# Gender-based Language Differences on Switchboard

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## Abstract

Since the 1970s, sex has often been included as an important variable when analysing and understanding language use. However, the weight assigned to the importance of sex has of late been heavily questioned and variables such as age, topic and setting have been pulled forward and included in the analysis of intergender dialogues. In this paper, both intra- and intergender dialogues have been analysed with the intention of understanding whether the distributions of women's and men's language are influenced by the sex of the speaker. The appropriation of questions can be said to be partially due to the sex of the speaker as can the use of pronouns and the use of certain lexical choices in closing remarks. However, sex does not explain the differences seen in the distributions in either intragender nor in intergender settings, and inclusion of other variables in the analysis of the interactions is necessary to understand how and why language use differs.

## 1 Introduction

The gender of the speaker is often accredited an elite position in the hierarchy of variables explaining the particular use of language for a speaker. Feminist researchers such as Robin Lakoff first put gender-based differences in language use on the sociolinguistic agenda by analysing spoken data with the underlying assumption that the gender of the speaker is responsible for the syntactic, semantic and lexical construction of an utterance.

Since dialogue and its language occur in a social setting, the term used to address gender-based language differences must reflect that it is in fact the sociolinguistic construction of the biological category of sex, namely gender, which is the subject of analysis. However, in most studies, the experiments are conducted using the binary distinction between men and women; the biological categories. Therefore, gender and sex, though different in both concept and distinctions, are merged and assumed to denote the same division of the subjects studied.

This in itself is highly problematic. While the essentialist attributes assigned to the social constructs of *female* and *male* become blurred, the biological categories of *men* and *women* are as rigid as ever. However, two main strands of gender-based language features persist in sociolinguistic research; one is masculine and the other is feminine (Palomares:10).

In the masculine strand, specific language forms include *a*) tentativeness or assertiveness, *b*) giving information, suggestions, criticisms, disagreement, and *c*) other types of agentic speech. In the female strand features include *a*) agreements, *b*) supportive and praising language, *c*) understanding comments, acknowledgements, emotional language, apologies, and *d*) affiliative talk.

Various studies have shown a correlation between the sex of the speaker and the language used. In one such study (Fishman:78), the dialogues between three couples were analysed. Fishman found that the role women play in a dialogue is substantially different from that of men. For instance, she found that women asked more questions than men, and concluded that they did so in order to ensure a continuation of the dialogue, seeing as questions forms part of a paired relation. Fishman furthermore reports that even though the women in her study made 62% of the attempts to initiate a topic, their topics only consisted of 38% of the topics that entered into the conversation.

According to Fishman, these findings and numerous others she presents in the paper are based on the power relation, which exists between men

and women. Fishman's results were interpreted in the context of Lakoff's claims that the language differences are constant, independent of the situation and predictable. By understanding the findings of her analysis with these assumptions, it could be claimed that Fishman disregards other variables, which might have played a role in the production of language for each specific speaker. This type of consistent, gender-based assumption has received a vast amount of criticism, namely regarding the strict limitation of features evaluated.

Later research has shown that language use is also dependent on various other non-gender linked variables and that it is therefore neither stable nor predictable (Leaper & Ayres:2007, Palomares:2010). These newer studies have looked at contextual factors such as status (O'Neill:06), topic (Janssen:04), communication setting and mode (Goldshmidt:00), the gender of the group (Savicki:00), the language of the interlocutor (Hogg:06), and age (O'Kearney:04). The overall results of these studies show that the speaker, regardless of sex, is also influenced by these contextual settings when speaking.

Can there then be said to be fundamental differences between the language use appropriated by men and by women that span these contextual differences or is language use always dependent on other non-gender linked features? Are the categories of male and female themselves so divers, dynamic and inconsistent that a single, consistence communication dichotomy between men and women cannot be said to exist?

The assumption that there are distinguishable differences between language used by women and the language used by men will be investigated and addressed in this paper. Furthermore, the setting in which the utterances take place will be analysed, with the purpose of detecting whether there is a difference between whether the language use is appropriated for an intra- or intergroup setting. Lastly, the distribution of openings and closings will be addressed in some detail as well as the differences in appropriating conventional closings by either sex.

