

Can we Increase Competitiveness in Women by Making Competitions Less Risky?

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Introduction

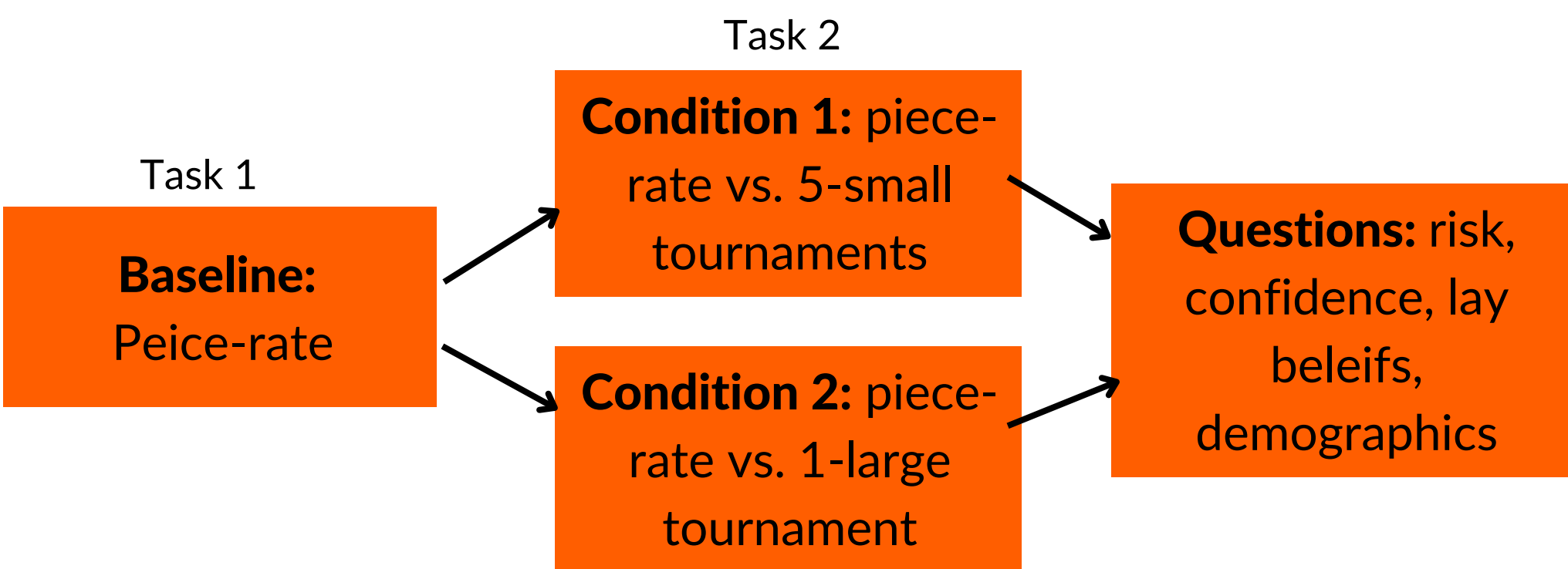
- Men outnumber women in top leadership positions and receive higher wages for the same jobs (1)
- Gender differences in competitiveness account for a proportion of the gender wage gap.
 - On average, women compete less than men (2), partly due to their greater risk aversion (3). When given the choice between a piece-rate payment scheme based on own individual performance or a tournament payment scheme based on the outcome of a competition against another person, relatively more men prefer the tournament option (4).
- A previous study in our lab tested whether women would prefer competitions that are lower in risk:
 - Men and women were given the option to compete in 5-small tournaments (low-risk option) or 1-large tournament (high risk-option). Women preferred the 5-small tournaments option and men preferred the 1-large tournament option.
- Can we reduce the gender gap in competitiveness by offering women less risky competitions?
- We split participants into two conditions.
 - Condition 1:** Choice between piece-rate vs. 5-small tournaments
 - Condition 2:** Choice between piece-rate vs. 1-large tournament

Hypothesis: The gender difference in willingness to compete will be significantly smaller in condition 1 than condition 2.

