# Gender Differences In Recognition For Groupwork

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# Overview

# Introduction

- Do employers use gender when allocating credit for group work, particularly when individual contributions are unobserved?
- In many industries, women are not only hired at lower rates than men are, they are also promoted at lower rates.
- Within economics, He finds that men and women who solo-author most of their work have similar tenure rates conditional on a proxy for the quality of papers. However, an additional coauthored paper is correlated with an 8.2% increase in tenure probability for men but only a 5.6% increase for women.

# Data

He constructs a data set using the CVs of economists who came up for tenure between 1985 and 2014 at one of the top 35 U.S. PhD-granting universities.

- "Tenure window"
- an individual is denied tenure if s/he moves to a university ranked 5 positions below the initial institution during the tenure window.

# Data

## Summary Statistics

**TABLE 1: SUMMARY STATISTICS**

| | Full | Male | Female | p-value |
|---|---|---|---|---|
| *Panel A:* | | | | |
| Tenure | 0.68 | 0.73 | 0.52 | 0.001 |
| | (0.47) | (0.44) | (0.50) | |
| Years to tenure | 6.8 | 6.6 | 7.3 | 0.001 |
| | (1.6) | (1.6) | (1.8) | |
| Total papers | 8.3 | 8.4 | 8.0 | 0.262 |
| | (3.9) | (4.1) | (3.3) | |
| Solo-authored | 3.0 | 3.0 | 3.0 | 0.879 |
| | (2.4) | (2.4) | (2.3) | |
| Coauthored | 5.3 | 5.4 | 5.0 | 0.189 |
| | (3.6) | (3.7) | (3.1) | |
| *Panel B:* | | | | |
| Top 5 Solo | 0.67 | 0.66 | 0.68 | 0.900 |
| | (0.98) | (0.99) | (0.92) | |
| Top 5 Coauthored | 1.3 | 1.3 | 1.2 | 0.570 |
| | (1.4) | (1.4) | (1.4) | |
| *AER Equivalent:* | | | | |
| Solo Pubs. | 0.34 | 0.34 | 0.33 | 0.500 |
| | (0.24) | (0.23) | (0.25) | |
| Coauthored Pubs. | 0.33 | 0.34 | 0.30 | 0.039 |
| | (0.20) | (0.21) | (0.18) | |
| *Panel C* | | | | |
| Number Unique CAs | 4.52 | 4.55 | 4.47 | 0.767 |
| | (2.79) | (2.78) | (2.83) | |
| *Frac. coauthors who are:* | | | | |
| Full Professor | 0.46 | 0.47 | 0.41 | 0.052 |
| | (0.35) | (0.33) | (0.38) | |
| Associate Professor | 0.16 | 0.15 | 0.16 | 0.810 |
| | (0.24) | (0.23) | (0.28) | |
| Assistant Professor | 0.25 | 0.23 | 0.28 | 0.060 |
| | (0.24) | (0.22) | (0.30) | |
| Graduate Student | 0.017 | 0.015 | 0.021 | 0.239 |
| | (0.067) | (0.056) | (0.095) | |
| Female | 0.13 | 0.094 | 0.270 | 0.001 |
| | (0.23) | (0.179) | (0.309) | |
| Observations | 644 | 501 | 143 | |

# Empirical Strategy and Results

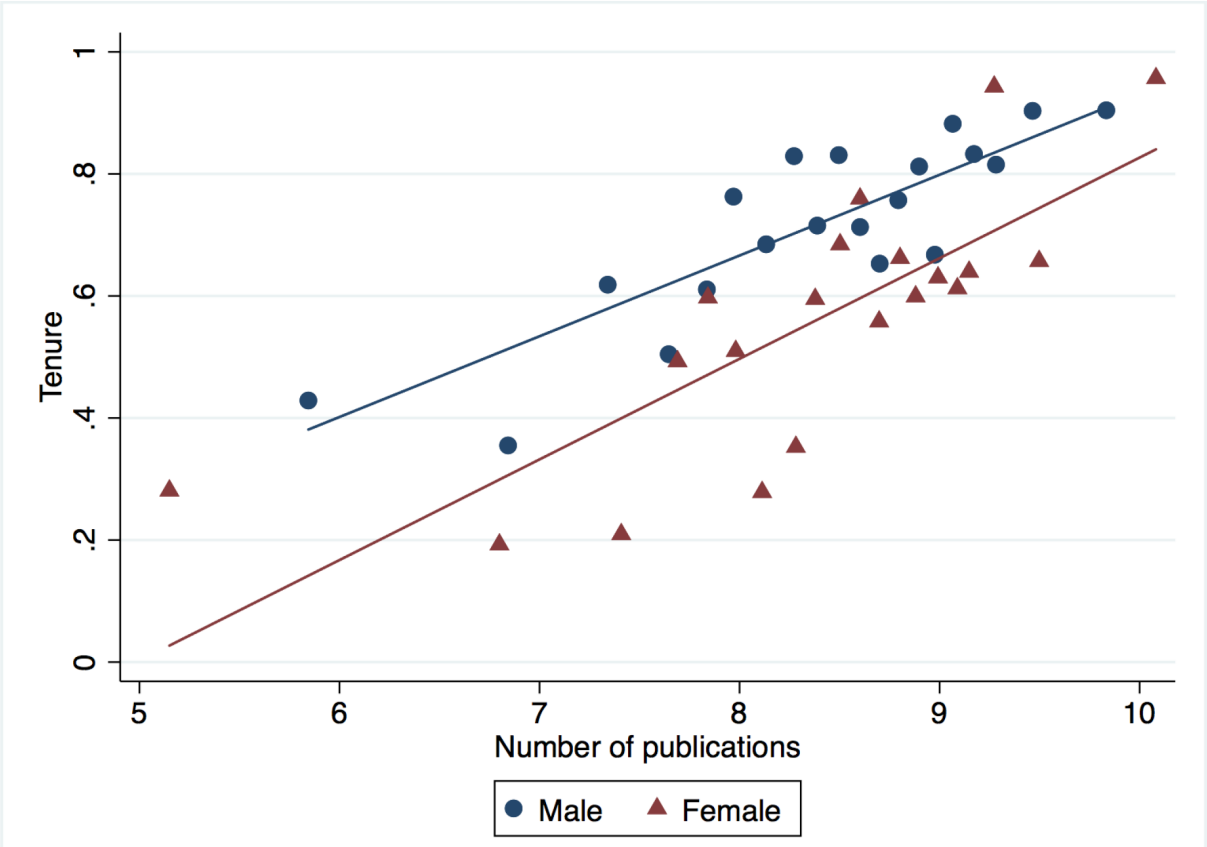
He shows three main results:

