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**Adolescence in lifespan perspective: Review of Laurence  
Steinberg, *Age of opportunity: Lessons from the new science of  
adolescence***

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BOOK REVIEW

## Adolescence in lifespan perspective

Laurence Steinberg, *Age of opportunity: Lessons from the new science of adolescence*. Houghton Mifflin Harcourt, Boston, 2014, ISBN: 978-0-544-27977-3 (cloth), 264 pp., \$28

Adolescence, argues Laurence Steinberg in *Age of opportunity*, is the new zero-to-three. Noting the extensive publicity regarding evidence of the developmental plasticity of the very young brain, Steinberg writes, “We now know that adolescence is a similarly remarkable period of brain reorganization and plasticity” (p. 22).

As indicated in the subtitle, the book’s intent is to provide “lessons from the new science of adolescence.” What is the new science of adolescence? Brain science. And what are its lessons? The primary lesson is that brain plasticity decreases after the first few years of life but then returns to a high level in adolescence, which Steinberg defines as the period from about age 10 (reflecting the declining age of puberty) to about age 25 (reflecting recent delays in the United States and elsewhere in adopting adult roles). He claims that “psychological change during adolescence is far more dramatic than it is in middle childhood” (p. 41).

The second half of the book focuses on applying what we know to promote adolescent welfare and development. I have argued elsewhere against the sorts of categorical restrictions Steinberg and others

believe can be justified by brain immaturity (Moshman, 2011b, 2013). Steinberg's recommendations to parents of adolescents, on the other hand, seem beyond question: We should focus on rewarding, rather than punishing, behavior. We should promote development by scaffolding advanced behavior. We should engage in authoritative, rather than authoritarian or permissive, parenting. And all of this should be directed toward promoting the development of self-regulation. These recommendations are hardly new insights, however, nor are they specific to adolescence. On the contrary, they reflect a professional consensus rooted in decades of psychological theory and research on learning, cognition, and development.

In this review, considering *Age of opportunity* as popularization, I provide some historical context regarding popular nativism. Then, turning to academic considerations, I consider the place of Steinberg's theory of heightened adolescent plasticity in relation to other developmental views of the lifespan.

### **Popular nativism**

Over the course of the 20th century, developmental psychology came to be dominated in turn by empiricist conceptions (the behaviorist and other learning theories that ruled from the 1930s through the 1950s), then by constructivism (beginning with the rediscovery of Piaget in the 1960s), and finally by nativism (beginning with the neonativist infancy research of the 1980s). Nearly all 21st century developmentalists subscribe to theories that incorporate nativist, empiricist, and constructivist considerations, but most, even when they deny it, prioritize one or two of these factors.

At the turn of the present century, three of the leading proponents of neo-nativism, agreeing that their conception of development was ready for prime time, collaborated on a popular account of what they took to be the extraordinary scientific competencies of infants. *The scientist in the crib* (Gopnik, Meltzoff, & Kuhl, 2001) was followed by *The philosophical baby* (Gopnik, 2009), an ode to "truth, love, and the meaning of life" as revealed in the minds of infants. Reviewing the latter work as a sequel to the former, I wrote in this *Journal*:

*The philosophical baby* is aimed at a general audience, especially parents, and is readable, informative, entertaining, and often amusing. Like its predecessor, the book presents itself as passing on the latest findings from developmental psychology. It does indeed present interesting findings in clear and compelling ways. What will not be clear to the intended readers, however, is that what they are reading, rather than a consensus view of the field, is a nativist interpretation (Moshman, 2011a, p. 44).

All the same can be said of Steinberg's *Age of opportunity*, which might be seen as extending the series to adolescence. This book too is readable and informative. Widely recognized as a major scholar of adolescence, Steinberg is not quite as entertaining or amusing as Gopnik, but he has his moments. My favorite is a footnote in which he recalls:

When a reporter once asked my opinion of a California prosecutor's initial decision in 1996 to charge a six-year-old with attempted murder, I said that perhaps he was trying to send a message to first graders all over the country. (p. 189).

Steinberg sometimes appeals to empiricism in making the case that parents and schools can and should promote development. He appeals to the constructivist emphasis on agency in his focus on self-regulation. But his overall nativism is clear throughout. Parents are seen as input into a maturational process that is deemed strongly related to age. Self-regulation, in particular, is presented as the outcome of a maturational process that culminates in the mid-20s in a state of mature self-regulatory ability. Psychological development is conceived as a process of brain maturation in which various brain systems reach states of maturity at predictable ages in childhood and beyond up to the achievement of fullmaturity around age 25. In his words, "Different regions of the brain develop along different timetables, and as a result, different abilities reach adult levels of maturity at different ages" (p. 200).

Consistent with this nativist approach, Steinberg's explanations of complex psychological and social phenomena are cheerfully reductionist. For example: "Why does the mere presence of friends make

teenagers take more chances? We found the answer inside the adolescent's brain" (p. 95). Much of the argument, moreover, relies uncritically on animal data: "Adolescents get a dopamine squirt from being with their friends, just as they do from other things that make them feel good. It's true in adolescent rodents as well as human adolescents" (p. 98).

