

Is the Relationship Between AP[®] Participation and Academic Performance Really Meaningful?

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Overview

Strong academic performance in college, as measured by first-year grades, is important for a host of reasons, but perhaps the most critical reason is that students who perform well in their first year of college are more likely to earn a bachelor's degree (Adelman, 2006). Research shows that Advanced Placement Program[®] (AP[®]) students, particularly those who earn higher AP Exam scores, are likely to earn higher first-year grade point averages (GPAs) and higher subject-area GPAs in college than students who do not take an AP Exam. A recent study found that students who earned an AP Exam score of 3 or higher on one or more AP Exams earned first-year GPAs at four-year institutions that were .15 higher, on average, than students who did not take an AP Exam or a dual enrollment course (Wyatt, Patterson, & Di Giacomo, in press). Another recent study found that, compared to students who did not take an AP Exam, AP Biology students who scored a 5 on the AP Biology Exam earned first-year GPAs that were .10 higher, and documented .24 and .21 higher first-year GPAs for students scoring 5s on the AP Chemistry Exam and AP Physics Exam, respectively (Kaliski & Godfrey, in press). But how much of a GPA effect is meaningful?

Contextualizing AP[®] Effects

We assess the practical significance of the AP relationship with college performance by comparing the AP research results above to reported results for other programs and practices that are also designed to improve college performance. We focus on dual enrollment programs (DE), learning communities (LCs), and study time in college, which all are supported by research that harnesses similar samples, control variables¹, and outcomes (Lipsey et al., 2012).

Dual Enrollment

DE is most similar to AP in that it offers high school students the opportunity to enroll in college courses while still in high school. Students receive college credit at the affiliated institution if they pass the course or at another institution if the course is accepted as transfer credit. Using national data, Wyatt et al. (in press) found that students who took a DE course affiliated with a four-year institution earned first-year GPAs that were .06 higher than those of students who did not take a DE course or an AP Exam. DE students who took a course affiliated with a two-year institution earned, on average, first-year GPAs at four-year institutions that were lower (-.03) than students who did not take an AP Exam or a DE course.

1. All of the studies included in this review controlled for academic preparation (i.e., college entrance test scores, high school grade point average, or both in most cases) and demographic characteristics, including gender and race/ethnicity. With the exception of the learning community research, all studies also controlled for parental education. There are other variables related to college performance such as student motivation that could not be controlled for in any of the studies. As with all correlational studies, the studies reviewed here do not support causal claims.

Learning Communities

Unlike DE courses, LCs are experienced by students only after they begin college. LCs typically involve a group of students, often first-year undergraduate students, who share common goals and interests and who meet regularly to share the learning experience and collaborate on projects (Tinto, 2003). Learning communities vary greatly in how they are designed and implemented, whom they serve, and whether or not students live together in a common residence (Taylor, Moore, MacGregor, & Lindblad, 2003). Stassen (2003) rigorously examined the effect of three different residential learning community models on academic performance at a moderately selective public Research I university. The three LCs that were evaluated include the following:

- (1) Residential Academic Program (RAP): Students live in a common residence, participate in the same freshman writing course, and choose from a range of general education courses that typically include discussion sections for RAP students only.
- (2) Talent Advanced Program (TAP): Similar to the RAP but more selective; this program is open only to students with certain majors. Students take two courses together (perhaps more) and participate in a freshman seminar course designed to orient them to the work that their faculty do.
- (3) Honors College Learning Community: Geared toward students admitted into the Honors College; this program involves students enrolling in one of several small thematic-based LCs and co-enrolling in two honors general education courses per semester.

