Gender differences in online visibility of early-career researchers: Are men more likely to gain mentions on Twitter and benefit more?

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#Gender differences #Online dissemination # Self-promotion #Twitter #Altmetrics

@ All researchers

Social media can help improve the visibility of female researchers and amplify their scientific impact. Yet, persisting gender gaps in self-promotion may limit this potential and reproduce gender inequalities.

Edit Profile

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Background

Emilio Zagheni @ezageheni · Jun 1

Social media, such as Twitter and Facebook, offers a promising opportunity for **early-career academics** to gain attention from both academia and the public, by bypassing the participation in more costly traditional academic activities, like conferences and workshop.

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Ridhi Kahyap @ridhikash07 · Jun 2

It has been shown that female researchers receive less online visibility than their male counterparts. One of the explanations is that women are significantly less likely than men to **self-promote** their papers.

Have **gender gaps** in online visibility (**Twitter attention** and **self-promotion**) been visible already in the early stages of an academic career ?

Does online visibility have the same **benefit** for female and male researchers in their late academic career?

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Aliakbar Akbaritabar @Akbaritabar · Jun 3

To answer the above research questions, we combined:

1. large-scale bibliometric data from Scopus
2. Altmetric Details Page API
3. Twitter Public API

to focus on all authors who started publishing during the period 2012 -2016, and look at the Twitter mention and self-promotion of the early-career researcher's first **first-authored publication**.

Method

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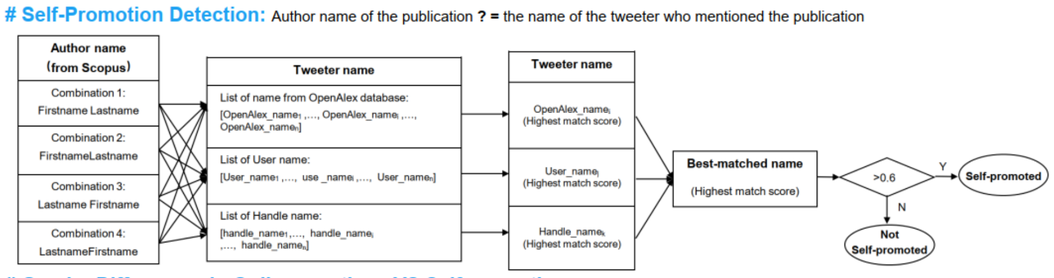
We can answer these questions in the follwing steps:

 # Self-Promotion Detection: Author name of the publication **?** = the name of the tweeter who mentioned the publication



 # Gender Differences in Online mentions VS Self-promotion:

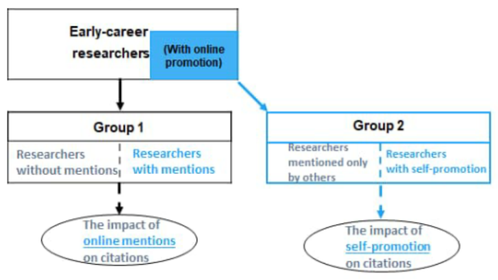
Variable of interest: gender
Control variables: author's cohort, discipline, the number of co-authors, the relative publication year, the ranking quantile of the published journal, whether the publication is international collaborated, whether it is collaborated with other institutes

Zero-inflation negative binominal (ZINB) regression:
Modeling the probability of certain zero mentions on early career researchers' first publication and the tweet counts if being mentioned

Mixed-effect logistic regression:
Modeling the probability of self-promoting first publication

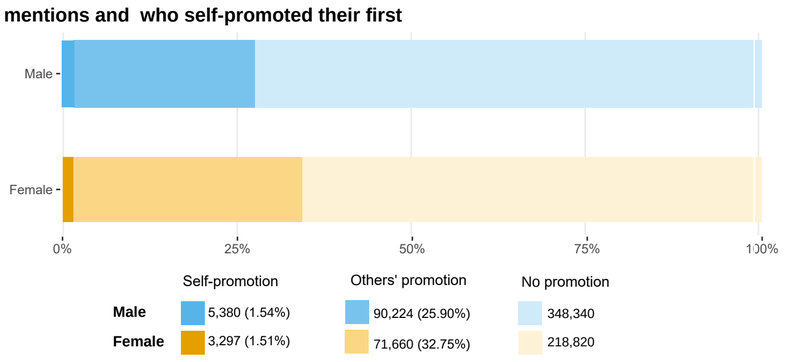
 # The impact of Online mentions VS Self-promotion:

