

Gender Differences in Competition and Task Choice

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Gender differences in Competition

Can economic gender differences be (also) driven by gender differences in attitudes towards competition?

Do Women perform less well in competition?

Do Women shy away from competition?

Is it especially competition against men?

Can institutional changes affect gender differences (and at what cost)?

Do general gender differences emerge that have effects in other dimensions?

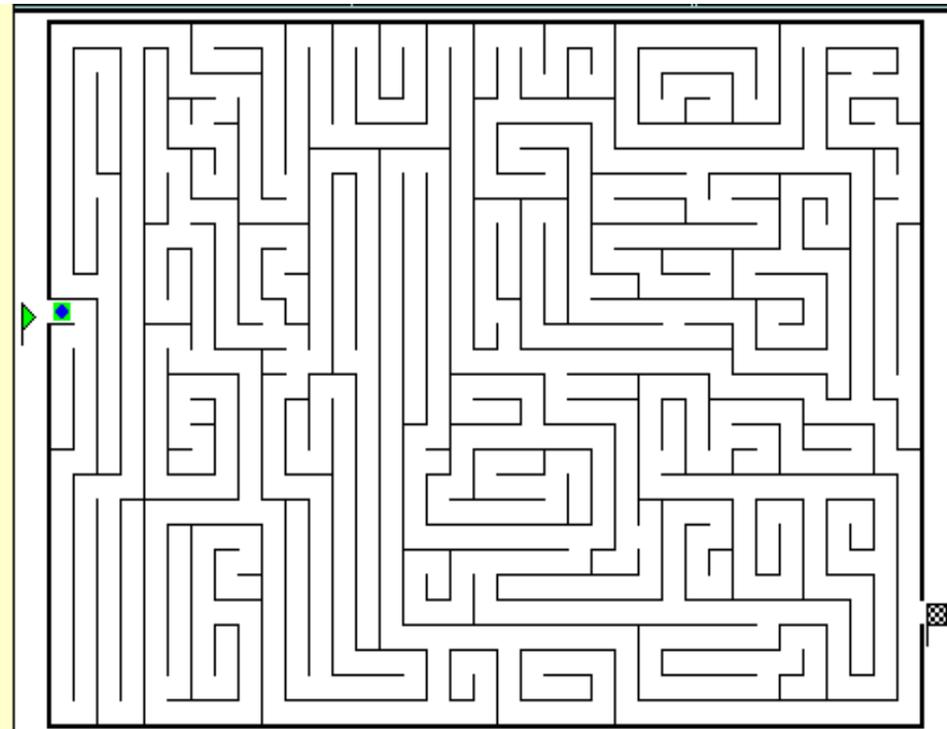
- “Performance in Competitive Environments: Gender Differences” Gneezy, Niederle and Rustichini, *Quarterly Journal of Economics*, 2003.
- “Do Women Shy Away from Competition? Do Men Compete Too Much?” Niederle and Vesterlund, *Quarterly Journal of Economics*, 2007.
- “How Costly is Diversity? Affirmative Action in Light of Gender Differences in Competitiveness”, Niederle, Segal and Vesterlund, working paper 2008.
- “Gender Differences in Seeking Challenges: The Role of Institutions” Niederle and Yestrumskas, Working paper, 2008.

Performance in competitive environments: Gender differences

with Uri Gneezy and Aldo Rustichini, QJE 2003

Are gender differences in performance increased in competitions?

Observe Women and Men in a competitive and noncompetitive environments.



