



Closing Wikipedia's Gender Gap: Assessing the Impact of Two Feminist Interventions

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Wikipedia's Gender Gap

English Wikipedia's Biographical Pages: ~1.8M

**Women
(<20%)**

*Feminist
interventions*



*Maher (2018)
WikiProject: Women in Red (2021)*

Motivating Question

How do feminist interventions
impact the representation of women
on Wikipedia?



Outline of Talk

Research Questions

Data & Metrics

Main Findings

Implications

Research Questions

The Movements



“...information about people like us gets skewed and misrepresented. The stories get mistold. We lose out on our real history.”

(Art+Feminism website)

“With Wikipedia, we can tell these stories ourselves”

(Wade & Zaringhalam, 2018)



Research Questions

RQ1: Do the feminist movements manage to achieve success as they define it (i.e. adding more content about women)?

RQ2: Do the feminist movements also address more structural issues where gender gaps are more insidious?

Data & Metrics

Metrics

RQ1:
Content Metrics

**1. Article
Length**

**2. Average Page
Views**

**3. Article
Quality**

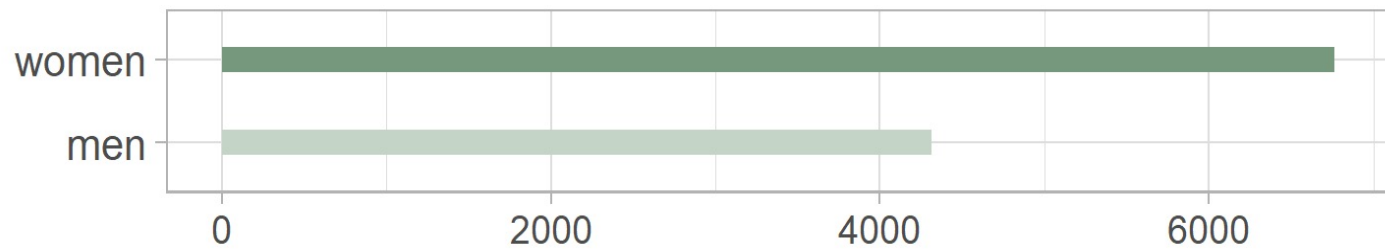
RQ2:
Structure Metrics

1. Infoboxes
(a) Present (y/n)
(b) Number of
labels

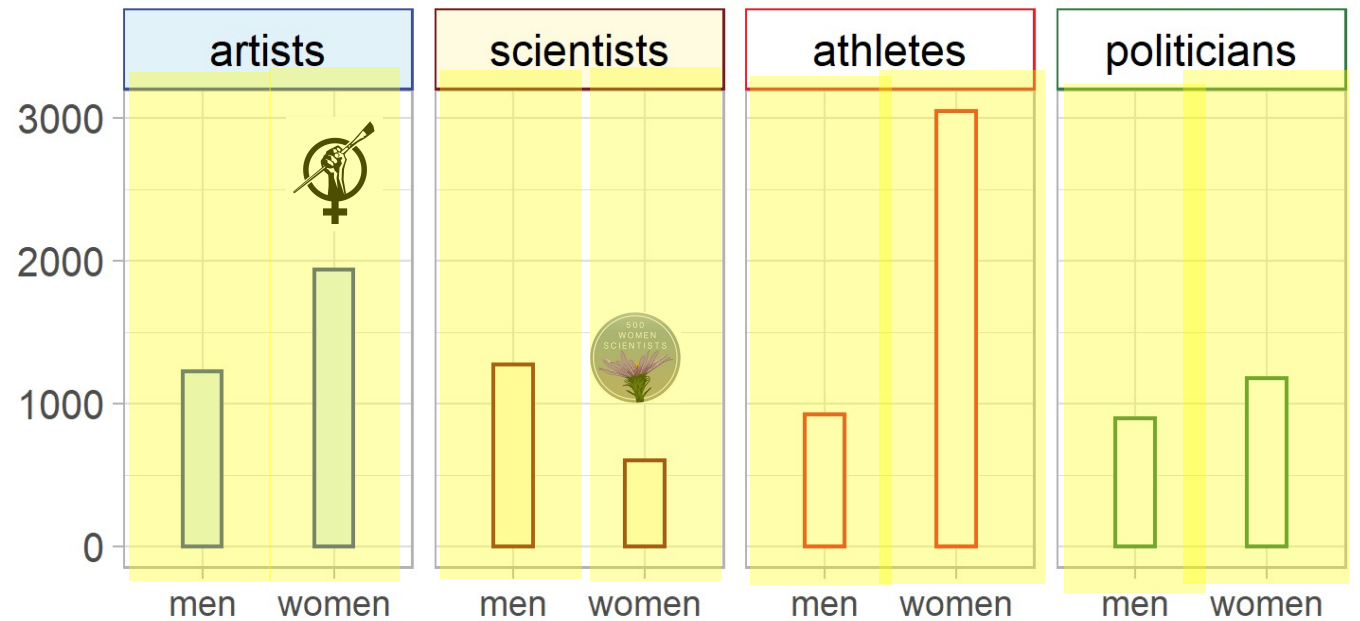
**2. Wikilink
Network**

Data

Count of Articles by Gender



Count of Articles by Professional Group & Gender

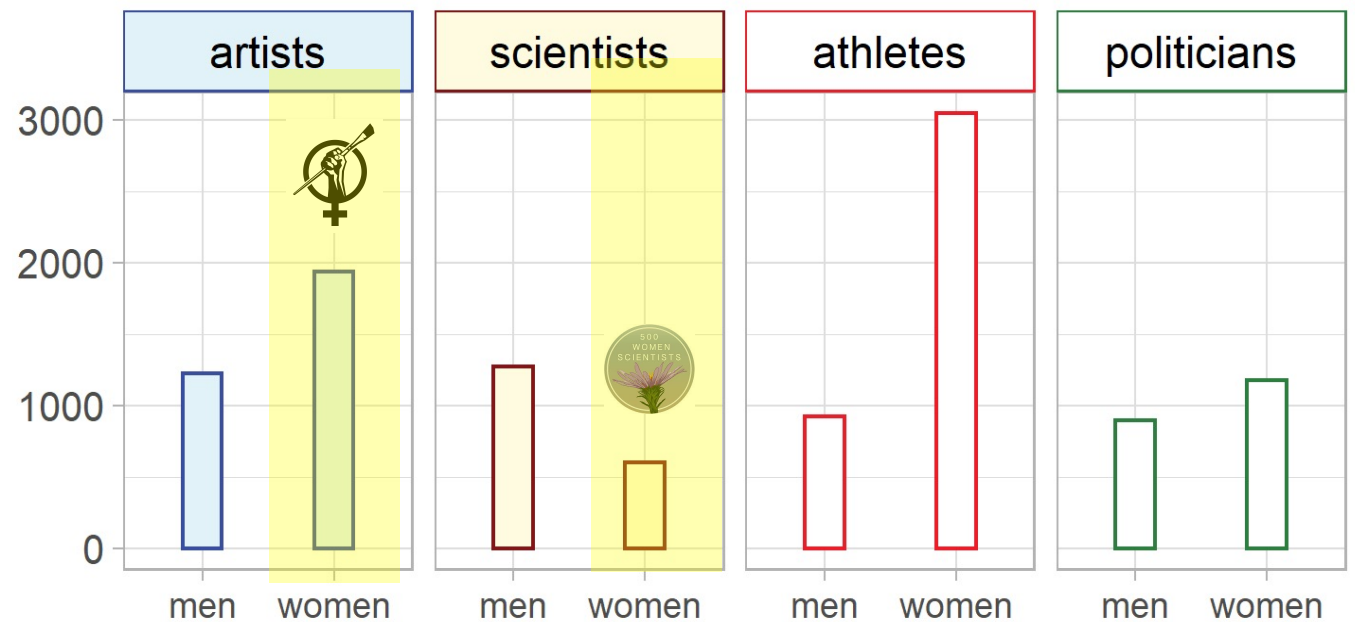


Data

NEW ARTICLES

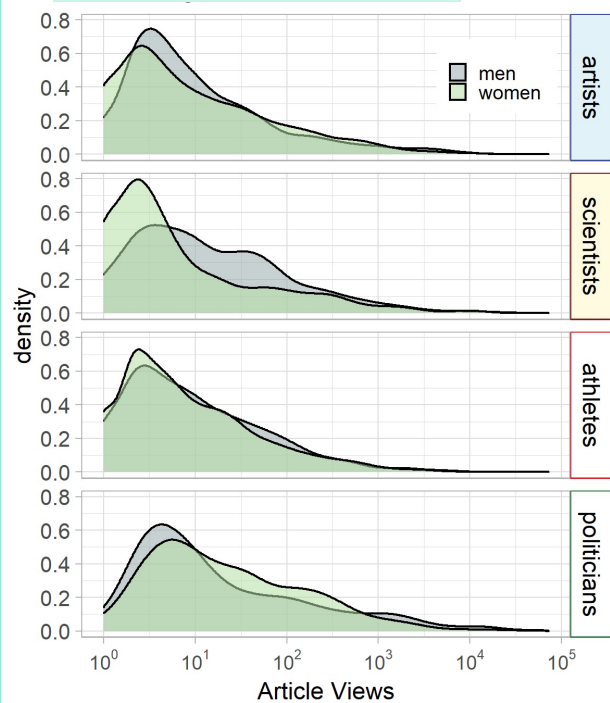
The interventions added
over 400 new articles.