## 2 Experiments

The following experiments in the distribution of language use between the two sexes have been conducted using the Switchboard Corpus, in which the conversations are distributed between the sexes as seen in the Table 1. In total, women produced 58% of all utterances, and men 42%. All percentages have been normalised with respect to the class, e.g the percentage of pronouns used by a sex have been normalised with respect to the total number of words uttered by the sex in question. The significances have been done with the Spearman rank-order correlation coefficient, and none of the following quantitative results are significant.

### 2.1 Experiment 1: Dialogue Acts

Dialogue acts form the progression of a dialogue, and they are therefore a useful measure for analysing the differences between how men and women interact and use language in a communicative setting. With basis in the two main strands of gender-based language features described above, nine types of dialogue acts have been chosen for intergender comparative analysis: 'agree/accept', 'opening', 'acknowledge', 'action directive', 'hedge', 'collective completion', 'backchannel questions', 'closing' and 'appreciations'. These were chosen because they either provoke assertive language or affiliative language. It is reasonable to assume that women would appropriate all of these dialogue acts more than men with the exception of the 'action directive,' which suits the assertive language of men.

However, in the Swithcboard corpus, women appropriate all of these dialogue acts more than the men do, including the action directive. According to theories of gender-based language differences, action directives should be a male feature because it is an assertive use of language. This is also the case in intergender settings, but action directives are more appropriated by women in intragender conversations than by men. This might be explained by the type of data and the collection setting in which the Switchboard data was collected. The dialogues are merely communicative and the participants have no task to complete apart from discussing the topic provided to them. Since the action directive is more naturally occurring in dialogues where there is a task to be completed, the distribution in the Switchboard corpus cannot be said to be representative. This is further strengthened by the insignificance of the $p$-values for the distribution of dialogue acts, which is ($p$ = 0.87) for the general distribution between the two sexes and ($p$ = 0.64) in the intragender conversations.

Furthermore, the biggest differences in the ap-

| speaker sex | interlocutor sex | number |
|---|---|---|
| female | female | 374 |
| male | male | 276 |
| female | male | 276 |
| male | female | 230 |

Table 1: Distribution of conversations across sexes

propriation of the various dialogue acts in intragender settings is found in the 'agree/accept', 'acknowledge' and 'appreciation' acts. These differences follow Fishman's observations on the communication in the three couples in her study (Fishman:78). Fishman notes that women tend to do more 'support work' than men by interjecting minimal responses into the conversation. The same mechanism can be said to be at work here; women reply in agreements, acknowledgements and appreciations to what is being said and thereby urge the conversation forward.

Interestingly, women tend to reply less in this way when communicating with a man, and men do not pick up the remaining portion of the distribution that the woman has dropped. The fact that the number of occurrences of these dialogue acts is not maintained in intergender dialogues suggests that they are not strictly necessary for a conversation to proceed. The differences in the distribution of these utterances between men and women and the fact that the number of occurrences is not maintained in a intergender setting suggest that men and women do in fact have different strategies for communicating and that they appropriate language differently. However, the differences in the overall distribution of dialogue acts between the sexes seems to be smaller than the similarities and the differences are not significant.

### 2.1.1 Questions

In terms of the differences in distribution between the two sexes, an interesting subclass of dialogue acts is that of questions. Six types of questions and the tag-question construction have been analysed in the light of gender-based language differences. The distributions neither significant for the intra- ($p$ = 0.95) nor the inter-gender ($p$ = 0.75) dialogues.

Being part of a paired relation, questions have in various studies been found to be used more frequently by women than by men (Lakoff:75, Fishman:78). The same overall result is found in the Switchboard corpus. There are, however, interesting observations related to this subclass of dialogue acts.

Firstly, a drop in women's use of questions from intragender settings to intergender settings. While women pose more questions in an intragender setting than men do, they produce less than men in intergender settings and, in some cases, even less than men in an intragender setting.

