Perceived Family Environment, Socio-Economic Status, First Semester GPA, High School GPA, and SAT Performance as Differentiators in College Freshmen Propensity to Graduate within Four Years

There are many factors that influence college students' choice to persist in school and graduate in four years. We assessed historical educational performance (i.e., SAT and high school GPA) and perceived family environment (e.g., family unit cohesion) to determine the factors that are most likely to differentiate those incoming freshmen that go on to graduate within four years from those that did not graduate in the same four year span. In the competitive landscape of education where many colleges are beginning to not only struggle financially but face the possibility of closing, institutions are more motivated than ever to identify students who will be successful and retain students once they initially matriculate. Not surprisingly, both historical academic performance and first semester academic performance have been found to predict retention rates of incoming freshmen. Unfortunately, by the time students post that first semester GPA, their academic trajectory may be difficult to influence in a meaningful way. Techniques and methods that more accurately identify those students that might be more likely to struggle academically are meaningful for both university leaders and students. At freshmen orientation, we recruited a representative sample of incoming students to participate in a panel. From this panel, students were recruited to participate in a survey that assessed perceived family environment. Using data mining techniques we developed two models that assessed the probability of incoming freshmen students to graduate. The first model included first semester academic performance and found that when Perceived Family Conflict was low first semester GPA was the lone differentiator between those students that persisted. However, when Perceived

Family Conflict is high, high school GPA was the lone differentiator. In order to assess the possibility of earlier intervention, we assessed a second model that excluded first semester GPA. In this second model, Perceived Family Cohesion (i.e., negatively related to family conflict) was the first node in the classification tree. For those that perceived lower levels of family cohesion, only high school GPA differentiated graduation rates; for those incoming freshmen from high cohesion family environments, high school GPA, SAT, and socio-economic status all differentiated between graduates and non-graduates. The sensitivity of the second model was nearly as predictive as the first model (-.04). This suggests that there may be an opportunity for institutions to identify at-risks students prior to the beginning of their academic endeavor rather than waiting until they have completed their first semester.