

Gender Imbalance on Wikipedia- An Insider's perspective

Saskia Ehlers

This paper will focus on the gender gap within Wikipedia. For this the current state of research will be summarized. Effect on participation and content of the encyclopedia resulting from the gender imbalance will be analyzed. An Insider's perspective will be given on the current issues and dynamics within the German community and the Wikimedia foundation also including narratives from different community members from all over the world that are part of the global movement.

Table of contents

LIST OF TABLES	II
LIST OF FIGURES	II
PREFACE	1
INTRODUCTION	1
CURRENT STATE OF RESEARCH ON THE TOPIC OF GENDER IMBALANCE ON WIKIPEDIA	2
ARGUMENTS IN FAVOR OF DIVERSITY	2
ARGUMENTS AGAINST DIVERSITY	3
FINDING OF STUDIES	3
REASONS FOR LOW FEMALE PARTICIPATION	4
CONTENT DISTORTION	5
STRATEGIES TO INCREASE FEMALE PARTICIPATION	9
SURVEY OF DIVERSITY EXPERTS IN THE WIKIPEDIA COMMUNITY	10
SURVEY RESPONSES	10
BEST PRACTICES FOR INCREASING FEMALE EDITORSHIP	16
OBSTACLES AND FAILED PROJECTS FOR INCREASING FEMALE EDITORSHIP	17
CURRENT PROJECTS ON THE GENDER GAP IN THE WIKIPEDIA COMMUNITY	19
CONCLUSION	20
REFERENCES	22

List of tables

Table 1: Percentage of female editors found in different surveys (own illustration)

Table 2: English language version gender- specific Likelihood Ratios (Wagner, *Claudia It's a Man's Wikipedia? Assessing Gender Inequality in an Online Encyclopedia* Proceedings of the Ninth International AAAI Conference on Web and Social Media. P. 454-463)

List of figures

Figure 1: Estimated proportion of female contributors in different language versions (Charting Diversity (2014) *Charting Diversity- Working together towards diversity in Wikipedia* by Wikimedia Foundation Germany and Beuth university for applied sciences. ISBN 978-3-9816799-0-8)

Figure 2: Ratio of female and male articles based on a selection of different reference works (left Wikipedia, right Britannica) (own illustration)

Figure 3: Percentage of missing articles that could be written based on a selection of reliable sources (own illustration)

Figure 4: Gender ratio of survey respondents (own illustration)

Figure 5: Survey responses for reasons for low female participation (own illustration)

Figure 6: Pipeline model of online participation (own illustration based on data from Shaw)

Figure 7: Gender differences in self- esteem from adolescence to adulthood (Bleidorn et. Al (2016) *Age and Gender Differences in Self- Esteem- A Cross- Cultural Window* in Journal of Personality and Social Psychology, 2016 Vol. 111, No. 3 , pages 396-410 <http://dx.doi.org/10.1037/pspp0000078>)

Figure 8: Self- esteem differences across cultures (Bleidorn et. Al (2016) *Age and Gender Differences in Self- Esteem- A Cross- Cultural Window* in Journal of Personality and Social Psychology, 2016 Vol. 111, No. 3 , pages 396-410 <http://dx.doi.org/10.1037/pspp0000078>)

Figure 9: Findings of the 2016 Community Engagement insight report by the Wikimedia foundation (Galvez, Edward (2017) *Community Engagement Insights Report* [https://commons.wikimedia.org/wiki/File:CE Insights 2016-17 Report - Male to female ratios.png](https://commons.wikimedia.org/wiki/File:CE_Insights_2016-17_Report_-_Male_to_female_ratios.png))

Figure 10: Best practices for higher female participation responses (own illustration)

Figure 11: Responses of Wikimedia diversity conference 2017 participants as to which theme they would work on in 2018 (Salgo60 *Poll results Wikimedia diversity conference 2017*

[https://commons.wikimedia.org/wiki/File:Poll If you were to work on one of these themes in 2018, Which would it be%3F.png](https://commons.wikimedia.org/wiki/File:Poll_If_you_were_to_work_on_one_of_these_themes_in_2018_Which_would_it_be%3F.png))

Preface

In 2016 I was invited to give a keynote on the topic of “Imbalance” during the international Wikimedia movement conference Wikimania. The conference itself was meant to include a lot of volunteer contributions instead of having most of the input coming from Wikimedia foundation employees. So I started doing research on the topic and gathered resources. I did not necessarily come up with a “solution” to have the community become more inclusive. But I talked about the projects I had done in order to bridge the gender gap, my personal experiences and during the following one and a half years continued to gather experiences from other female members of the Wikipedia community. In this paper I would like to thus for give an overview of the research that has been conducted until this day and their findings. I would like to present my experiences and experiences from other members and analyze them for common patterns of behavior to also see how problems can be solved.

Introduction

In the introduction of “Charting Diversity- Working together towards diversity in Wikipedia” it can be read that “efforts to consciously shape the social face of the Wikipedia community are going to become increasingly important. (...) in order for the volunteer contribution and collaboration to work “we must value diversity, tolerance and unity in diversity.” Whether those hypothesis are true- whether a social face is necessary for the community and whether diversity, tolerance and unity in diversity really have to be valued in order for the volunteer contributions to work, it is and has in the young history of the Wikipedia movement been an interesting question to explore why exactly the volunteer base and content of Wikipedia is lacking that diversity. This paper wants to look at the research that has been conducted so far into the gender gap on Wikipedia. Results of a survey conducted among leaders in diversity projects within the Wikimedia movement will be presented and analyzed within the context of other research. Lastly evaluations into what measures can be taken by the Wikipedia community and the Wikimedia foundation in order to narrow the gender gap will be explored.

Current state of research on the topic of Gender Imbalance on Wikipedia

Arguments in favor of diversity

As already stated in the introduction the research report „Charting diversity“ claims that efforts to consciously shape the social face of the Wikipedia community will become more important. Furthermore it is stated that in order for the volunteer collaboration to work diversity, tolerance and unity in diversity have to be valued. Another argument brought forward is that in face of the declining author numbers, it is in the interest of the entire community to make Wikipedia an inclusive space. Thus implying that this would help to have constant or rising author numbers. It is further stated that any person that contributed to Wikipedia should have their work recognized and valued.

Another argument is, that a lack of diversity within the community leads to the loss of epistemic or knowledge diversity. This includes the variety of viewpoints, topics. But in terms of knowledge production that would also include which kinds of sources and information are regarded as relevant and which criteria for filtering sources are chosen. The lack of epistemic diversity would make the encyclopedia arguably incomplete. There would be a potential for expansion, for new topics and new authors that would be won.

Another argument is then that according to the premises of social cognition theory, knowledge is a result of a social process and depends on the epistemic environment in which someone lives and seeks orientation (Baumann, 2007/2008). This would then automatically imply that sociodemographic diversity would lead to cognitive diversity and therefore to knowledge diversity. The reason for that being that individual from different sociodemographic backgrounds would have acquired different kinds of knowledge due to the different environment that they lived in.

It has been shown that heterogeneous team are more likely to possess greater cognitive diversity which can lead to better performance particularly when a high degrees of cognitive flexibility is required (Jans, 2004).