Adolescent rodents? Granted, evolutionary and comparative perspectives are crucial to understanding mammalian puberty. Adolescence, however, as a period of life that extends for years beyond puberty, is a cultural phenomenon of modern human societies (Moshman, 2011b, 2013). In the traditional societies for which evolution has prepared us (and our brains), individuals in their teens were expected to function at mature levels as members of their social groups. Given that evolution proceeds over thousands of generations, it is difficult to see how "adolescent" rodents or the evolution of the brain relate to the rapidly expanding adolescence associated with human cultural changes of the past 150 years.

But Steinberg is ready to proclaim "lessons from the new science of adolescence": "We should devote fewer resources to trying to change how adolescents think, and focus instead on limiting opportunities for their inherently immature judgment to hurt them or others" (p. 105). That is, "Some things just take time to develop, and mature judgment is one of them. While our kids are maturing, we must protect them from themselves" (p. 106).

By "kids," of course, Steinberg means adolescents, and by adolescents he means people up to about age 25. In the tradition of Gopnik, what Steinberg has provided for the public is "a kinder, gentler nativism" (Moshman, 2011a). His maturational conception of development, however, posits a much later point of maturity than do standard neo-nativists and most other developmental theorists, and is used to justify an extended period of parental and societal protection and restriction.

### **Patterns of developmental change**

A major feature of Steinberg's approach to adolescence is looking at adolescence in lifespan perspective. Developmental research and theory rest on diverse assumptions about the lifespan pattern of

developmental change. Steinberg, who is far from a standard neonativist, can be seen as proposing an alternative to four current viewpoints concerning the pattern of development across the lifespan.

In *standard neonativism*, the first view, development is primarily a phenomenon of infancy and early childhood. Changes in later childhood and beyond are mostly a matter of learning and largely specific to particular experiences and cultural contexts. Development in this view is a genetically guided maturational process leading in just a few years in any normal human environment to universal states of maturity (Gopnik, 2009; Gopnik et al., 2001).

Second, in the *standard child development view*, development takes place across childhood and perhaps early adolescence. Changes beyond early adolescence are mostly a matter of learning and largely specific to particular experiences and cultural contexts. Developmentalists who take this view see extensive evidence for age-related progress beyond the preschool years toward universal states of maturity generally achieved by early adolescence (e.g., Miller, 2012; Pillow, 2012).

The third view shares with the standard child development view a vision of development across childhood but, in a move toward a lifespan perspective, sees greater possibilities for *extended development* through the teen years and beyond (Moshman, 2011b, 2015). Development becomes more variable in rate and pluralist in direction after childhood but often continues at least through early adulthood in at least some contexts. Development here still refers to changes that are extended, self-regulated, qualitative, and progressive. Developmental changes beyond childhood are not inevitable, however, and do not result in universally achieved states of maturity.

Finally, *lifespan developmentalists* argue that development is multidirectional and occurs across the entire lifespan, further undermining notions of universality and maturity. Development is construed to refer broadly to changes that are extended and self-regulated even if they are not qualitative or progressive.

Steinberg proposes what can be considered a fifth view: extended adolescence as the new zero-to-three. In this view, adolescence, which he sees as roughly the period from age 10 to 25 years, is the second major period of developmental plasticity, following the plasticity of the first three years.

Periods of heightened brain plasticity are times when our experiences are likely to have enduring effects. We have known for some time that the first few years of life constitute one such period. We now know that adolescence is another. (p. 217).

Thus Steinberg sees the lifespan in four stages: a stage of infancy involving major developmental change, a stage of relative stasis from about age 3 to 10 years, another stage of major developmental change from about age 10 years through the mid-20s, and then an adult stage of relative stasis. In contrast to standard neo-nativism he believes there is later development. In contrast to the standard child development view, he sees middle childhood as relatively unimportant compared to what precedes and follows it. In contrast to the extended development view, he sees adolescence as a biologically distinct stage of progress toward a universally achieved state of adult maturity. And in contrast to lifespan conceptions, he believes there is a sharp decline in the mid-20s in the potential for developmental change.

Steinberg's analysis is a helpful contribution for those already aware of the theoretical alternatives and prepared to think critically. As with Gopnik (2009; Gopnik et al., 2001), however, this is not the "lessons" from a "new science" that it claims to be.

## References

- Gopnik, A. (2009). *The philosophical baby: What children's minds tell us about truth, love, and the meaning of life*. New York: Farrar, Straus, and Giroux.
- Gopnik, A., Meltzoff, A. N., & Kuhl, P. K. (2001). *The scientist in the crib: What early learning tells us about the mind*. New York: Perennial.
- Miller, S. A. (2012). *Theory of mind: Beyond the preschool years*. New York: Psychology Press.
- Moshman, D. (2011a). A kinder, gentler nativism. *Journal of Applied Developmental Psychology*, 32, 44-45.
- Moshman, D. (2011b). *Adolescent rationality and development: Cognition, morality, and identity* (3rd ed.). New York: Psychology Press.
- Moshman, D. (2013). Adolescent rationality. *Advances in Child Development and Behavior*, 45, 155-183.
- Moshman, D. (2015). *Epistemic cognition and development: The psychology of justification and truth*. New York: Psychology Press.

Pillow, B. (2012). *Children's discovery of the active mind: Phenomenological awareness, social experience, and knowledge about cognition*. New York: Springer.

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