INDIVIDUAL DIFFERENCES IN THE CONTEXT OF ACTIVE LEARNING

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INTRODUCTION

Active learning is often touted as a way to close the gap in learning and retention between majority and minoritized students in STEM disciplines (Freeman et al. 2014). The present study considers if this occurs in courses outside STEM during the intense active learning experience of *Reacting to the Past (Reacting),* in which students engage as historical characters grappling with significant intellectual issues. We used measures of perceived learning, academic self-efficacy, and engagement to ascertain whether students responded differently to *Reacting* depending on gender, race, and socio-economic status (SES). Since minoritized students may be more hesitant to participate in classroom activities (Haak et al. 2011; Richardson et al. 2012), active learning pedagogies that effectively *require* student participation may engage minoritized students (female, racial minority, low SES) more with their instruction and increase learning.

Hypothesis: Minoritized students will report that they learned more and were more engaged with this active learning approach than majority students.

METHOD

211 students from three US universities completed pre- and post-Reacting questionnaires.

Gender: 59.7% female   Race/Ethnicity: 33% underrepresented
Low SES: 33.3%   First Generation: 42.5%

Measures
- *Academic Self-Efficacy*: (α=.87-.93; adapted from Schult et al. 2018); 12 items; 1=not at all, 5=very
    - "To what extent are you confident in your ability to…": make speeches, work well in a group, manage time, etc.
    - Pre- and post-game
- *General Engagement* with the game (α = .81-.93; adapted from Handelsman et al. 2005); 13 items; 5-point frequency scale
    - "I thought about the game between class meetings."
    - Pre- and post-game
- *Enjoyment* (α =.83) and *Perceived Learning* (α = .89) (Bledsoe et al. 2018); 5 items each; 1=not at all, 5=very much
    - Rating components of the game (e.g., debates, argumentative essay)
    - Post-game only
- *Perceived Learning Outcome Achievement* (α = .89; Bledsoe et al. 2018); 4 items; 1=not at all, 5=very much
    - How much game improved ability to…work collaboratively, communicate effectively, etc.
    - Post-game only

