

Adjusted Differences in ACT® Scores by Parental Education Level

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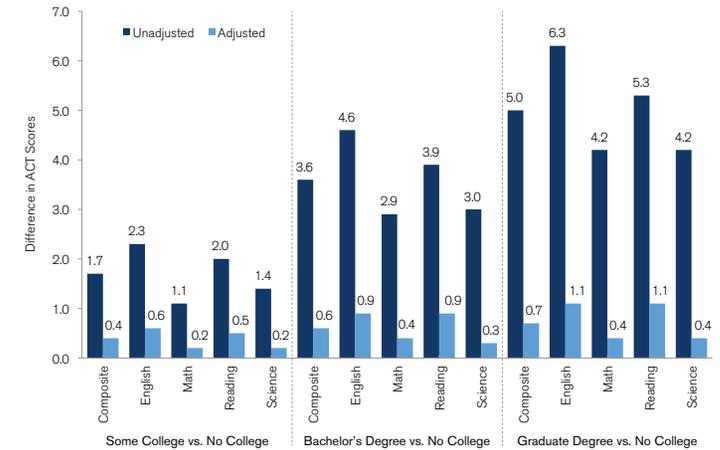
A recent study examined the contributions of students' demographic characteristics toward explaining performance on the ACT® test, over and above other cognitive, school-related, and noncognitive characteristics.¹

The study found that parental education level and other demographic characteristics (including socioeconomic status, race/ethnicity, and gender) accounted for a small percentage of the variance in ACT scores (4% or below), after high school coursework and grades, school characteristics, and other noncognitive student characteristics were taken into account. Additionally, differences in ACT scores by parental education level were substantially reduced after statistically controlling for these other student and school characteristics. For example, students whose parents had no college experience (first-generation students) were more likely to have lower ACT scores than students whose parents achieved higher education levels; however, they were also more likely to have lower high school GPAs and to take less rigorous coursework in high school.² Once other differences among the parental education level groups are controlled for, performance on the ACT is much more comparable.

Specifically, compared to students whose parents had no college experience, the unadjusted means in ACT scores were 1.1 points to 2.3 points higher for students whose parents had some college experience; 2.9 points to 4.6 points higher for students whose parents completed a bachelor's degree; and 4.2 points to 6.3 points higher for students whose parents completed a graduate-level degree. Adjusted mean differences in ACT scores between these groups were substantially smaller (reduced by at least 74%), after other student and school characteristics were taken into account. The largest adjusted mean difference across ACT scores and parental education level was 1.1 scale score points.

Study findings suggest that differential performance on the ACT by parental education level is largely attributable to differential academic preparation. Students from all demographic groups benefit from taking rigorous courses in high school and earning good grades as these factors relate to an increased likelihood of earning higher ACT scores and being better academically prepared for college. Other research

Unadjusted and Adjusted Mean Differences in ACT Scores by Parental Education Level



Note: Results are based on 6,440 high school seniors from 4,541 schools who took the ACT in the fall of 2012 and completed an online questionnaire. For a more detailed description of the study, see [A Multidimensional Perspective of College Readiness](#).

suggests that positive school climates featuring high-quality academic instruction and high levels of academic expectations, student engagement, and parental involvement can also contribute to improved student achievement and increased college aspirations and access.³ ■

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¹ Daniel M. McNeish, Justine Radunzel, and Edgar Sanchez, *A Multidimensional Perspective of College Readiness: Relating Student and School Characteristics to Performance on the ACT*, ACT Research Report No. 2015-6 (Iowa City, IA: ACT, Inc., 2015).

² Justine Radunzel, *Informing Educational Planning and Advising for Students from At-Risk Demographic Groups: Results from a Survey of High School Seniors Who Took the ACT*, (Iowa City, IA: ACT, Inc. 2015). First-generation students are also less likely than non-first-generation students to indicate that their parents are involved in their post-high school plans and to participate early in college planning activities.

³ Alliance for Excellent Education, *Climate Change: Creating an Integrated Framework for Improving School Climate* (Washington, DC: Alliance for Excellent Education, 2013); Rafael Heller, Sarah Calderon, and Elliott Medrich, *Academic Achievement in the Middle Grades: What Does Research Tell Us? A Review of the Literature* (Atlanta, GA: Southern Regional Education Board, 2003); Leticia Oseguera, *Importance of High School Conditions for College Access*, Research Brief No. 7 (Los Angeles, CA: UC/ACCORD and PATHWAYS to Postsecondary Success, 2013).