Propensity Score Matching (PSM):



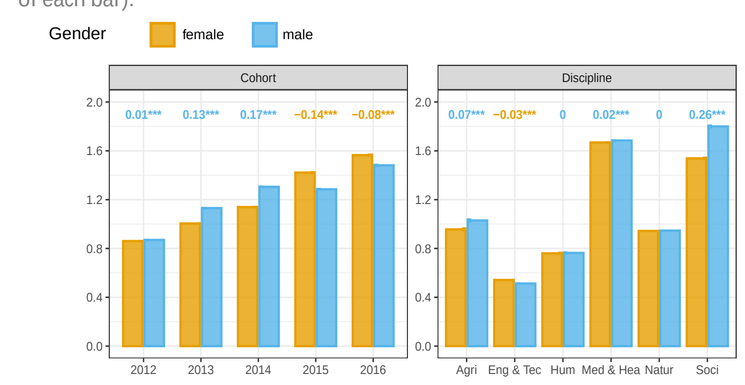
Results

The count and percentage of the published researchers who received Twitter mentions and who self-promoted their first



 # Gender difference in Twitter mentions

For the early-career researchers , we predict the counts of Twitter mentions they received by gender and measure the marginal effects of gender on the mention counts (shown in the top of each bar).

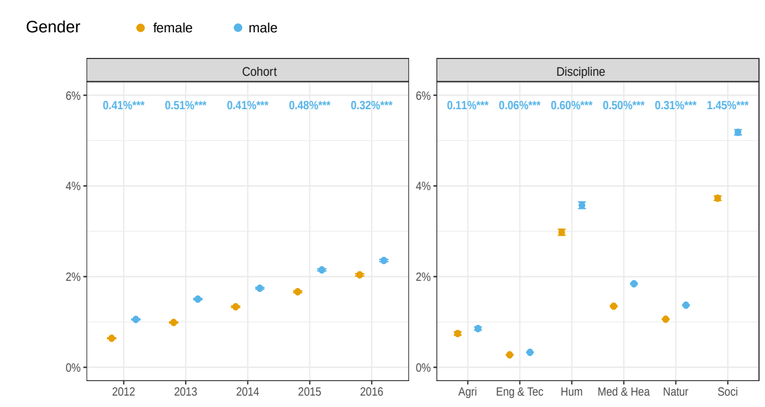


On average, female researchers who start academic career after 2015 tend to receive more Twitter attention than male researchers.

Male researchers in Social Science tend to receive more mentions while female researchers in Engineering and Technology receive slightly more attention.

 # Gender difference in Twitter mentions

We then predict the probability of self-promoting the first publications by early-career researchers and measured the marginal effects of gender on self-promotion (shown in the top of each bar).

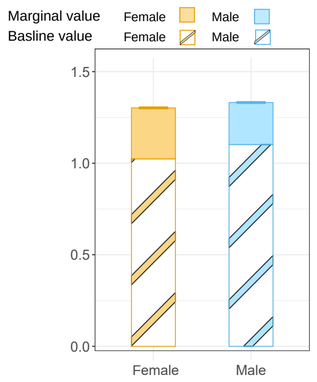


With cohort, both female and male researchers tend to be more likely to promote first publications.

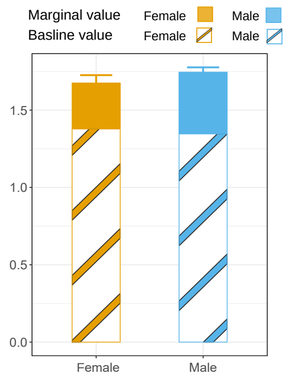
However, early-career male researchers are always more likely to promote their first publications, especially those in Social Science (gender difference in probability: 1.45%) .

 # Impact of online mentions & self-promotion

Marginal effects of **general Twitter mentions** (Group 1)



Marginal effects of **self-promotions** (Group 2)



Gender differences are produced again in the impact of self-promotion on citations, which benefits males more, with nearly one-third more normalized citations on average than females.