

Many Ages at Once: The science behind the asynchronous development of gifted children

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What is normal development for a gifted child?

Many people assume that the brightest children in the classroom are the ones who are most able to pay attention, to sit still, to do their work, and to conform to the expectations of authority. They are the children who know how to act their age, at least; or, even better, they display unusual maturity. They fit in and are easy students to teach.

Parents, teachers, and others who live and work daily with these children know differently. Many young highly intelligent children are out of sync with their classmates and their environment, what one definition of giftedness, developed in 1991 by a group of professionals and parents concerned about an overemphasis on achievement, refers to as *asynchronous development*:

"Giftedness is 'asynchronous development' in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm. This asynchrony increases with higher intellectual capacity. The uniqueness of the gifted renders them particularly vulnerable and requires modifications in parenting, teaching, and counseling in order for them to develop optimally."

Parents often describe these children as being many ages at once. A five year old, for example, might read third-grade books, lack the small motor coordination necessary for kindergarten art projects, have lengthy conversations with adults, and struggle to communicate effectively with age peers—all at the same time. Asynchronous development becomes less of an issue as children grow up, but the challenges can last well into adolescence.

Brain imaging research provides evidence for this developmental difference in the maturation of very bright children. In 2006, researchers from the National Institute of Mental Health and the Montreal Neurological Institute at McGill University published results of a study that showed that children with greater than average intellectual ability "demonstrate a particularly plastic cortex" in which the building up phase of the cortex, when connections are formed that allow for high-level thinking, begins and ends later than average (reaching its peak at roughly age eleven or twelve as opposed to seven or eight), and the subsequent thinning or pruning phase of cortical development is rapid.

One of the study's authors, neuroscientist Jay Giedd, explains the process as one of sculpting:

"Right around the time of puberty and on into the adult years is a particularly critical time for the brain sculpting to take place. Much like Michelangelo's David, you start out with a huge block of granite at the peak at the puberty years. Then the art is created by removing pieces of the granite, and that is the way the brain also sculpts itself. Bigger isn't necessarily better, or else the peak in brain function would occur at age 11 or 12. ... The advances come from actually taking away and pruning down of certain connections themselves." *Read More*

The block of granite in this analogy is cortical thickness, which slowly builds up in children until pre-adolescence, at which time redundancies and unused parts are whittled away, leaving behind our adult, sculpted "David" brain. The results of the study suggest that not only does the block of granite stop building up at a later age for gifted children, but that the sculpting phase may end later as well. The sculpting (or thinning or pruning) process is one of greater brain efficiency and eventually allows for mature executive processing skills of planning, organization, and goal setting (one reason why teens for whom this process is not complete do not always take into account the consequences of risky behavior). Highly intelligent young children also have a thinner cortex to begin with, before the store of granite begins to build. Just as interesting is that brain imaging research suggests that children with ADHD also experience a later than average peak of thickening in specific areas.

So, what does this mean, exactly, and why is it important?

First, the asynchronous development of gifted children is not a bad thing. As M. L. Kalbfleisch writes in *The International Handbook of Giftedness*, "One hallmark of creative giftedness is the ability to remain resilient and child-like, to suspend reason or entertain multiple forms of it." Brain development that is delayed or prolonged may allow children more time for intellectual exploration, creativity, and growth.

Adults should know that gifted children will not necessarily fit comfortably within a group of age peers or meet the usual expectations in terms of their development. For young children, this lack of fit may lead to misdiagnoses or premature diagnoses of learning and other disorders. When parents, teachers, and health care providers do not understand the long-term, complex developmental road of giftedness, they may be tempted by the academic precocity of gifted children to place an inordinate emphasis on early achievement and fulfillment of adult expectations. Also, we might expect older gifted students to have more mature judgment at an earlier age than their classmates, even though the reverse can be true. As Dr. Nadia Webb, a neuropsychologist and co-author of *Misdiagnosis and Dual Diagnoses of Gifted Children and Adults*, explains, "Phenomenal intellects can coexist with mediocre executive functioning skills."

How much of the gifted developmental difference is due to nature or nurture (or whether such a dichotomous question is even the right one to ask) will continue to be debated, and more research is needed to understand more fully the developmental process and its implications. For now, parents, teachers, and health care professionals can remember that single snapshots of a child at a specific age can be misleading and that very bright children may experience neurodiversity that affects their behavior in complex ways.

The international non-profit organization SENG (Supporting Emotional Needs of the Gifted), of which I am a director, is spearheading a public awareness effort to educate pediatricians and others who work and live with young gifted children of the potential for misdiagnosis of ADHD and other disorders, the symptoms of which overlap with traits of giftedness.

Learn More

- SENG's [Recommended Resources](#)
- Video: [The Misdiagnosis of Gifted Children](#)

References

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