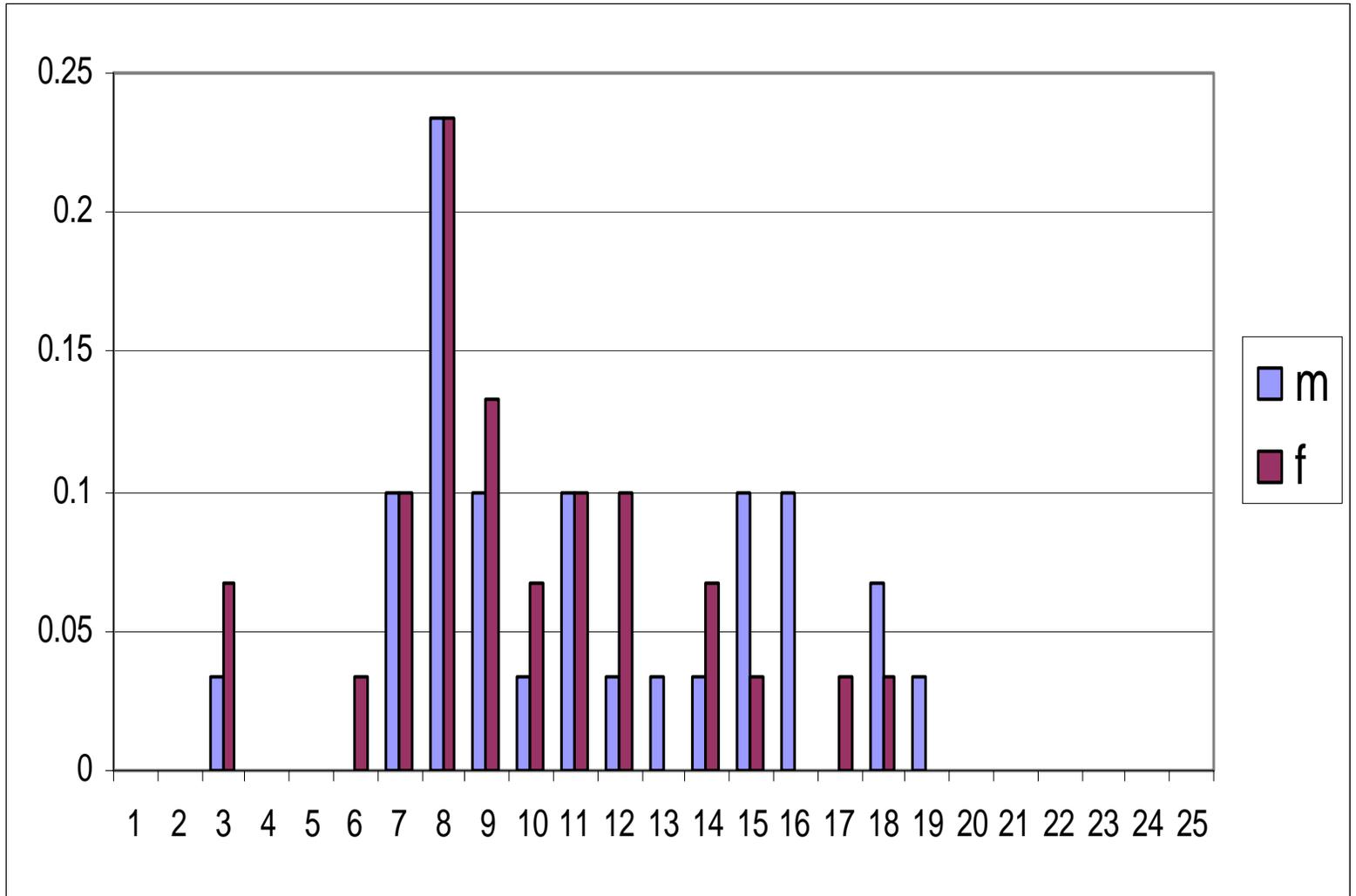
Piece rate scheme: Noncompetitive

3 women and 3 men solve mazes for 15 minutes receive ~ 50 cents for each solved maze.

Participants do not know others' earnings.

In each treatment we have: 30 men and 30 women.

