

## Using High School Data to Explore Early College Success on Pohnpei, Federated States of Micronesia

As of 2010, about 15 percent of residents older than age 25 on Pohnpei in the Federated States of Micronesia (FSM) had completed an associate degree or higher. To increase the number of college graduates, the Pohnpei Department of Education and the College of Micronesia–FSM are working together to improve the early college outcomes of their students. They noted that in 2018, 42 percent of applicants from Pohnpei to the College of Micronesia–FSM were not admitted or were admitted to a one-year nondegree certificate program. No studies have examined possible links between high school academic preparation in the FSM and early college success outcomes, such as the college entrance test result. Examining these links could inform strategies to improve degree attainment. Using data on Pohnpei public high school graduates from 2016 to 2018 provided by the Pohnpei Department of Education and the College of Micronesia–FSM, this study examined high school academic preparation characteristics and college student characteristics to determine whether they are associated with five early college success outcomes: College of Micronesia–FSM Entrance Test result; placement in credit-bearing math, reading, and writing courses; and persistence to a second year. The study found that high school grade point average was positively associated with all five outcomes. Students who were enrolled in the high school academic coursework track were more likely than students who were enrolled in the business and vocational tracks to be admitted to a degree program and to enroll in credit-bearing reading courses. College students who first enrolled at the College of Micronesia–FSM in the summer term immediately after high school graduation were more likely to persist to a second year than those who first enrolled in the fall term.

### Why this study?

This study focused on early college success on Pohnpei in the Federated States of Micronesia (FSM). Early college success is a high-priority issue on Pohnpei, as 42 percent of all students who applied in 2018 to the College of Micronesia–FSM were either not admitted (10 percent) or were admitted to a one-year nondegree certificate program (32 percent).<sup>1</sup> Additionally, 42 percent of enrolled full-time students did not persist to a second year of college.<sup>2</sup> Further, the college reported high rates of placement in developmental courses. Students who are placed in developmental courses in their first year of college often earn fewer college credits than their peers who are placed in credit-bearing courses, take a longer time to obtain a degree, and are ultimately less likely to earn a degree.<sup>3</sup> High

1. FSM National Department of Education. (2018). FSM education data digest school year 2017–2018. Government of the Federated States of Micronesia.
2. National Center for Education Statistics. (2020). *Integrated Postsecondary Education Data System: College of Micronesia-FSM*. U.S. Department of Education, Institute of Education Sciences. <https://nces.ed.gov/ipeds/datacenter/institutionprofile.aspx?unitId=243638&goToReportId=6>.
3. Hodara, M., & Cox, M. (2016). *Developmental education and college readiness at the University of Alaska* (REL 2016–123). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northwest. <https://eric.ed.gov/?id=ED565798>. Jaggars, S., & Stacey, G. W. (2014). *What we know about developmental education outcomes*. Columbia University Community College Research Center, Teachers College. <https://ccrc.tc.columbia.edu/media/k2/attachments/what-we-know-about-developmental-education-outcomes.pdf>. Mejia, M. C., Rodriguez, O., & Johnson,

rates of enrollment in developmental courses suggest that many Pohnpei high school graduates might be academically underprepared to complete postsecondary coursework. However, little is known about what factors are associated with the early college success of Pohnpei high school graduates who enroll in the College of Micronesia–FSM. Administrators at the Pohnpei Department of Education and the College of Micronesia–FSM want to better understand the high school experiences of graduates who are more prepared to succeed at the college based on measures of early college success.

### What was studied and how?

This study examined the extent to which high school and college academic preparation characteristics of Pohnpei public high school graduates are associated with early college outcomes at the College of Micronesia–FSM. The measures used in the study were based on research that has demonstrated a link between high school academic preparation and college success<sup>4</sup> and between college student characteristics and college success. The following measures were used:

- High school academic preparation characteristics: grade point average and coursework track (the series of courses a student was enrolled in during grades 11 and 12, with options of academic, business, or vocational).
- College student characteristics: enrollment type, placement type, and first term of enrollment.
- Early college success outcomes: result on the College of Micronesia–FSM Entrance Test, placement in credit-bearing courses, and persisting to a second year of college.

The study addressed the following research questions:

1. What percentage of public high school graduates received each of the four possible test results on the College of Micronesia–FSM Entrance Test (not admitted result, certificate result, Achieving College Excellence result, or degree result)?
  - 1a. After high school student characteristics are controlled for, which high school academic preparation characteristics are associated with entrance test results?
2. What percentages of college students were placed in credit-bearing math, reading, and writing courses at the College of Micronesia-FSM?
  - 2a. After high school student characteristics are controlled for, which high school academic preparation characteristics are associated with placement in credit-bearing courses?
3. What percentage of college students persisted to a second year?
  - 3a. After high school student characteristics are controlled for, which high school academic preparation characteristics and college characteristics are associated with persistence to a second year?

