ON-TIME GRADUATION: Disadvantaged Groups in STEM Majors

Kubra Say MS, MA
kubrasay@buffalo.edu

Students in STEM majors are less likely to graduate on-time compared to their non-STEM counterparts. Students with a higher college GPA are more likely to graduate on-time. Low SES students are less likely to graduate on-time. Minority students in STEM majors are more likely to graduate on-time compared to their peers in non-STEM majors.

BACKGROUND
College graduation statistics show that students tend to graduate in five years or more instead of graduating on-time. Particularly for some disadvantaged groups, such as minority and low-income students, college completion is either challenging or takes longer. Furthermore, graduating on-time is even more challenging for science, technology, engineering, and mathematics (STEM) related majors. By considering the importance of on-time graduation, this study aimed to investigate the effects of students' background characteristics and departmental differences on their timely graduation behaviors.

Research Questions
1. What factors impact students' ability to graduate on time?
2. Is on-time graduation related to departmental characteristics?
3. Do on-time graduation behaviors of disadvantaged groups significantly vary between STEM and non-STEM majors?

METHODS
1. The sample consists of 6917 first-time, full-time, degree-seeking undergraduate students from 2010-2013 entry cohorts nested in 48 different majors.
2. The students who are graduated in 3 and 4 years are assumed as on-time graduates.
3. Since the data were grouped in different clusters, student-level, and departmental-level, Hierarchical Generalized Linear Modelling (HGLM) was used as an appropriate method for our estimates.

RESULTS
• Students, on average, are 53 percent more likely to complete their degrees in four years.
• Students who have higher GPAs are 15 percent more likely to graduate on-time (exp{1.82}=6.15).
• Low-income students are 35 percent less likely to finish their degrees on-time compared to their high-income peers (exp{-0.43}=0.65).
• Underrepresented minority (URM) students in STEM majors are 71 percent more likely to complete their degrees on-time compared to the minority students in non-STEM majors (exp{0.54}=1.71).