Non competitive: Piece Rate

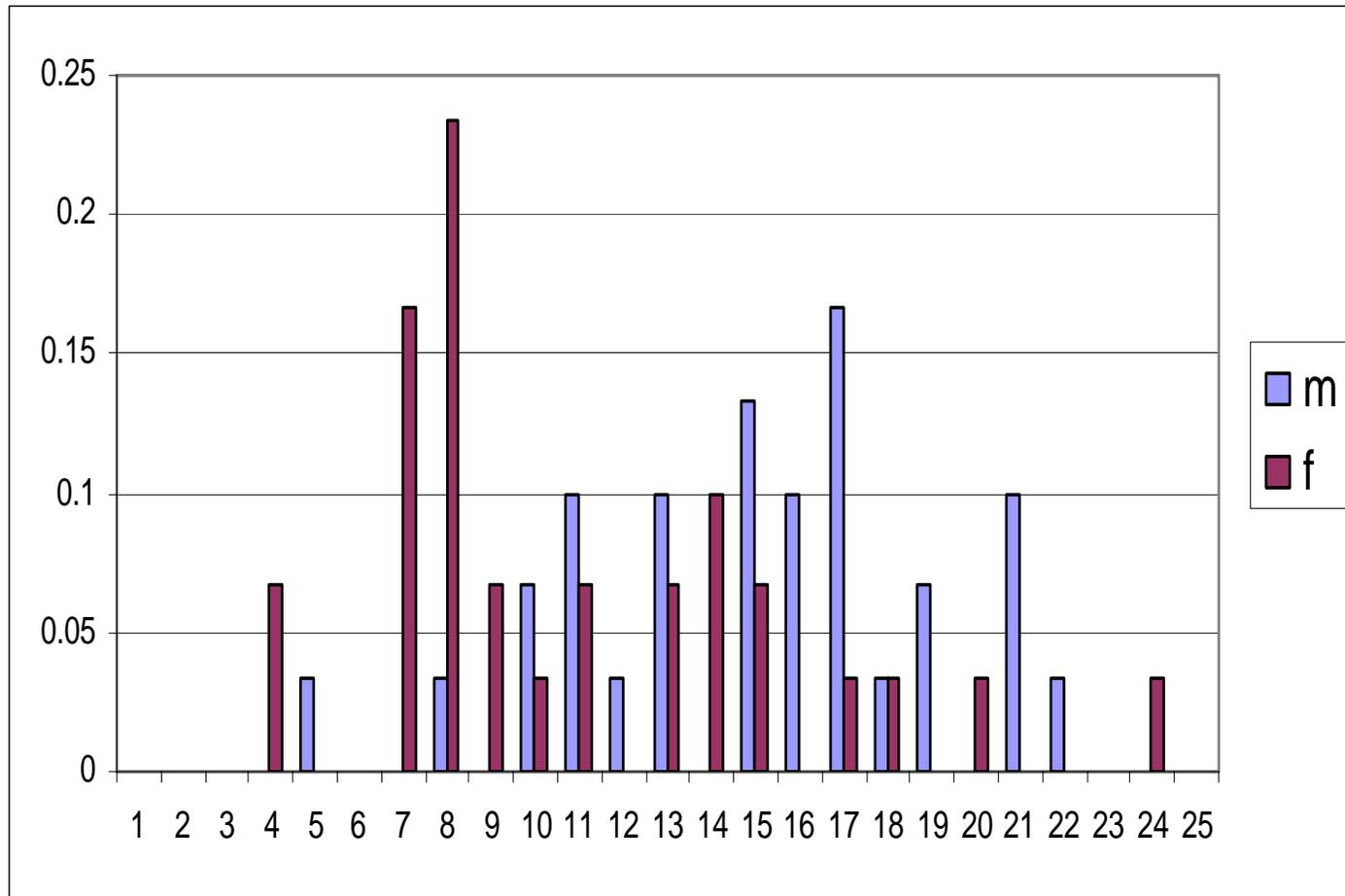


Average Male: 11.23 Female: 9.73. (p= 0.2023) 6

Competitive Pay: Tournament

- 3 Women and 3 Men solve mazes for 15 minutes.
- The person that solves the most mazes receives ~3 dollars for each maze solved.
- Others receive nothing
- Winners are not announced

Competitive Pay / Tournament



Tournament: Men:15, Women: 10.8 ($p = <.01$)

Piece Rate: M: 11.23 ($p <.01$) W: 9.73: ($p = 0.62$).

Explanations for the gender gap in tournament performance

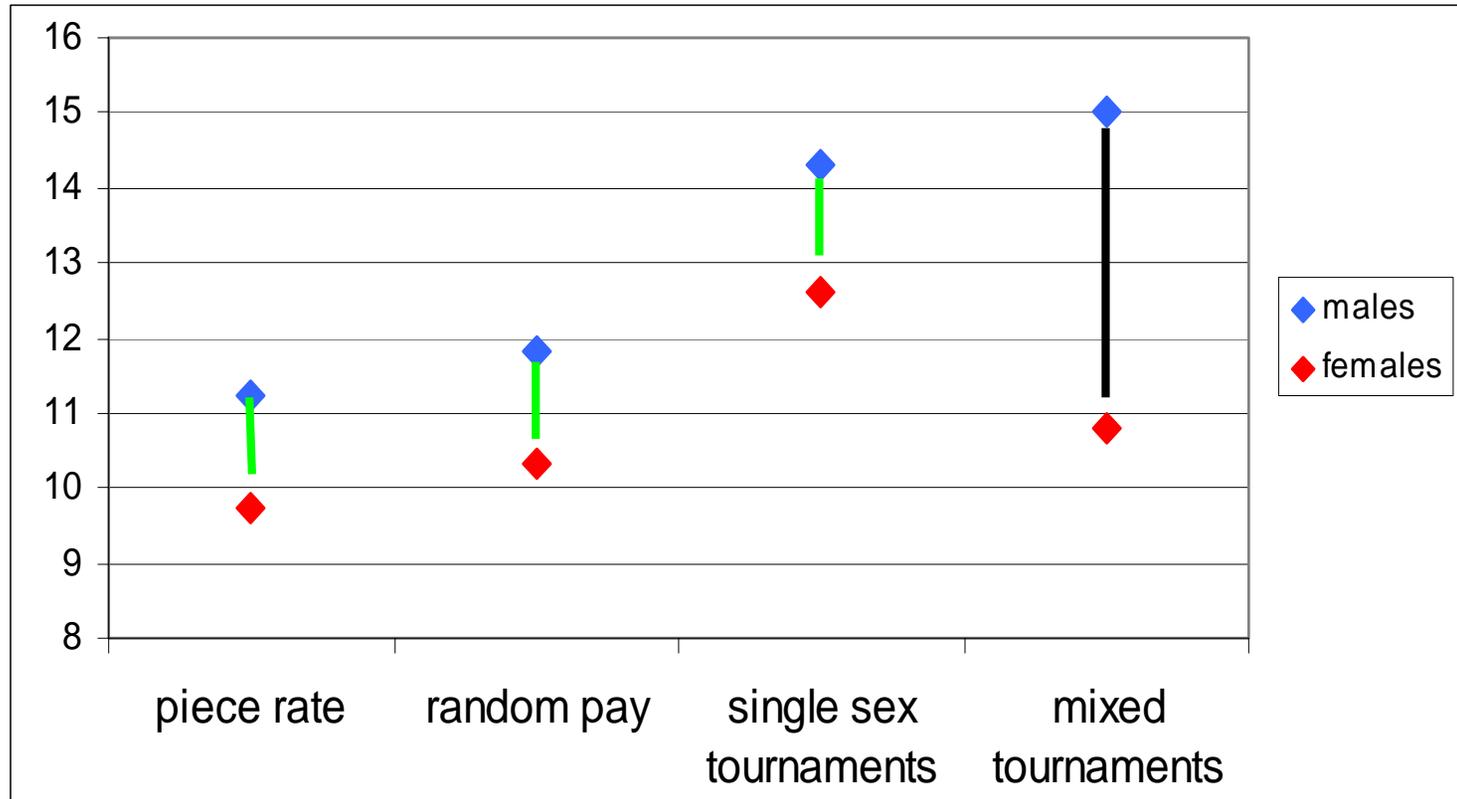
- Women can't perform higher
- Women do not like to compete at all
- Women do not like to compete against men
- Women do not like to perform when payment is uncertain