Secondly, even though women overall pose more questions than men, there are variations within this subclass of dialogue acts. Men tend to ask more open questions than women in both intra- and inter-gender settings, while women ask more yes-no questions than men in intragender settings, but not in intergender settings. The same counts for declarative yes-no questions, wh-questions and declarative wh-questions. Interestingly, men used the tag-construction more often than women in intragender conversations, while women appropriated it more when speaking with men. According to Fishman, tag-questions can be interpreted as a sign of insecurity, because it moves the opinionated statement away from the speaker and invites a signal of (dis)agreement. The speaker places him/herself in a less vulnerable position by attaching a tag to a statement and creates room for him/herself to retract the statement if the interlocutor is not in agreement. This does not explain the distribution found in the Switchboard corpus, but the setting of the collection of the data might influence the distribution of tag-questions. A tag-question can denote insecurity, but it could also be reasoned that a tag-question can serve as a politeness marker by smoothing opinions and inviting the interlocutor to share their own opinions. Since none of the participants in the Switchboard corpus were acquaintances, it is reasonable to assume that they addressed each other politely and wished for the conversation to continue in an amicable manner and therefore used tag-questions when appropriate.

### 2.2 Experiment 2: Pronouns

The distribution of the use of pronouns between the two sexes is reported in table 2 below. The distributions are neither significant for the general distribution between the sexes ($p$ = 0.72) nor for the distribution in intragender ($p$ = 0.38) conversations.

Of the total words uttered by women, 4.9% of them were pronouns, while the same counts for 3.3% of the men's words. Women used all pronouns more than men, but it is noteworthy that the women's use of pronouns changes markedly depending on the sex of the interlocutor.

The change is easily detectable in the graph $(c)$ in Figure 1, where the red women-men bar is markedly shorter than the three other categories. This drop is similar to the drop found in the use of questions by women and shows that even though women produce substantially more pronouns when speaking to other women, they produce even less than men when engaging in intergender conversations. This also results in a slight increase in the number of pronouns uttered by men in intergender conversations.

The reason for the change may be that the speakers are aware of the sex of their interlocutor and appropriates their language to match that of their interlocutor, but it could also be explained by the Interactive Alignment Model (IAM) (Garrod and Pickering:2009). The IAM supposes that interaction is a joint venture and that both interlocutors will align their mental representations at the lower levels of both linguistic decisions and non-linguistic processes. This means that the interlocutors will imitate and entrain the linguistic choices of their interlocutors and therefore IAM could explain the change in the distribution of the pronouns between the two sexes in the Switchboard corpus as well as the distribution of questions seen above. A speaker will change their language choices simply because their interlocutor's is different and because it will ease the conversation and understanding.

### 2.3 Experiment 3: Openings and Closings

Even though women account for about two thirds of the amount of utterances tagged as conventional openings and closings, the structure of the utterances vary very little across the sexes. Standard phrases such as *a*) 'Hi' and *b*) 'Hello' as openings and *c*) 'It's been nice talking to you' and *d*) 'Bye bye' as closings are commonly used by both sexes.

There is no surprise in that since openings and closings are strict dialogue shaping utterances that contribute little to the topic of the conversation but that are invaluable in terms of structuring the dialogue and it seems odd when they are missing or left out.

| Act | female | male |
|---|---|---|
| openings | 60.87 % | 39.13 % |
| closings | 64.56 % | 35.44 % |

Table 3: Distribution of openings and closings per sex

The fixed structure and task of the openings and closings makes intergender comparisons interesting, since there is no bias in terms of topic and the utterance is situated in an ordered environment.

There are pronounced differences in the lexical choices between the sexes. In an utterance such as $c$) above, the adjective 'nice' can be substituted with any of its synonyms without changing the meaning of the utterance, e.g. 'It's been fun talking to you'. It can also be joined by an adverbial strengthening the value of 'nice', e.g. 'It's been real nice talking to you'. The closing statements produced by men only seldomly substitute 'nice' (to e.g. 'a pleasure') and an intensifier is even more rarely appropriated.

