

## Analysis of Cyber Language: Identifying Gender Boundaries

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### Abstract:

*Cyber language and internet linguistics have been subjects of linguistics debates among researchers in recent years with the proliferation of the use of technology for communication. Along with its various other aspects, its analysis in determining the gender boundaries is a useful area of research. The present study was conducted to analyze cyber language to identify the gender boundaries among one hundred Facebook users of various age groups (13-30 years). In the Pakistani context the study examined the hypothesis that gender based linguistic differences exist in cyber space. For this purpose, the corpus was collected in natural form from the Facebook walls of its users. Gender boundaries were examined on the basis of new word formation and reduction at lexical level. These parameters were further divided into blending, conversion, compounding, derivation and coinage for new word formation, acronyms, phonetic spellings, non-standard spellings, letter/number homophones, clippings and contractions for reduction. Having suggested new parameters for gender identification, the study draws on gender*

*differences on the basis of lexical features used on Facebook. The results indicate that a new but easily understandable language has evolved through Facebook which is responsible for significant differences between males' and females' linguistic properties. The results show that a specific age group from a gender is the dominant user of a specific feature but that very feature is absent on the wall posts of the same age group of the other gender. Levine's test for equality of variances revealed that there is a significant difference between genders on the basis of compounding, coinage, abbreviation, acronyms, non-standard spelling, letter insertion and clipping; whereas, no significant difference was found between genders on the basis of blending, derivation, conversion, abbreviation, phonetic spelling and letter number homophone. On the other hand, genders significantly differ from each other on the basis of their use of non-standard spelling and phonetic spelling.*

**Key words:** Cyber Language, Gender, Facebook, New word formation, Reduction, discourse

## **1. Introduction**

Studying gender differences in terms of language use has always been the area of interest for many sociolinguists such as Lakoff (1975), Tannen (1990) Trudgill (1974), and Zimmerman and West (1975). However, with the increasing dependency and popularity of internet, communication has induced the researchers to revisit the already existing parameters for gender identification. Cyber language, unlike all other languages, has no speakers but writers and is produced in a less edited manner than published writing. Ferrera, Brunner, and Whittemore (1991) have termed cyber language as "interactive written discourse" because Cyber language has the features of spoken language but no one speaks as they write.

Cho and Murray (2007) describe CMC (Computer Mediated Communication) as a language which promotes abbreviation, contraction, and structural reduction. Moreover,

cyber language reveals significant typographic (the art of writing and arranging words), orthographic (standardized way of using a particular writing system to write a language), morphological (study of the formation of words), and syntactic (rules of arranging words in a phrase or a sentence) variability. Typographic features constitute non-alphabetical symbols (including use of letters and numbers for alphabets e.g. *b4*, for “before”, *2day* for “today” etc.). Nonstandard orthography is another defining feature of cyber language. It includes reduction which is categorized as: abbreviation, (*brb* for “be right back”) acronym (*OMG* for “oh my God”), clipping (*add* for “advertisement”), vowel omission or substitution (*cmng* for “coming”), nonstandard spellings (*wanna* “want to”), and new word formation: blending (*netlingo* for “internet language”), backformation (*edit* from “editor”), and conversion (nouns used as verbs *texting* from text), compounding (*netiquette* for “net etiquette”) on lexical level.

In the past, many studies (such as those by Lakoff 1975; Tennen, 1990 and Coates 1988) were dedicated to identifying gender differences in face-to-face interaction. These studies were later questioned for the type of data which was collected during face-to-face conversation where females were disadvantaged, given less turns to speak, and were dominated by the presence of men. The data collected for such studies was not in its natural form; whereas, the data collected through/from Facebook is in its natural form where the language used is not affected by the presence of interlocutors.

## **Facebook as a Medium of Communication**

Facebook is a social networking service where people especially teenagers, stay in contact with one another and communicate through a new medium of communication (Baruah, 2012). Though other networking media have cropped in recently, in the Pakistani context Facebook is still being used as a means

of connecting people. Moreover, it provides equal opportunities to genders for sharing knowledge and ideas. Facebook has provided a platform to traditional housewives, who were either not allowed to speak up and share their feelings with others or did not have time or opportunity to do so, to express their feelings unhindered. Some females have got the opportunity to share their feelings even without revealing their identity. Hence, social media provides them with the opportunity to express their views.

### **Aim/objective of the Study**

Despite many studies on the relationship between Cyber Language and gender, the language choices of genders on Facebook walls are still open to investigation. The current study scrutinizes the linguistic choices made by male and female Facebook users. More specifically, it explores the gender boundaries with reference to lexical features of Cyber Language (Facebook) such as new word formation and reduction.

