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Methods for exploring life course trajectories of MSGC significant award winners

Montana Space Grant Consortium, MSGC, is a NASA funded education and outreach program geared to promote Science, Technology, Engineering, and Mathematics (STEM fields) to the public. Since its inception in 1991, 107 fellowships and 371 scholarships have been awarded to students intending to pursue STEM related fields with special consideration given to underrepresented groups such as women and ethnic minorities. The assessment of programs such as the Montana Space Grant Consortium often involves tracking students' career paths in the years immediately following their funding. Those paths often follow complex trajectories through different work and school experiences, modeled as a variety of different discrete states, or categories. Methods have recently been developed for modeling these "life trajectories" that allow investigation into the influence of different students in defining those trajectories and for explorations for the grouping of typical patterns of trajectories. This project will attempt to process the current MSGC data base into a useful format and assess the different methods available for this type of analysis. Because of limited information currently available, a simulated data set will be constructed to illustrate the use of the methods. The current data set has issues with missing observations and follow up information on students has only been collected since 2005. As a result of this and the intention of MSGC to continue collecting student data, this project will focus on the potential use of these methods for program assessment.