**Summary**

It is often found that women do not like competitive environments as much as men do (Niederle and Vesterlund, 2007). Booth (2009). This research studies the gender differences in competitiveness in the case of team competition. While women do not enter the tournament significantly more often when it is team-based, men enter significantly less when they are part of a team rather than alone. The main change comes from high-performing men who opt out of team competition because they do not want to take the chance of being matched with a less efficient teammate.

**Motivation**

1- **Empirical and experimental observations:**
   - Gender gap in income and social positions.
   - Several possible explanations: lower ability of women, discrimination, men and women differ in their propensity to enter competitive environments.

   Harmful consequences of the gender gap in tournament entry:
   - No diversity at the top of hierarchies.
   - Lower average performance of candidates.

   Many competitions oppose teams rather than isolated individuals (co-authored research papers, firms competing for market shares, team sports).

2- **Objective and Main Contribution:**
   - See whether the possibility to enter a tournament as a team decreases the gender gap in tournament entry.
   - If such is the case, see what are the explaining factors of the reduction of the gender gap.

3- **Why may the competition being team-based rather than individual change the gender gap in tournament entry?**
   - **Factor 1:** Change in the probability of winning.
   - **Factor 2:** Change in beliefs about one’s chances to win the tournament.
   - **Factor 3:** Change in ambiguity, risk and feedback aversion.
   - **Factor 4:** Taste for influencing each other’s payoffs within the team.
   - **Factor 5:** Change in taste for competition.

**Experimental Design**

The experimental design builds on that of Niederle and Vesterlund (2007).

Main idea: choice between a remuneration that does not involve any competition (piece rate) and one that does (tournament) for doing additions of 5 two-digits numbers.

8 Tasks.

1- **Tasks:**
   - **Task 1.** Piece Rate: 50 cents per correct answer.
   - **Task 2.** Individual Tournament: 1 euro per correct answer if winner.
   - **Task 3.** Choice between Piece Rate and Individual Tournament (against a past performance of a random opponent).
   - **Task 3bis.** Choice between submitting Task 1 performance to Piece Rate or Individual Tournament. Task 3bis=Task 3 except for the fact that the participant does not have to actually perform in a competitive environment.
   - **Task 4.** Choice between Piece Rate and Team Tournament.
   - **Team Tournament:**
     - 2 opponents (randomly drawn among other participants).
     - 1 teammate (among those who chose the team tournament).
     - Each member of the winning team earns 1 euro (50 cents in case of a tie)* average perf of the team.
   - **Task 4bis.** Choice between submitting Task 1 performance to Piece Rate or Team Tournament.
   - **Task 5.** Choice between Piece Rate and Team Tournament with a teammate of the same level (TTid).
   - **Team Tournament with a Teammate of the Same Level:**
     - 2 opponents (randomly drawn among other participants).
     - 1 teammate (among those who chose the TTid, the one whose Task 2 perf is the closest from the participant’s)
     - Task 5: Task 4 except for the fact that there is no more uncertainty on one’s teammate’s ability to solve additions.
   - **Task 5bis.** Choice between submitting Task 1 performance to Piece Rate or Team Tournament with a Teammate of the Same Level.

2- **Belief-assessment questions:**

Participants had to guess the mean Task 2 performance of the participants in their session and of their teammate and opponents from Task 4.

**Results**

76 subjects: 37 women, 39 men.

- Men were slightly better than women but not significantly so.

1- **Large Gender Gap in Entry in the Individual Tournament**

51% of women and 85% of men chose to enter the individual tournament (p=0.00). The decisions to enter the individual tournament are in line with Niederle and Vesterlund (2007).

- Differences in overconfidence, risk and ambiguity aversion explain part of the gender gap in tournament entry, but not all of it.
- Remaining reason: difference in the taste for evolving in a competitive environment.

2- **No Gender Gap in Entry in the Team Tournament**

59% of men and 62% of women enter the team tournament (p=0.82).

Women do not enter the tournament significantly more often when it is team-based (p=0.48).

Men enter the tournament significantly less often as a part of a team than alone. (p=0.02).

**Figure 2.** Proportion of entrants men and women in the individual tournament (IT) and team tournament (TT)

Men’s disaffection for the tournament when it is team-based comes from high-performing men who massively enter the individual tournament but opt out of the team tournament.

**Figure 3.** Proportion of low-performing and high-performing men and women entering each of the 3 tournaments

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