*Count of Articles by Professional Group
& Gender*

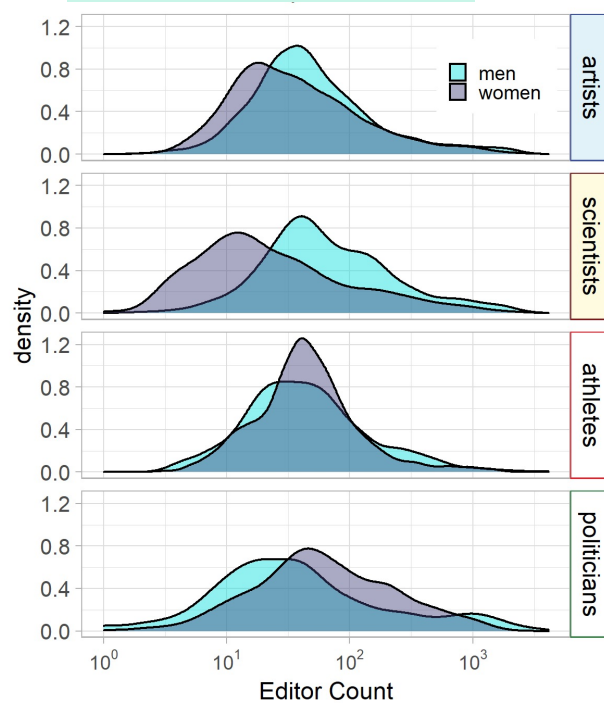


Key Metrics

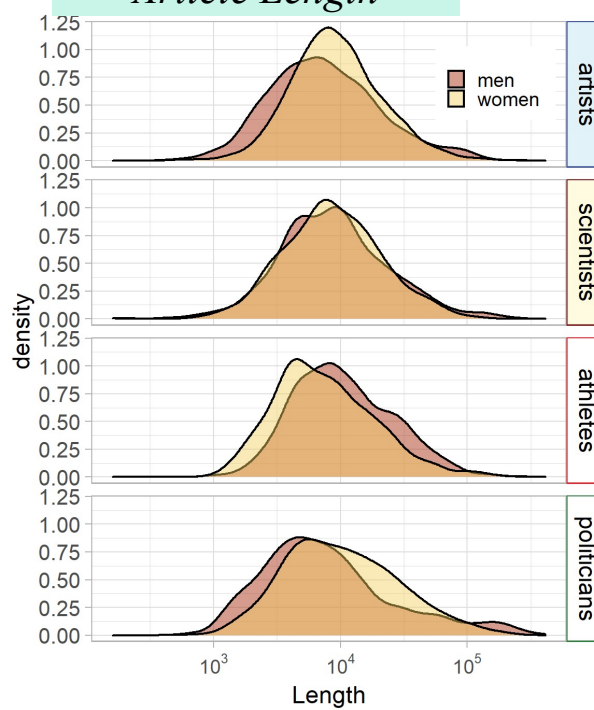
Average Views



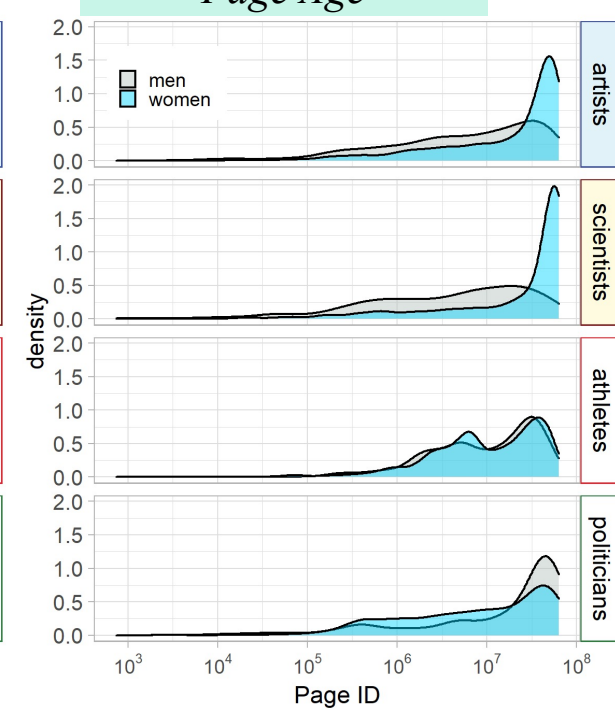
Editor Count



Article Length

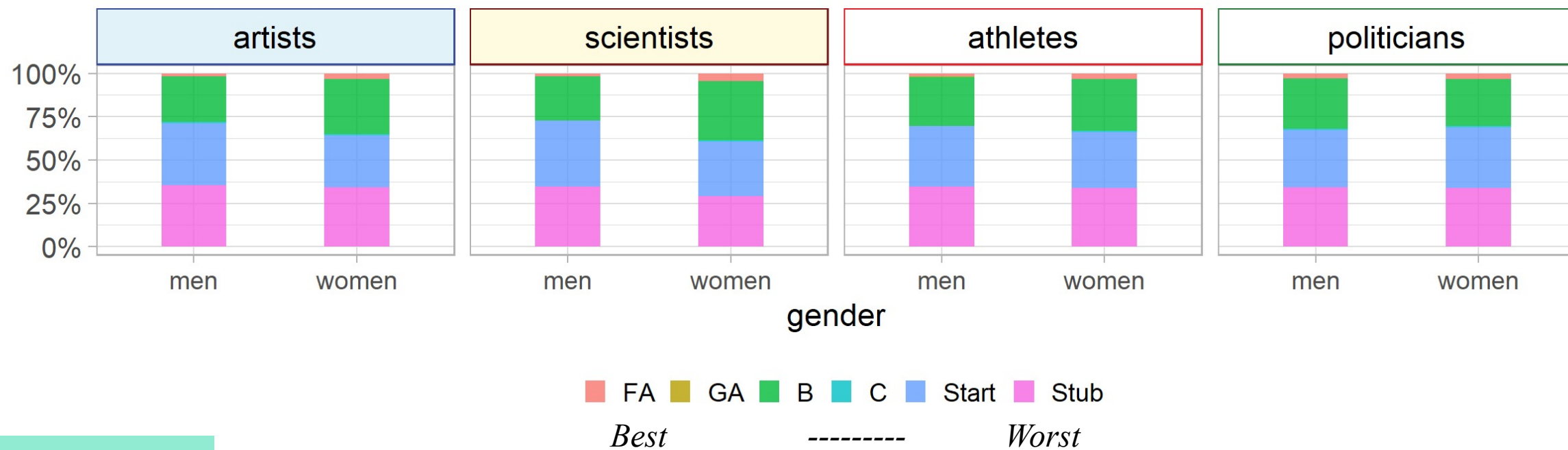


Page Age



Key Metrics

