

Global Challenges Are Not For Women: Gender Peculiarities Of Content In Ukrainian Facebook Community During High-Involving Social Discussions

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Abstract. Gender stereotypes may present themselves in social media behavior and social media content. We have studied one of the most socially significant domains of Facebook content, high-involving social discussions, and specifically, male and female participation in it. Two cases were studied. The first one was a discussion about ecology issues launched by Greta Thunberg and held in part in the Ukrainian Facebook community. The second one laid in the discussion about COVID-19 and quarantine launched by Ukrainian authority. Message analysis was applied for the precise detection of discourse peculiarities of male and female content datasets. Two different gender models of such discussions were distinguished. In the first one, the total shares of different attitudes to the discussion topic are similar or almost equal in female and male *змієї* samples. In the second one, these shares differ significantly. Therefore, in both models, men and women use very different messages to support the expressed attitude. It was proved that some gender-specific messages may be attributed to the psychological peculiarities of genders, but others may be explained only by the influence of gender stereotypes. For example, women are less probably to address politics, conspiracy theories, and scientific arguments in these discussions.

Possible explanations of these two models were discussed.

Keywords: Gender Stereotypes, Social Media Content, Social Discussions, Ukrainian Facebook Community, Message Analysis.

1 Introduction

1.1 Gender differences in social networks

Differences between male and female use of social networks are widely discussed in the scientific literature. Therefore, these differences are usually related to

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psychological peculiarities of male and female behavior, like self-presentation [1, 2], activity and purpose of Facebook use [3], continuance intention to use Facebook [4], the emotional intensity of content [5]. On the other side, there are studies of the gender gap in Internet and mobile phone use in different countries, especially poor ones [6].

Studies about gender stereotypes have shown that users present themselves in a less gender-stereotypical way online than offline and that women do so more than males [7].

Therefore, we see the lack of studies regard female participation in essential social discussions in social media. One of our previous works pointed out the unexpected result: shares of positive and negative attitudes to Ukrainian 2019 presidential elections were almost equal in male and female samples [8]. This result can be attributed to different reasons: to the uniqueness of the social situation in Ukraine during the presidential elections; or to the peculiarities of Ukrainian Facebook usage which patterns vary considerably from country to country [9]. But this issue required further examination.

1.2 Ukrainian Facebook community

Facebook remains the main social network in Ukraine for news and political discussions [10]. This is the aftermath of the Revolution of Dignity that attracted many new active users to this social network [11–13]. After the 2019 presidential elections, it also remains divided into different political segments, particularly, former president Petro Poroshenko continues to exert influence on the core of the Ukrainian community, while other political stakeholders are more powerful in a periphery [8]. Therefore, this community has almost loosed its unique practices of peer-to-peer counter-propaganda, which appeared at the beginning of the Russian-Ukrainian war [14, 15].

Nevertheless, Ukrainian activism remains influential on this basis, this is about army-support volunteering as well as about other directions like gender, ecology, charity activism, and so on [16].

1.3 Gender-related problems in Ukraine

According to the laws, Ukrainian men and women have almost equal rights, whilst there still exist some minor legal restrictions predominantly in labor legislation [17]. Therefore, there are a lot of issues regarding other types of inequality. Thus, The Global Gender Gap Report 2020 placed Ukraine 59th out of 153 countries [18]. Ukraine has the worth performance in the Political Empowerment index of this report, as well as in the Labor force participation and the Estimated earned income.

Even worth is the situation on the informal labor market in Ukraine [19], in self-perceived health [20], and so on. On the other hand, the odds for almost all forms of social capital are lower for men (besides safety) [21].

However, Ukrainian activists achieved prominent results in gender issues too. In July, 2016, a year before world-known #MeToo campaign, Ukrainian feminist activist Nastya Melnychenko launched online campaign #ЯНеБоюсьСказати (Ukrainian for

#IAmNotAfraidToSayIt). Its idea was to prompt women to share stories of sexual harassment and sexual violence without shame. This online ‘flashmob’ became very popular in post-soviet social media space; hundreds of people took participation in it.

2 Research design

2.1 Research question

In the context of politics and business mediatisation [22], gender differences in Facebook behavior may be crucial in terms of equal access to life opportunities for men and women. It should be figured out, how strong are differences between male and female content in large-scale discussions. In other words, we have two hypotheses:

H1. There are significant differences in the male and female content during large-scale discussions in the Ukrainian Facebook community.

H2. These differences are attributable mainly or particularly to traditional gender roles in Ukrainian society.

To answer this question, the data from two communicative cases was applied. Both cases concerned ‘hot topics’ of the Ukrainian Facebook space. That is to say, issues widely discussed by different participants of the community, particularly by the opinion leaders. The first topic was ecological and was a part of the global discussion launched by Greta Thunberg’s speech to the UN on September 23, 2019. The second also related to global context: it was the discussion about COVID-19 pandemic and quarantine in March 2019.

