Abstract Submitted
for the PHYSTC22 Meeting of
The American Physical Society

**The interdependence of physics self-efficacy and calculus transfer ability** CHRISTOPHER FISCHER, JENNIFER DELGADO, SARAH RUSH, University of Kansas — We present the initial validation of an assessment of calculus proficiency in the context of introductory physics (i.e., calculus transfer to physics), including how calculus proficiency and mathematics self-efficacy affect physics self-efficacy, and how these attributes intersect with student identity (e.g., gender and ethnicity). Although preliminary, these results nevertheless indicate how using separate instruments for assessing physics self-efficacy and calculus transfer in tandem can support data-guided curriculum modifications to improve calculus transfer to physics, improve physics self-efficacy, or both simultaneously. Due to the prevalence of physics courses in many STEM degree programs, such instructional changes have the potential to improve student performance and retention in many disciplines, including among groups traditionally underrepresented in STEM.

Christopher Fischer
University of Kansas

Date submitted: 21 Jan 2022 Electronic form version 1.4