Wikipedia itself welcomes its users with “Welcome to Wikipedia, the free encyclopedia that anyone can edit”, which implies that one of its goal is to include everyone regardless of their background in the collaboration.

Arguments against diversity

Diversity can cause dysfunction within a group. People that perceive each other as similar communicate more often and intensively. This will lead to stronger emotional and social bonds between them. Over a longer process ingroups (group a person belongs to) and outgroups (group a person doesn't belong to) are formed. In this process "the others" are marginalized, which is a source for conflict and reduced social integration.

Finding of studies

There are different studies that were conducted concerning the gender gap. One of the biggest was the Editor Survey that was conducted by the Wikimedia Foundation in 2011. In the survey 5.073 users were questioned which account for about 0.4 percent of all editors. This study estimated that about 8.5 % of contributors are female. A survey by the United Nations University (UNU- MERIT) reported that 13 % of contributors are female. The Clubhouse study by the University of Minnesota reported that 16 % of new contributors were female in 2011. A study conducted by the Massachusetts Institute of Technology and Northwestern University estimated the number of female Wikipedians at around 16 %. Sample sizes, methodology and findings are summarized in table 1.

Institution	Study name	Year	Findings	Sample Size	Methodology
Wikimedia Foundation	Editor Survey	2011	8.5 %	5.073 users	self reporting basis online questionnaire
United Nations University	UNU-MERIT survey	2010	13 %		
University of Minnesota	WP:Clubhouse?	2011	16 %		
MIT /NU	The Wikipedia Gender Gap Revisited	2013	16 %		

Table 1: Percentage of female editors found in different surveys

Furthermore the Editor Survey found striking differences in the gender gap in different language versions. The percentage of female Wikipedians in India is only 3 %.

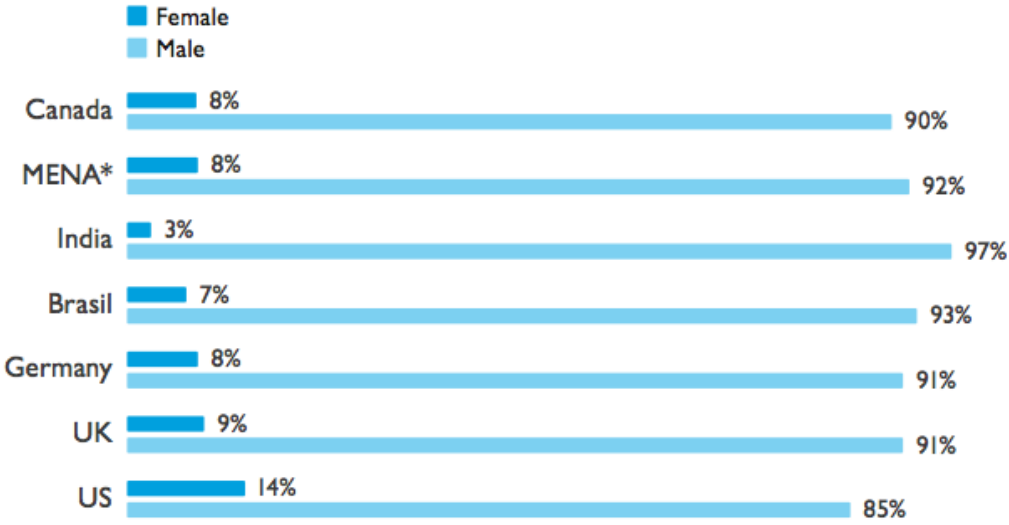


Figure 1: Estimated proportion of female contributors in different language versions

But this can not only be seen as an endemic problem within Wikipedia. There are other online communities which has more male than female users such as reddit and Google+. On the other hand there a platforms which have more female member such as Facebook, Instagram and Pinterest (McCandless, 2012). Other FLOSS (free/libre and open-source software) initiatives and projects also have very low female participation. The FLOSS survey reported 2012 that only 1.1. percent of contributors developing open-source and free software are female (Ghosh et al., 2002).

The gender gap doesn't only show in contributorship but also in readership. According to the UN- MERIT study 79 percent of Wikipedia readers are male (Glott, Schmidt, and Ghosh, 2010).

Other surveys and reports have found that women edit less than men (WMF, 2011; Lam et al.m 2011) and female editors leave Wikipedia sooner than their male counterparts (Lam et al., 2011).

Reasons for low female Participation

One of the main reasons for low participation is a lack of time and or personal circumstances. Women have less free time then men if you add working hours to the unpaid work of taking care of family members and the household. Only 14.3 % of Wikipedians in the UN- MERIT study had children and 33.3 % had a partner (Glott, Schmidt, and Ghosh, 2010).

Another main reason are media preferences. Women prefer social media. Like Instagram, Facebook or Pinterest. They mostly use these platforms for networking and communicating. Adding to this might be a preference for visual communication (see Comscore, 2010). Furthermore women are also the majority of social online and mobile games (ISG, 2010).

Technology and usability cannot be seen as a major obstacle anymore as editing and working of wikiprojects has become very easy and intuitive with the visual editor. Furthermore only 16 % of respondents in the UNU-MERIT survey had stated this as a reason for avoiding to edit (Glott, Schmidt and Ghosh, 2010).

A lack of community support especially at the beginning may be one of the main reasons for the low female participation. In interviews women stated that they would have liked to have more support at the beginning. Furthermore the survey “WP: Clubhouse?” found that edits by female editors are more likely to get deleted than the ones of male editors especially if the editors are new (Lam et al, 2011). Another problem here is that the edits are often deleted without explanation. According to the Editor Survey 43 % got deleted without explanation (WMF, 2011). There might be an underlying subversive or subconscious mechanism within the community that is largely compiled of male editors to form ingroups of men and then exclude or block female editors (outgroup) from participating (Lam et al., 2011).

Content distortion

The lack of female participation has two main negative effects: Content distortion and a PR problem for Wikipedia (Dobusch, 2013).

If a group is underrepresented within a the knowledge creation process the knowledge from that specific group will be missing. The portrayal of knowledge on Wikipedia is therefore quiet typical and traditional with traditional focus on topics and way of deliverance.

Within Wikipedia as it is a collaboration based creation process the community has discussions on how certain topics; in particular controversial topics, should be portrayed. When it comes to those discussions naturally the point of view that will be prevails is the point of view of the overrepresented group. As an example geopolitical topics are portrayed from a North American perspective in the English language version. Overall looking at the gender gap, topics are mostly described from a male perspective. Certain field with many expert women like art, philosophy and religion are described

less broadly than typical male domains such as military history (Charting Diversity, 2014). There are also aside from social dynamics other reasons why it is hard for Wikipedians to create for example female biographies. Women have been excluded from participation in certain fields for centuries and are still in some countries hindered by law from participation in certain professions in parts of the world today. Aside from that gender discrimination takes place in the real world and hinders women from reaching a status of high prominence. This in turn makes it hard to find reliable sources on women that can be used to overcome the notability hurdle that Wikipedia places on articles. In the case of artists for example women tend to be underrepresented in the field even today as they have less exhibitions and press coverage than men in the same field. This means that a woman is more likely to not be notable enough and that an article will be deleted after creation because it doesn't meet Wikipedia's criteria. Aside from that there are naturally going to be more biographies on men for all the time before gender equality emerged that they were almost exclusively dominating the public life. Gender equality on the amount of biographies is therefore only realistic when talking about people that lived starting from the time that gender equality was established. For the time before that there will naturally always be more biographies on men as they were more notable.