### **Significance of the Study**

Studying language differences in terms of gender has always been the area of interest for many sociolinguists. However, with the popularity of internet communication researchers are revisiting the already existing parameters for gender identification. Consequently cyber language has opened new dimensions for sociolinguists to study and explore the relationship between cyber language and gender. The significance of the study has grown with the use of internet in not only in education but offices as well. With the increased use of cyber language it has been assumed that internet language reduces the gender inequalities that are present in face-to-face interaction by diminishing the salience of physical and social cues that reveal the gender of participants (Wojahn,

1994). On the other hand, a few studies (Rodino, 1997; Turkle, 1995; Mei Rong & Ching-Yu-Hsieh, 2007) have claimed that gender boundaries have started merging and a gender can disguise itself in any way.

The significance of the study has been increased due to the findings, of the current paper, which disagrees with the previous studies which claim that genders behave alike while communicating through cyber language. Moreover, the current study provides certain parameters which can be used to identify the gender of any anonymous person.

### **Research Hypotheses**

1. There is a significant difference between linguistic choices made by male and female Facebook users at lexical level on the basis of new word formation.
2. There is a significant difference between linguistic choices made by male and female Facebook users at lexical level on the basis of word reduction.

### **Cyber Language and Gender**

The language of males and females can be and has been researched, examined and analysed in various fields, genres and mediums for semantic, pragmatic or syntactic differences. The present study aimed at exploring the relationship between various linguistic aspects of cyber language and gender. Cyber language is characterized by various unusual features (e.g. initialism, clipping, blending, conversion, acronym, abbreviation, contraction, substitution, non-standard spelling, letter/ number homophone, phonetic spelling, capitalization, multiple phoneme, emoticon and non-standard use of punctuation). Linguists and sociolinguists (Herring 1993, 2003; Savicki 1996; Herring & Zelenkauskaitė 2008; Thomson, Murachver & Green 2001; Guiller & Durndell 2006; Kapidzic &

Herring 2010) have used these linguistic features to identify gender differences in cyber language at micro level.

In one of her studies conducted in Italy, Herring and Zelenkauskaite, A (2008) reveal that females post more and longer messages than males do. Moreover, females use non-standard forms more often than men do. Their findings are contradictory to the findings of previous gender related research in sociolinguistics and CMC literature. For example, Labov (1990) and Zelenkauskaite and Herring (2006) ,who compared Lithuanian and Croatian Internet Relay Chat language and gender, suggest throughout their findings that females use more standard language than males do in their writings. Herring and Zelenkauskaite, A (2008) are of the view that women post more messages than men. Moreover they find that women use more reduced forms of language than men do. However, the level of reduction i.e. lexical / sentential has not been discovered. Herring compares the sentence lengths of messages and the measures indicate that females use contracted forms more than males do. On the other hand, males post messages which contain spelled out numbers. Her findings on shortening types by males and females suggest that females use more shortening strategies: homophones, phonetic spellings and clippings than their male counterparts. It has also been noticed that females omit letters (clippings) more often than men do. In contrast, males omit punctuation more often than females do. Similarly, Baron (2004), while carrying her research in an American college, reports females use fewer contracted lexical forms than males do. Her analysis of Instant Messaging (IM) shows that females follow the norms of standard language and employ more standard punctuation marks and capitalization than their male counterparts do.

Although cyber language provides a favorable environment to its users to disguise themselves, the mystery of anonymity can be resolved by analyzing the length of sentences and the style that is used to construct these sentences. Guiller

and Durnell (2006), observing students' use of cyber language, find that even though during communication, they don't reveal their identity through the linguistic features they use, the stylistic differences are evident and reveal their gender identity. Herring and Paolillo (2006), while analyzing the frequency of the grammatical features identified by Argomon (2003) find that in adult blogs, the gender differences disappear. They further argue that the differences at linguistic level remain least evident when participants are engaged in discourse about the same topic. Moreover, when males and females participate in discussion on the same topic they don't speak like males or females rather like scholars. Kapidzic and Herring's (2010) study of chat rooms also confirms that traditional gender differences are less vivid when males and females are engaged in discourse of the same genre on the same topic. Contrary to this, Koch (2005) finds a few gender differences in an experimental study of gender construction in chat groups. He is of the view that gender differences do exist even if the males and females are engaged in discussing the same topic. However, on the basis of an online survey in Spain, Valor and Seiber (2003) state that there is no significant gender difference in the use of cyber language especially on mobile phones. Similarly, in a study of the use of internet by teenagers, Gross (2004) finds that teenagers don't differ in their online behavior and habits. On the other hand, Rafi (2010) is of the view that though gender differences exist in Short Messaging Service (SMS) texting. However, he does not find any gender difference in their use of abbreviations. Similarly, Huffaker (2005) asserts that as the internet users are becoming more androgynous, online blogs created by young males and females are "more alike than different" but Lee (2003) emphasizes that despite the fact that in IM (Instant Messages), male-female traditional linguistic trends are changing; hence, it would be too early to say that internet is a "great equalizer".

