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**Do course grades account for demographic disparities in Physics?**[1]
ANDREW HECKLER, Ohio State Univ - Columbus — By analyzing registrar and survey data of a large sample of over 20,000 student in 112 lecture sections at Ohio State University, a large public research university, we investigate the relationships among grades, gender, minority status, first generation status, ACT/SAT scores, age, and self-reports of several social-motivation factors such as belonging. Controlling for ACT/SAT, age, and lecture section, we find that women have slightly higher grades than men, underrepresented minorities and first generation students have slightly lower grades than their comparison groups, and that there are small but significant interactions between both gender and ACT/SAT and minority status and ACT/SAT. We also find that social factors such as belonging predict grades as strongly as ACT/SAT scores, and there are significant differences in mean social factor scores according to gender, minority and first generation status. Finally, we analyze exam and homework grades and find significant differences between all three demographic factors in how each grade component correlates with ACT/SAT score, suggesting that grade component weights can affect demographic grade differences. Overall, these results suggest that the relatively small demographic grade differences in physics courses may at best only partially contribute to some of the large demographic disparities in physics degree attainment.

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