Female Gender Visibility in terms of profession research via Google

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17 SDGs of the United Nations [https://www.un.org/en/sustainable-development-goals]

Introduction

SDG 5: Gender Equality

- **2019: 7.7 billion people on the earth**
  - **49.6 % female**

- **SDG 5: gender equality – achieve gender equality and empower all woman and girls**

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What is gender equality?

- **language #gender**
- **Information environment #visibility**
- **...**

Our study:

- **compares different gendered terms (english terms [neutral gender] and german terms [male and female gender] → structure of language)**
- **investigates gender bias in terms of profession research via Google**

Related Work

Gender Visibility and HCI

[1] M. Kay, C. Matuszek, and S. A. Munsun. 2015. Unequal representation and gender sterotypes in image search results for occupations. CHI '15: Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems, 33, (Apr. 2015), 3819–3828. doi:https://doi.org/10.1145/2702123.2702

[2] C. Wagner, D. Garcia, M. Jadidi, and M. Strohmaier. 2015. It's a man's wikipedia? assessing gender inequality in an online encyclopedia. Proceedings of the International AAAI Conference on Web and Social Media, 9, (Aug. 2015), 454–463. doi:https://ojs.aaai.org/index.php/ICWSM/article/view/14628.

[3] C. Wagner, E. Graells-Garrido, D. Garcia, and F. Menczer. 2016. Women through the glass ceiling: gender asymmetries in wikipedia, (Mar. 2016). doi:https://doi.org/10.1140/epjds/s13688-016-006

Gendered language in HCI:

- **English vs. German**
- **Perception of Gender**
- **Male Dominant**

Search Engines and Gender Bias:

- Stereotype exaggeration
- Underrepresentation of women
- Qualitative differential representation
- Coverage, structural & lexical bias

Own Work

Procedure & Research

Data Collection

- **12 Professions**
- **3 gendered terms**
- **Google searches**
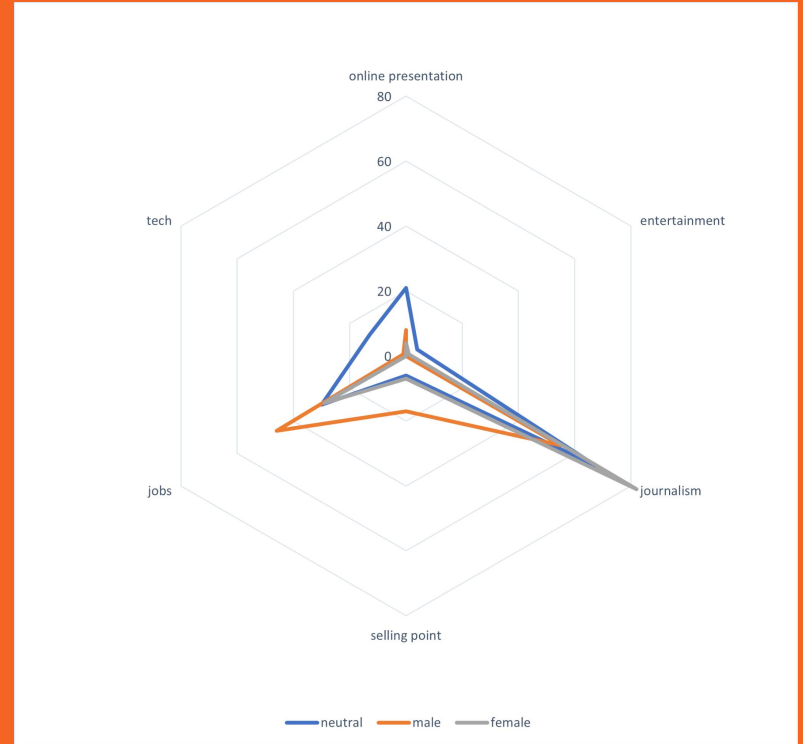 - **General Results**
  - **Picture Results**

Methodology

- **General results**
  - **Coding the results**
  - **Building categories**
  - **Comparing categories**
- **Picture results**
  - **Wilcoxon Signed Rank**
  - **Linear Regression**

Data Analysis

Report

Results – General

- ## 6 categories

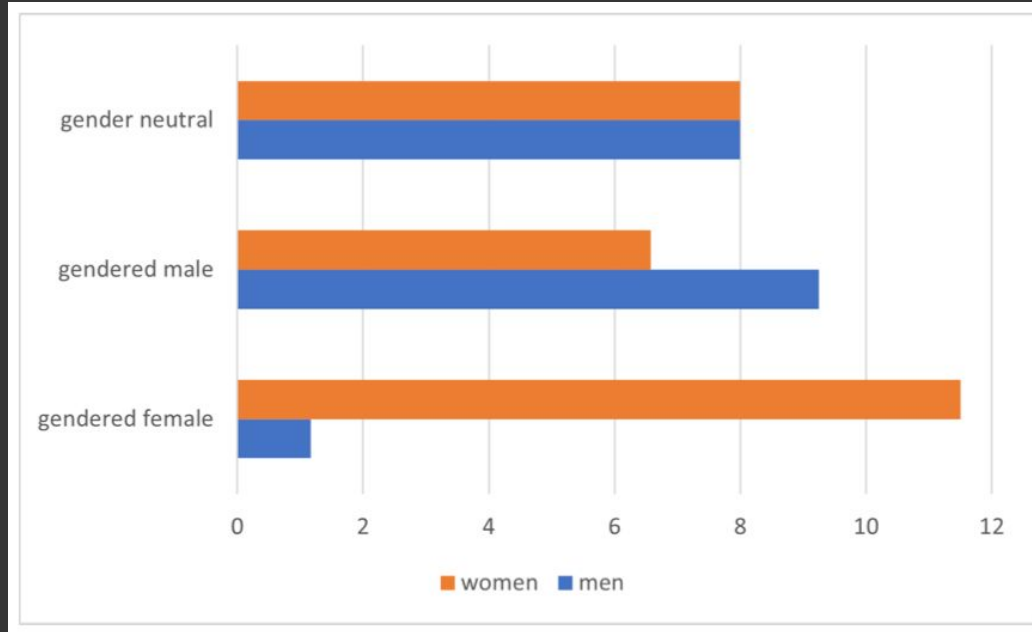|	gender neutral	male	female	*total*
journalism	68	55	82	205
jobs	30	46	29	105
online presentation	21	8	4	33
selling point	6	17	7	30
tech	13	1	0	14
entertainment	4	0	1	5

Results – General

- **6 categories**
- **Journalism, Jobs most common**
- **Tech, Entertainment least common**
- **Differences between gendered terms**

Results – Pictures

- **Gender neutral: equal**
- **Searches with female terms: more women in picture results**
- **Results correspond to real life distribution of men and women**

Results – Pictures

Discussion

Results & Findings

Interpretation of Results

- **General results mostly provide gender neutral results**
- **Picture results are more stereotypical**
- **Female terms improve visibility of women**

Method reflexion

- **definition of countable persons**
- **terms of occupation**
- **Forms of German gendering**
- **Google research set up**

Future Work

to be answered in the future

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- **How do results influence the perception of the world?**
- **How can search algorithms provide more inclusive research?**

Conclusion

your take-away

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Search engine results could be improved concerning women's representation and visibility in different professions!

→ often stereotyped