- A significant tenure gap exists between men and women.
- The gap becomes more pronounced the more women coauthor, and women who solo-author all of their papers have comparable tenure rates to men.
- The gender of a womans coauthor matters. Women who coauthor with other women do not suffer a coauthor penalty.

# Empirical Strategy and Results

- A significant tenure gap exists between men and women.

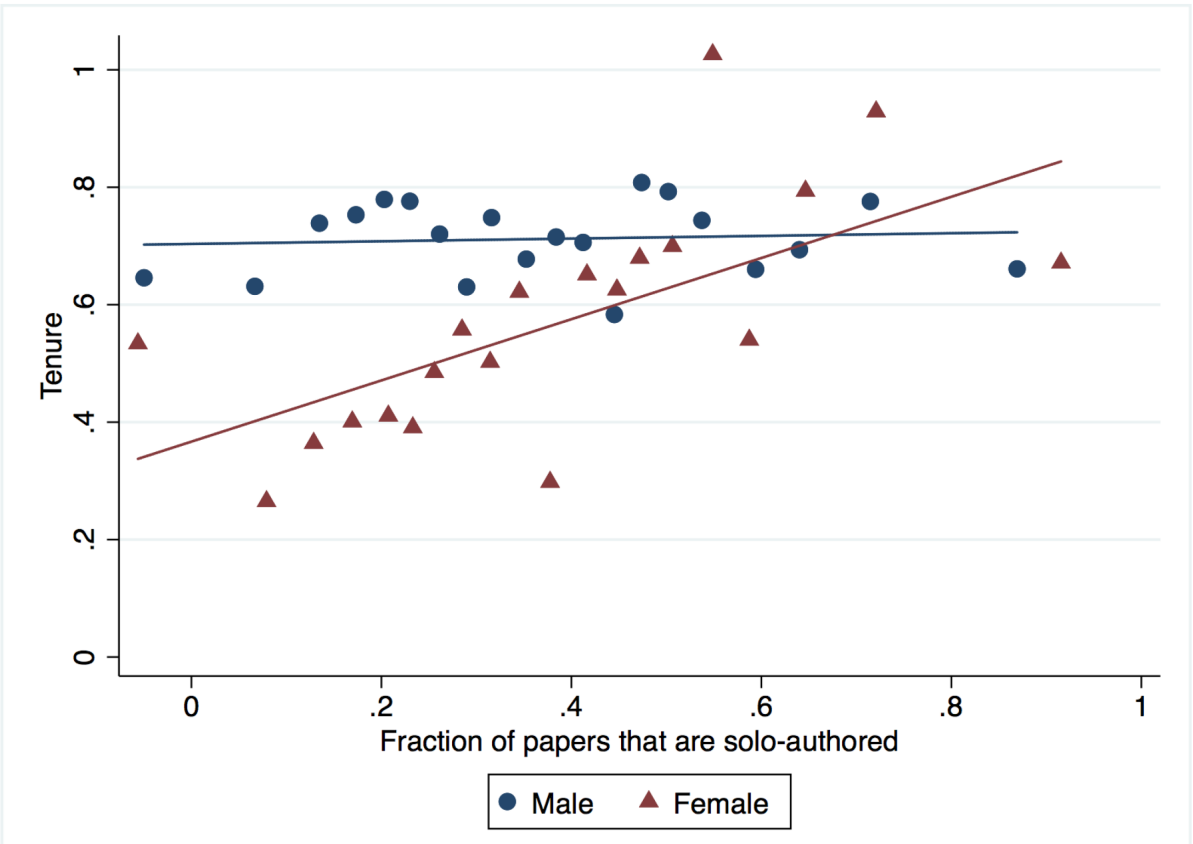
FIGURE 3: TOTAL PAPERS AND TENURE



# Empirical Strategy and Results

- The gap becomes more pronounced the more women coauthor, and women who solo-author all of their papers have comparable tenure rates to men.