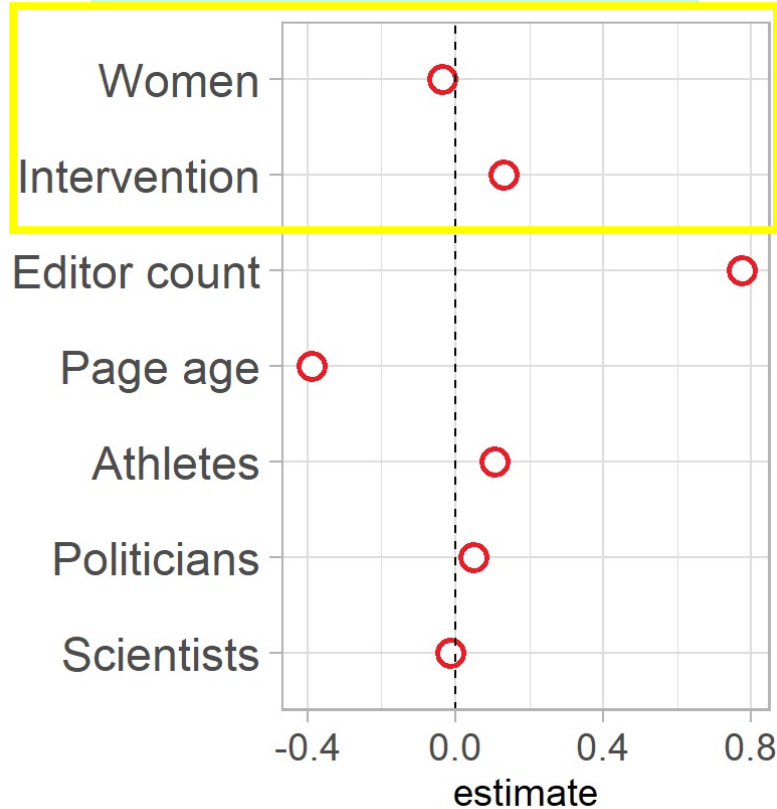
Article Quality



Main Findings

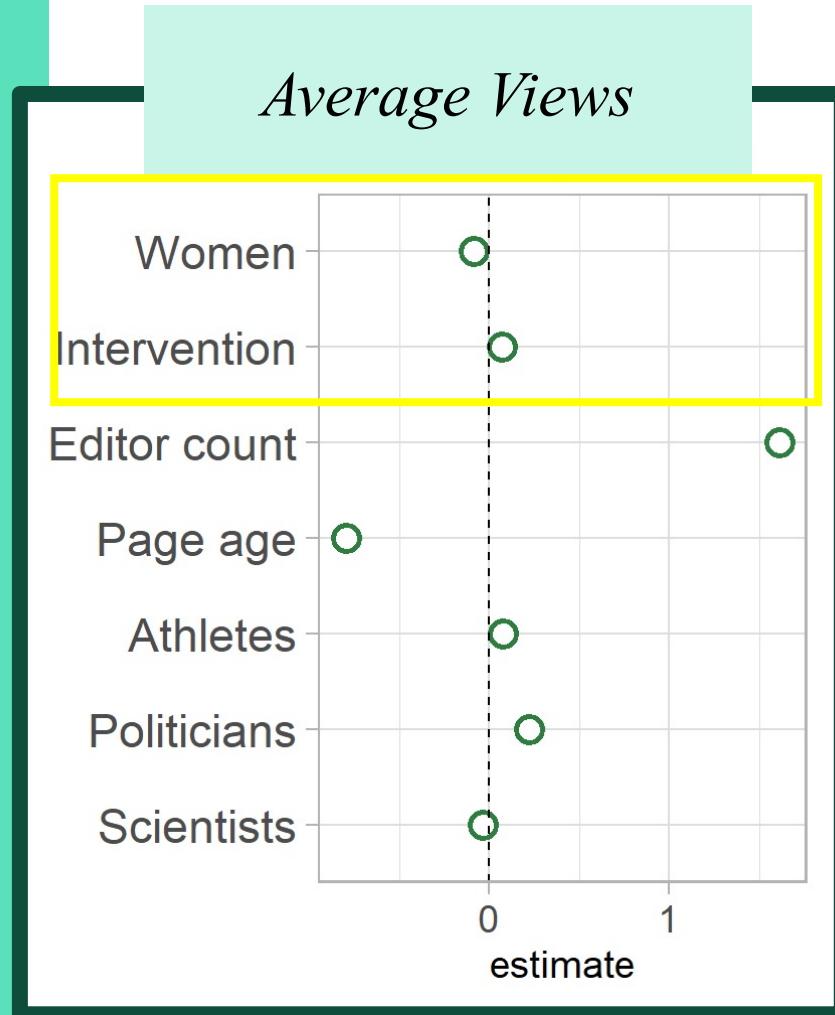
RQ1:Content

Article Length



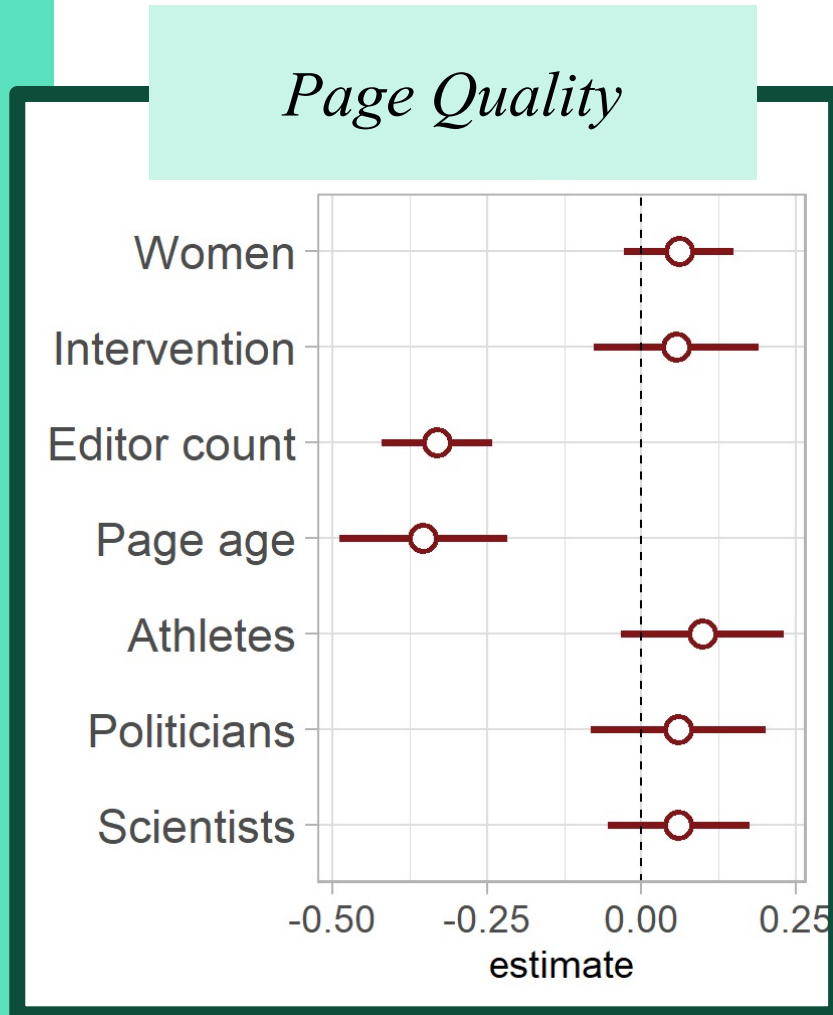
Women have **significantly shorter** pages than men, but **the interventions flip this relationship, creating longer pages** than comparable men.