A suggestion on how to deal with this issues in an interview conducted during the interviews with Wikipedia diversity experts was to lower the notability standards for women in particular for women that lived in a time in which there was no gender equality.

Concerning the low amount of female biographies we would also have to compare Wikipedia with other encyclopedias to see whether Wikipedia's gender bias is worse. Reagle and Rhue took an indepth look into the biggest offline encyclopedia Encyclopedia Britannica and compared it to Wikipedia. Concerning the editorship among 1.500 authors of the 11th Britannica only 35 were women, which are about 2 %. No women were among the editorial advisors. In comparison to the approximately 16 % of women that contribute to Wikipedia, Britannica comes off with a significantly lower degree of female editorship (Reagle, 2011). Both Wikipedia and Britannica are reference works that reference to other credible sources and write their articles based on those sources. Reagle and Rhue therefore compared different sources as for example the American National Biography Online and looked whether the gender difference permeates from

the sources to the encyclopedias in a different way. They found that Wikipedia has a higher percentage of female biographies and that Wikipedia also covers topics on women more extensively. This is both the case as for a higher percentage in existing articles (16 % compared to 14 %) and a lower percentage in articles that could be written on women but aren't yet (13 % compared to 49 %) (Reagle, 2011).

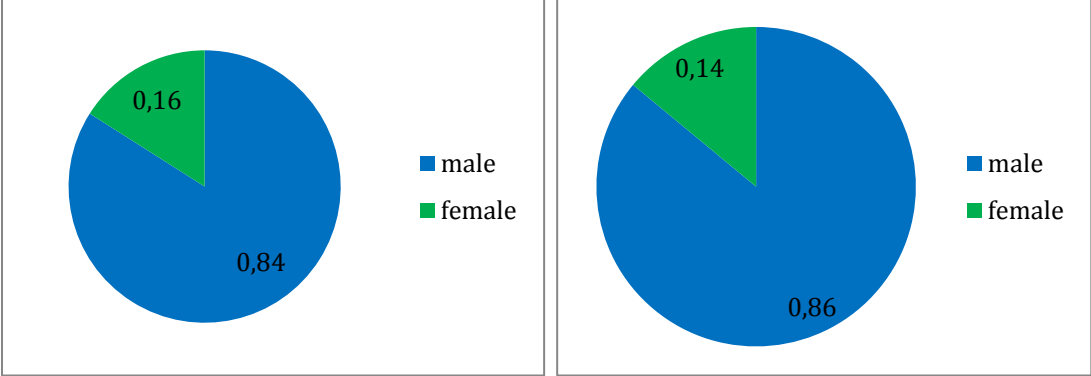


Figure 2 : Ratio of female and male articles based on a selection of different reference works (left Wikipedia, right Britannica)

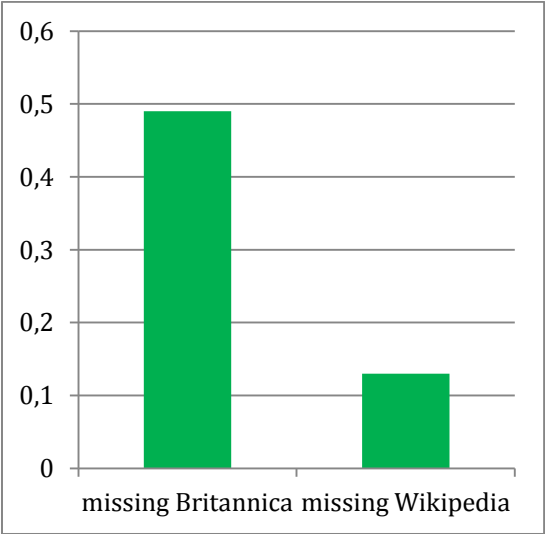


Figure 3: Percentage of missing articles that could be written based on a selection of reliable sources

An underrepresentation of groups within the group that creates the content will likely mean that the specific knowledge of that group will be underrepresented. Example for that would be the fields of art, philosophy and religion in which there are a lot of female experts. Furthermore the view of the overrepresented group will prevail when there are conflicts and discussions on how a certain topic should be presented (Charting Diversity, 2014). An example for this is that geopolitical events are described from a North American perspective in the English language version of Wikipedia.

Concerning the gender gap there are different concrete way in which content distortion shows up on Wikipedia. Topics that are more likely to be created by men are more wide in scope (Lam et al, 2011). Biographies of women are underrepresented in comparison to men (Aragon et al., 2012). There is sometimes opposition to categorizing content in a way that for example lists of female American authors or female German architects would be found easily in one category as members of the community don't see the need to divide the category of American authors or German architects by gender, which makes it harder to gather the work that has been done so far on a topic and expand on it or create lists of articles that could be created on women that would meet the notability criteria of Wikipedia. In some areas for example history a typically male perspective prevails. Both historical and political content tend to focus on military history. Furthermore it has been found that women are portrayed in a stereotypical way. A study by Wagner et al. found in 2015 that women are in the lead section of Wikipedia far more often described with gender topic, relationship topic or family topic words.

Category	Term	Female	Male
Relationship	husband	9.2	1.0
Gender	female	8.2	1.0
Relationship	aunt	6.5	1.0
Gender	women	6.4	1.0
Gender	madam	6.1	1.0
Gender	woman	5.6	1.0
Family	grandmoth	5.5	1.0
Gender	girl	5.3	1.0
Gender	mrs	4.9	1.0
Relationship	divorc	4.4	1.0
Gender	ladi	4.4	1.0
Relationship	wed	4.3	1.0
Relationship	marriag	3.8	1.0
Relationship	lover	3.8	1.0
Family	babi	3.7	1.0
Family	sister	3.5	1.0
Family	child	3.0	1.0
Family	mother	3.0	1.0

Table 2: English language version gender- specific Likelihood Ratios

Further more in certain language versions like German and Portuguese the default gender of editors is set to male. Additionally all lemmas (titles of articles) are only displayed in the male form even though professions and nouns that exist in the male and female form are usually already always displayed in both forms by law in government publications, educational materials and job descriptions in the respective country.

Efforts that we conducted in the German Wikipedia in order to set up categories listing female architects or artists as well as efforts to have the lemmas be displayed in both the male and the female form were rejected by the German language community.

Strategies to increase female participation

When thinking about how to increase the amount of female participants in Wikipedia one strategy that could be considered is increasing awareness of diversity. This includes skill development in communication. Thus becoming aware of unconscious biases, the way feedback should be phrased and having a respectful tone in mind in discussions. Furthermore it might include becoming self-aware of how one's own views are influenced by one's socio-cultural and socio-economic background. This could be reached through diversity training especially aimed at administrators in different language versions.

Another strategy would be for the Wikimedia foundation or volunteers within the movement to start a diversity campaign and have women be visible in real life events as well as having them take key roles within the movement.

Furthermore the strategy of scouting could be applied. This would include finding and describing good practice examples across language versions to promote diversity. Related to that it could be tried to find role models and local heroes within the community and tell their story in order to inspire people.