2.2 General features of both cases studies

In both cases, the study was conducted on Facebook posts content [26, 27]. The mentions of keywords specific to studied topics were provided by a social media monitoring system YouScan. Only users who indicated that they live in Ukraine were included in the sample. This system automatically detects male and female gender of posts authors as it is indicated in their profiles. So, the study of other genders was not available.

Two trained coders were engaged in the coding of the content. They found peculiarities of the content specified below. Particularly, both case studies included message detection – the method described in [23]. In this method, the ‘message’ is an analysis category. It means the judgment, the subject or predicate of which is researched notion (for example, COVID-19) or notion related to it. Coders detected the messages without their preliminary indication, basing just on the texts of the posts in samples.

This method is considered more precise for the aim of the study than just detection of the attitude to some entities because it reveals certain discourse details, not just a resulting decision.

2.3 Features of Greta Thunberg discussion study

The timeframe for this case is September 23-26, 2019. It was the time of most active discussion on this question, and most of the opinion leaders expressed their opinions in that period. 5,500 posts that had at least one interaction (like, share or comment) were detected. From that amount, 1,000 posts were randomly selected for coding.

Message coding provided regarding the two objects. The first one was the personality of Greta Thunberg, in part her psychological peculiarities and social phenomenon of people like her. The second was ecology problems underscored by Greta and ecology activists who highlight them. In each topic, the messages positive to the object were separated from negative messages. In total, 895 posts containing meaningful messages about at least one object were detected.

2.4 Features of COVID-19 and quarantine discussion study

The amount of content in the second case was far greater than in the first because this issue dealt directly with the present life of people. So, Facebook posts for three days of March were selected for study: March 3, 11, and 16. In these three days there were spikes in a content generation on topic, due to the report of the first confirmed COVID-19 case in Ukraine, the start of the quarantine, and its strengthening respectively. In total on these days there were 172,567 posts on a topic, which had at least one interaction. 1,000 posts were randomly selected from that amount for coding. In total, 990 posts with meaningful messages about the object of the study were detected.

The analysis of the second case was more detailed. Besides the messages detecting, some other categories were coded:

- A general assessment of the situation. This category could be one of three values: panic (emotional pessimistic reaction without ideas on how to react), denial of the COVID-19 hazard, and constructive attitude (discussion about remedies and so on).
- Reliability of information sources and fakes spreading (in a case when posts have information source or disseminate information that is proved to be fake). Ukrainian ‘media that have the reputation’ according to the classification of the Center for the Content Analysis [24] were considered as reliable sources, as well as official channels of the Ukrainian Ministry of Health and WHO. Other Ukrainian media were considered unreliable sources. Fakes were detected based on the ‘Beyond the News’ reports [25].
- Attitude to quarantine restrictions and other authority responses on pandemic (if this attitude is expressed).
- The presence of humor and jokes in posts.

3 Results and discussion

3.1 Greta Thunberg discussion study results

The first case has shown gender differences even on the general level of the content analysis. Among the posts been written by men, the share of negative messages regards both analysis objects is much higher than among the posts been written by women (see **Помилка! Джерело посилання не знайдено.**).

Attitude to ecology issues and activism is predominantly positive, and only 30,3% of men's posts and 17,2% of women's posts contain negative messages, unlike attitude to Greta Thunberg, where shares of posts with negative were respectively 66,4% and 51,5%. Therefore, the difference in about 13-15 percentage points is sufficient.

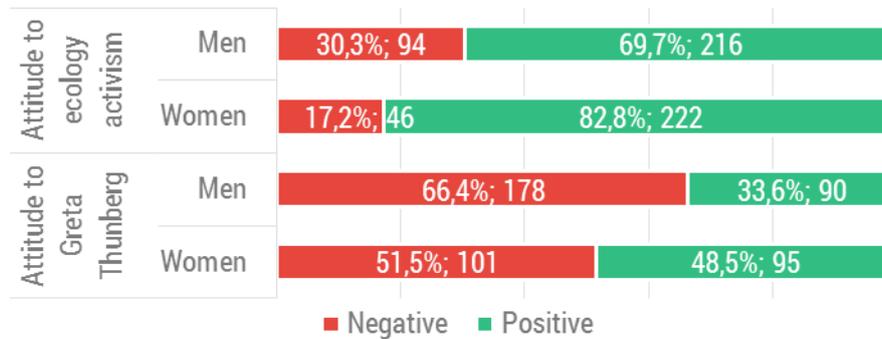


Fig. 1. Share and number of posts with positive and negative messages regard the Greta Thunberg, and ecology issues and activism, written by men and women.