---

H. (2016). *Preparing students for success in California community college*. Public Policy Institute of California. [https://www.ppic.org/content/pubs/report/R\\_1116MMR.pdf](https://www.ppic.org/content/pubs/report/R_1116MMR.pdf).

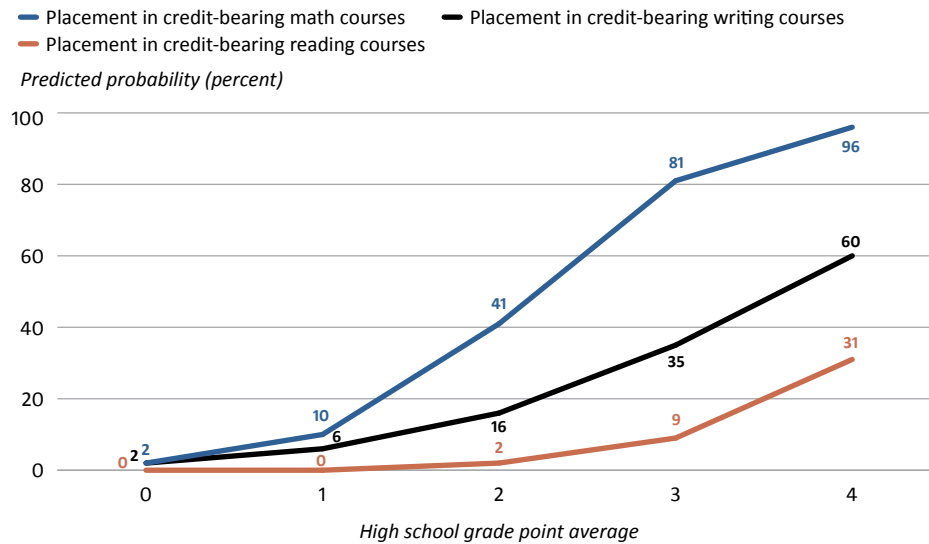
4. Hodara & Cox, 2016. Kreisman, D., & Stange, K. (2019). *Depth over breadth: The value of vocational education in U.S. high schools*. Education Next, 19(4). Retrieved April 6, 2021, from <https://www.educationnext.org/depth-over-breadth-value-vocational-education-u-s-high-schools/>. Tucker, L., & McKnight, O. (2019). Assessing the validity of college success indicators for the at-risk student: Toward developing a best-practice model. *Journal of College Student Retention: Research, Theory & Practice*, 21(2), 166–183. <https://doi.org/10.1177/1521025117696822>. Turk, J. M. (2018). *Identifying predictors of credential completion among beginning community college students*. American Council on Education, Center for Policy Research and Strategy. <https://www.acenet.edu/Documents/Identifying-Predictors-of-Credential-Completion-Among-Beginning-Community-College-Students.pdf>.

The Pohnpei Department of Education and the College of Micronesia–FSM provided data for the study. The sample for research questions 1 and 1a comprised 1,146 students who graduated from a Pohnpei public high school between spring 2016 and spring 2018 and took the College of Micronesia–FSM Entrance Test in grade 12. The sample for research questions 2, 2a, 3, and 3a comprised 327 students in the sample for research questions 1 and 1a who were admitted to Achieving College Excellence (a series of developmental courses) or a two-year associate degree program and enrolled in the college in the summer or fall term immediately after high school graduation.

## Findings

- **One-third of Pohnpei high school students who took the College of Micronesia–FSM Entrance Test received a high enough result to be considered for direct admission to a degree program.** About 34 percent of high school students who took the entrance test received the certificate result, 22 percent received the Achieving College Excellence result, and 33 percent received the degree program result. About 10 percent did not receive a high enough result to be considered for admission.
- **High school grade point average was positively associated with receiving a high enough result on the College of Micronesia–FSM Entrance Test to be considered for direct admission to a degree program.** The probability of receiving the degree program result was 32 percent for students with a high school grade point average of 2.0, 49 percent for students with a grade point average of 3.0, and 66 percent for students with a grade point average of 4.0.
- **Enrollment in the high school academic coursework track was positively associated with receiving a high enough result on the College of Micronesia–FSM Entrance Test to be considered for direct admission to a degree program.** The probability of receiving the degree program result was 19 percent for students who were enrolled in the vocational coursework track, 25 percent for students who were enrolled in the business coursework track, and 46 percent for students who were enrolled in the academic coursework track.
- **A majority of College of Micronesia–FSM students were placed in credit-bearing math courses, while smaller percentages were placed in credit-bearing reading and writing courses.** About 69 percent of college students were placed in credit-bearing math courses, while 40 percent were placed in credit-bearing writing courses, and 13 percent were placed in credit-bearing reading courses.
- **High school grade point average was positively associated with College of Micronesia–FSM students’ placement in credit-bearing courses in all three subjects.** The probability of being placed in credit-bearing math courses was 41 percent for students with a high school grade point average of 2.0, 81 percent for students with a grade point average of 3.0, and 96 percent for students with a grade point average of 4.0 (figure 1). Students with a high school grade point average of 2.0 had a 16 percent probability of being placed in credit-bearing writing courses and a 2 percent probability of being placed in credit-bearing reading courses. Students with a high school grade point average of 4.0 had a 60 percent probability of being placed in credit-bearing writing courses and a 31 percent probability of being placed in credit-bearing reading courses.
- **Enrollment in the high school academic coursework track was positively associated with college students’ placement in credit-bearing reading courses but had no clear association with placement in credit-bearing math or writing courses.** The probability of being placed in credit-bearing reading courses was 12 percent for students who had been enrolled in the academic coursework track, 10 percent for students who had been enrolled in the business coursework track, and 1 percent for students who had been enrolled in the vocational coursework track. High school coursework track had no clear relationship with placement in credit-bearing math or writing courses.