Methods

- N= 757 adults recruited from Prolific

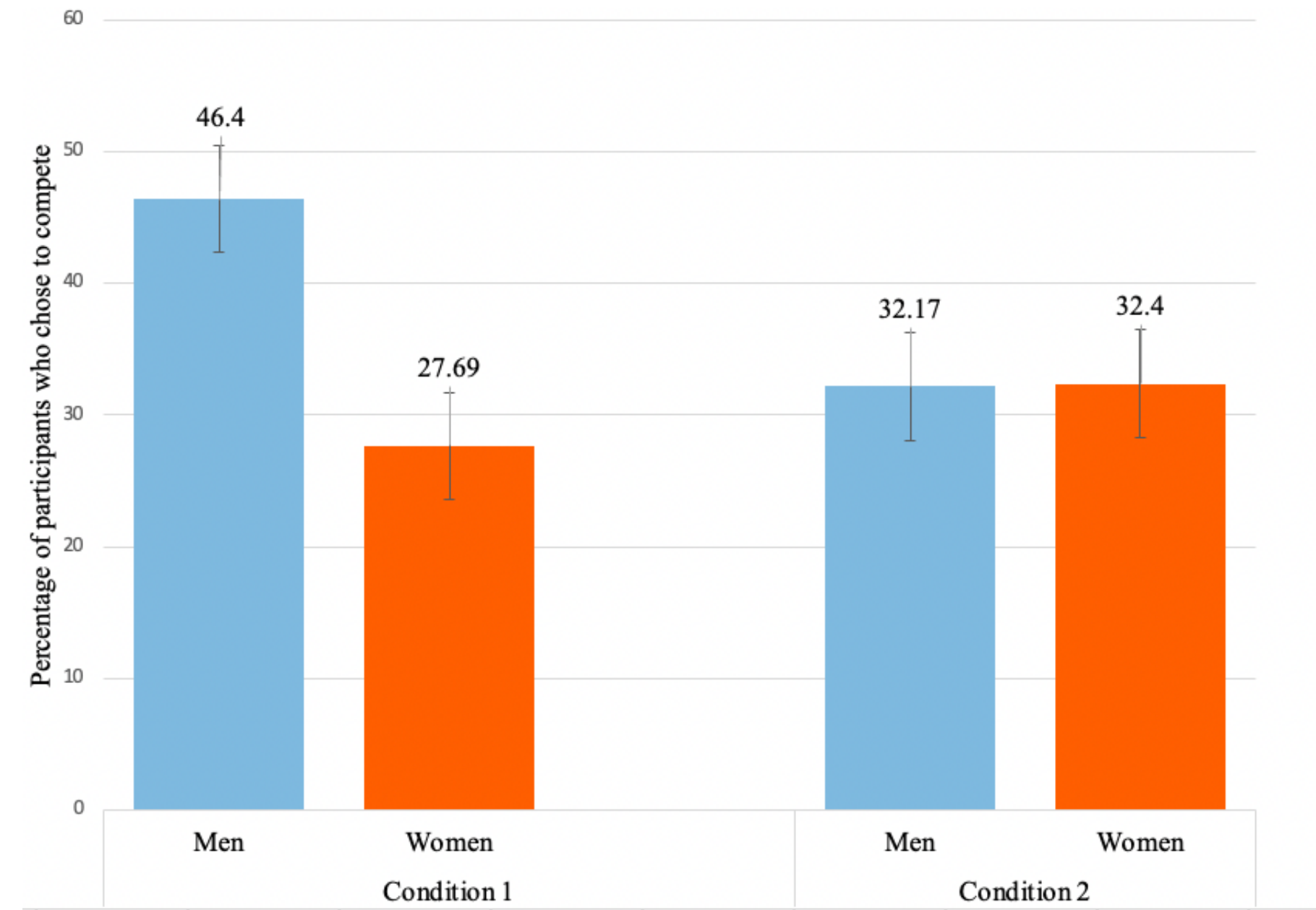
Experimental design



- Participants solved as many multiplication problems as possible within 100 seconds in both task 1 and task 2.
- Piece-rate:** The participant will be paid \$.05 for every question answered correctly.
- 5-small Tournaments:** The winner of each of the 5-small tournaments will be paid \$.10 for every correct answer in each tournament while the loser will be paid \$0.
- 1-large tournament** The winner of the 1-large tournament will be paid \$.10 for every correct answer while the loser will be paid \$0.
- Lay beliefs: Participants were asked to predict which option male and female participants in their condition would prefer.