For the closing utterances produced by women, however, 'enjoyed', 'fun', 'good', 'wonderful', 'enjoyable', 'great' are frequently used as substitutes for 'nice' and both 'really' and 'very' are used as intensifiers. This supports Lakoff's claim that women use more intensifiers than men (Lakoff:73).

Furthermore, 'I think' and 'I guess' are more frequently used by women than by men in the conventional closings in the corpus. This could be interpreted as a token of the work women do in dialogues as in Fishman's study. Markers such as the verbs 'to guess' and 'to think' in the meaning of 'I am not sure' enable a turn in which (dis)agreement can be expressed by the interlocutor. In this way, it is a means of ensuring a response and a continuation of the dialogue, by requesting the second block of the paired relation the statement becomes part of, when it is uttered using a verb such as 'think'.

Both closings produced by men and by women tend to address the personal situation of the inter-

| pronoun | female | male |
|---|---|---|
| we | 1.09 | 0.83 |
| his | 0.07 | 0.06 |
| her | 0.10 | 0.06 |
| i | 4.25 | 4.06 |
| it | 2.44 | 2.29 |
| us | 0.07 | 0.05 |
| its | 0.01 | 0.01 |
| their | 0.15 | 0.13 |
| she | 0.23 | 0.16 |
| they | 1.24 | 1.21 |
| our | 0.17 | 0.12 |
| you | 2.50 | 2.51 |
| my | 0.48 | 0.36 |
| your | 0.18 | 0.16 |
| he | 0.39 | 0.29 |

Table 2: Distribution of pronouns per sex

locutor. For instance, many closures include comments such as 'take care of your little ones', ' I hope you see a good movie soon', 'Hope you enjoy your recipe' or 'Good luck with fishing this season'. The change in subject might vary according to the sex of the speaker or the interlocutor, but the dataset is too small to make any substantial claims about the distribution of topics in closing remarks according to sex. Also, it would be fair to assume that if the closing includes a comment on the personal situation of the interlocutor, the topic of that personal remark is more likely to reflect the sex of the interlocutor than the sex of the speaker.

There seems to be no difference in the distribution of comments of appreciation in the closing remarks between the sexes. Both men and women in the Switchboard corpus thank their interlocutor for either 'calling', 'talking', 'your comments' or 'your advice'. This might be due to the fact that thanking is a standard closing remark, especially when communicating with strangers. The way in which the data for the Switchboard corpus has been collected might therefore, once again, influence this feature. The same could be said for other common closing comments such as 'pleasure talking to you', 'I'll let you go now', and 'bye'.

## 3 Discussion and Conclusions

The differences and similarities between how men and women appropriate language in the dialogues of the Switchboard corpus have been analysed above. The main purpose with the analysis was to investigate whether the sex of the speaker alone could be the cause of the differences between the distributions of various dialogue acts, pronouns and closings between the sexes.

It is necessary to note that since the topics discussed in the conversations in the Switchboard corpus were provided to the interlocutors, the differences in for instance the lexical choices, syntactic constructions and number of turns taken by each sex might be influenced by this. Furthermore, it must also be noted that the relatively small number of speakers in the corpus and the method of collecting the data limit the possibilities of generalisation. Since the speakers volunteered to take part in the collection of the data, it can be assumed that none of them were shy or timid, and this bias could colour elements of the analysis such as turns and the distribution of the dialogue acts.

The results stated above do not support the claims put forward by Lakoff and others that there are distinct differences in the communication strategies and that these differences are reflected in the lexical choices and appropriations of dialogue acts between the two sexes.

The differences between the language used in intra- and intergender dialogues as well as the differences within the class of questions seen above suggest that other variables besides the sex of the speaker must be included to fully understand these differences, since they cannot be explained by sex alone.

The understanding of these differences and how they change in interaction request further research in the field. Furthermore, the impact of intergender differences must also be addressed. While some women ask many questions and talk a lot, some do not and even though intergender differences have not been included in this research, but it might certainly improve our understanding of the mechanisms at work.

