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The Influence of English Language on Developing Gendered Perception

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The present quantitative study aimed to explore if the same argument applies in the case of non-native speakers of English. The study was conducted in SBK Women's University Quetta Baluchistan. Researcher selected 20 participants through convenience sampling.. The results were statistically significant and provided support for the hypothesis that generic he and man elicit inappropriate number of male images and validated Sapir-Whorf hypothesis which served as a theoretical foundation for the present study. Results also suggested that he/she and human function as generic pronouns. Future research should modify the research design, taking into account the limitation of the study

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Robina Jalal-ud Din [α], Zainab Akram [σ] & Naheed Qasim [ρ]

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I. Introduction

a) Language, Thought and Social Reality

Language is an exquisite tool to communicate and to express our beliefs, values, feelings and emotions. According to He (2010) language is a powerful tool that performs a significant and crucial role in the society. According to Nilson (2007) and Xiubai (1996) (as cited in He, 2010) language is akin to a mirror which displays the reflection of all aspects of human civilization. The existence of a language and its development are strongly connected with social behavior and attitude of human beings. And to a great extent language is affected by the principles, beliefs, values and code of behaviors of its speakers. In other words all the phenomenon of society including gender discrimination is manifested in the language. On the other hand some scholars are of the opinion that language reflects not only the nature, and characteristics of a society but is a governing force in shaping and constructing that society and governs the whole course of life. (Gender discrimination is an aspect of society and language is responsible for inculcating and perpetuating gender discrimination. However OinXiubai (1996) (as cited in Riley, 2000) opposes this idea and maintains that sex discrimination in language is not the result of the language symbols rather language is only a means of reflecting the social values, attitudes, and the way a particular society thinks. However behaviorists tend to adhere to the notion of language thought interdependence. The view that language merely reflects the thoughts and beliefs about the world was dominant until 17th century, a renewed perspective regarding discrimination was put forward by Leibniz in 1697, who believed that language is not a means of expressing thoughts only but it is a medium which affects thought (Tsoi).

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b) Sexism or Gendered Language

Sexism or gendered language is a burning issue within the realm of feminist linguistics and has been highly debated since 1970 (Linthe, 2010). The issue of sexism particularly accentuated after the first and second wave of American Feminist Movement and their struggle for the promotion of equal rights for men and women (Gabriel &Gygax). According to He (2010) if we take the historical and sociological facts and figures into consideration, it becomes evident that ours is a man dominant and man oriented society where women are treated and considered inferior to men. Ralph Fasold (1990) (as mentioned in He, 2010) claims that linguistic discrimination against women can be accounted for in two ways, Women are either instructed "to speak like a lady" that is to use language that is quite different from men or the way language itself treats women. She inferred that in both the ways women tend to have an inferior status. As language has the ability to influence thought processes .so it can be assumed that sexist language may also contribute to strengthen the biased social patterns.

c) Topographies of sexism in Language

i. Generic Noun Man

An aspect of sexism is evident in the use of generic noun. Generic noun man corroborates the allegation of sexism. Men and women are two equal, independent and integral constituents of the man-made society. However English language and its lexicon do not treat them equal. Noun man has two usages. It either refers to a male referent or to the whole human race. The proponents of feminist movement claim that the use of generic man is responsible for making women invisible

For example

1. All men must die.
2. Man is mortal.
3. Man is a social animal.

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However one cannot replace man or men in the above examples with woman or women. The term woman does not enjoy a positive connotation. A woman is always equated with dance, merriment, luxury, jealousy, stupidity, and superficiality etc. but when the term man occurs in a piece of writing or speech, it is commendatory, tends to have positive meaning, and is represented as worthy of regard.

ii. *Generic Pronoun He*

According to Dean &Norton (2011) Generic pronouns or epicene pronouns are defined as pronouns that are assumed to refer to the subject or noun of common or an unspecified gender with equal probability or possibility. For more than a hundred years, English grammar has been highly criticized and reprimanded for the unavailability of gender neutral third person pronoun. As a gender specific pronoun it refers to male referent and as a generic pronoun it is assumed to be used as gender inclusive pronoun. For example

1) Everyone believes he is king of his world.