Single sex tournaments

6 Women, or 6 men solve mazes for 15 min.
The person that solves the most mazes
receives ~ \$ 3 for each maze solved.
Others receive nothing.

Women compete and perform highly, they
are not different from men who compete in
single sex tournaments

Performance averages: Women and Men



- Women do not compete against men.
- Women competing against women respond to competition as much as men do.

How does performance in competitions translate to a preference to perform in competitions?

“Do Women Shy Away from Competition? Do Men Compete too Much?” with Lise Vesterlund, QJE 2007

Want to observe selection into competitive environments: Prefer a task with little gender difference in performance.

Add up 5 two-digit numbers for 5 min.

2 women and 2 men per group from U. of Pittsburgh. Overall 40 women and 40 men.

21	35	28	79	83	
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Groups: 2 Women and 2 Men

Task 1- Piece Rate:

50 cents per correctly solved problem.

Task 2 - Tournament:

The highest performing participant receives \$ 2 per correct problem.

Other participants receive no payment.

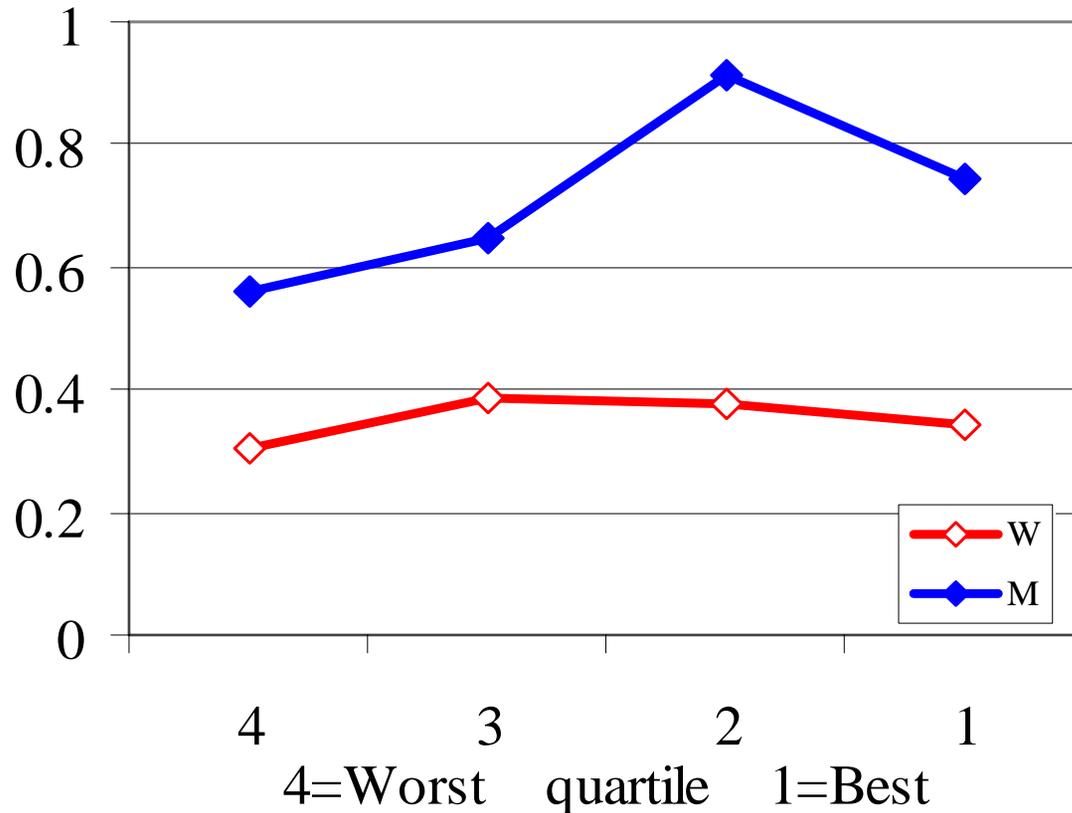
Participants receive no feedback.