RQ1:Content



Women's pages have **fewer views** than men, but again, **the intervention pages flip this relationship, encouraging more views.**

RQ1:Content



No **significant differences** regarding quality, although this is potentially due to the breadth of the categories.

RQ1:Content

The interventions **reverse the typical relationship between men and women's pages; creating longer pages that earn more views than we would otherwise expect.**

RQ2: Structural Features - Infoboxes

Infoboxes

Frida Kahlo

From Wikipedia, the free encyclopedia

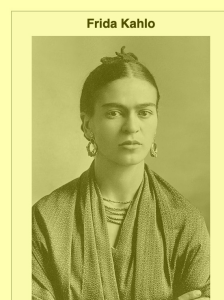
"Kahlo" redirects here. For the surname, see *Kahlo (surname)*.

In this *Spanish name*, the first or paternal *surname* is Kahlo and the second or maternal family name is Calderón.

Magdalena Carmen Frida Kahlo y Calderón (Spanish pronunciation: [ˈfɾiða ˈkalo]; 6 July 1907 – 13 July 1954^[1]) was a Mexican painter known for her many portraits, *self-portraits*, and works inspired by the nature and artifacts of Mexico. Inspired by the country's popular culture, she employed a naïve folk art style to explore questions of identity, *postcolonialism*, gender, class, and race in Mexican society.^[2] Her paintings often had strong autobiographical elements and mixed realism with fantasy. In addition to belonging to the post-revolutionary *Mexicayotl* movement, which sought to define a Mexican identity, Kahlo has been described as a *surrealist* or *magical realist*.^[3] She is known for painting about her experience of *chronic pain*.^[4]

Born to a German father and a *mestiza* mother, Kahlo spent most of her childhood and adult life at *La Casa Azul*, her family home in *Coyoacán* – now publicly accessible as the *Frida Kahlo Museum*. Although she was disabled by polio as a child, Kahlo had been a promising student headed for medical school until she suffered a bus accident at the age of 18, which caused her lifelong pain and medical problems. During her recovery, she returned to her childhood interest in art with the idea of becoming an artist.

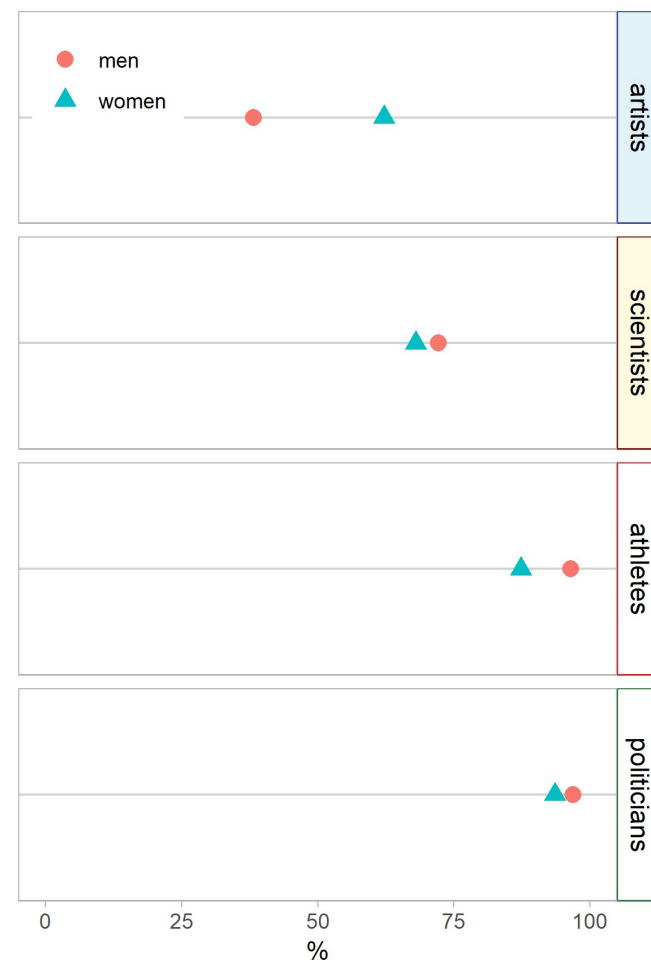
Kahlo's interests in politics and art led her to join the *Mexican Communist Party* in 1927,^[1] through which she met fellow Mexican artist *Diego Rivera*. The couple married in 1929.^{[1][5]} and spent the late 1920s and early 1930s travelling in Mexico and the United States together. During this time, she developed her artistic style, drawing her main inspiration from *Mexican folk culture*, and painted mostly small self-portraits which mixed elements from *pre-Columbian* and *Catholic* beliefs. Her paintings raised the interest of Surrealist artist *André Breton*, who arranged for Kahlo's first solo exhibition at the *Julien Levy Gallery* in New York in 1938; the exhibition was a success, and was followed by another in Paris in 1939. While the French exhibition was less successful, the *Louvre* purchased a painting from Kahlo, *The Frame*, making her the first Mexican artist to be featured in their collection.^[1] Throughout the 1940s, Kahlo participated in exhibitions in Mexico and the United States and worked as an art teacher. She taught at the *Escuela Nacional de Pintura, Escultura y Grabado* ("La Esmeralda") and was a founding member of the *Seminario de*