**Figure 1. High school grade point average was positively associated with College of Micronesia–FSM students’ placement in credit-bearing courses in all three subjects, spring 2016–spring 2018**



Note:  $n = 327$  students who graduated from a Pohnpei public high school between spring 2016 and 2018 and enrolled in the Achieving College Excellence program or a degree program at the College of Micronesia–FSM in the summer or fall term immediately after high school graduation. Predicted probabilities are calculated from regression models (see appendix B for details on the calculations and tables C6–C8 and C11 in appendix C for detailed results).

Source: Authors’ analyses of data from the Pohnpei Department of Education and the College of Micronesia–FSM.

- **About 72 percent of College of Micronesia–FSM students persisted to a second year.**
- **High school grade point average was positively associated with College of Micronesia–FSM students’ persistence to a second year.** The probability of persisting to a second year was 24 percent for students with a high school grade point average of 2.0, 55 percent for students with a grade point average of 3.0, and 82 percent for students with a grade point average of 4.0.
- **First enrolling in the summer term rather than in the fall term after high school graduation was positively associated with College of Micronesia–FSM students’ persistence to a second year.** The probability of persisting to a second year was 83 percent for students who enrolled for the first time in the summer term and 60 percent for students who enrolled for the first time in the fall term.

## Implications

This is the first study to examine the link between high school academic preparation characteristics and college student characteristics in early college success for Pohnpei high school graduates at the College of Micronesia–FSM. These findings have several implications for how education leaders on Pohnpei could promote students’ early college success. Because high school cumulative grade point average was positively associated with early college outcomes, Pohnpei Department of Education leadership might want to develop an early warning system for Pohnpei public high schools that monitors students’ academic progress. Additionally, department leadership might want to examine why students choose their high school coursework track in order to ensure that the curriculum of each track aligns with students’ career goals. The probabilities for some outcomes, such as placement in credit-bearing reading and writing courses, were low for high-performing students, indicating that those students might not have been prepared for college coursework or that the college’s entrance test or placement criteria are not appropriately determining students’ college readiness. The findings suggest that further research is needed to understand why

placement rates in credit-bearing reading and writing courses are much lower than those in math courses and why first enrolling in the summer term rather than the fall term is associated with higher persistence rates.

Because this study was limited to graduates from Pohnpei public high schools, the findings might not apply to graduates from nonpublic schools or from the other three states in the Federated States of Micronesia who enroll in the college. The Pohnpei Department of Education does not systematically use a unique ID for each student, leading to large amounts (60–80 percent) of missing data, which precluded the use of some characteristics of interest (such as standardized assessments) in the study. Finally, although the study provides initial descriptive evidence of the relationship between high school academic preparation characteristics and early college success outcomes and between college student characteristics and early college success outcomes, the relationships might not be causal.

This brief was prepared for the Institute of Education Sciences (IES) under Contract ED-IES-17-C-0010 by the Regional Educational Laboratory Pacific administered by McREL International. The content of the publication does not necessarily reflect the views or policies of IES or the U.S. Department of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. The full report is available on the Regional Educational Laboratory website at <http://ies.ed.gov/ncee/edlabs>.

Rentz, B., Holquist, S. E., Nardi, C. L., Simion, K., Martin, P., Arens, S. A. (2021). *Using High School Data to Explore Early College Success on Pohnpei, Federated States of Micronesia* (REL 2021–092). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Pacific. Retrieved from <http://ies.ed.gov/ncee/edlabs>.

This report is available on the Regional Educational Laboratory website at <http://ies.ed.gov/ncee/edlabs>.