1145-97-1358    **Aaron T Wilson*** (`aaron.wilson@utrgv.edu`), University of Texas Rio Grande Valley, School of Mathematical and Statistical Scienc, 1201 W University Drive, EMAGC 3.422, Edinburg, TX 78539. *The near-peer mathematical mentoring cycle: studying the impacts of outreach.*

College students may be seen as near-peers to high school students and high school students may often see themselves in the college students who are but one step ahead. This nearness in maturity and educational level places college students in a particularly powerful position when it comes to reaching out to high school students to promote interest in mathematics. In this study college student participants in the Experimental Algebra and Geometry Lab (EAGL) gave dynamic mathematics outreach presentations, MathShows, to minority and low-income high school students in a mid-sized public school district on the U.S. border with Mexico. The study investigated the impacts of this outreach work on high school students' attitudes towards mathematics using an attitude survey. Results, obtained from N=306 participants, showed statistically significant improvements in almost all components of mathematical attitudes, with less of an effect on the component of self-confidence in doing mathematics. Differences in impacts by specific student subgroups are all discussed. Additionally, anecdotal evidence suggests an even more powerful impact on the college student presenters in terms of confirming mathematical identity traits and promoting retention and achievement in collegiate mathematics. (Received September 21, 2018)