

# Breaking the Glass Ceiling: Inspiring Women to Compete

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### Introduction

- Despite efforts to realize gender equality over the past few decades, the wage gap and underrepresentation of women in top workplace positions remain nearly universal.<sup>1,2</sup>
- Gender differences in competitiveness have been proposed as an explanatory factor since, on average, women compete less compared to equally capable men.
  - · Most job hiring and promotion practices are competitive.
  - Competitiveness predicts greater labor market earnings.3
- Prior studies have examined choices between piece-rate payments versus payment based on success in a competition.
- Competitions are inherently riskier (i.e., greater variance in returns) than payment based on individual performance.
- And, differences in competitiveness are partly explained by risk preferences, where women tend to be more risk-averse.<sup>4</sup>
- We examined whether lowering the risks associated with competing would encourage women to compete.
- We provided participants with the choice to either enter multiple, small competitions (less risky) versus a single large competition (more risky).
- Hypothesis: Compared to men, a greater proportion of women would choose to compete in the lower-risk option.

### Methods

• N = 464 adults were recruited on Amazon MTurk.

### Figure 1: Experimental Design



- Participants were allotted a fixed amount of time to solve as many multiplication problems as possible.
- Baseline performance was first measured using a piece-rate scheme (subjects were paid 5¢ per correct answer).
- DV: Subjects were asked which type of competition they would like to enter, where their payment would be based on their performance *relative* to an opponent.
- High-risk: 1 Large Tournament (100 seconds)
  - Winner paid 10¢ per correct answer, loser paid \$0
- Low-risk: 5 Small Tournaments (20 seconds per tournament)
  - Within each round: Winner paid 10¢ per correct answer, loser paid \$0

- Participants were (accurately) informed that their opponent was a randomly-paired participant completing the same task.
- Risk preferences were self-reported, ranging from 1 (*Not at all willing to take risks*) to 10 (*Very willing to take risks*).
- Confidence was calculated as (estimate of one's own performance) minus (estimate of opponent's performance).

## Results





- We found a main effect of gender (p < .001) on the type of competition chosen. Men preferred 1 Large Tournament and women preferred 5 Small Tournaments.
- Risk-aversion positively predicted the preference for multiple tournaments, but the gender difference in choice remained after controlling for demographic and psychological variables.

# Figure 3: Risk preferences and confidence levels by gender



 On average, women reported significantly greater risk aversion (t = 3.326, p = .001) and less confidence in their task performance (t = 7.101, p < .001) than men.</li>

### Figure 4: Male Participants' Folk Beliefs



### Figure 5: Female Participants' Folk Beliefs



## Discussion

- Gender was a significant predictor of competition choice.
  Women preferred the lower risk, many competition option while men preferred the single competition.
- Participants of both genders predicted that most men would prefer the 1 Large Tournament option, and most women the 5 Small Tournaments option.
- As expected, risk-averse participants were more likely to select the 5 Small Tournaments option.
  - This suggests that the 5 Small Tournaments option lowered the perceived risks associated with competing.
- Companies may want to consider offering multiple, smaller competitions in place of fewer large competitions to encourage women to compete more.

#### **References and Acknowledgements**

 Blau, F. D., & Kahn, L. M. (2017). The gender wage gap: Extent, trends, and explanations. *Journal of Economic Literature*, 55(3), 789–865. https://doi.org/10.1257/jel.201609952
 Davidson, M. J. (2012). Women in management worldwide: progress and prospects. *Human Resource Management International Digest*, 20(6), 58-64. https://doi.org/10.1108/ hrmid.2012.04420faa.012

3. Kamas, L., & Preston, A. (2018). Competing with confidence: The ticket to labor market success for college-educated women. *Journal of Economic Behavior and Organization*, 155, 231–252. https://doi.org/10.1016/j.jebo.2018.08.025

 Niederle, M., & Vesterlund, L. (2007). Do women shy away from competition? Do men compete too much? Quarterly Journal of Economics, 122(3), 1067–1101. https://doi.org/10.1162/ qiec.122.3.1067

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