

Using High School Data to Predict College Success in Palau

The Palau Ministry of Education and Palau Community College are aligning their education systems to better prepare students for college. Research on the high school academic preparation variables that predict college success is limited for students in Palau. Using data from Palau's Ministry of Education and Palau Community College, this study examined factors that predict early community college success and college completion. The study found that 60 percent of Palau High School graduates who enrolled in Palau Community College earned a grade point average of 2.0 or higher in their first year of college, 56 percent persisted to a second year, and 20 percent completed an associate degree or certificate within three years. Students with a higher grade point average and those with a higher math score on the grade 12 Palau Achievement Test in high school had better community college outcomes, after other academic preparation variables and student characteristic variables (gender and college cohort) were controlled for. In addition, students who earned a grade of C or higher in English I in grade 9 or in English IV in grade 12 had better community college outcomes, after the other variables were controlled for. In contrast, enrollment in the Construction Technology Career Academy in high school was a negative predictor of persisting to a second year of college and of earning an associate degree or certificate within three years.

Why this study?

To support efforts to improve the college readiness and success of high school graduates, leaders at the Palau Ministry of Education and Palau Community College want to understand the experiences and background of Palau High School graduates who are better prepared to succeed at Palau Community College. Most research on predictors of college readiness and success was conducted in the United States, which differs from Palau in many ways, including political, cultural, demographic, and education contexts.¹ This study provides new evidence on high school academic preparation variables that predict community college success and is expected to support the Palau Ministry of Education and Palau Community College in their strategic planning to ensure that public high school graduates are college and career ready.

What was studied and how?

This study focused on students who graduated from Palau High School between spring 2013 and spring 2015 and enrolled as first-time students at Palau Community College in the fall semester following their high school graduation (fall 2013 through fall 2015). The study examined the relationship between high school academic preparation variables (high school grade point average, achievement in English language arts and math courses, English language arts and math scores on the Palau Achievement Test, and enrollment in career academies) and three community college success outcomes (earning a cumulative grade point average of 2.0 or higher in the first year, persisting to a second year, and completing an associate degree or certificate within three years of college enrollment).

1. Agarwal, R. (2013). *Asserting identity: Youth culture, education and nationalism in contemporary Palau* (Doctoral dissertation). Brandeis University.

The study explored the following two research questions among graduates of Palau High School who enrolled in Palau Community College in fall 2013 through fall 2015:

1. What percentage of students achieved each community college success outcome?
2. Which high school academic preparation variables were statistically significant predictors of community college success, after other academic preparation variables and student characteristic variables were controlled for?

The Palau Ministry of Education provided high school course transcripts and data on student characteristics, course enrollment, and graduation. Palau Community College provided college enrollment data for Palau High School graduates who enrolled in the college. The analysis is based on 234 students who graduated from Palau High School in spring 2013 through spring 2015 (61 percent of high school graduates in the study period) and who enrolled as first-time students at Palau Community College in the fall semester following high school graduation. The study used student data to classify students as achieving each of the three community college success outcomes. Logistic regressions identified the high school academic preparation variables that were statistically significant predictors of the three community college success outcomes, after other academic preparation variables and student characteristic variables (gender and college cohort) were controlled for. Predicted probabilities were then calculated from the logistic regression models.

Findings

This section contains the main findings related to each of the research questions.

More than half of Palau High School graduates who enrolled in Palau Community College earned a grade point average of 2.0 or higher in their first year and persisted to a second year, but less than 20 percent completed an associate degree or certificate within three years

Early college success did not always translate into later college success. Among students who earned a grade point average of 2.0 or higher in their first year at Palau Community College, 78 percent persisted to a second year, but only 39 percent of those who persisted completed an associate degree or certificate within three years.

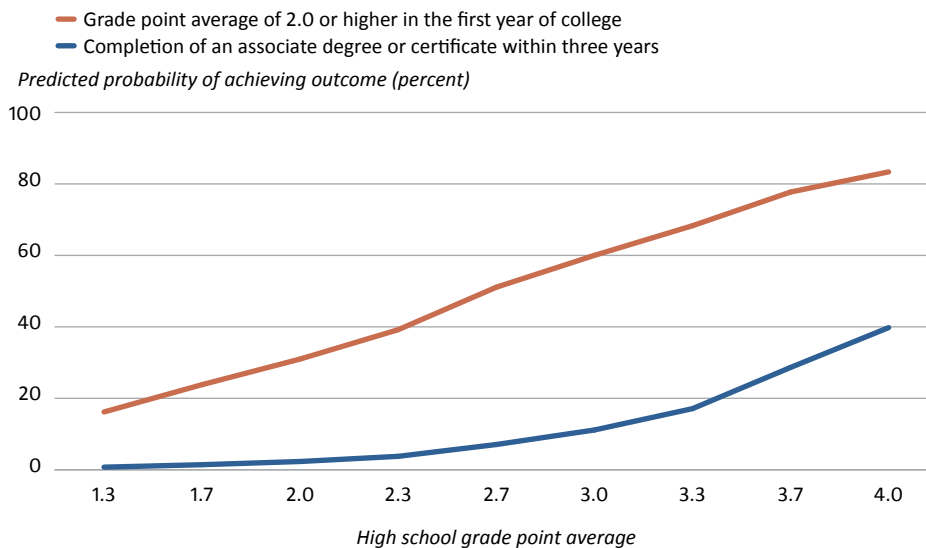
High school grade point average positively predicted whether Palau High School graduates earned a grade point average of 2.0 or higher in their first year at Palau Community College and whether they completed an associate degree or certificate within three years