In order to reach more diversity within the movement it could be considered to develop a charter of diversity and in that defining verifiable goals, requirements to follow up on the success.

Thematic group editing is a strategy that has been tried a lot. This includes events or long term projects in which groups come together to create content on a certain subject. Art & Feminism takes place around March in different countries for example to write about female artists worldwide. There are diversity projects all over the world taking place to create content by or about marginalized groups. The Wikimedia foundation itself is usually supportive towards those efforts with know-how and funding. Within those projects educational materials are developed that include videos on how to contribute or manuals.

It would certainly increase the number of participants especially the female participants if Wikipedia was to be included into school and university curriculums. An example for that would be Wikimedia Armenia. In Armenia large campaigns are conducted in schools

in order to have students write in their own language about the country and culture. This is related to Armenia having a unique writing and grammatical system and helps to preserve and publish content in Armenian and about Armenia. In school and universities both boys and girls are taught how to add content to the encyclopedia. A study conducted by Wikimedia Armenia in 2014 found that 37 % of the active users of the language version were female, which is a far higher percentage compared to other language versions (Wikimedia Armenia, 2014).

Survey of diversity experts in the Wikipedia community

Survey responses

I conducted a survey with the following ten questions. The sample that was asked consisted of participants of the international Wikimedia diversity conference in Stockholm as well as personal contacts that I have within the Wikipedia community. These people were all people that were involved in diversity projects, 75 % of respondents were involved in projects targeting the gender gap specifically. Overall I was able to collect 46 responses from insiders of the community.

Questions:

1. Which language version do you edit?
2. What is your gender?
3. Do you think that there is a gender bias on Wikipedia?
4. What are in your opinion the reasons why women tend to contribute to Wikipedia at lower rates than men?
5. If you've been a target of harassment or witnessed harassment, please give examples:
6. Have you been involved in a project targeting the gender gap on Wikipedia?
7. Were the projects targeting the gender gap supported by the community of your language version?
8. What worked within the projects targeting the gender gap?
9. What didn't work in the projects?
10. What do you think would help increase female editorship on Wikipedia?

Overall respondents edited in 24 different language versions: Albanian, Arabic, Bulgarian, Catalan, Chinese, Dutch, Esperanto, Finnish, French, Gaelic, German, Hebrew,

Hindi, Italian, Kannada (language spoken in parts of India), Malayalam (language spoken in parts of India), Portuguese, Rumanian, Serbian, Spanish, Swedish, Thai and Tulu. It is difficult to divide responses by country of origin as Wikipedia is divided by language versions and anyone able to read and write a language is able to edit regardless of their location.

62,2 % of the respondents were female while 37,8 % were male. This is partly due to me selectively asking people who have spearheaded projects on the gender gap. Those projects are often lead by women.

What is your gender?

Answered: 45 Skipped: 1

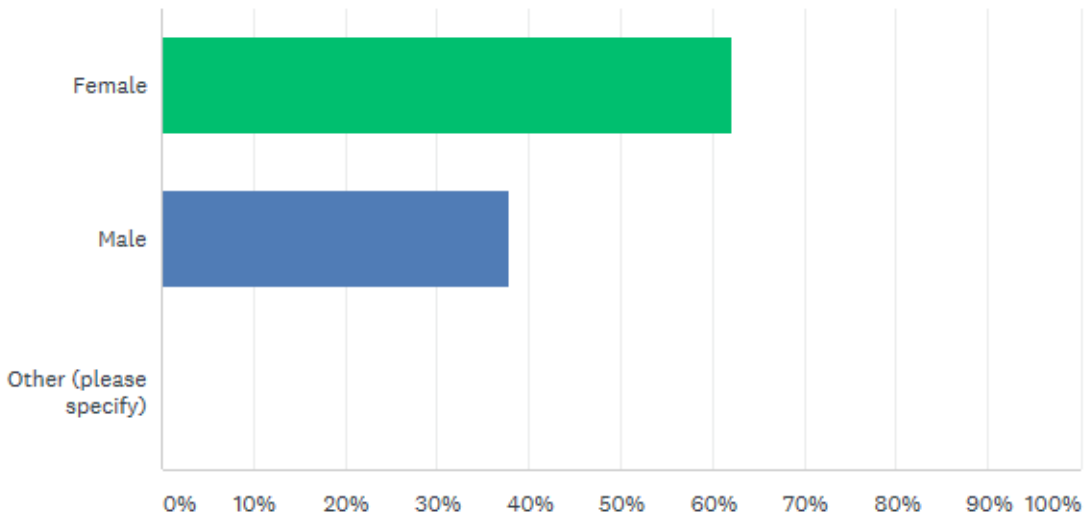


Figure 4: Gender ratio of survey respondents

As the sample consisted of people interested in diversity projects almost no one denied that there was a gender bias on Wikipedia and 93.3 % agreed.

Reasons for low female participation

As for the questions as to why there is low female participation the collected answers were divided into societal reasons that the Wikimedia foundation or Wikipedia community has no influence over and reasons that are connected to Wikipedia and therefore might be changed through proactive programs. The answers were also categorized by the gender of the respondents. Society reasons that were listed were character (agreeableness and lack of confidence), lack of internet access, education (lower educational level and lower digital literacy), financial (women earning less than men) and less free time because of caring for a family and domestic work. Interesting

differences between men and women were that for female respondents less free time because of familial obligations and women being less confident than men were the two main reasons for low female participation while for male respondents' lower digital literacy seemed to be the main societal factor.

As for the reasons that were directly connected to Wikipedia and the Wikipedia community both men and women agreed that the discussion culture and hostile environment were the main reasons for low female participation.

