1086-G1-2516 **Jonathan Rogness*** (rogness@math.umn.edu), **Harvey Keynes** (keynes@math.umn.edu), **Jane Butterfield** (butter@umn.edu) and **Justin Sukiennik** (jesukien@colby.edu). *Reducing the Gender Gap on a Qualifying Exam.* Preliminary report.

The University of Minnesota Talented Youth Mathematics Program is a five-year accelerated program for middle and high school students, ranging from algebra through University honors level courses in linear algebra and vector calculus. Admission is based largely on scores on a 50-question, 20-minute entrance exam which assesses computational, number reasoning and spatial reasoning skills. The test has been very accurate in identifying students who can succeed in the program, but females have consistently earned lower scores than males. We analyzed both the structure and content of the exam to determine whether this difference was due to selection bias in our applicants or a gender bias in the exam. This resulted in relatively minor changes in the structure and content of the exam which essentially eliminated the gender bias on one version of the 2012 entrance exam, increasing the percentage of females who qualified. When we reverted those changes for a later testing date, the gender gap returned. We will discuss these outcomes and explore several possible explanations. We will also indicate plans for possible refinements in future testing. Although some of our conclusions apply most directly to middle school aged students, other aspects may be relevant to testing at all levels. (Received September 25, 2012)