But it became greater on the level of concrete messages. We found that some of them were specifically male and other – specifically female (see **Помилка! Джерело посилання не знайдено.**). We named so messages if they only met in the datasets of one gender or their number in both gender datasets differs by more than 50%. These differences were found in both topics, among both negative and positive messages.

Table 1. Gender-specific messages about Grete Thunberg and ecology issues.

Female messages	Male messages
Greta isn't a child in 16 years, she is almost an adult, so we shouldn't regret her	Greta has no enough education to speak about our future
Greta is such a smart and brave girl	Greta is wrong in the evaluation of reasons for global warming.
I stand in solidarity with Greta even if she is wrong	Greta is cute and similar to Severn Suzuki

Ecology problems are oppressive, we have no future	Global warming is not supported by scientific facts.
Greta is a media icon	Greta is nominated for a Nobel Peace Prize
We must save our planet!	Greta doesn't blame countries leading in carbon emissions, she is selective in her blames
	We have to combat carbon emissions without progress stopping
	Global warming is real, but an anthropogenic influence on it isn't supported by scientific evidence

3.2 COVID-19 discussion study results

The other situation is in the second case. The share distribution in almost all coded categories is similar in male and female posts datasets. However, the messages used by men and women are different. Although the greatest difference is in the number of the post about COVID 19 and quarantine, written by men and women. Women wrote 75% of all posts in the sample. Probably, they were much more impressed by the problem than men were.

In the dimension of the general evaluation of the situation, both genders have shown similar shares of constructive, denying, and panic attitude (see Fig. 2). Men were even less constructive (10% of denying and 14% of panic posts) than women (11% and 10% respectively).

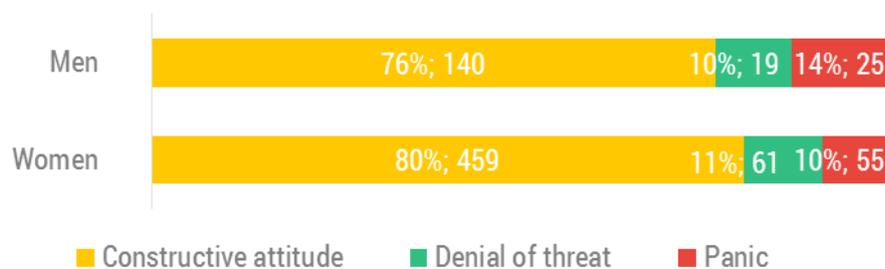


Fig. 2. Share and number of posts with a different evaluation of the situation with COVID-19 threat, written by men and women.

A similar situation is regarding the reliability of used sources and fakes spreading (see Fig. 3). Approximately half of the posts in each gender sample were based on reliable sources, and another half – on the unreliable (posts without information sources were not counted here).

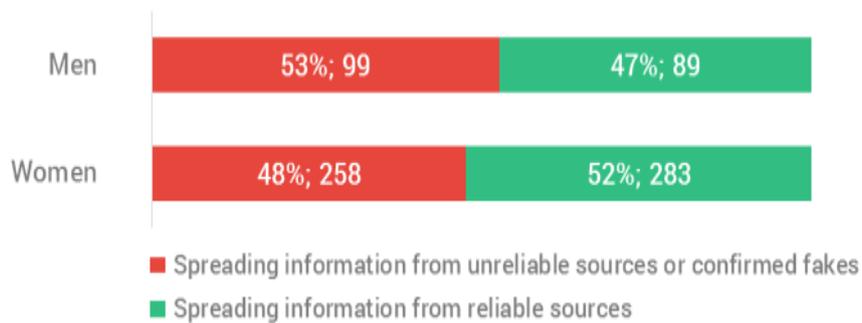


Fig. 3. Share and number of posts with reliable and unreliable information sources and fakes about the situation with COVID-19, written by men and women.

The share of support of quarantine restrictions and other authority actions regard pandemic shows a bit higher difference between male and female samples. Only 3% of support in the first sample, and 13% in a second one (see Fig. 4). Therefore, this may be attributed to a comparatively small number of posts where this attitude has been expressed. Also, it should be noted an almost equal number of male and female posts with judgments about restrictions, despite the significant difference between the total numbers of the male and female post. Therefore, in the male sample, the share of posts with an expression of their attitude to the authority actions regard pandemic is higher than in the female one.

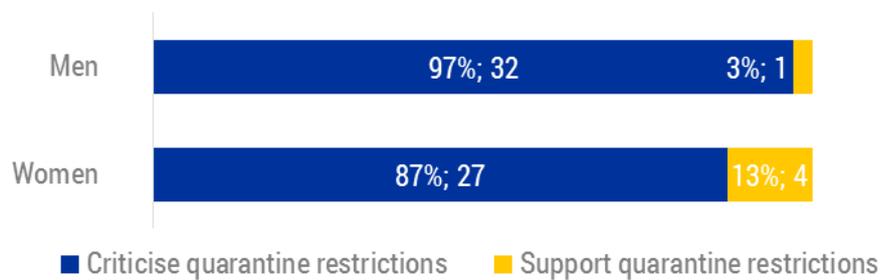


Fig. 4. Share and number of posts with support and critics of quarantine restrictions and other authority actions regard pandemic, written by men and women.