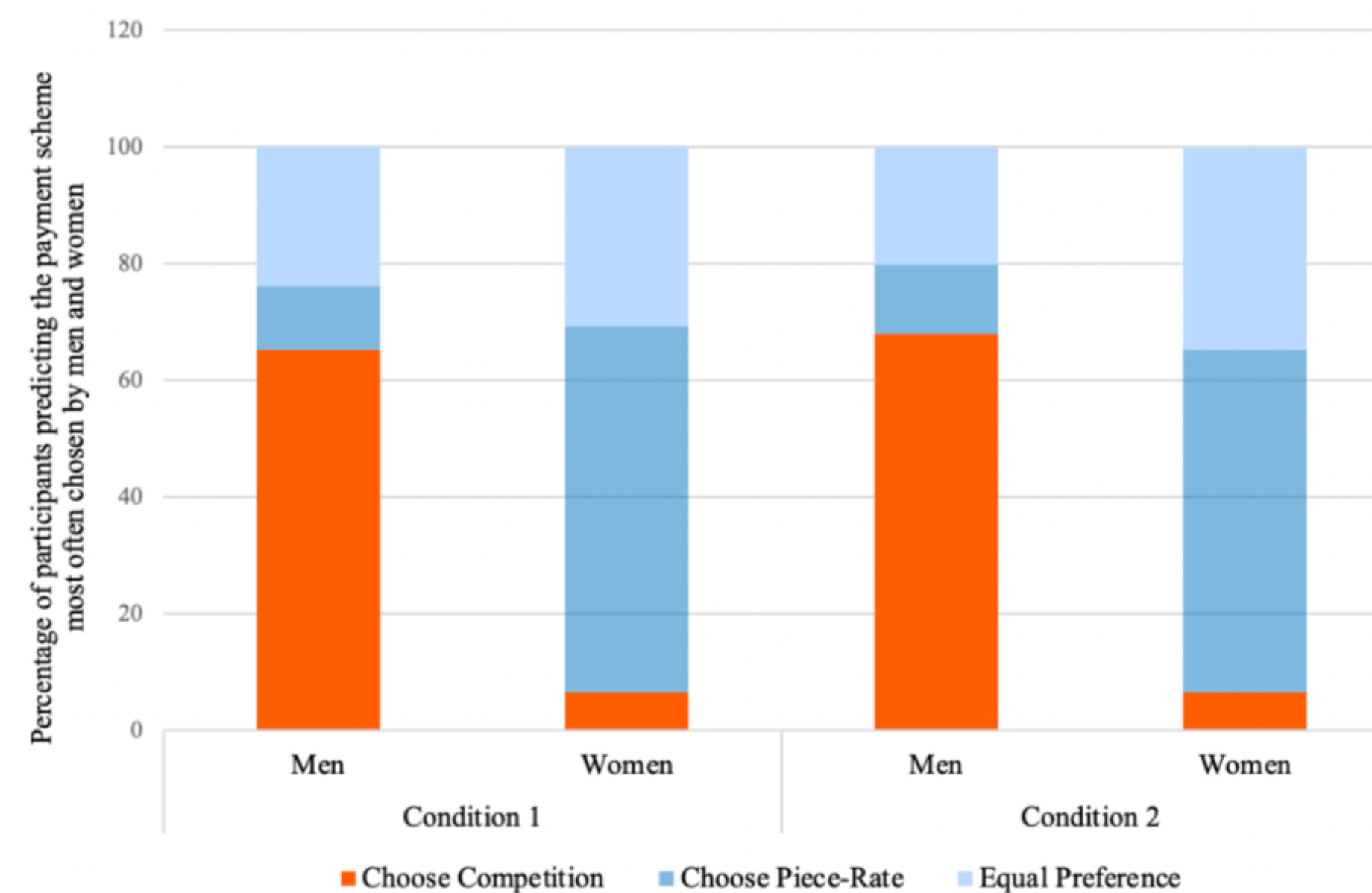
Results

Percentage of participants who chose to compete broken down by gender



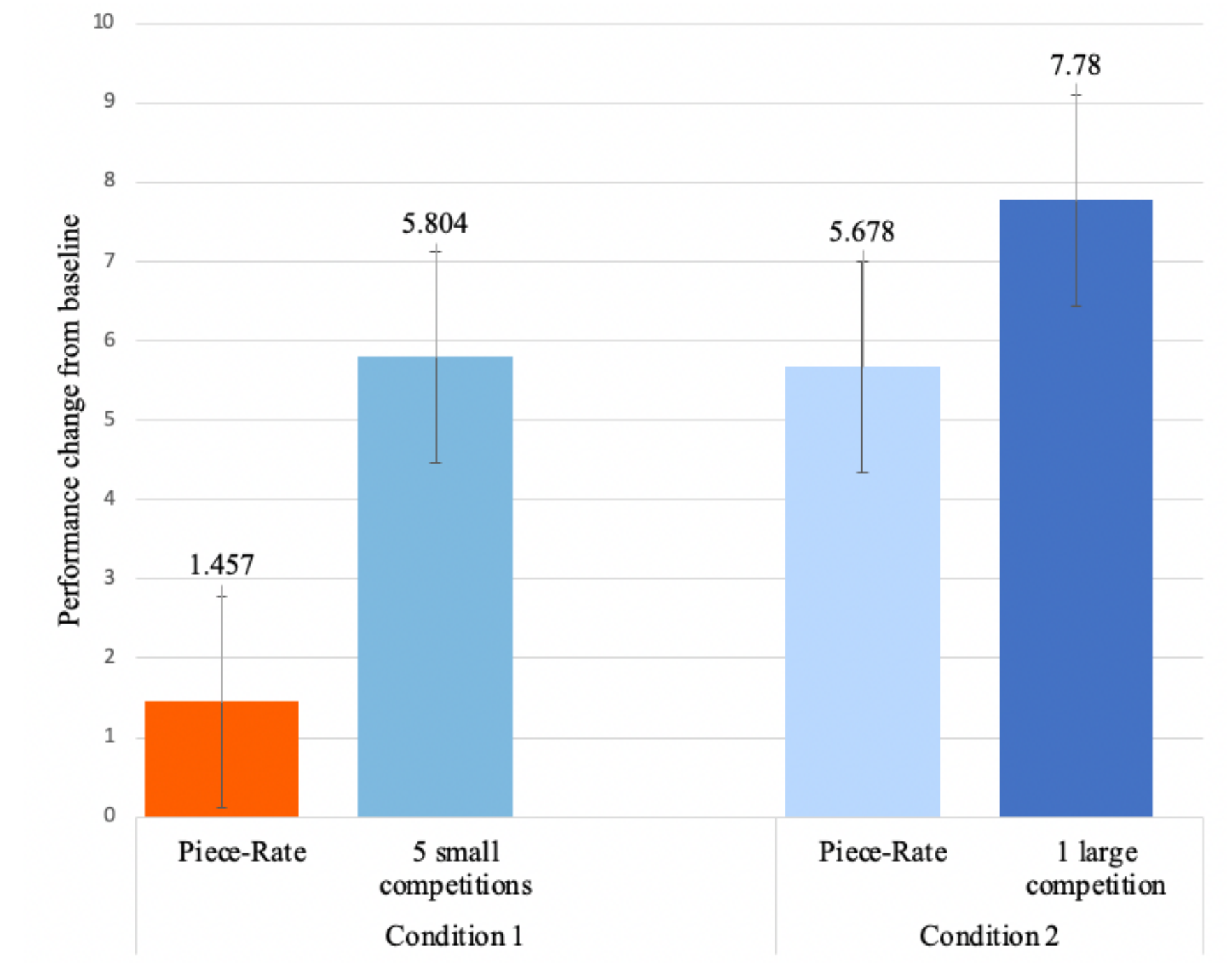
Contrary to the hypothesis, the gender difference in willingness to compete was not significantly smaller in condition 1 than in condition 2. Instead, the opposite pattern was observed: A greater proportion of men (46.4%) than women (27.69%) chose to compete in the 5-small tournaments. The difference-in-difference between conditions was significant ($p=.006$) and largely due to men preferring the 5-small tournaments.

Percentage of participants predicting the payment scheme most often chosen by men and women by condition



- The majority of participants in condition 1 (65.5%) and in condition 2 (67.9%) predicted that men would choose to compete over the piece-rate option.
- Only 6.38% of participants in condition 1 and 6.5% of participants in condition 2 predicted that women would choose to compete.

Performance change from baseline by payment scheme chosen



- In both conditions, participants who chose to compete had a bigger boost in performance than those who chose the piece-rate option.

Discussion

- Our prior work found that women prefer 5-small tournaments to the 1-large tournament. Here we find that when given the option of a piece-rate scheme over each type of competition, women still prefer the piece-rate payment scheme.
- Contrary to our prediction, offering 5-smaller tournaments to a piece-rate scheme exacerbates the gender difference because more men chose to compete in the 5-tournament condition.
- Future research on this topic might offer all three options simultaneously. The 5-small tournaments option may be perceived as less risky when juxtaposed against the 1-large tournament option.

References

(1)Markowsky, E., & Beblo, M. (2022). When do we observe a gender gap in competition entry? A meta-analysis of the experimental literature. *Journal of Economic Behavior & Organization*, 198, 139-163.
 (2)Niederle, M., & Vesterlund, L. (2007). Do women shy away from competition? Do men compete too much?. *The quarterly journal of economics*, 122(3), 1067-1101.
 (3)Eckel, C. C., & Grossman, P. J. (2008). Men, women and risk aversion: Experimental evidence. *Handbook of experimental economics results*, 1, 1061-1073.
 (4)Niederle, M., & Vesterlund, L. (2007). Do women shy away from competition? Do men compete too much?. *The quarterly journal of economics*, 122(3), 1067-1101.

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