Task3 - Choice

Choose Piece Rate: 50 cents for each correctly solved problem

Choose Tournament: Performance is compared to task-2 tournament performance of the other participants. If the participant has the highest performance she or he receives \$2 for each correct answer, otherwise no payment.

Does (past) performance predict entry?



Proportion of participants that enter the tournament for each performance quartile

Performance does not predict entry for Women, weakly for Men
Significant gender difference in entry

Parallels between GNR 2003 and NV 2007

Decision: provide
sustained effort, perform
highly in tournaments

Decision: Enter
competitions compared
to a piece rate

Women do not perform
well in tournaments
against men

Women do not enter
tournaments against
men

Women do perform well
against other women

Can affirmative action
measures entice women
to enter tournaments?

How Costly is Diversity? Affirmative Action in Light of Gender Differences in Competitiveness

with Carmit Segal and Lise Vesterlund, WP 2008.

Can we change the institution to induce more high performing women to enter tournaments?

At what cost?

Groups of 3 Women and 3 Men

Standard Tournament: 2 Best people win.

Affirmative Action Tournament: For every male winner, there has to be at least one female winner.

The 2 winners of a group of 3 men and 3 women:

1. Best woman wins
2. Best performer among remaining participants wins.¹⁶

Effects of AA on participant pool

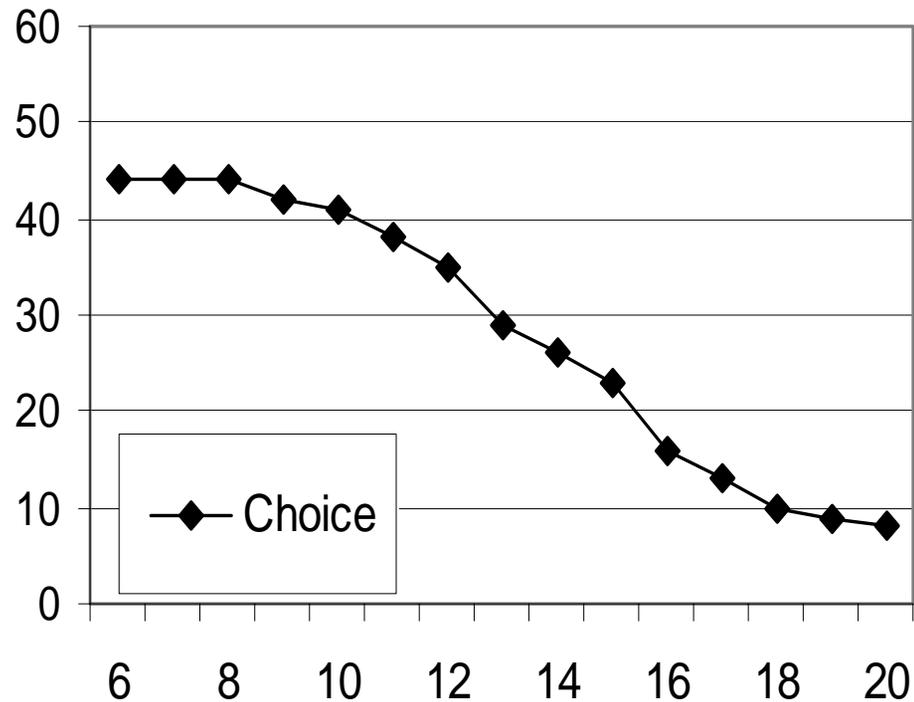
Composition of Entrants:

