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Ben Hartlage, David Higginbotham, Ian Pierce* (ian.pierce@usafa.edu) and **Beth Schaubroeck**. *Grit and Diligence as Predictors of Success in Mathematics Courses*. Preliminary report.

All students at the United States Air Force Academy (USAFA) must complete a two-course sequence in calculus; for many students this is a significant hurdle that they must clear at the beginning of their course of study. Previous investigations at USAFA examined what factors predict success in our lowest-level mathematics course, Algebra and Trigonometry, and Calculus I. Academic measures such as scores on the mathematics placement test and incoming ACT/SAT scores did not do well at predicting success in either of these courses. Anecdotal evidence indicated that student success was much more determined by non-academic factors. We are currently investigating the contributions of the personality traits of Grit and Diligence (Duckworth et al 2007; Galla et al 2014) to academic success. Are either Grit or Diligence useful predictors for student retention at USAFA (do the students complete their first, second, and fourth semesters at USAFA)? Are Grit and Diligence useful predictors for student success in mathematics courses and other courses (such as Physics) that build upon these mathematics courses? We have now gathered and are analyzing our first year's data with the aim of applying Latent Path Structural Equation Modeling in the hope of answering these questions. (Received September 26, 2017)