## **Participants and Methodology**

In order to analyze the research hypothesis, 50 males and 50 females from various cities of Pakistan were selected. Participants were the bilinguals in Pakistan speaking Urdu as their first language, on Facebook, and English as second language and frequent users of Facebook. The participants who belonged to diverse areas and various age groups were selected to generalize the results and it was also confirmed that the participants were from Pakistan and native speakers of Urdu. These 13-30 year old participants were selected on the basis of non-probability sampling because it was difficult for the researcher to access the Facebook wall posts of a greater population. Before collecting the data, it was important to know which type of data would be possible to gather and how to handle it. Moreover, considering the ethical restrictions, Mann and Stewart's (2000) ethical framework (given below) for qualitative research on internet communication was followed.

- I. Personal data must be collected for a specific and legitimate purpose.
- II. Personal data should be reasonably guarded against risks such as loss, unauthorized access, modification or disclosure.
- III. Data should be collected in a context of free speech.
- IV. Personal data are not to be communicated externally without the consent of the subject who supplied the data.

Considering the above mentioned ethical guidelines, suggested by Mann and Stewart (2000) the data were collected and analyzed. First of all the researcher added all one hundred participants, as friends, in her Facebook. In order to ensure the participants' anonymity, the participants were given the pseudonyms i.e. a name that a person or group assumes for a particular purpose, which differs from the original name. The

participants' personal information regarding places or any other information that might have revealed their identity was also not exposed in any instance. The participants were given the identity on the basis of gender and their age group.

While data collection only those messages were collected which were posted and commented by the participants. The data, in the form of Facebook wall messages, were collected from the Facebook postings of 13-30 year old participants. Each message was coded for 13 linguistic features: compounding, coinage, abbreviation, acronyms, non-standard spelling, letter insertion and clipping, blending, derivation, conversion, abbreviation, phonetic spelling and letter number homophone. Mean, standard deviation (SD), standard error mean(SEM) and independent sample t-test were calculated through Statistical Package for Social Sciences (SPSS).

## **Results**

The results of the qualitative data uncover and bring forward various linguistic choices at lexical level that the users prefer while posting on their and others' Facebook walls. The results show a greater tendency of females towards the use of blending(such as "gareebness" for being poor; blend of Urdu and English language "Gareeb" meaning poor in Urdu and "ness" being a prefix used to make it a noun in English , hence "gareebness" coined to mean "poverty"), conversion ( e.g. "googling" from google), compounding (such as, "hoing" for doing), coinage( e.g. "fairytalish" for kind of fairy tale), acronyms (such as "LOL" for laugh out loud), abbreviation (e.g. "BTW" for by the way", "DP" for display picture), phonetic spellings( e.g. dat for that, "lemme"for let me) and non-standard spellings( e.g. "gonna" for going to). On the other hand,males dominate in letter insertion(e.g. "waittttttttt" for wait, "awsomeeeeeeee" for awesome), letter number

homophone(“gr8” for great) and clipping(e.g. “bro” for brother, “info” for information).

**Table 1**

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Blending	Male	50	.56	1.593	.225
	Female	50	1.06	2.721	.385
Conversion	Male	50	.20	.404	.057
	Female	50	.18	.596	.084
Compounding	Male	50	.02	.141	.020
	Female	50	.38	1.048	.148
Derivation	Male	50	.74	1.382	.195
	Female	50	1.68	2.171	.307
Coinage	Male	50	.90	1.764	.249
	Female	50	1.74	3.212	.454

Quantitative data show that there is a mean difference between male and female Facebook users on the basis of blending, conversion, compounding, derivation and coinage. On blending mean score of males is 0.56 with 1.593 Standard Deviation (SD); whereas mean score of females is 1.06 with 2.72 SD as shown in table 1. Small Error Mean (SEM) 0.225 and 0.385 on blending between males and females respectively shows approximation of sample mean to population mean.

