Early withdrawal (attrition) from college is a common and costly problem to individuals and institutions of higher learning. First-generation (FGEN) college students, whose parents have not attended college, comprise a large faction of enrollees and are at high risk for attrition. Because attrition is over-represented among FGEN students, they are a potential target group for decreasing overall attrition rates. However, the factors responsible for attrition in FGEN students are poorly understood and the likelihood and causes of attrition can change over time. The present study used event-history analysis (a statistical method which can model the timing of the occurrence of a specific event) to estimate the effect of descriptive pre-college and changing experiential college factors that might affect college attrition, in 3,290 FGEN and non-FGEN students over four years. Results showed that, FGEN students were indeed more likely to leave college than their non-FGEN peers. However, factors related to their financial and academic conditions, namely ACT scores, scholarships, and college grade point averages and amount of time devoted to paid employment, specifically explained some of the relation between FGEN status and attrition. Some additional psychological variables predicted attrition among all students, such as drug and alcohol use, psychological distress and few reported academic challenges. In conclusion, FGEN risk for attrition might be decreased if interventions are made towards academic and financial conditions. In the general student population, attrition might also be decreased through attention to psychological health and health-related behaviors.