- Choice Women 13 Men 31
- AA Choice Women 35 Men 19

We will compare

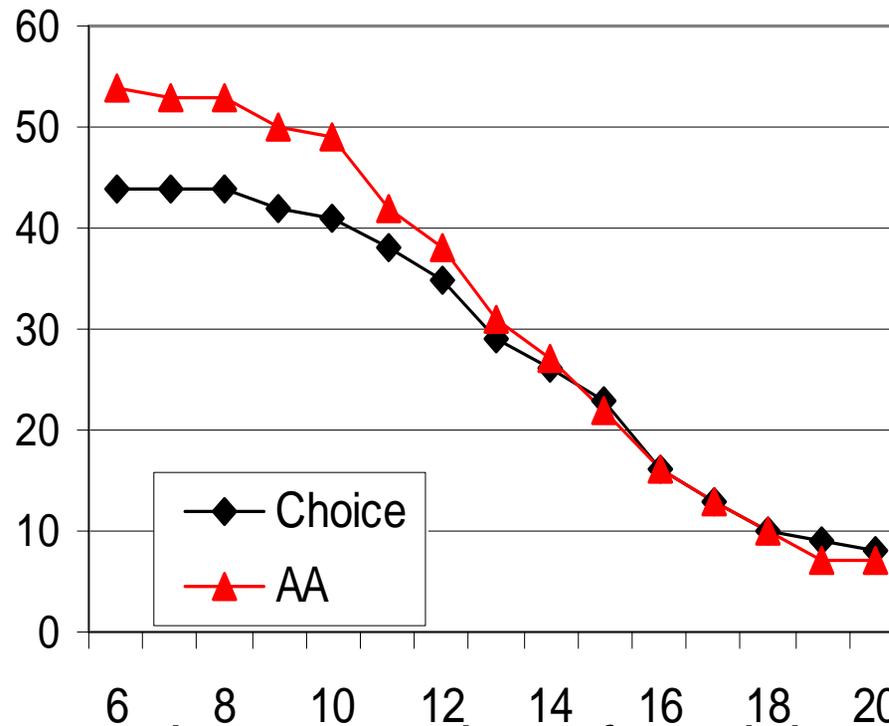
- Performance of Entrants
- Expected costs of affirmative action (hiring at least one woman for every man)
- Actual costs of affirmative action as the participant pool changes through self-selection.

Performance of entrants



For each performance level the number of entrants with at least that performance

Performance of entrants

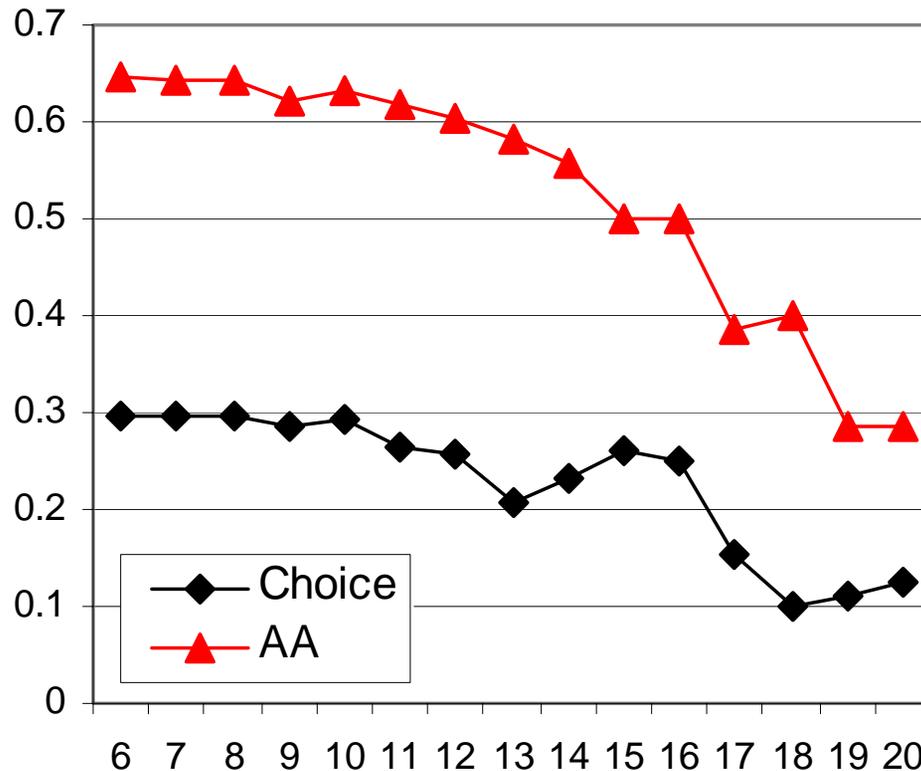


For each performance the proportion of participants with at least that performance