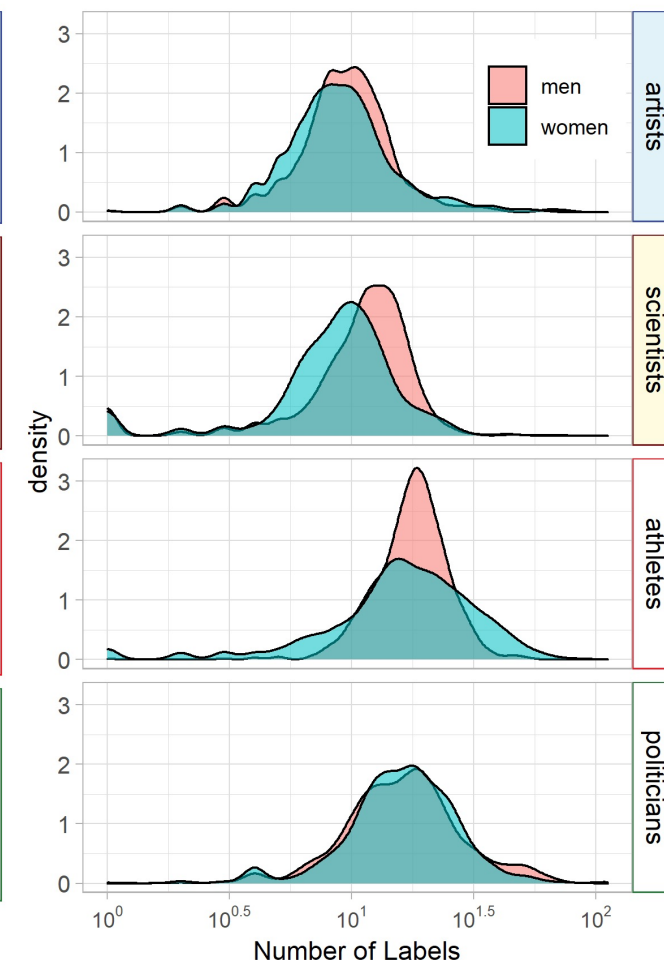
Kahlo in 1932, photographed by her father

Born Magdalena Carmen Frida Kahlo y Calderón
6 July 1907
Coyoacán, Mexico City, Mexico
Died 13 July 1954 (aged 47)
Coyoacán, Mexico City, Mexico

A. Number of Articles with Infoboxes



B. Number of Labels in Infoboxes



RQ2: Structural Features - Infoboxes

Infoboxes

Frida Kahlo

From Wikipedia, the free encyclopedia



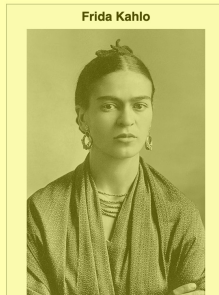
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Kahlo in 1932, photographed by her father

Born	Magdalena Carmen Frida Kahlo y Calderón <div></div> 6 July 1907 <div></div> Coyoacán, Mexico City, Mexico
Died	13 July 1954 (aged 47) <div></div> Coyoacán, Mexico City, Mexico

Intervention articles more often included family related (children & spouse) labels in the infobox. Yet politicians and athletes did not commonly feature these attributes.

RQ2: Structural features - Wikilinks

Link Network

ArticleTalk

Clara Latimer Bacon

From Wikipedia, the free encyclopedia

Dr Clara Latimer Bacon
in mathematics

Biography [[edit](#)]

Bacon was born in Hillsgrove, [Illinois](#), the eldest of four children. She graduated from [Hedding College](#) in Abilene, Texas, for her master's degree at the [University of Chicago](#). She achieved her PhD from Johns Hopkins University without special approval from the trustees.^[2] She published the *American Journal of Mathematics* in 1913.^[3] She was Emeritus Professor of Mathematics at Wellesley College from 1934.^[1] She began teaching there in 1897, and was a member of the [American Mathematical Society](#) and the [Mathematical Association of America](#). She was president of the Baltimore chapter of the [American Association of University Professors](#)^[2] and supported the [League of Women Voters](#).^[7] A student hall of residence at Goucher College, Bacon House, is named in her honour.^[8] She died on 14 April 1948, aged 81.^[5]

Anne Bosworth Focke

From Wikipedia, the free encyclopedia

Anne Lucy Bosworth Focke (September 29, 1868 – May 15, 1907) was an American mathematician who became the first mathematics professor at what is now the [University of Rhode Island](#), and later became the first female doctoral student of [David Hilbert](#).

Contents [[hide](#)]

- [Early life](#)
- [Undergraduate education and academic work](#)

Early life [[edit](#)]

Bosworth was originally from [Woonsocket, Rhode Island](#).^[1]^[2] When she was four, her father and a younger sister died, and she grew up in a family of women: her mother (a librarian), her grandmother (also widowed), and her aunt.^[2]

Undergraduate education and academic work [[edit](#)]

Bosworth attended [Woonsocket High School](#),^[2] and graduated from [Wellesley College](#) in 1890.^[1]^[2]^[3] At Wellesley, her classmates included mathematicians [Grace Andrews](#) and Clara Latimer Bacon.^[3]

RQ2: Structural features - Wikilinks

Link Network

ArticleTalk

Frank Morley

From Wikipedia, the free encyclopedia

Frank Morley (September 9, 1860 – October 17, 1937) was a leading mathematician, known mostly for his teaching and research in the fields of [algebra](#) and [geometry](#). Among his mathematical accomplishments was the discovery and proof of the celebrated [Morley's trisector theorem](#) in elementary plane geometry. He led 50 Ph.D.'s to their degrees, and was said to be:

...all group of men who initiated that development which, within his own lifetime, ... to its present place in the sun."^[1]

ReadEditView history

Asymmetrical links as a sign of gender bias
(Wagner et al., 2016)

ArticleTalk

Clara Latimer Bacon

From Wikipedia, the free encyclopedia

Dr Clara Latimer Bacon (September 9, 1860 – April 14, 1948) was an American mathematician and educator. She was the first woman to receive a PhD from Johns Hopkins University, and was a student of the geometer Frank Morley, who was her dissertation adviser.^[1] Her thesis was published in *American Journal of Mathematics* in 1913.^{[3][4]} Her research in her Masters and PhD theses was on planar geometry.^[3]

She was Emeritus Professor of Mathematics at Goucher College, formerly known as Women's College Baltimore, in Maryland, USA,^[5] after working on the faculty from 1897 to 1934.^[1] She began teaching there in 1897, at the invitation of Dr John Franklin Goucher, and in 1905 became an associate professor, and in 1914 a full professor.^[6] Bacon was a member of the *American Mathematical Society* and the *Mathematical Association of America*.^[6] She was president of the Baltimore chapter of the *American Association of University Professors*^[2] and supported the *League of Women Voters*.^[7]