RESULTS

Change in Self-Efficacy and Engagement
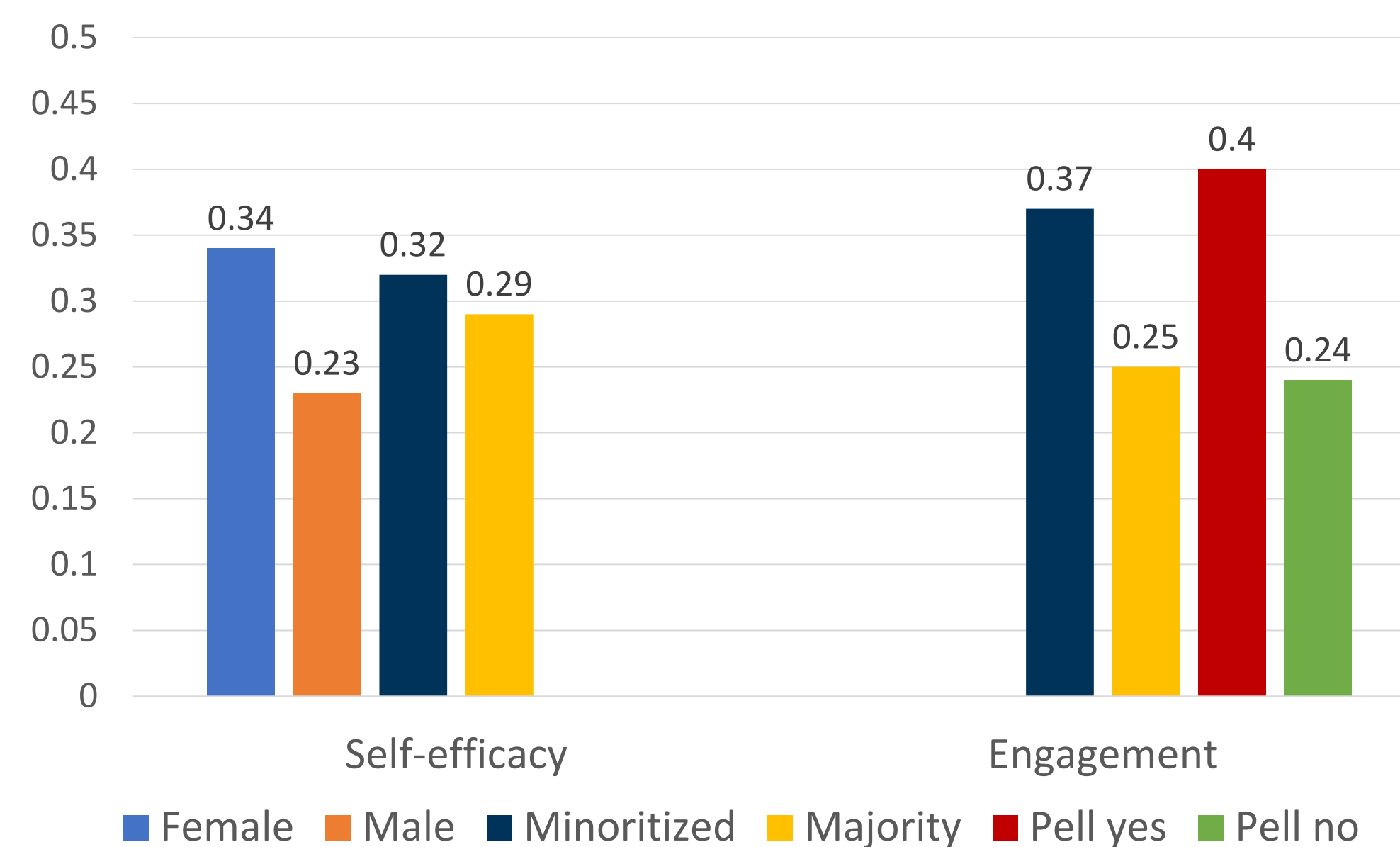
Perceived Learning and Enjoyment
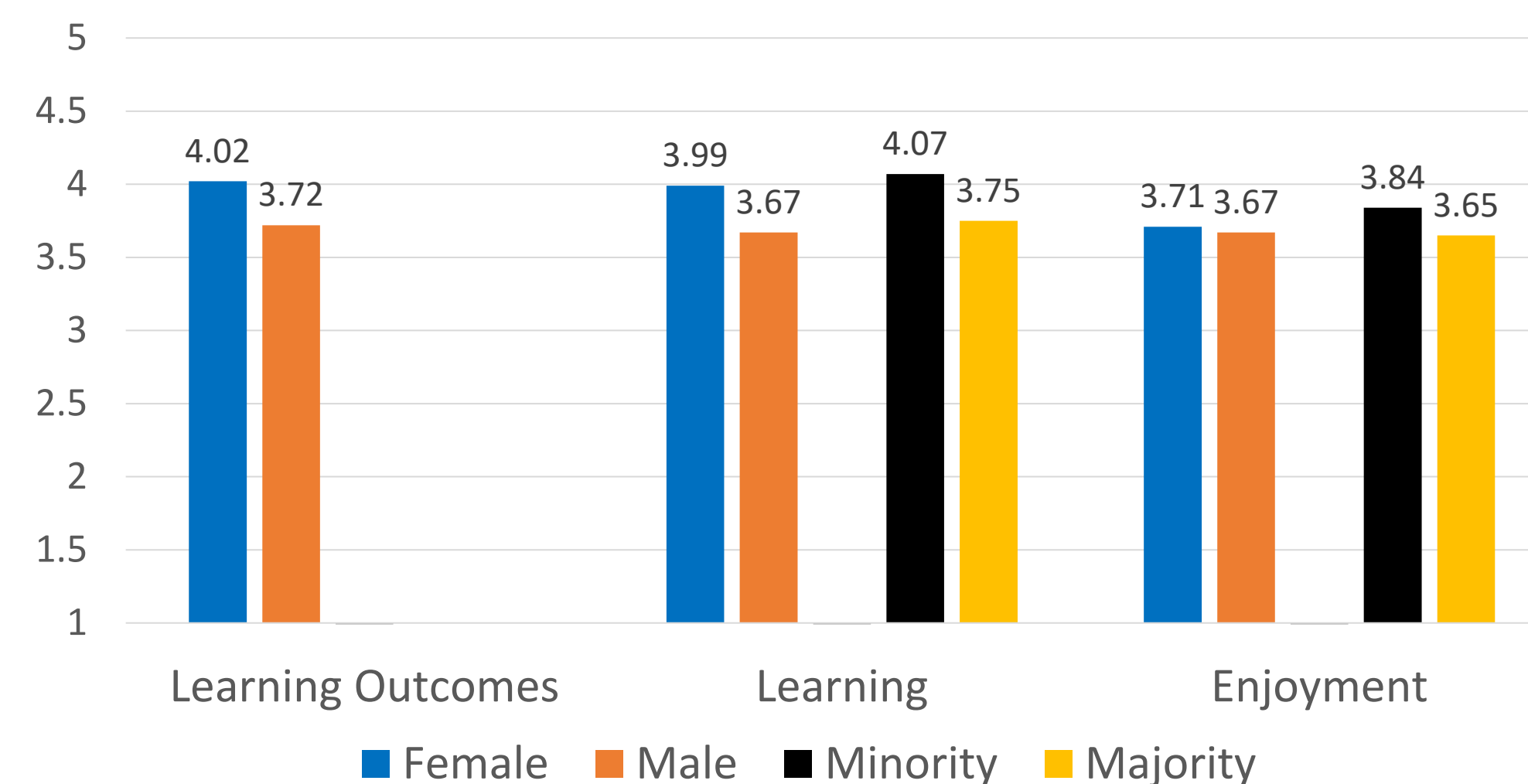
Our hypothesis received full or partial support for each minoritized group:
- Female students reported increased engagement ($p < .001$) and greater perceived learning ($p = .01$) than their male peers.
- Racial minority students reported more learning from assignments than majority students ($p = .02$).
- Low SES students (i.e., students who received Pell grant) reported a greater increase in engagement than higher SES students ($p = .03$).

CONCLUSIONS

These results point to the importance of incorporating active learning strategies to improve outcomes for minoritized groups. Notably, participants in this study started at similar places; however, minoritized students had larger boosts from the active learning experience than non-minoritized students.

The results suggest that the *Reacting* pedagogy has similar effects as those found for active learning in the STEM fields and that discipline-specific studies on the effectiveness of active learning strategies should be undertaken in the humanities and social sciences.

Future research could address 1) whether these results are also found in less intensive forms of active learning, 2) if they are sustained for actual learning, 3) and the impact of other individual differences.

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