1077-97-2944 **Philip M. Sadler*** (psadler@cfa.harvard.edu), Director, Science Education Department, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, MS-71, D-315, Cambridge, MA 02138. *Factors Influencing Success in College Calculus.* Preliminary report.

This retrospective cohort study studies 10,492 college calculus students' backgrounds in 352 instructors' classrooms at 135 randomly selected 2- and 4-year colleges and universities. Performance in college calculus is especially influential in career decisions as poor performance can prematurely end the pursuit of potential science, technology, engineering, computer science, and health careers. We identify predictors of performance while controlling for demographic differences to reveal the relationship between the decisions made by high school mathematics teachers and later success in introductory college calculus. This study reveals the most common student pathways to college calculus and gauges the specific impact of variety of potentially important factors in later success, including: taking calculus in high school, taking math for all four years of high school, teaching practices of mathematics teachers, and the role of technology. (Received September 23, 2011)