

# The Effect of Gender in the Publication Patterns in Mathematics

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Title: The effect of gender in the publication patterns in mathematics

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# Abstract

Big Problem: systemic gender imbalance persists

Small Problem: publication patterns of men and women mathematicians

Common Approach: Measure articles

One problem: Database

Approach: zbMATH database, 150,000 mathematicians

One conclusion

Significant differences between genders which may put women at a disadvantage

# Introduction (I)

## Context of the work

- more female students, university graduates, PhDs, and professors
- gender inequities persist
- comprehensive figures and statistics on women in mathematics is not trivial
- there are different social research (surveys, )

## Problem that is addressed

- ① research activity over time,
- ② choice of journals and their perceived quality
- ③ collaboration through coauthorship, and
- ④ distribution across specialisation fields

## Related Work

- Friesch (dataset from 1990 to 2000)
- Bentley (2 surveys)
- West (JSTOR data)
- ...

## zbMath corpus

One of the main services that provide bibliographic information (e.g. author names, title, source), abstracts and expert reviews as well as aggregated data (e.g. keywords) on mathematical publications to the scientific community

## Guessing an author gender

- US Dataset
- Gender detector

## Data overview

## Cohort Analysis

- Women mathematicians have tripled their number since 1970
- Women publish less than men at the beginning of their careers
- Women leave academia at a higher rate than men

## Perception of quality

- High-ranked mathematics journals publish less articles authored by women.
- Women are drastically underrepresented in three top-ranked journals.

## Discussion

- Year of first publication
- Dropout rate in authors per cohort year within 5 to 10 years of their first publication
- Single-authored publications in twelve research fields