No large overall differences in number of entrants that should have entered the original tournament

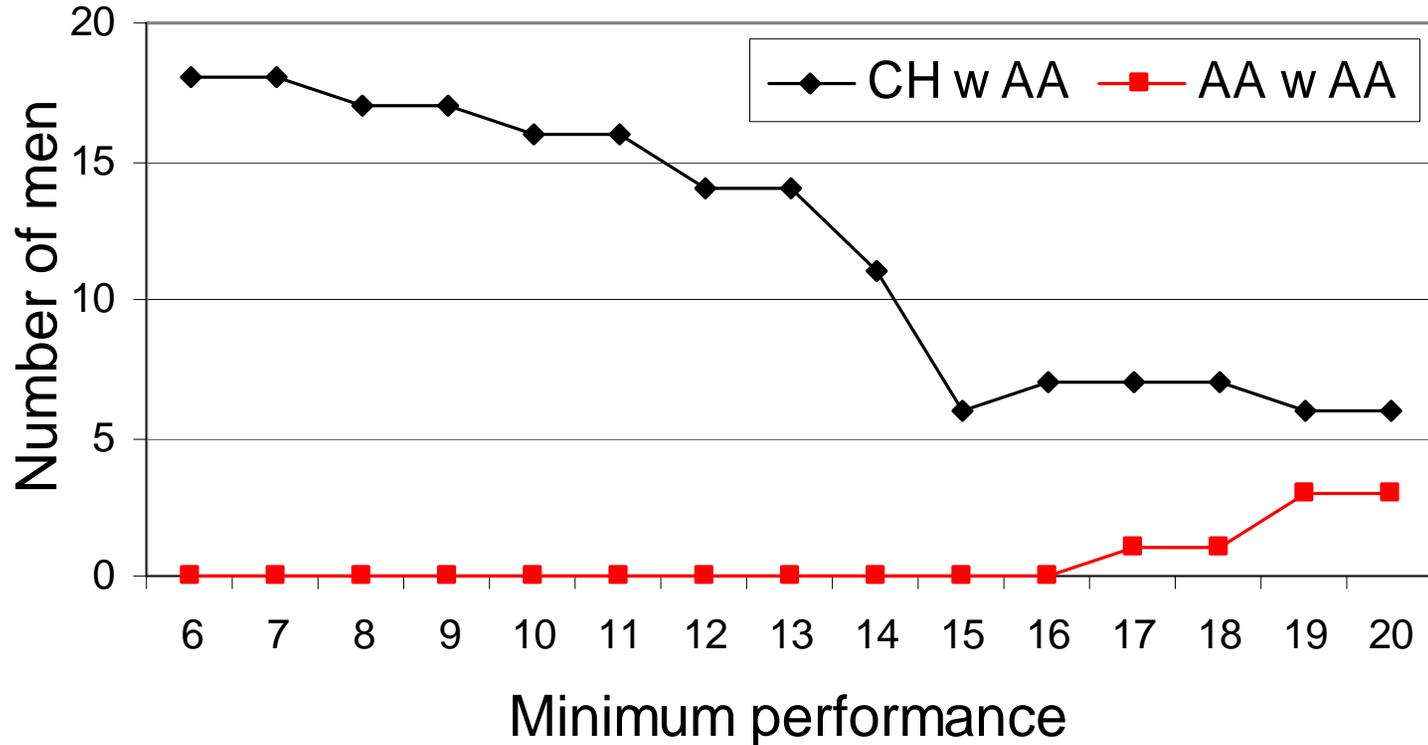
Gender composition of the pool

Proportion of Women above each performance



Much larger proportion of women among high performing entrants in the AA tournament. Already hints that affirmative action may not be that costly.

Inequity



Number of men with superior performance who do not qualify under AA when AA is not announced (CH w AA) and when it is announced (AA w AA)

Parallels between GNR 2003 and NV '07, NSV '07

Decision: provide
sustained effort, perform
highly in tournaments

Decision: Enter
competitions compared
to a piece rate

Women do not perform
well in tournaments
against men

Women do not enter
tournaments against
men

Women do perform well
against other women

Affirmative action (quota)
can entice women to
enter tournaments

Gender Differences in Seeking Challenges: The Role of Institutions

with Alex Yestrumskas, WP 2008

How do women and men decide which task to choose?

Do we find gender differences similar to those in tournaments?

Which institutional changes affect choices?

We have an easy and hard task, such that women and men who are among the top 40% in the easy task make more money performing in the hard task, while others from performing in the easy task.

This task and incentive scheme calibration provides money-maximizing choices for any participant that can be predicted by their performance in a first easy task.