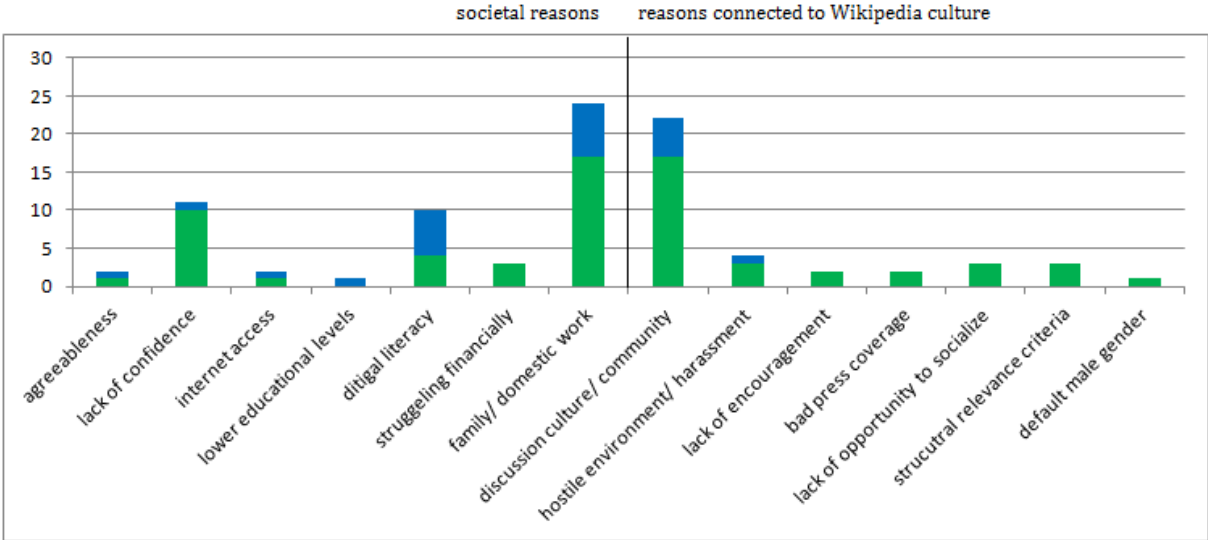


Figure 5: Survey responses for reasons for low female participation

Going into more detail concerning the question of whether a lack of confidence plays a role in hindering women from participation in the creation of online content, during personal interviews people from within the community often stated this as an important reason. The first female administrator in Arabic Wikipedia for example told me that she thinks, that women do not become administrators because they think they can't control the content of the site, make decisions in disputes over how a topic should be presented etc. "It is a question of attitude. I'm confident enough. And after me there were three more female administrators. But a lot of women are too timid. And also men think that women can't hold that position."

Education and technical skills

The answer to the question also illustrates that there are reasons for the low female participation in Wikipedia that the community itself or the Wikimedia foundation has absolutely no influence over. Shaw and Hagatti for example showed in their work "The Pipeline of Online Participation Inequalities: The Case of Wikipedia Editing" that there

are different barriers to participation to the encyclopedia that start long before the person ever comes in contact with the community.

They describe this as a pipeline of online participation that can be seen in figure:....

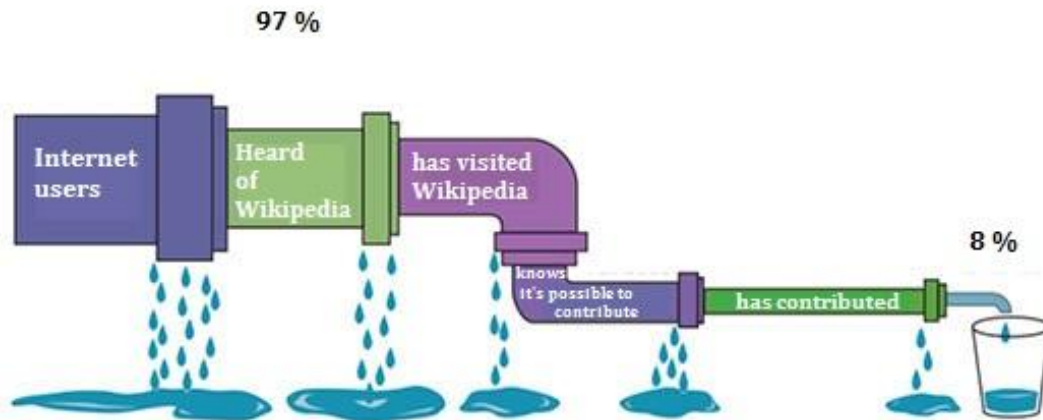


Figure 6: Pipeline model of online participation

They conducted a survey among the general American population and found that only 8.2 % of the respondents had ever edited a Wikipedia page although 97 % had heard of Wikipedia. 5.7 % of women answered that they had edited a page whereas 10.9 % of men answered that they had edited a page. Educational level also seemed to contribute to whether someone became active. 11.8 % of those with college education or higher had edited compared to 3.7 % of the population with high school education. Shaw and Hagatti also found that Internet experience is an important factor. 3.7 % of the bottom quartile of number of access locations had edited compared to 14.2 % of the top quartile. Furthermore tech and internet skillfulness played a significant role. 18.5 % of the most skilled quartile had edited a page compared to less than one percent of the the least skilled.

At the very extreme they found that 94 % of highly educated males knew that Wikipedia could be edited compared to 28 % of low educated women. Shaw and Hagatti found that gender differences started to occur at the middle stages of the pipeline model as to who knows that Wikipedia can be edited and who has edited the site. Therefore efforts targeted at narrowing the gender gap should focus on the intermediate stages of the model. This includes disseminating the knowledge that Wikipedia can be edited. Furthermore gender differences in tech skills and internet skills would have to be reduced, which can only be done through the education system and is outside of the reach of the Wikipedia community and the Wikimedia foundation.

Gender differences in confidence

Aside from the differences in education levels and tech skills that were highlighted by the male respondents in my survey a deeper look could be taken at the differences in confidence between men and women (that are also cultural and not changeable by the Wikipedia community or the Wikimedia foundation).

A survey with an internet sample of more than 985.000 respondents across 48 nations conducted by Bleibdorn et al. published in 2016 found that men consistently reported higher self esteem than women across cultures. The data was gathered from 1999 until 2009 as part of the Gosling-Potter Internet Personality Project. It has been found that the gender gap in confidence is not present in children but tends to emerge in adolescence and then again narrows or disappears with old age (Kling et al., 1999; Robins et al., 2002; Zeigler-Hill & Myers, 2012). Kling et al. found in 1999 for example that the largest effect emerges in late adolescence. For both men and women confidence is high in childhood, drops in adolescence, increases through adulthood and decreases towards the end stages of life.

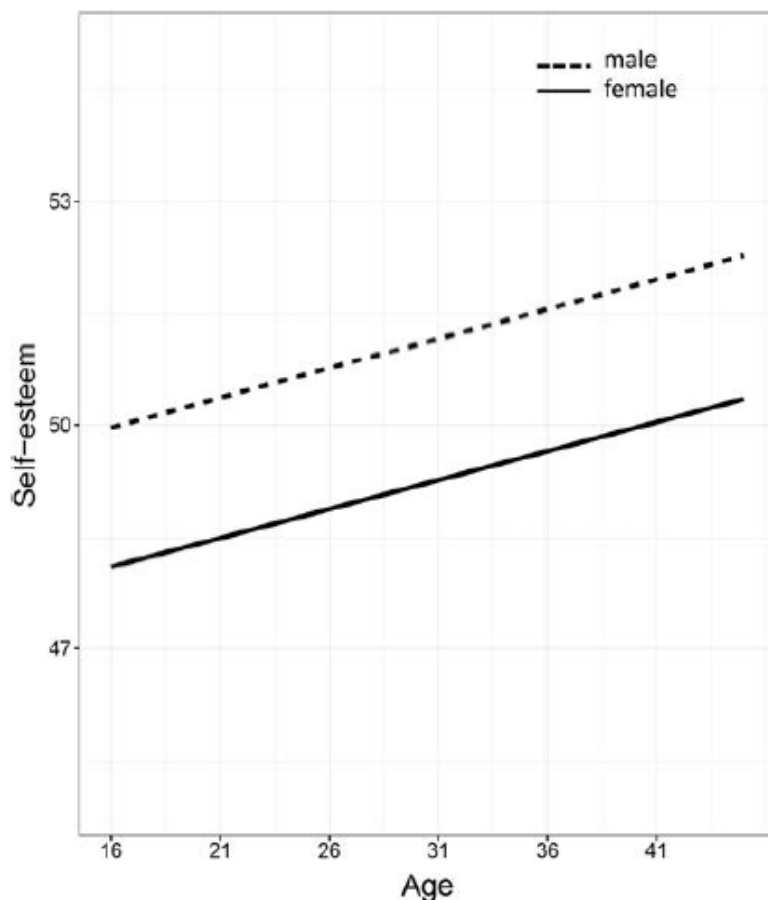


Figure 7: Gender differences in self- esteem from adolescence to adulthood

The study also found that gender differences in confidence were more pronounced in Western developed countries. This finding might be surprising and difficult to explain. One theory is that the personality profiles of men and women tend to be less similar in egalitarian, developed countries and thus dispositional differences between men and women have more space to develop. Another explanation brought forward by Guimond et al (2007) is that Western countries are more likely to engage in between-gender social comparisons and therefore show larger gender differences. Another explanation brought forward by Bleidorn et al. (2016) is the focus on girls and women's appearance in western cultures. Studies have shown that girls tend to feel higher pressures regarding their physical appearance and they perceive their physical attractiveness as comparatively low starting with adolescence. How one perceives their physical attractiveness is an important factor on whether the person has high or low self-esteem (Harter, 1993).



