

So Unfair it's Fair: Equipment handling in remote versus in-person introductory physics labs

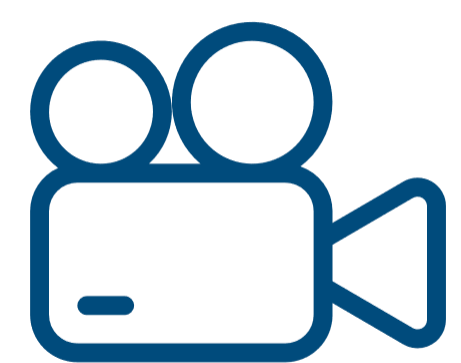
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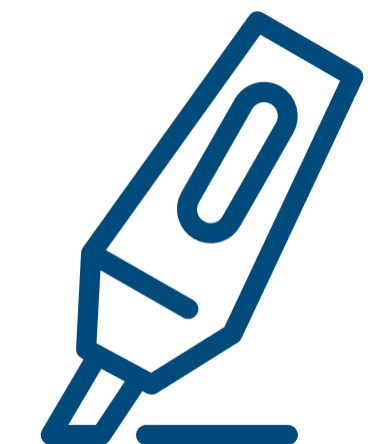
Introduction

- Equipment handling is linked to physics identity [1]
- Men typically use equipment more than women [2, 3]; studies have yet to look at this based on race/ethnicity
- How did virtual learning affect this?

Methods



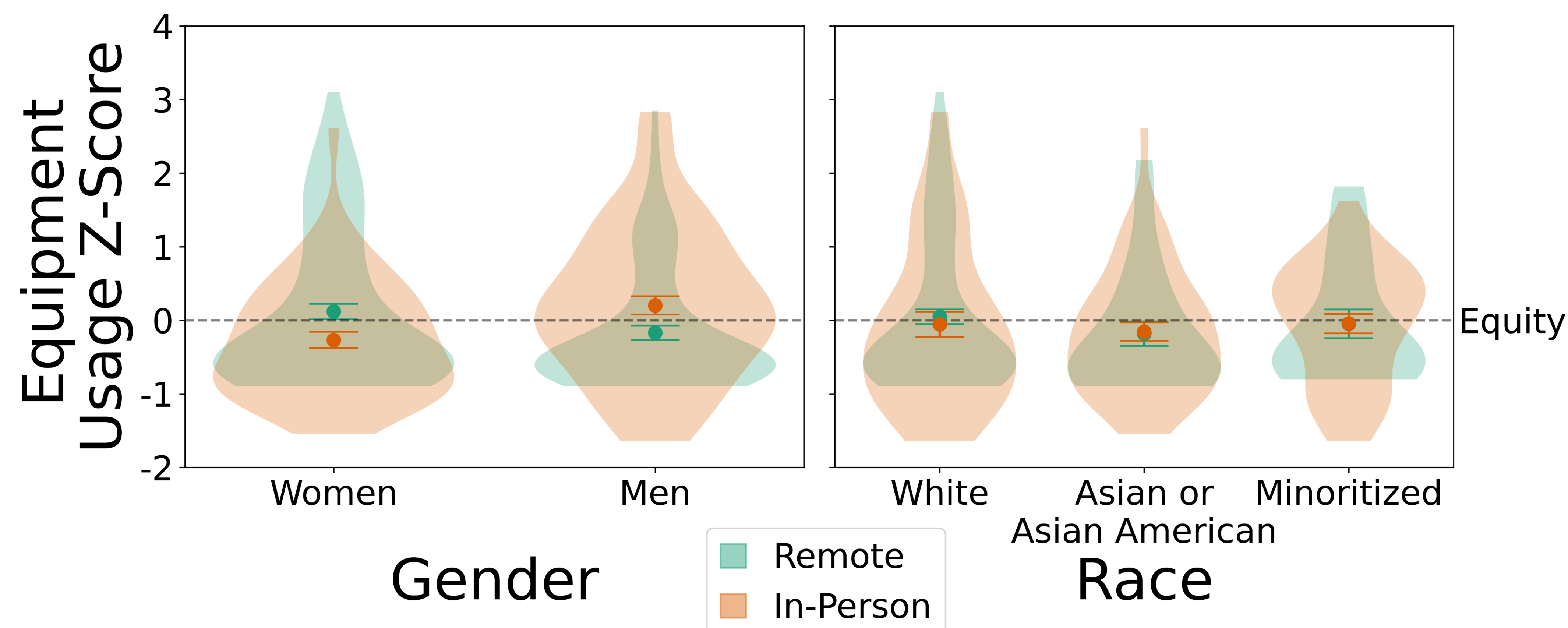
Recorded two semesters of labs
(N=44)



Coded video for equipment usage



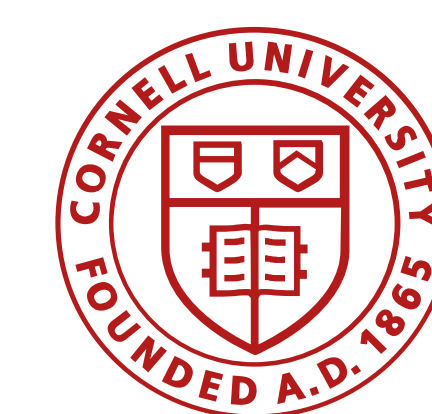
Took z-scores of equipment usage
by class session



Students may divide roles with better gender equity when they have consistent groups and/or explicitly discuss equipment usage each week.

Implications

- Initiating explicit role negotiations might alleviate inequities
- Future studies will investigate interventions instructors can use for in-person instruction



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References

- [1] D. Doucette, R. Clark, and C. Singh, Hermione and the secretary: how gendered task division in introductory physics labs can disrupt equitable learning, *European Journal of Physics* 41, 035702 (2020).
- [2] A. T. Danielsson, Exploring woman university physics students 'doing gender' and 'doing physics', *Gender and Education* 24, 25 (2012).
- [3] K. N. Quinn, M. M. Kelley, K. L. McGill, E. M. Smith, Z. Whipps, and N. G. Holmes, Group roles in unstructured labs show inequitable gender divide, *Phys. Rev. Phys. Educ. Res.* 16, 010129 (2020).

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