Palau High School graduates with a high school grade point average of 2.0 who enrolled in Palau Community College had a 31 percent probability of earning a college grade point average of 2.0 or higher in their first year of college (figure 1). High school graduates with a high school grade point average of 3.0 had a 60 percent probability, and graduates with a high school grade point average of 4.0, the maximum possible, had an 83 percent probability.

High school grade point average was not a statistically significant predictor of persistence to a second year of college at Palau Community College.

Palau High School graduates with a high school grade point average of 2.0 who enrolled in Palau Community college had a 2 percent probability of completing an associate degree or certificate within three years, graduates with a high school grade point average of 3.0 had an 11 percent probability, and graduates with a high school grade point average of 4.0 had a 40 percent probability.

Figure 1. Palau High School graduates’ high school grade point average was a significant predictor of earning a grade point average of 2.0 or higher in the first year at Palau Community College and of completing an associate degree or certificate within three years



Note: $n = 234$. The sample included Palau High School graduates in spring 2013 through spring 2015 who enrolled in Palau Community College in the following fall. Probabilities (in percentages) are estimated from logistic regression models (see appendix C for details). These probability values may differ from the range of observed values but are included to depict a wider range of possible values. The results of the logistic regression models indicate that high school grade point average was a statistically significant ($p < .05$) predictor of the two outcomes displayed in the figure after other high school academic preparation variables and student characteristics were controlled for. See tables C3, C5, and C7 in appendix C for detailed regression results.

Source: Authors’ analyses of data from the Palau Ministry of Education and Palau Community College.

Math scores on the grade 12 Palau Achievement Test positively predicted whether Palau High School graduates earned a grade point average of 2.0 or higher in their first year at Palau Community College

Palau High School graduates with a math score of 30 on the grade 12 Palau Achievement Test (approximately the average score for all graduates) had a 62 percent probability of earning a grade point average of 2.0 or higher in the first year of college compared with 89 percent for graduates with a math score of 60 (the highest score recorded in the dataset).

Math scores on the grade 12 Palau Achievement Test did not predict persistence to a second year of college or completion of an associate degree or certificate within three years.

Grades in high school math courses were not statistically significant predictors of any of the three community college success outcomes.

Palau High School graduates who earned a grade of C or higher in English I were more likely to complete an associate degree or certificate within three years at Palau Community College, and graduates who earned a C or higher in English IV were more likely to persist to a second year

Palau High School graduates who earned a grade of C or higher in English I had a 32 percent probability of completing an associate degree or certificate within three years at Palau Community College compared with 4 percent for graduates who earned a grade lower than a C.

Palau High School graduates who earned a grade of C or higher in English IV had a 47 percent probability of persisting to a second year at Palau Community College compared with 30 percent for graduates who earned a grade lower than a C.

Grades in Palau High School English II and English III courses were not predictors of college success outcomes at Palau Community College, nor were English language arts scores on the grade 12 Palau Achievement Test.

Palau High School graduates who enrolled in the Construction Technology Career Academy were less likely than students enrolled in the other academies to persist to a second year or to complete a degree or certificate within three years

Graduates of the Palau High School Construction Technology Career Academy had a 15 percent predicted probability of persisting to a second year at Palau Community College and a 3 percent predicted probability of completing an associate degree or certificate within three years. These were the lowest predicted probabilities of any of the career academies.

Implications

This is the first study examining the association between high school academic preparation variables and early college success and college completion for Palau High School graduates who enrolled in Palau Community College. Stakeholders in Palau could use the findings to identify students who might not be prepared for college when they graduate from high school. Identifying clear predictors of early college success and college completion can help turn college aspirations into college success by enabling educators to assess where students stand, track their progress, and provide supports as soon as risk factors emerge.

Because Palau High School graduates' grade in English I (in grade 9) was a significant predictor of completing an associate degree or certificate from Palau Community College and their grade in English IV (in grade 12) was a significant predictor of college persistence, the Palau Ministry of Education might want to review the supports available to help Palau High School students succeed in English language arts courses.

Palau Community College might want to consider future studies on other factors, such as course sequencing, that might prevent the average student from completing an associate degree or certificate within three years. In addition, Palau Community College might consider providing targeted support to Palau High School graduates with a below average high school grade point average, such as academic and career counseling services or summer bridge programs, to support their transition from high school to college. Palau's education leaders might also want to review course alignment between the Construction Technology Career Academy and courses offered by the college.

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