Figure 8: Self-esteem differences across cultures
 Self-esteem differences were particularly low in East Asian countries like Indonesia or China.

As the differences in confidence between men and women are universal among cultures it can be derived that the differences in confidence play a significant role in whether someone contributes to Wikipedia or not. Connecting this to the pipeline model the difference in confidence is likely partly responsible for lower percentages of women that know that Wikipedia can be edited actually starting to edit pages.

Overall this can be compared to the community engagement insights report that is since 2016 conducted regularly by the Wikimedia foundation to improve its work. The report found particularly low levels of female participation in Western Europe and Eastern Europe. Unfortunately there was no distinction between Eastern Asia and the rest of Asia. But this could suggest that confidence indeed plays a significant role in low levels of female participation.

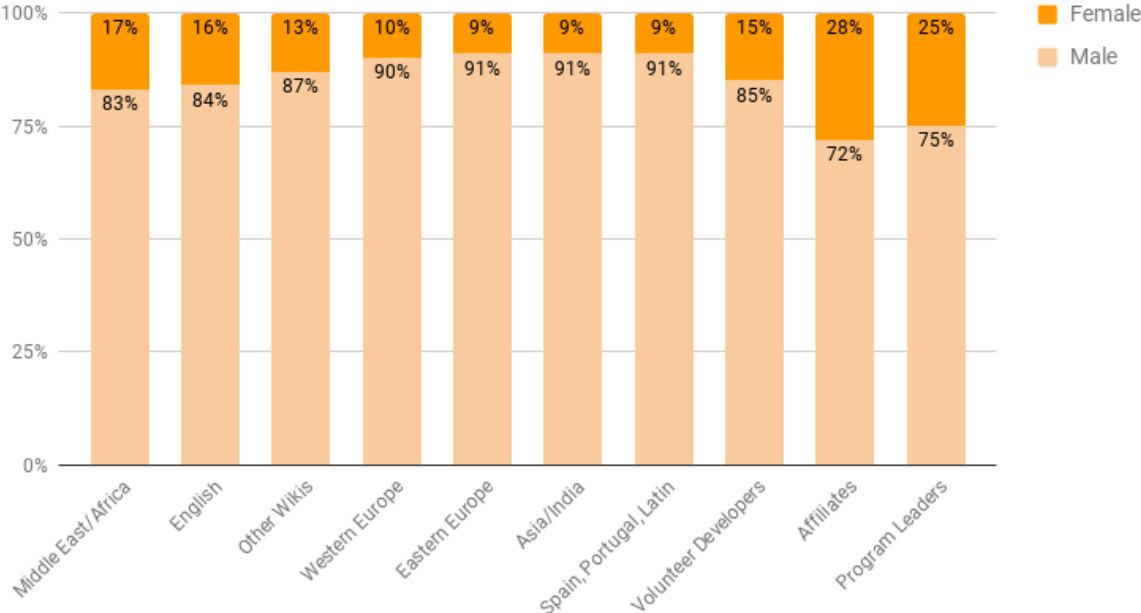


Figure 9: Findings of the 2016 Community Engagement insight report by the Wikimedia foundation

Best practices for increasing female editorship

Regarding the seventh question on whether the gender gap projects were supported by the community 67 % of the respondents said yes, 28 % said they weren't sure and 5 % said no.

In regards to the reasons that can be changed by Wikimedia or the Wikipedia community different strategies and types of projects have tried to tackle the issues.

Graphic ::: shows the responses as to what worked and what didn't worked in projects targeting the gender gap.

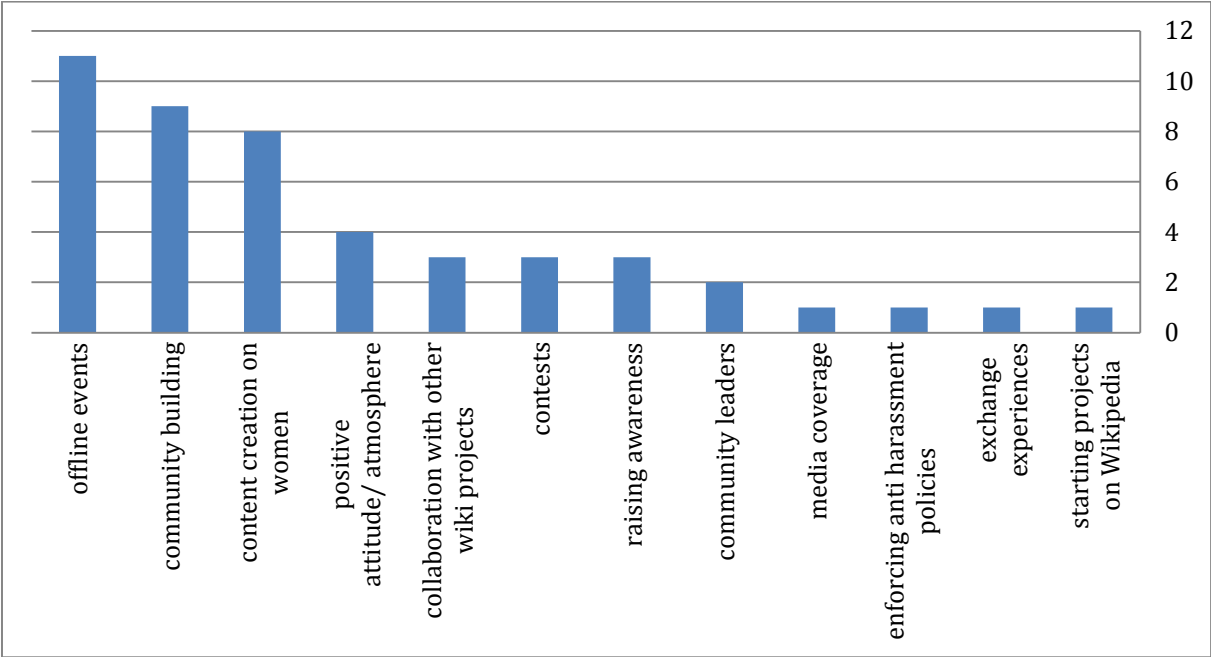


Figure 10: Best practices for higher female participation responses

Offline events, which include edit-a-thons (events in which people get together to edit or create articles on a specific topic), hackathons (events in which people develop software) and workshops or discussion meetings, were stated as effective measures. It was said that it is important to involve the existing community and find allies as well as building a community out of the people involved in the project. It was also said to be important to collaborate with existing projects and to overall be persistent and have a positive attitude. Contests like for example “100 wiki days” focused on women or a challenge in the Albanian community to write one article a day on a woman or a women related topic have also been stated to be effective. Content creation on women as well as getting more female editors might help to encourage newcomers to join in the movement and have it seem more welcoming to women in general if connected to the answers from the first question.