A student hall of residence at Goucher College, Bacon House, is named in her honour.^[8]

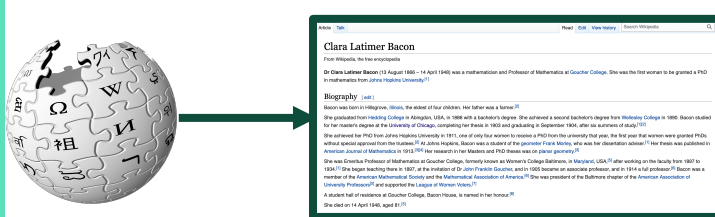
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Biography [edit]

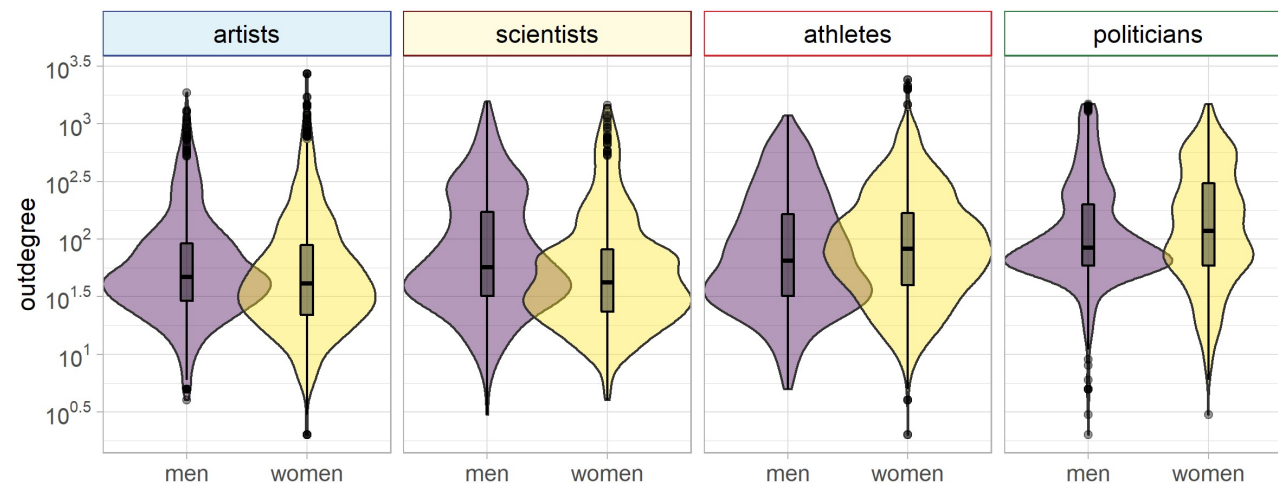
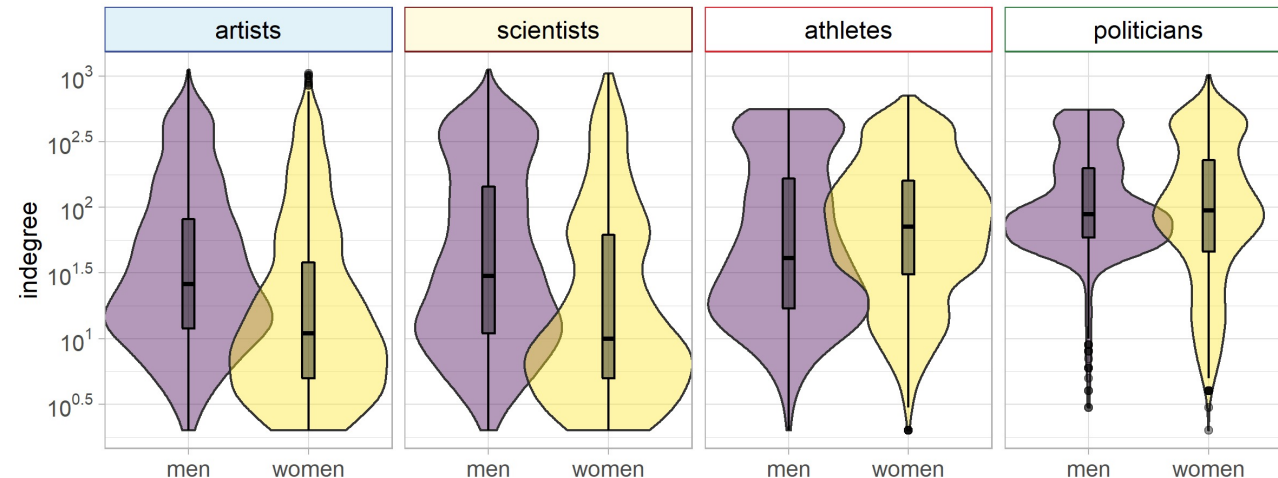
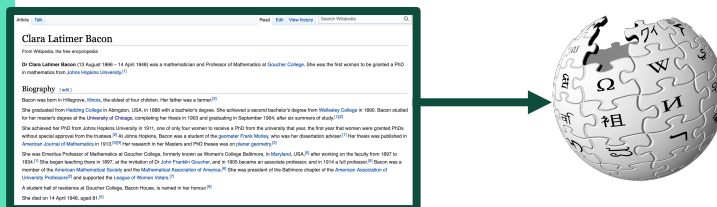
Outgoing Links