Further enquiry into how language is used by women and men of different ethnicities will also shed light on the importance of gender-based language theories. It would also be interesting to see if the same results can be found in other languages, in multilingual settings and in different mediums.

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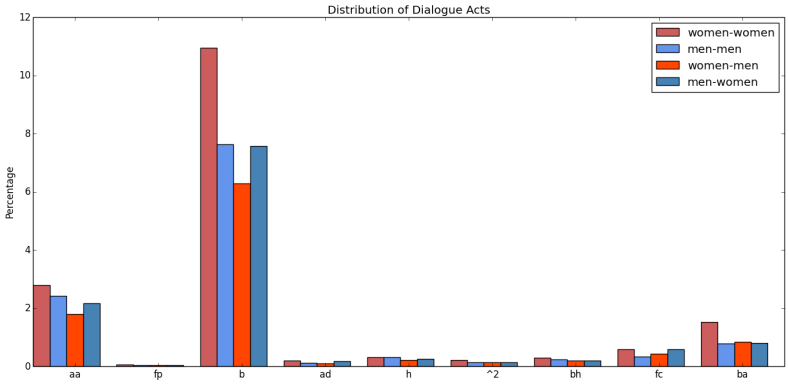
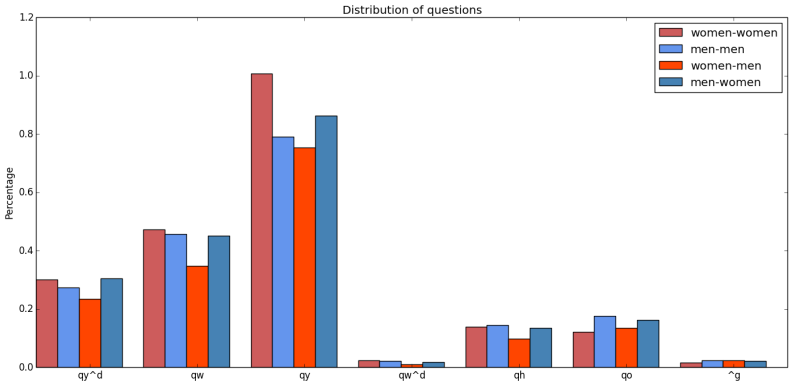



(a) Dialogue Acts

| symbol | dialogue act |
|---|---|
| aa | agree, accept |
| fp | opening |
| b | acknowledge |
| ad | action dir. |
| h | hedge |
| ^2 | coll. compl. |
| bh | b-ch ques. |
| fc | closing |
| ba | appreciation |

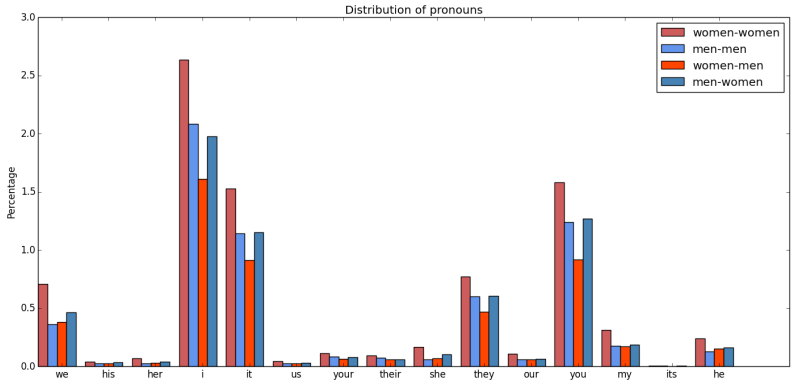
(b) Key for $(a)$




(c) Questions

| symbol | dialogue act |
|---|---|
| qy^d | Decl. yes-no question |
| qw | wh-question |
| qy | yes-no question |
| qw^d | Decl. wh-question |
| qh | rhetorical question |
| qo | open question |
| ^g | tags |

(d) Key for $(c)$




(e) Pronouns

Figure 1: Distributions across the sexes