However it often fails to perform the second function. When generic he is used with a noun of common gender such as instructor, teacher, student, etc. they are often interpreted as referring to the male referent and ignores the possibility of a female referent. For example in the following sentence he refers to the noun instructor which is either a male or female.

2) An instructor is expected to recommend and propose the students stimulating and demanding takes even if he has to exert a lot of effort.

However in most cases this sentence is unconsciously interpreted as referring to man even by the females.

iii. *Generic possessive Pronoun One*

According to Moltmann (2010) the traditional grammar states that when indefinite pronoun one is used in generic context, then only one, one's and himself should be used in order to construct a grammatically well-formed sentence. For example,

1. One could suspect that one has a soul.
2. If one is human, one has a soul.
3. One should benefit from one's knowledge.

However in American English, instead of one or one's, he and his is employed in order to avoid repetition. Thus

1. One could suspect that he has a soul.
2. If one is human, he has a soul.
3. One should benefit from his knowledge.

In this sentence one refers to the idea of people in general, which is a noun of an un-specified gender. However the use of he and his elicit image of man in one's mind than a woman. That is to say that language or more particularly grammar rules tend to uplift the status of masculine terms and relegate the status of feminine terms.

iv. *Generic Pronouns They, Their and He/she*

According to Dean & Norton (2011), English speakers now tend to use gender neutral pronoun they instead of the epicene he. Though it seems ungrammatical but still it is preferred in order to avoid the dilemma of being prejudiced against women. For example

1. A responsible citizen will always do his best to follow the law. Is substituted with

2. A responsible citizen will always do their best to follow the law.

Though they and there are plural, however they are taken to be gender neutral third person singular pronoun. According to Quirk et al. singular they was a characteristic of informal English, but now it is observed in formal English as well. They suggest the use of the rule of singular they in the following examples.

1. Everyone believes they are the king of their lives.
2. Has anybody forgotten their sweaters?
3. It is a fact that no one could feel themselves responsiblefor whatever happens.

II. Literature Review

a) Gender System in English language

According to Curzan (2003) English is one of those languages that does not use grammatical gender system rather utilizes a natural gender system, in which nouns and some pronouns (I, me, you, they) are classified as masculine, feminine and neutral according to semantic distinction as observed in the real world such as male animate (male human), female animate (female human) and inanimate (non-human). If the referent is male (e.g. boy) the noun is interpreted as male and if the referent is female (girl) the noun is interpreted as referring to female. If the gender of the referent is not mentioned (e.g. pupil) then the noun is understood as referring to both male and female gender.

According to Baron (1986) the natural gender system in English is complicated by two factors. The use of suffixes such as _ess, _ette, and _ine mark the nouns as referring to one particular gender that is it tends to encode female gender while leaving out the masculine gender altogether.

Martyna (1980) cited in her book that linguistic faculty at Harvard in 1971 asserted that the argument that male gender is unmarked in English or English language being sexist curbs the potential of women or makes them invisible is quite irrational. It is simply a grammatical phenomenon. Similarly others are of the view that sexist language structures are only manifestation of the attitudes rather than cause of the underlying attitude. Social bias is already formed and is

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not instilled by linguistic patterns. Reforming language is needless and inessential because eliminating bias in language may not result in eradication of social bias from the society. Lakoff (1973) expresses the same belief that the basic reason behind the lexical and grammatical neutralization is the fact that men have always been the doers, performer, and writers and it by no means entails any disparaging role for women and this area of language is very little in need of change or reform.

b) Promotion of Androcentricity by Gendered langauge

Recent studies based on male generic words also substantiate the argument of linguistic relativity that generic words do contribute to bias interpretation. Studies undertaken in past few decades have advocated that the use of male generic words eliminate female referent from speakers' perception and perception. They not only promote and strengthen androcentricity but also contribute to producing gender in equality in the society. Ehrlich & King (1994) proclaims that it is undeniable that language not only reflects sexist social biases and attitude but is also responsible for reproducing and reinforcing such attitudes and biases.