The Mean score of males on conversion is 0.20 with 0.40 SD and the mean score of females is 0.18 with 0.596 Standard Deviation; whereas SEM is 0.057 and 0.084 between males and females respectively. There is a/the mean score difference on the use of compounding by males and females. The Mean score of males on compounding is 0.02 with 0.14 SD and 0.02 SEM; whereas mean score of females is 0.38 with 1.04 SD and 0.14 SEM. There is greater mean score difference on the basis of derivation and coinage by males and females. Mean score of males on derivation is 0.74 with 1.38 SD and 0.19 SEM; whereas mean score difference of females is 1.68 with 2.17 SD and 0.30 SEM. The mean difference of males on the basis of

coinage is 0.90 with 1.76 SD and 0.24 SEM. On the other hand the mean difference of females on coinage is 1.74 with 3.21 SD and 0.45 SEM.

**Table 2 Group Statistics**

Factors		Leven's Test for Equally of Variances		t-test for Equality of Means		
		F	Sig.	T	df	Sig.(2-tailed)
Blending	Equal variances assumed	2.15	0.14	-1.12	98	0.26
Conversion	Equal variances assumed	0.003	0.95	0.19	98	0.84
Compounding	Equal variances assumed	25.64	0.00	-2.40	98	0.01
Derivation	Equal variances assumed	5.48	0.21	-2.58	98	0.01
Coinage	Equal variances assumed	25.57	0.00	-1.62	98	0.10

Table 2 indicates the two tailed independent sample t-test and significant values, with 98 degrees of freedom. The “t” value on blending is -1.12 with sig.(2-tailed) 0.26. The “p” value shows that there is no significant difference between males and females on the basis of blending. Similarly, the “t” value on conversion is 0.19 with sig. (2-tailed) 0.84. The “p” value indicates that there is no significant difference between the choices made by males and females on the basis of conversion. However, the “t” value on compounding is -2.48 with sig. (2-tailed) 0.01. The “p” value shows that there is a significant difference in the linguistic choices made by males and females on the basis of conversion. Similarly, the “t” value on derivation is -2.58 with sig. (2-tailed) 0.01. The “p” value indicated the significant difference between males and females on the basis of

derivation. However, the “t” value on the basis of coinage is - 1.62 with sig. (2-tailed) 0.10. The “p” value shows no significant differences in linguistic choices made by males and females on the basis of coinage.

### Independent Sample t test

**Table 3 Group Statistics**

	gender	N	Mean	Std. Deviation	Std. Error Mean
Acronym	Male	50	1.34	1.722	.243
	female	50	2.52	4.450	.629
Abbreviation	Male	50	2.54	4.854	.686
	female	50	3.22	2.757	.390
Phonetic spellings	Male	50	10.92	10.832	1.532
	female	50	16.06	10.691	1.512
Non-standard spellings	Male	50	2.20	1.498	.212
	female	50	7.78	6.460	.914
Letter insertion	Male	50	12.44	7.271	1.028
	female	50	5.28	6.627	.937
Letter homophone number	Male	50	1.88	2.256	.319
	female	50	1.74	2.586	.366
Clipping	Male	50	2.08	2.069	.293
	female	50	2.58	2.704	.382

Table 3 indicates that the mean score of males on acronym is 1.34 with 1.72 Standard Derivation ( SD) whereas the mean score of females is 2.52 with 4.45SD; whereas, Standard Error Mean (SEM) is 0.24 and 0.62 between/?males and females respectively. There is mean score difference on the use of abbreviation by males and females. Mean score of males on abbreviation is 2.54 with 4.8 SD and 0.68 SEM; whereas mean score of females is 3.22 with 2.75 SD and 0.39 SEM. Males and females display a greater mean score difference on the basis of the use of phonetic spellings, non-standard spellings and letter

insertion in males and females. The Mean score of males on phonetic spellings is 10.92 with 10.83 and 1.53 SEM; whereas mean score difference of females is 16.06 with 10.69 SD and 1.51 SEM. The mean difference of males on the basis of non-standard spelling is 2.20 with 1.49 SD and 0.21 SEM. On the other hand the mean difference of males and females on the basis of non-standard spelling is 7.78 with 6.46 SD and 0.91 SEM. The mean score difference on the basis of letter insertion in males and females is 12.4 and 5.2 with 7.27 and 6.62 SD and 1.02 and 0.93 SEM respectively.

Similarly, the mean difference of males and females on the basis of letter number homophone is 1.88 and 1.74 with 2.25 and 2.58 SD and 0.31 and 0.366 SEM respectively. On the other hand, there is less difference in the mean scores of males and females on the basis of clipping. Table 3 indicates that the mean score of males is 2.08 with 2.06 SD and 0.29 SEM on the basis of clipping whereas, females' mean score on the basis of clipping is 2.58 with 2.70 SD and 0.38 SEM.

