little behind socially,” says Crist, who favors not pushing kids into school too soon. “I think there’s plenty of time for that.”

___Many educators agree. The majority of states have shifted kindergarten starting-dates to exclude 4-year-olds. California recently changed its law, moving its December 2 cutoff one month earlier each year between 2012 and 2014, and creating a transitional kindergarten for children with fall birthdays.

___In contrast, Geoffrey Canada, founder of New York’s Harlem Children’s Zone and Promise Academy charter school, who’s featured in the state-of-public-education documentary, *Waiting for Superman*, believes it’s never too early to start educating kids—and their parents. “We’re teaching parents about brain development when

they're pregnant, how to prepare their children, and we stay with these kids from birth through high school and college." **[bw]**

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