Using High School Data to Predict College Readiness and Early College Success on Guåhan (Guam)

On Guåhan (Guam), the high percentages of students enrolling in non-credit-bearing courses at Kulehon Kumunidåt Guåhan (Guam Community College, GCC) and Unibetsedåt Guåhan (University of Guam, UOG) have raised concerns about high school students' college readiness. Students who place into developmental courses tend to be less successful in college than their peers in credit-bearing courses, often taking longer to graduate and graduating at lower rates.[1, 2, 3] To help educators and stakeholders on Guåhan identify and support students who are at risk of being underprepared for college, this study examined characteristics that predicted college readiness and early college success among students who graduated from Guåhan public high schools.

About the Study

- The study examined the relationship between student demographic and academic preparation characteristics and several college readiness and early college success indicators.
- The sample included 1,226 students who graduated from five Guåhan public high schools between 2012 and 2015 and immediately enrolled at either GCC or UOG.
- Data were provided by the Guam Department of Education (GDOE), GCC, and UOG and included student demographic, academic preparation, and college outcome data.

Student Factors

- Absence rate across math and English courses in high school.
- College attended.
- Completed a high-level math course.
- Completed an Advanced Placement English course.
- Completed an Advanced Placement math course.[4]
- Cumulative high school grade point average (GPA).
- Gender.
- High school attended.
- High school graduation cohort.
- Pell Grant status.
- Race/Ethnicity.

College Readiness and Early College Success Indicators

- Enrolled in credit-bearing math and English courses during the first year of college.[5]
- Earned all attempted credits during the first semester of college.
- Persisted to second year of college.
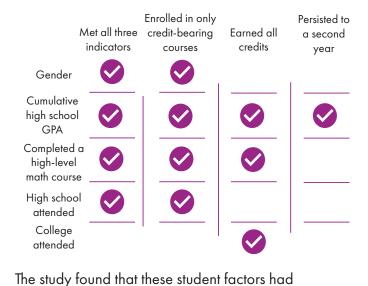- Met all three of the above indicators.

Key Takeaways

About 23 percent of students in the study met all three indicators of college readiness and early college success. Gender, high school GPA, and completion of a high-level math course were all found to be associated with at least one of the college readiness and early college success indicators.
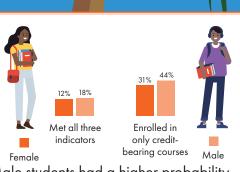
Guåhan

Indicators of College Success

met all three indicators **23%**

enrolled in only credit-bearing courses **30%**

earned all attempted credits during first semester **43%**

persisted to a second year **74%**

	Met all three indicators	Enrolled in only credit-bearing courses	Earned all credits	Persisted to a second year
Gender	✓	✓		
Cumulative high school GPA	✓	✓	✓	✓
Completed a high-level math course	✓	✓	✓	
High school attended	✓	✓		
College attended			✓	

The study found that these student factors had statistically significant associations with at least one of the study's indicators.

Female / **Male**

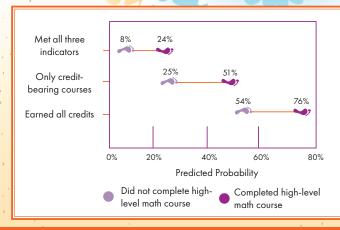|	Met all three indicators	Enrolled in only credit-bearing courses
Female	12%	31%
Male	18%	44%

Male students had a higher probability of meeting all three indicators of college readiness and early college success and of enrolling in only credit-bearing math and English courses during their first year in college than female students.

Persisted to a second year — Earned all attempted credits — Enrolled in only credit-bearing courses — All three indicators

Probability vs Grade point average (2 to 4.5)

Students with higher cumulative high school grade point averages had a higher probability of meeting all three indicators of college readiness and early college success.

Predicted Probability (0% to 80%)

	Did not complete high-level math course	Completed high-level math course
Met all three indicators	8%	24%
Only credit-bearing courses	25%	51%
Earned all credits	54%	76%

Students who completed a high-level math course during high school had a higher probability of meeting all three indicators of college readiness and early college success, of enrolling in only credit-bearing math and English courses during their first year of college, and of earning all credits attempted during their first semester of college.

Reflection Questions for High School and College Educators and Policymakers on Guåhan

Because high school academic performance was linked to early college success, incoming college students with low cumulative high school GPAs can be identified for additional support. **What targeted academic supports can be provided to students who did not perform well in high school?** Supports might include:

Mentoring programs.

Summer bridge programs to help students transition from high school to college.

Reviewing differences in academic supports available to students in their first year of college and providing additional supports as necessary.[7, 8]

Why were there differences in college readiness and early college success for students based on their completion of a high-level math course in high school? What supports can be provided to students who did not complete a high-level math course to help promote their college readiness and early college success? Understanding the reasons why students who completed a high-level math course were more likely to meet indicators of college readiness and early college success can help stakeholders understand the conditions that promote success and help identify areas of needed support. Reviewing the curricula of high-level math courses and student course-taking patterns may provide insights into factors that may contribute to student success.

What might be the reasons for differences in college readiness and early college success based on students' gender? Female students in the study were less likely to meet all three indicators of college readiness and early college success. Educators might consider community factors that may influence female students' performance in college, such as family expectations or caregiver roles,[9, 10] identify supports available at UOG and GCC for female students, and develop additional supports as needed.

Notes

1. Bailey, T. (2009a). Challenge and opportunity: Rethinking the role and function of developmental education at community college. *New Directions for Community Colleges, 145*(1), 11–30. https://doi.org/10.1002/cc.352.; Bailey, T. (2009b). *Rethinking remedial education in community college (CCRC Brief No. 40)*. Columbia University Community College Research Center, Teachers College. http://eric.ed.gov/?id=ED504329.
2. Herman, P., Carreon, D., Scanlan, S., & Dandapani, N. (2017). *Using high school data to understand college readiness in the Northern Mariana Islands (REL 2017–268)*. U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Pacific. http://iec.ed.gov/ncee/edlabs.
3. 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.
4. A binary (yes/no) variable denoting whether a student received full credit for at least one 400-level math course during high school. Classes in this designation included Elementary Functions, Elementary Functions Honors, Pre-Calculus, Pre-Calculus Honors, Advanced Placement Calculus AB, and Advanced Placement Statistics. Because Advanced Placement courses are also considered high-level math courses, there is some overlap in these predictors.
5. This indicator was not met if the student enrolled in any developmental math or English courses during their first year of college.
6. The checkmark indicates that the student factor was a statistically significant predictor for that indicator. The other student factors examined in the study that are not listed in this table were not statistically significant predictors of any of the study's indicators.
7. Museus, A. Agbayani, & D. Ching (Eds.). *Focusing on the underserved: Immigrant, refugee, and Indigenous Asian American and Pacific Islanders in higher education* (pp. 121–137). Information Age Publishing, Inc.
8. Turner, A. L., & Berry, T. R. (2000). Counseling center contributions to student retention and graduation: A longitudinal assessment. *Journal of College Student Development, 41*(6), 627–636.
9. IWPR. (2013). *College students with children are common and face many challenges in completing higher education*. Institute for Women's Policy Research.
10. IWPR. (2017). *Single mothers in college: Growing enrollment, financial challenges, and the benefits of Attainment*. Institute for Women's Policy Research.