Compositional Effects on the Persistence of Women Engineering and Computer Science Undergraduates

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Abstract

Issues in the recruitment and retention of students in engineering and computer science disciplines are widely known and documented. Many students think about switching majors at some point during their undergraduate career. The process and contributing factors involved in making the decision to persist within a current major or to switch to another discipline has not been extensively studied. Furthermore, underrepresented groups may be challenged by additional factors that impact their specific decision processes and persistence. Engineering and computer science students were surveyed at Michigan Technological University to examine and begin to understand the compositional impacts on student persistence. Some of the questions investigated include: (i) What factors (e.g., career opportunities, interest in field) do students cite for selecting and persisting within a major? (ii) Whose influence (e.g., family, friends, advisor, faculty, etc.) do students cite for selecting and persisting within a major? (iii) How do these factors and influences relate to each other? (iv) How can these findings be used to facilitate students' persistence in a field that is satisfactory to them? The results are analyzed to assess what variables (e.g., gender, year of study, undergraduate departmental demographics) impact student decision processes. This paper discusses the results of the survey, addresses these questions, and ties the findings to other research.