Obstacles and failed projects for increasing female editorship

The ninth question asked “What didn’t work in your projects?” One problem can be that the articles created have a bad quality or get deleted soon because they are not notable enough or don’t meet other criteria of Wikipedia. One respondent from Israel answered: “Writing too many articles about women. Some editors thought that some of the articles subjects are not notable enough. I don't know whether it's true, I didn't check them all.

But Israel is a small country, and this affair somehow made it to the local press and there was some controversy.” The most stated problems were a lack of participants in general, so a problem in motivating people to come and also creating a community that forms a strong social bond and stay supportive and active. People said they had low retention rates. One respondent from Serbia stated “None of the women that got interested in editing Wikipedia remained active on the project.” Another finding was that projects were sometimes not sustainable and didn’t lead to long term commitment. One times events for example didn’t prove to be effective. Persistence and continuity seem to be important factors in success. Respondents also stated that there was a lack of support from the community of their language version. Some also stated a lack of support by their Wikimedia foundation chapter or a lack of financial support from the Wikimedia foundation for their project. Three answers stated that their projects and campaigns were targeted for trolling and harassment. I could give a personal example for that: During an Art and Feminism edit-a-thon a new editor copied the structure of an article into her sandbox (a sub page not visible in Wikipedia were articles are written until they are ready to be published on the official site). A user then proceeded to deleted the articles she had copied. This is absolutely unusual. People usually copy the structure of articles and then fill them up with the specific information. The reason why this happened was probably due to an event page that I created that listed the users that were participating in the project. The users listed were then specifically targeted and their efforts sabotaged. All ended well because we could get a friend who’s a global administrator to restore the article but this is one example of targeted harassment. Respondents further stated that they felt like it was very hard for minorities to prevail on a cisgender mal dominated platform. Another example that respondents gave was that efforts to change the German language version failed. In official government and educational materials it is required to use the neutral form with /in or -In at the end. However on Wikipedia the default gender is set to male so unless users change it they will appear to be male. More importantly all headings of articles are also male and completely lacking the female form. I did personally try to change this on several occasions. Additionally I tried to create sub lists of female professionals. For example those would be female architects, female engineers etc. These were deleted in the German language version. Lists like this do exist though for example in the English language version. After my efforts people started putting articles that I had written up

for deletion. One after another. No article that I had ever written was ever put up for deletion until that point. I think at the end two articles got deleted and one got merged with an existing one. After that experience I stopped editing for a long time.

Current projects on the gender gap in the Wikipedia Community

There are also many international projects that were started on women in different language versions. Among the most meaningful might be “Women in Red”, which is a project that tries to bring people together that want to create articles on women or women related topics thus turning red links on Wikipedia into blue links. The project is spear headed by Rosie Stephenson-Goodknight and was successful so far in increasing the number of female biographies and raising awareness about the topic within the Wikipedia community. The project is planned to expand into other language versions as well. Another project worth mentioning is the WikiWomen’s Collaborative that consists of female Wikipedians from all over the world that support projects and find strategies to improve equal gender participation in the project.

Rosie Stephenson- Goodknight also started the diversity Mapping project in which experts from all over the world that were organizing Wikipedia related diversity projects were interviewed via skype in order to find what common themes are and how to make the community become more diverse. Findings of the project might be published in 2018.

Themes that were found by the diversity mapping project were presented at the Wikimedia Diversity Conference 2017 in Stockholm:

Theme 1: Gender is highly culturally contextualized

Theme 2: We are not as inclusive as we could be.

Theme 3: Implicit bias permeates everything.

Theme 4: We are working to address power imbalance.

Theme 5: We have an expansive view of participation.

Theme 6: There is a feeling of solidarity. There is a feeling of isolation.

Theme 7: How can we tell our story?

A live poll was conducted at the conference through mentimeter with the question to the participants “If you were to work on one of the themes in 2018, which would it be?”

Most people wanted to work on Theme 2 and Theme 7.

If you were to work on one of these themes in 2018, which would it be?

Mentimeter

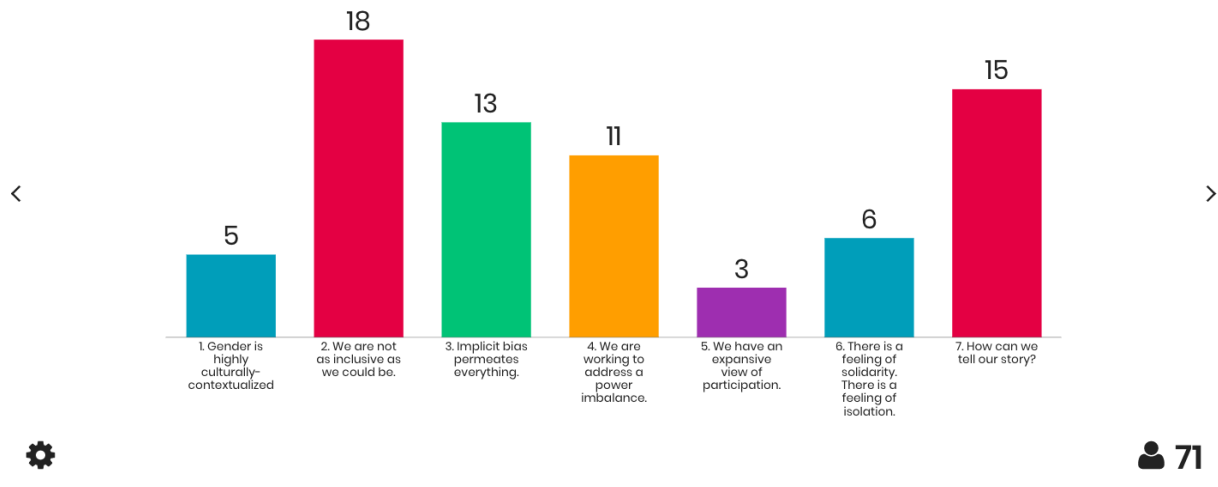


Figure 11: Responses of Wikimedia diversity conference 2017 participants as to which theme they would work on in 2018

Aside from projects that try to build up a community it is probably worth mentioning that the most widely spread and famous offline event on the gender gap is “Art and Feminism”. It usually takes place in March around women’s day, often supported by cultural institutions and is an event in which women and their allies come together to create articles on female artists. The project offers video tutorials and guidelines as well as personal support from the project staff.