Factors		Leven's Test for Equally of Variances		t-test for Equality of Means		
		F	Sig.	T	df	Sig.(2-tailed)
Acronym	Equal variances assumed	11.25	0.01	-1.74	98	0.08
Abbreviation	Equal variances assumed	0.27	0.60	-0.60	98	0.39
Phonetic Spellings	Equal variances assumed	0.18	0.67	-2.38	98	0.01
Non standard spellings	Equal variances assumed	37.85	0.00	-5.95	98	0.00
Letter insertion	Equal variances assumed	4.52	0.03	5.14	98	0.00
Letter number homophone	Equal variances assumed	0.12	0.72	0.28	98	0.77
Clipping	Equal variances assumed	4.84	0.03	-1.03	98	0.30

**Table 4 Independent Sample T Test**

Table 4 indicates the two tailed independent sample t-test and significant values, with 98 degree of freedom. The “t” value on acronyms is -1.74 with sig. (2-tailed) 0.08. The “p” value indicates that there is no significant difference in males’ and females’ linguistic choices on the basis of acronyms. Similarly, the “t” value on abbreviation is -0.86 with 0.39 2- tailed sig. value, that once again indicates no significant difference. On the other hand, there are significant differences in males’ and females’ linguistic choices on the basis of phonetic spellings, and letter insertion. Table 4 shows that the “t” value on the basis of phonetic spellings is -2.38 with 0.01 sig. (2-tailed). Similarly the “t” value on the basis of non standard spellings is -5.95 with 0.00 2-tailed sig. value, that indicates the significant difference in linguistic choices made by males and females on the basis of non-standard spellings. The “t” value on the basis of letter insertion is 5.14 with 2-tailed sig. value of 0.00 that shows that there is significant difference between males and females on the basis of letter insertion. The “t-test” Table 4 does not show any significant difference in males and females on the basis of the use of letter number homophone and clipping. Moreover, it also indicates the “t” value, on letter number homophone, which is 2.89 with sig. (2-tailed) 0.77 that once again indicated no significant difference. Similarly the “t” value on the basis of clipping is -1.03 with 2-tailed sig. value of 0.30. The “p” value indicates that there is no significant difference in linguistic choices made by males and females on the basis of clipping.

## **Discussion**

The present study analyzed gender based linguistic differences found in Cyber language through Facebook wall posts of young Pakistani male and female Facebook users. The results indicate that both males and females participate equally in Facebook discourse and share their views. Although, it will be premature

to say that internet is a gender equalizer in discourse in the Pakistani context just like it has been found by other researchers like Rodino 1997 and Graddol and Swan (1989). Though it can be said that social media is contributing towards the reduction of differences in the linguistic choices made by males and females in their online discourse. The reason behind this can be that unlike face-to-face conversation, it involves less face saving strategies hence the fear of immediate response or reaction is reduced. The differences that exist in the Pakistani discourse can be attributed to the still existing, though reducing, gender differences in the society at homes as well as the work place where females generally behave and are supposed to behave more decently in discourse and men, too, behave more decently when in the company of females with the result that females are generally better at pronunciation, hence their use of phonetic spellings. This consideration, though, is less obvious in internet/online discourse where both genders enjoy greater freedom to give vent to their thoughts and feelings.

## **Conclusion**

The article has analyzed that there is no clear significant difference between the linguistic choices made by males and females on the basis of new word formation and reduction. However, there are a few instances where genders behave differently e.g. females are the dominant users of compounding, derivation, phonetic spellings, letter insertion, and non standard spellings.

This study has thus demystified the perception existing before that genders behave alike while using cyber language and no boundaries exist and they can hide their identities successfully while using internet for communication. This study has provided certain parameters which can be used to identify the gender of any cyber language user. Though cyber language

is a non standard form of language allowing its users to experiment with a lot of different features of language, within these varieties, there are individual differences that help to identify a person's gender.

### **Delimitations of the study**

1. The data is collected from all over Pakistan. The population of the present study is delimited to 100 participants only. It is worth mentioning here that the researcher delimited data collection to Facebook only, although other modes/media of CMC are also available.
2. Ethical considerations restricted the researcher to record and study all communication of these participants. So, there is the possibility of their behaving differently in other environments.
3. In the present study the gender differences have been measured at the lexical level of language. However the gender differences can be measured at the grammatical or sentential level.

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