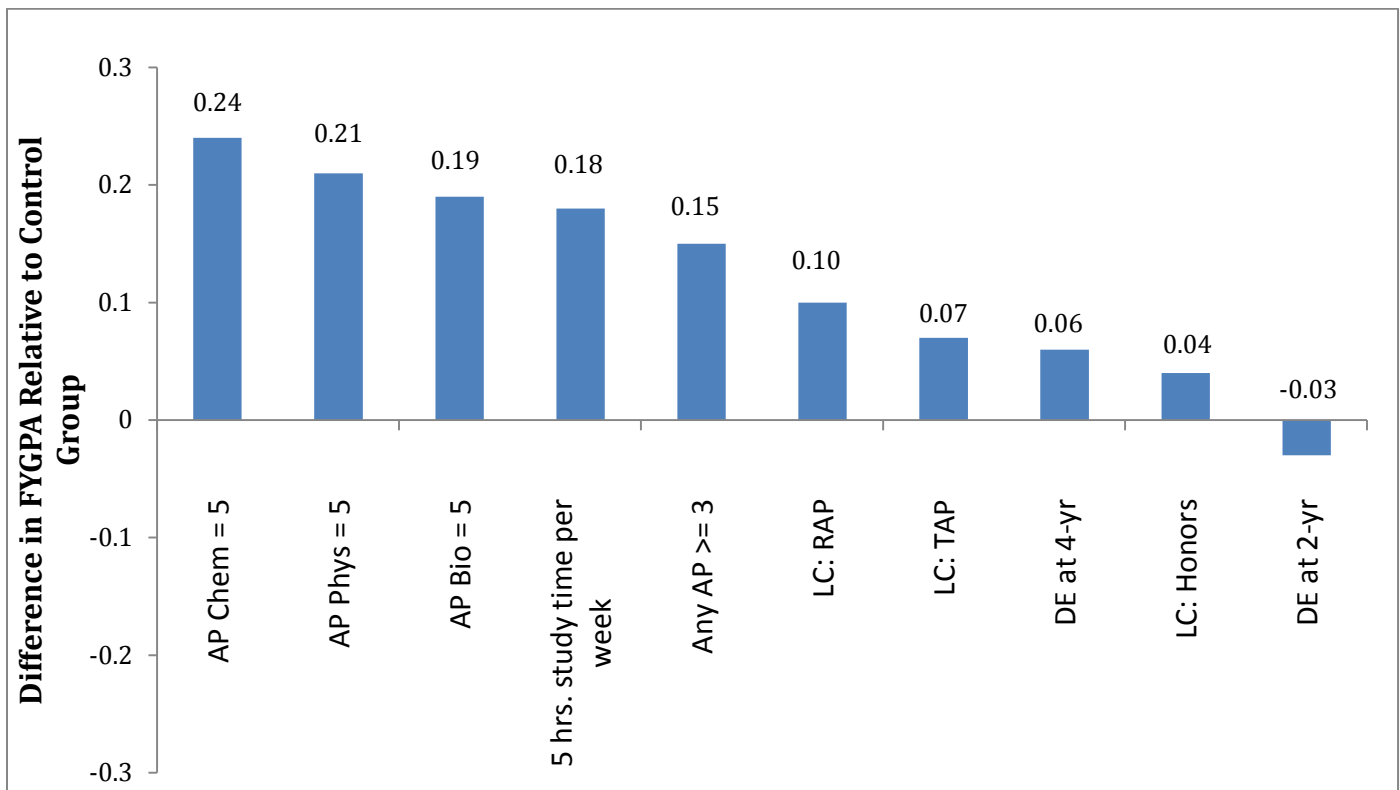
Study Time

Finally, Stinebrickner and Stinebrickner (2004), using data from extensive time-use surveys, examined the effect of students' study time outside of class on first-year GPA. These data were collected from students at one college in the South that served students with strong academic promise but limited economic resources. Results suggested that an additional hour of studying each weekday was associated with a first-year GPA that was .18 higher. Although other research has found that the relationship between study time and academic performance varies by course (Masui, Broeckmans, Doumen, Groenen, & Molenberghs, 2014) and by how students actually spend their time studying (Nonis & Hudson, 2010), this research nevertheless provides a helpful contextual comparison at a more general level.

Results

Figure 1 displays the relationship between AP Exam performance and first-year GPA alongside comparable information on the relationship between first-year GPA and DE courses, LCs, and study time in college. Earning a high score on AP Chemistry, Physics, or Biology Exams has the strongest relationship with first-year GPA, while earning a 3 or higher on any AP Exam is similar to the effect found for an additional hour of studying each weekday. Learning communities and taking a DE course at a four-year institution show a smaller relationship with first-year GPA when compared to the relationship with AP Exam participation. Taking a DE course at a two-year institution shows a negative relationship with first-year GPA.

Figure 1: AP effects on first-year GPA relative to other programs and practices with similar goals.



Although first-year GPA is a familiar outcome, contextualizing the findings from studies that use first-year GPA as an outcome can enhance our understanding of the practical meaning behind research findings. The synthesis provided in Figure 1 indicates that the relationship between AP Exam performance and first-year GPA is quite large, compared to alternative programs and practices utilized to improve first-year GPA.

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