Conclusion

In conclusion it can be said that the gender gap on Wikipedia is largely caused by factors that can’t be changed by the Wikipedia community or the Wikimedia foundation. Those factors include historical and present discrimination against women. Differences in educational levels and technical skills between men and women play a significant role and can only be tackled by governments. The Wikimedia foundation might get more involved within the educational system to spread awareness about the fact that Wikipedia can be edited and maybe also to invest in STEM projects for girls and women. WMF doesn’t have the resources to tackle this issue on a broad scale though. Furthermore there are differences in the characteristics of men and women (men are more confident across cultures and women are more agreeable). These differences seem to increase with political gender equality and can therefore also not be affected by the Wikipedia community or the WMF.

Among factors that can be tackled are a more welcoming community, better communication on the platform, protection from harassment and more possibilities to socialize. This could be done through persistent offline meetings and international projects, the creation of support networks and software to help recognize and stop harassment.

A gender gap in Wikipedia will likely consist for a long time but the online encyclopedia has a far better standing on the gender gap issue than traditional encyclopedias as for example Britannica. It gives us the never before had opportunity to debate the issue and take ownership about how knowledge is presented and created for the future generations to come. Wikipedia is in itself thus an opportunity to decrease the gender gap on a never before had scale in an open and transparent process. The negative press that Wikipedia got for low female participation is widely unwarranted as most factors that lead to the inequality are not within its power to change and furthermore it has a lower gender gap than traditional encyclopedias and more participation than other FLOSS projects by a wide margin.

References

- Aragon, P.; Kaltenbrunner, A.; Laniado, D.; Volkovich, Y. (2012). *Biographical social networks on Wikipedia*.
- Baurmann, M. (2007/2008). *Soziologie des Fundamentalismus. Der Ansatz der sozialen Erkenntnistheorie. [Sociology of fundamentalism: A social-epistemological approach]* Jahrbuch der Heinrich-Heine-Universität Düsseldorf, pp. 301–314.
- Bleidorn et. Al (2016) *Age and Gender Differences in Self- Esteem- A Cross- Cultural Window* in Journal of Personality and Social Psychology, 2016 Vol. 111, No. 3 , pages 396-410 <http://dx.doi.org/10.1037/pspp0000078>
- Charting Diversity (2014) *Charting Diverstiy- Working together towards diversity in Wikipedia* by Wikimedia Foundation Germany and Beuth university for applied sciences. ISBN 978-3-9816799-0-8
- Dobusch, L. (2013). *Wikipedia: Grenzlose Exklusion? [Wikipedia: Unlimited exclusion?]* Post on Netzpolitik blog. URL: <https://netzpolitik.org/2013/wikipedia-grenzenlose-exklusion/>
- Galvez, Edward (2017) *Community Engagement Insights Report* [https://commons.wikimedia.org/wiki/File:CE Insights 2016-17 Report - Male to female ratios.png](https://commons.wikimedia.org/wiki/File:CE_Insights_2016-17_Report_-_Male_to_female_ratios.png)
- Ghosh, R. A.; Glott, R.; Krieger, B.; Robles, G. (2002). *Free/Libre and Open Source Software: Survey and Study*. Deliverable D18: FINAL REPORT. Part 4: Survey of Developers. International Institute of Infonomics, University of Maastricht.
- Glott, R.; Schmidt, P.; Gosh, R. (2010). *Wikipedia Survey – Overview of Results*. UNU-MERIT: *Wikipedia survey* United Nations University. Collaborative Creativity Group. [http://www.wikipediasurvey.org/docs/Wikipedia Overview 15March2010-FINAL.pdf](http://www.wikipediasurvey.org/docs/Wikipedia_Overview_15March2010-FINAL.pdf)
- Guimond, S., Branscombe, N. R., Brunot, S., Buunk, A. P., Chatard, A., Désert, M., . . . Yzerbyt, V. (2007). *Culture, gender, and the self: Variations and impact of social comparison processes*. Journal of Personality and Social Psychology, 92, 1118–1134. <http://dx.doi.org/10.1037/0022-3514.92.6.1118>

Harter, S. (1993). *Causes and consequences of low self-esteem in children and adolescents*. In R. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 87–116). New York, NY: Plenum Press. http://dx.doi.org/10.1007/978-1-4684-8956-9_5

Hill, B. M.; Shaw, A. (2013). *The Wikipedia Gender Gap Revisited: Characterizing Survey Response Bias With Propensity Score Estimation*. PLoS ONE 8(6): e65782. doi:10.1371/journal.pone.0065782. URL: http://mako.cc/academic/hill_shaw-gender_gap_revisited-DRAFT.pdf

ISG (2010). 2010 Social Gaming Research. Information Solutions Group. http://www.infosolutionsgroup.com/2010_PopCap_Social_Gaming_Research_Results.pdf

Jans, M. (2004). *Empirische Effekte organisationen – Ergebnisse und Erkenntnisse einer Metaanalyse. [Empirical effects of organizational demographic diversity in organizations – Results and conclusions of a meta-analysis.]* Essener Beiträge zur Personalforschung. URL: <http://www.uni-due.de/apo/Download/EBPF3.pdf>

Kling, K. C., Hyde, J. S., Showers, C. J., & Buswell, B. N. (1999). *Gender differences in self-esteem: A meta-analysis*. Psychological Bulletin, 125, 470–500. <http://dx.doi.org/10.1037/0033-2909.125.4.470>

Lam, S. K.; Uduwage, M.; Sen, S.; Musicant, D. R.; Terveen, L.; Riedl, J. (2011). *WP: Clubhouse? An Exploration of Wikipedia's Gender Imbalance* WikiSym (2011). www.wp-gender-wikisym2011.pdf

McCandless, D. (2012). *Chicks rule? Gender balance on social networking sites*. <http://www.informationisbeautiful.net/visualizations/chicks-rule/>

Reagle, Joseph; Rhue, Lauren *Gender Bias in Wikipedia and Britannica* in International Journal of Communication 5 (2011), 1138-1158

Robins, R. W., Trzesniewski, K. H., Tracy, J. L., Gosling, S. D., & Potter, J. (2002). *Global self-esteem across the life span*. Psychology and Aging, 17, 423–434. <http://dx.doi.org/10.1037/0882-7974.17.3.423>

Salgo60 Poll results Wikimedia diversity conference 2017 https://commons.wikimedia.org/wiki/File:Poll_If_you_were_to_work_on_one_of_these_themes_in_2018_Which_would_it_be%3F.png

Shaw, Aaron, Hargittai, Eszter *The Pipeline of Online Participation Inequalities: The Case of Wikipedia Editing*. Journal of Communication, February 2018

UNU-MERIT (2010): Wikipedia survey. <http://www.wikipediaurvey.org/>

Wikimedia Armenia (2014) "Percentage of female editors among most active users"

https://meta.wikimedia.org/wiki/Wikimedia_Armenia/Reports/2014-05

Wagner, Claudia *It's a Man's Wikipedia? Assessing Gender Inequality in an Online Encyclopedia* Proceedings of the Ninth International AAAI Conference on Web and Social Media. P. 454-463

WMF (2011). *Wikipedia Editors Study. Results from the editor survey*, April 2011.

http://upload.wikimedia.org/wikipedia/commons/7/76/Editor_Survey_Report_-_April_2011.pdf

Zeigler-Hill, V., & Myers, E. M. (2012). A review of gender differences in self-esteem. In S. P. McGeown (Ed.), *Psychology of gender differences* (pp. 131–143). Hauppauge, NY: Nova.