At last, the humor level shows an even higher difference between both samples (see Fig. 5). Men posted jokes and funny pictures about quarantine and COVID-19 in 5% cases, as opposed to 1% of women posts. Furthermore, 8% of male content as against 2% of female one was humorous while not just a joke.

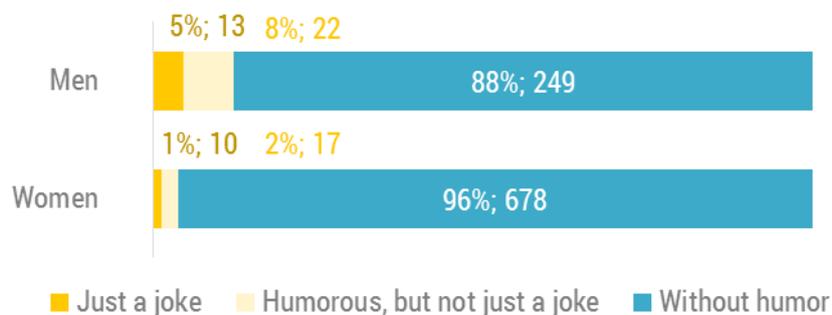


Fig. 5. Share and number of humorous posts regard the quarantine and pandemic, written by men and women.

Further distinctions were identified through the message analysis (see **Помилка! Джерело посилання не знайдено.**). We have specific male and female judgments about the quarantine.

Table 2. Gender-specific messages about COVID-19 pandemic and quarantine.

Female messages	Male messages
'Russian doctor from Wuhan told COVID-19 is not hazardous'	Medicine against COVID-19 was invented
COVID-19 will lead to the apocalypse	Smoking and alcohol reduce the likelihood of COVID-19 contamination.
It's easy to cure of COVID-19 using home remedies	China created panic about COVID-19 to make money
Children cannot have COVID-19	COVID-19 was artificially created in a bio lab
Ukrainian workers are oppressed in neighbor countries due to quarantine	Quarantine is an authority's attempt to control the people
That is funny to wear protective masks.	

3.3 Similarities and distinctiveness of both cases

Significant differences are detected in messages posted by men and women in both cases. This fact supports **H1**. Analysis of gender-specific messages shows that **H2** is also true. Some peculiarities of female messages are attributed to female psychological features detected also by other researchers [5], like higher emotional levels, personal evaluation of the people in the news, a propensity to emotional stories. Other may be attributed only to gender stereotypes, namely, relation to householding issues and personal family relations in women samples along with less attention to so-called 'guy stuff' like politics, conspiracy theories, science, and economics. Instead, the male sample has all this set of masculine topics and even one

sexist message about the appearance and sexuality of Greta Thunberg. Men are also more likely to joke on hazardous topics.

On the other hand, there is significant distinctiveness between two cases. Namely, the total distribution of attitudes, situation evaluation, and the result for other coding categories was almost equal or very close for male and female samples in the second case study and differs significantly in the first one. So, the second case is similar to the electoral research conducted in April 2019 [8].

4 Conclusion

Therefore, at least two gender models of social network discourses may be distinguished. In the first one, the general attitude to the discussed topic is similar in male and female samples, and different are only messages that express and argues this attitude. These similarities may be found in different dimensions, including the sources of information, support of authority actions, etc. We have detected this model in two discussions which may affect directly the everyday life of people: the quarantine case and, earlier, the election case. In the second-model discourses, male and female attitude differs even on the macro-level of shares of different attitudes in the social media posts samples. We have detected this model only in one case that may affect people over the longer term: that is about the Greta Thunberg and global warming case.

Both models are not able to hide gender stereotypes that influent gender behavior, including the behavior and opinions expressed in social media. As a result, women often judge only about 'female aspects' of the discussed issues like family relations or householding, while politics, economics, and science remain the male domain. We see that message analysis is a good way to find out gender behavior differences in different social media communities.

The existence of these two models may be attributed to different mechanisms of opinion-shaping in different situations. For instance, within the first model male and female attitudes to some things may be shaped under the influence of surroundings, i.e. family, religious, regional, or political communities, etc. But while posting on Facebook, people may independently create their messages to support this opinion or select for sharing somebody's messages, grounding on their mindset. The gender stereotypes may be most influential in this step.

However, the last paragraph is just a hypothesis that should be checked in other investigations using not only social media content analysis but also deep interviews with social media users. Other restrictions of this research are its small source base and its narrowness just in the Ukrainian context. Similar studies should be conducted in other countries.

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