FIGURE 4: RELATIONSHIP BETWEEN PAPER COMPOSITION AND TENURE



# Channels

Do men get the credit or do women contribute less?

The paper claims that if women who coauthor are given less credit, then women who coauthor and are denied tenure should on average be more productive than men who are denied tenure, Using two productivity measures:

- The number of solo-authored AER-equivalents an individual publishes after the tenure decision
- the log number of citations an individual has as of 2015.

Women who are denied tenure and coauthor have 0.4 more solo-authored AER-equivalents than men who are denied tenure and coauthor.

# Channels

He sheds light on four standard and testable channels:

- Ability-based sorting
- Preference-based sorting
- Women not claiming credit for their work
- Taste-based discrimination

# Channels

## Ability-based sorting

Do women anticipate receiving less credit for collaborative work?

### Survey

"Suppose a solo-authored AER increases your chance of receiving tenure by 15%. For each of the following, please give an estimate of how much you think the described paper would increase your chance of receiving tenure."
coauthored AER
coauthored AER with senior faculty
coauthored AER with junior faculty
solo-authored top field
coauthored top field

There is no statistically significant difference in the beliefs of men and women for any type of paper

# Channels

## Preference-based sorting

He reestimates following equation but control for the fraction of a persons coauthors who are senior. The seniority of womens coauthors does not explain the results.

$$T_{ifst} = \beta_1 S_i + \beta_2 (fem_i \times S_i) + \beta_3 CA_i + \beta_4 (fem_i + \times CA_i) + \delta_1 fem_i + \gamma' Z_i + \theta_f + \theta_s + \theta_t + \epsilon_{ifst}$$

# Channels

## Women not claiming credit for their work

The survey discussed in ability-based section also asked individuals how many times per year they present their work and whether they are more or less likely to present their coauthored papers than their coauthor. The results shows that men and women report the same likelihood of presenting their joint papers relative to their coauthors.

# Channels

## Taste based discrimination

If some employers have a distaste for tenuring women, as in Becker (1971), we should see women who write solo-authored papers being denied tenure as well.

# Experimental Evidence

- Quiz-takers are randomly assigned to take two math quizzes or two grammar quizzes
- Predictors are shown the questions and correct answers from Quiz 1
- Predictors are shown the quiz scores of two randomly drawn quiz-takers. If predictors are in the solo treatment, they see each quiz-takers score. If predictors are in the group treatment, they see the sum of the two scores.
- Predictors are shown the distribution of quiz scores. If predictors are in the gender distribution cross treatment, they also see the average scores of all men and women who took the quiz.
- Predictors are shown the Quiz 2 questions.
- Predictors guess what each quiz-takers score will be on Quiz 2.

# Experimental Evidence

**TABLE 10: EXPERIMENT: PREDICTED SCORE BY QUIZ TYPE**

| | Outcome: Predicted Quiz 2 Score | | | |
|---|---|---|---|---|
| | Math | | Grammar | |
| | (1) | (2) | (3) | (4) |
| Female | -0.096 | 0.111 | 0.055 | -0.021 |
| | (0.097) | (0.096) | (0.103) | (0.121) |
| Gender Distribution | 0.062 | 0.145 | -0.389*** | -0.241** |
| | (0.101) | (0.096) | (0.096) | (0.112) |
| Female × Gender Distribution | -0.085 | -0.108 | 0.424*** | 0.194 |
| | (0.133) | (0.144) | (0.144) | (0.176) |
| Female × Group Treatment | | -0.354** | | 0.124 |
| | | (0.166) | | (0.179) |
| Female × Group Treatment × Gender Distr. | | 0.001 | | 0.545** |
| | | (0.230) | | (0.255) |
| Group Treatment × Gender Distr. | | -0.069 | | -0.215 |
| | | (0.165) | | (0.173) |
| Group Treatment | | 3.294*** | | 2.957*** |
| | | (0.418) | | (0.474) |
| Quiz 1 Score | 0.416*** | 0.735*** | 0.385*** | 0.725*** |
| | (0.068) | (0.072) | (0.072) | (0.089) |
| Group Treatment × Quiz 1 Score | | -0.696*** | | -0.693*** |
| | | (0.116) | | (0.131) |
| Constant | 1.713*** | 0.137 | 1.784*** | 0.289 |
| | (0.259) | (0.261) | (0.286) | (0.327) |
| Observations | 516 | 516 | 493 | 493 |
| R-squared | 0.081 | 0.299 | 0.092 | 0.296 |

# Conclusion

- Being aware of this phenomenon is important in a world that is increasingly relying on group work for production.
- Group work could result in fewer women moving up the career ladder if credit is not properly attributed. The same could be true for men in female-dominated industries.

# The End!