RQ2: Structural features - Wikilinks

Incoming Links

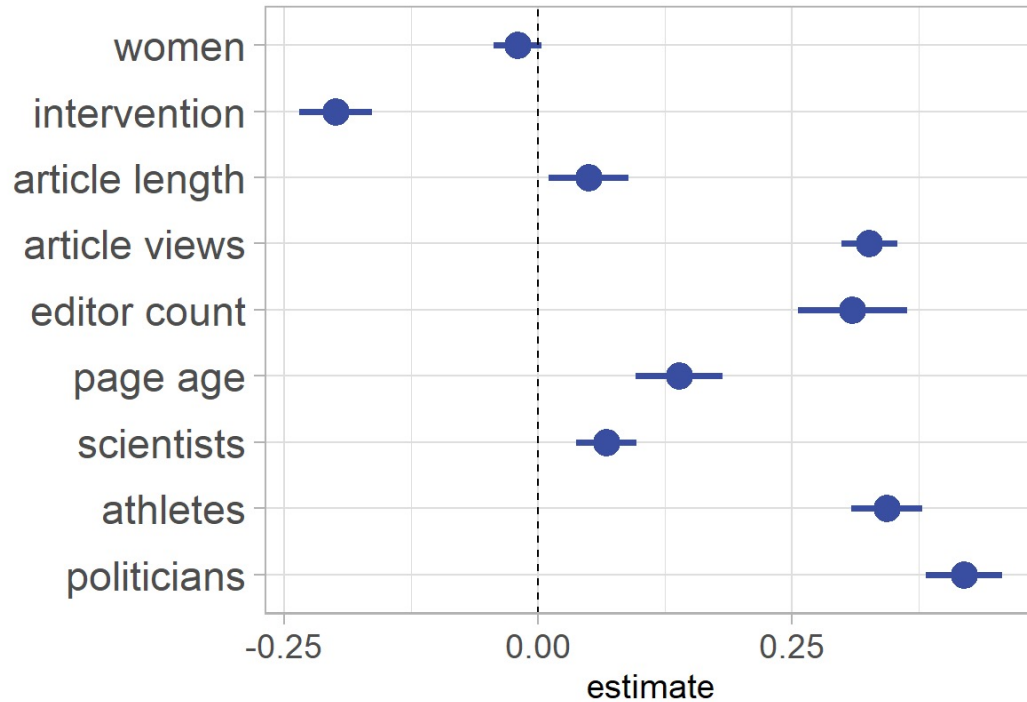


Outgoing Links

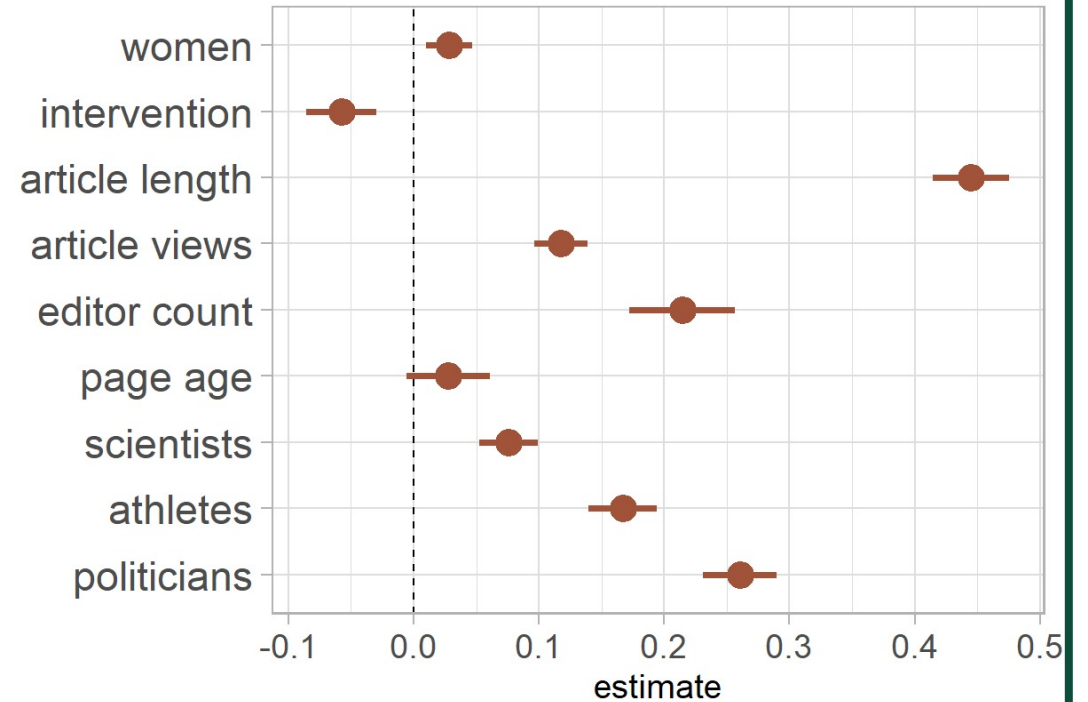


RQ2: Structural features - Wikilinks

A. Incoming Links



B. Outgoing Links



Implications

Limitations

- **Editing behavior remains obscure**
 - Why do movement participants edit in a certain way?
 - What is the effect of revised edits and page deletions?
- **English edition only**
 - Do the similar patterns of gaps exist across other language editions?
- **Only include articles about men and women**
 - What about non-binary biographies?
 - How to extend this analysis to race and ethnicity gaps?

Implications

For Researchers

More granular investigation of bias in collaborative systems.

Feature and focus on women-led work – we can find activists even in the gaps.

Identify and incorporate structural features of systems.

Implications

For the Wikipedia Community

Support the work of feminist interventions: they are building a more equitable encyclopedia!

Target algorithmic aids on structural features:
Lengthening infoboxes & identifying potential reciprocal links

An issue of scale: the gap is too big for feminist interventions to solve alone.

Concluding Thoughts

The **feminist movements were successful** at **adding content** to Wikipedia, creating articles that did not previously exist and lengthening others.

Despite this success, **structural inequalities still exist**. With women's pages **less likely** to have robust infoboxes and **less central** within the Wikipedia link network.

Future research needs to better **differentiate the particulars of gender gaps** – focusing on one dimension might ignore others.

The **Wikipedia community has plentiful opportunities** to better support the work of these feminist movements in building a **more equitable encyclopedia**.

Thank You!

Get in touch!



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Check out our paper!

