Assessing the Effectiveness of Elementary School Grade Skipping on Science and Mathematics Achievement

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Abstract

Acceleration—the practice of allowing academically talented students to progress through the curriculum at a faster pace than their birth cohort—has emerged as a favored strategy for supporting high-ability students. In elementary schools, the most common form of acceleration is grade skipping, a practice associated with improvements in student achievement and preeminence in the science, technology, engineering, and mathematics fields. Yet, previous research has not adequately accounted for selection on unobservable factors that may have led some students to be more or less likely to skip a grade and now also influence their exceptional life trajectory. In addition, this research has been inattentive of the extent to which high-ability students of color and low-income students are more or less likely to both access and benefit from grade skipping. Drawing on two waves of the Early Childhood Longitudinal Study, the kindergarten classes of 1998-99 and 2010-11, this proposed study will estimate the relationship between elementary school grade skipping and science and mathematics achievement. This study leverages within-student comparisons over time to provide estimates of the association between grade skipping and student achievement in elementary school that account for numerous potential forms of selection bias. This study will also explore the extent to which this relationship differs for students of color and by socioeconomic status. The results will provide some of the first rigorously identified evidence on the relationship between grade skipping and student achievement, evidence that can inform how best to offer accelerated educational opportunities for high-ability elementary school students.