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**Ashley Klahr\***, aklahr@math.arizona.edu, and **Guadalupe Lozano**. *Understanding Gender Bias on Large Scale Precalculus Exams*.

It is often claimed that women are not as good at mathematics as men, but could discrepancies in the genders' mathematics ability be partially explained by test questions instead? Assessment questions that exhibit cultural, gender, and ethnic biases measure more than mathematics ability and may hence explain lower mathematics performance in particular groups (such as women). The goal of this paper is to analyze gender bias on large-scale, high stakes precalculus exams. Many people perform these types of analyses on formal standardized tests; however, very few schools perform these analyses on internal large-scale exams. In order to detect if there is any gender bias on any of the questions, I modeled the exam questions using Item Response Theory, IRT. I then used IRT based Differential Item Functioning to identify questions that performed differently for the genders. In this talk I will describe preliminary results of our analysis of gender-bias in a large scale, uniform precalculus final, including an exploration of differences in bias across two different versions of the exam differing only in the order of answer choices. Preliminary analyses suggest alternate versions of the exam had different questions that contained gender bias. (Received September 20, 2016)