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# School Entry Age

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## Introduction

At what age should children enter formal schooling? Practices vary widely across countries and localities within countries, and even among families within small communities. The empirical question concerns the age at which children are emotionally and intellectually ready for a formal school program.

## Subject

Policy-makers debate the age at which school entry should be allowed, and when it should be required.[1] Many parents struggle with the question of whether they should send their children to school as soon as they are eligible, or keep them out for another year hoping to increase their likelihood of success. This report summarizes evidence on the effects of the age at which children enter school on their social and academic development.

## Problems

Identifying the appropriate age for children to enter school is complicated by the fact that children do not all develop at the same pace. Substantial variation in “readiness” will be found regardless of the age at which children are allowed or required to enter school depending on children’s experiences prior to school entry. Age, therefore, will always be a weak predictor of

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readiness.

**Research Context**

Three strategies have been used to assess the effects of the age of school entry on children's academic achievement, and occasionally on other outcomes. First, studies have compared outcomes for children who have delayed entry by a year with children who entered school when they were eligible, or outcomes associated with changes in school entry ages. A second methodological strategy is to compare children in the same grade with different birth dates. In any one grade, there is at least a 12- month spread in ages. Assuming that children's birth dates are randomly distributed, associations between this natural variation in age of entry and child outcomes suggest an age effect. Few of the studies using this methodology assess change in achievement over the school year; they therefore cannot be used to determine whether older children benefit relatively more (i.e., make greater gains) from schooling than do younger children, only whether older children perform better on average than younger children. The third and most powerful strategy compares children who are the same age but in different grades, as well as children who are a year apart in age but in the same grade. This strategy provides information on the relative effects of an additional year of time (maturation and general out-of-school experience) versus an additional year of schooling.

**Research Results**

*Entry age.* Studies examining children who have delayed their entry into school by a year are difficult to interpret because there is a selection bias in which children parents decide to hold out of school for a year. The findings of studies that compared children who were held out to those who began school when they were eligible are not consistent. If differences between the groups in child outcomes are found, whatever the direction, the differences are modest. In a study that examined the effect of changes in state school entry dates, the earlier cutoff was associated with strong effects in math and reading achievement at 4$^{th}$ grade, weaker effects at 8$^{th}$ grade, and no effect at 12-grade.[2] A few other studies have found effects of age at school entry on academic achievement[3,4,5] and attention deficit and hyperactivity[6,7,8] through primary school.

*Age differences within grade.* The findings of studies that compare children who are relatively old versus young for their grade also vary somewhat, although a review of research concluded that there is strong evidence for relatively older children having an advantage in achievement

and social-emotional adjustment and behavior.[9] In most of the studies, however, the advantage is significantly reduced or disappears by the end of primary school.

In summary, these studies suggest some small advantage in being older, but the advantage typically diminishes or disappears with age. The findings of studies examining relative age do not suggest that being older is better in some absolute sense. Depending on the birth-date cut-off in the state or community, a relatively old child in one study could have been an average-aged child in another study. The findings also do not suggest that older children learn more in school than younger children do. The age differences, when found, were usually stronger at the beginning of school than in the later grades, indicating that the younger children actually tended to learn more, often catching up with their older peers after a few years in school. Most studies do not compare age to other factors influencing student achievement, but in one that did, the proportion of risk of poor achievement attributed to race and socioeconomic factors was 13 times larger than that contributed by age.[10]

*School versus time to mature.* Most relevant to the question of school entry age are studies comparing children who are the same age but in different grades *and* children who are in the same grade but approximately a year apart in age. The first comparison provides information on the effect of a year of schooling, holding age constant. The second comparison provides information on the effect of chronological age, holding the number of years of schooling constant.

Findings from studies using these methods suggest that schooling is the more potent variable in most of the cognitive skills measured. In math and most aspects of reading and literacy in most studies, children who were in school gained more in a year than children the same age who were not in school. The evidence also suggests that age, at least in the ranges studied, was not a factor in how much children benefited from a year of schooling.[11,12]

The studies comparing age and school effects suggest that educational intervention found in schools contributes more to children's cognitive competencies overall than does maturation, and that relatively young children benefit from school as much as relatively older children. The school effect is strong in an absolute as well as a relative sense. In the Crone and Whitehurst study, for example, a year in school explained 62% of the literacy skill improvements at the kindergarten level, and 81% in second grade.[13] Cahan and Cohen report that the effect of a year in school was twice the effect of a year of age.[14]

## Conclusion

The evidence suggests that within the five- to six-year-old range in which most children begin school in the U.S. (where most of the studies cited were conducted), age is a weak predictor of ultimate academic success. There is some evidence that time in school appears to contribute more to young children's academic skills than time engaged in other activities outside of school. Research on day care and early childhood education also suggests advantages of centre care for children in the preschool years.[15] It is, therefore, clear that children benefit from some form of educational program at a very early age.

Many early childhood experts have called into question the very notion of "school readiness." Clearly, all children at all ages are "ready to learn." The meaningful question is not whether a child is ready to learn, but rather what a child is ready to learn. Even "reading readiness" – a concept with a long history in early childhood development – has little meaning in the context of current conceptualizations of emerging literacy, which includes general knowledge, language and vocabulary skills, and even early scribbling. Literacy, according to current experts, begins to develop long before children enter school.[16] Current conceptions of mathematics also embrace the notion of gradual development that begins early in life. Recent work on the development of mathematical understanding shows that an understanding of basic number concepts is seen and can be promoted in toddlers.[17,18] The important policy issues are how to give all young children access to educational programs, and how to make sure that school programs are appropriate for the particular social and academic skills of the children in them.

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