

**Graduating Midwest Liberal Arts Colleges:
The influence of student characteristics on graduation rates**

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Literature Review

Analyzing Graduation Rates

Previous research on degree completion provide a foundation for the present research by recognizing the different factors that may affect graduation rates for various educational institutions and suggesting methods to improve degree completion (DeAngelo et al. 2011; Chen, Chen, and Oztekin 2017; Crisp, Doran, and Salis Reyes 2018; Pike and Robbins 2020; Zwick et al. 2021).

Student Characteristics

There are extensive studies on student characteristics that influence the likelihood of graduating. These studies show that graduation rates are related to race/ethnicity, standardized test scores, gender, and high school scores. The influence of these different variables in predicting graduation rates vary on the econometric model used and additional variables evaluated, such as financial status and pre-enrollment decisions.

Studies on the impact of race on graduation show that the race of a student can impact the probability of that student graduating (DeAngelo et al. 2011). In 2004, the 4-year graduation rates of Asian/Pacific Islander students ranked the highest at 44.9% while those of African American students and American Indian were 21% and 16.8%, respectively; this trend continues for 6-year graduation rates as well (ibid). Six-year graduation rates show a similar trend where the overall degree attainment rates for American Indian, African American, and Latinx students are much lower than their White and Asian American counterparts (ibid).

In contrast to looking at the effect of race on graduation rates, Crisp, Doran, and Salis Reyes suggest disaggregating work on graduation rates by race to understand the effects of candidate characteristics, like religious affiliation and socioeconomic status, on attaining a degree (Crisp, Doran, and Salis Reyes 2018). They find little to no evidence to suggest a

relationship between religious affiliation or socioeconomic status on the likelihood of graduating for African American and Latinx students (ibid). While De Angelo et al. (2011) find a correlation between the likelihood of graduating and ethnicities of students, Chen, Chen, and Oztekin (2017) are unable to find a statistically significant relationship between the ethnic background of a student and their graduation rate. Hence, previous research suggest that race may be a strong predictor of graduation and this research will analyze the impact of this variable on students in liberal arts colleges in the Midwest.

Studies on graduation rates also focus on the impact of gender on the probability of graduating or on institutional graduation rates. Work on exploring the gender gap in degree attainment has shown that women complete their degree in four years at higher rates than men, with a gap of 10.9 percentage points, and this gap has increased in the past decade (DeAngelo et al. 2011). Similarly, Pike and Robbins find that the percentage of females in a cohort is positively related 4-year graduation rates (2020). Crisp et al. analyze institutional-level data and find that the percentage of women in a cohort positively predicts graduation rates (2018). Using an econometric model, the present research will add to the literature on the impact of gender on graduation rates of educational institutions.

Studies of undergraduate degree completion find a relationship between a student's performance on standardized tests in school and their graduation rates. DeAngelo et al. find that students with SAT scores of 1300 or more have the highest four-, five-, and six-year graduation rates (2011). After six years, standardized test scores are, however, have a smaller impact on degree attainment. High school performance measured by GPA is has a statistically significant relationship with graduation rates in college (Chen, Chen, and Oztekin 2017; Zwick et al. 2021) and mean ACT scores are positively related to institutional graduation rates (Pike and Robbins 2020). However, these studies use survey data to obtain high school performance that contain

missing values and imputation processes may have created bias (Zwick et al. 2021; Crisp, Doran, and Salis Reyes 2018).

Institutional Characteristics

Along with student characteristics, institutional characteristics can be used to understand graduation rates. Institutional characteristics refers to the size of the institution, financial support provided to students, and expenditures. Pike and Robbins analyze the effects of cohort and institutional characteristics on graduation rates and find that per-student expenditures were positively correlated to 4-year graduation rates and that expenditures on education, institutional support, and gift aid could largely affect graduation rates (2020). Overall institutional expenditure and revenue has a positive relationship with graduation rates (Crisp, Doran, and Salis Reyes 2018; Pike and Robbins 2020).

Further studies on institutional characteristics find that the socio-economic status of students and the enrollment size of an institution are statistically strong predictors of 4-year graduation rates (ibid). Previous research show that initiatives to improve the student success outcomes of institutions, such as grants, have increased institutional selectivity while enrolling students leading to decreased admission rates of minority and Pell grants students (Pike and Robbins 2020). Pike and Robbins find that the aforementioned institutional characteristics are positively related to higher graduation rates implying that colleges are trying to maximize their performance metrics at the cost of diversity (ibid). In contrast to this finding, Chen et al. find little to no evidence to support a relationship between monetary factors and institutional graduation rates (Chen, Chen, and Oztekin 2017). The differences in their results may stem from the different econometric models and independent variables they used to analyze the impact of these factors; hence, the effect of financial support provided by the institution on graduation rates should be investigated further.

Conclusion

My research studies the influence of student characteristics such as gender, race, and financial status on the probability of graduating a private liberal arts college in the Midwest. Using the analysis and results of this research, similar institutions can understand the likelihood of their students of particular characteristics graduating within four years. *I hypothesize that white male students from a high economic status would have higher probabilities of graduating private liberal arts colleges in the Midwest due to systemic support that factors this demographic group. These colleges can support disadvantaged students through mentorship programs and culturally diverse programs that will help guide them academically and personally, thus increasing their chances of graduation.*

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