Choosing the hard task

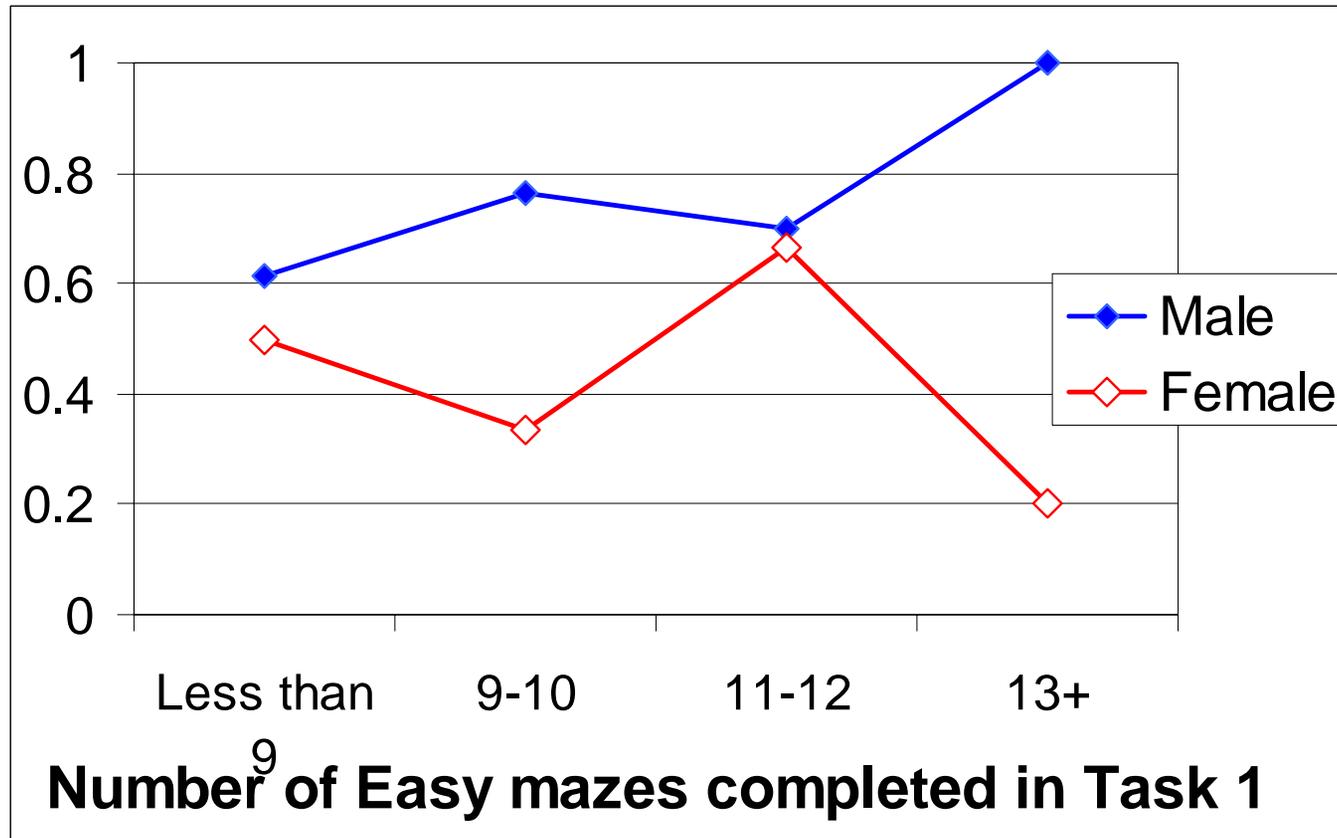
Participants first perform in the easy task, know their absolute performance.

They are informed of the calibration: the top 40% performers on average have higher earnings from hard task, other from the easy task.

They choose for 2 tasks, one of which is paid.

We do not find significant ex ante differences in beliefs about relative ability.

Proportion of “Hard” Choices



Hard task: More profitable for 11+ performers, else easy task is more profitable.

Ability cannot account for the gender difference in choice.

Why do Women Shy Away from Hard Tasks?

Women choose the hard task when:

- **Provide feedback** (tell them what the payoff maximizing choice is): that is it is not a pure task preferences
- **Reduced Commitment** (where they decide about the task difficulty for the 3rd and last task only after they performed in the 2nd), not pure feedback aversion.

Gender differences: Can be risk aversion, beliefs of women that good performance in easy task may not translate in good performance in hard task.

Conclusion

We (and others) find gender differences in preferences for Competition and challenges (see a developing literature on gender differences in field data)

Affirmative Action can have positive effects on the decision of women to enter competitive environments.

Positive effects of Affirmative Action in an environment in which there is no discrimination.

Studying and understanding gender differences can lead to institutional design changes that can reduce those differences.