The third person male generic pronoun he has received much attention from researchers who have argued that this element of English grammar is the most androcentric in its use. Martyna (1978) was the first researcher who addressed the issue whether he is inclusive of both the sexes and has the ability to serve as a generic pronoun that is to refer to both male and female referents unambiguously. It was an experiment based on production in which participants were directed to fill the slots in the sentences. For instance, when a graduate receives degree _____. She hypothesized that if he is a suitable generic pronoun then it must be used by the subjects whenever the sex of the referent is unknown. However it was observed that subjects frequently used he to fill the slots in the sentences in which the antecedents appeared masculine (police officer), she to complete sentences with the antecedents that appeared feminine (nurse, babysitter) and he or she or they to complete sentences which contained neutral antecedents (person). Results revealed the fact "that he and she were used as sex specific pronoun and he was not considered as a suitable generic pronoun rather he or she and they were used in the sentences containing neutral antecedents (person). Even though he or she and they were used for neutral antecedents however male subjects had a propensity to draw male images for those sentences. Martyna proposes that generic he is ambiguous and prejudiced.

Martyna's study focused only on the production and little attention was given to the comprehension. MacKay and Fulkerson (1979) conducted a study that provided an in-depth analysis of the comprehension of the generic pronoun he. Their study aimed at investigating whether male generic pronoun simply represent their referents (both male and female gender) or produce bias in speakers by making them interpret and comprehend as referring to male gender only. Participants were asked to interpret the sentences which contained sex specific nouns (All the clothes were ironed by mother) sex specific pronoun (The instructor collected all the assignments from the students.) and male generic pronoun (Even a professor would say that sometimes he is unable to convince the students.) and state whether they could or could not be interpreted as females. It was figured out that subjects interpreted he, referring to males only despite of its generic use. Before the comprehension task subjects were presented with the antecedents (nouns) in isolation and were rated as masculine or feminine. Even words that were rated as feminine (nurse) were interpreted as referring to men only when used with he. This shows that he is not generic term but makes male interpretation more salient. MacKay and Fulkerson drew our attention to an important facet of the study that the results of their studies by no means affirm that generic pronoun he strictly influences or changes one's cognition or perception of the world because participants were inclined to comprehend the noun as male only when they were used along with generic pronoun he. However when the words were presented in isolation without using the bias pronoun, they could base their judgment of the nouns on their real world experience. Their interpretation reflected real world distribution of profession on the basis of gender. They further elucidates the fact by stating that generic pronoun he has the ability to change the perception of those who are in the formative stages of life for example children, who do not possess enough real world knowledge and experience to form judgment. For instance children lack the knowledge that both male and female can be scientists. The use of generic he can affect their perception and lead them to think that only men can occupy those posts, thus causing attitude and behaviors that are termed as sexist or biased.

Gastil's (1990) research pertaining to the same area of investigation provides further evidence to support the claim that reading or hearing generic pronoun he leads the reader or listener to interpret it as referring to male referent only. Participants were required to read 12 sentences aloud. Half of the sentences contained third person generic pronoun he, he or she, or they. Once finished with the reading, all the participants verbally described the images of the referents that were elicited in their mind after reading the sentences. After describing the images, participants were redirected to review the sentences and recall the gender of the people they imagined or visualized. This recalling of the images was to confirm the gender of the first image evoked in their mind. If the first image described by the participant was clear then the second

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image was not taken into consideration. The results of the study revealed that he elicited more male images than he or she or they. The results evince that he is unable to serve as an effective generic pronoun because it is responsible for biasness in the listener and conjures up male images. Another important aspect discussed here is the fact that in case of male participants no significant difference was found for the images elicited for he and he or she. However women participants showed opposite performance. It showed that male and female may differ significantly in their interpretation of male generic nouns and pronouns.

Hamilton (1988) designed a study that was also related to the production of generic he by participants. She attempted to determine whether male imagery as accounted in the study conducted by Martyna was the outcome of pronouns that were used to complete the slots in the sentences and whether the generic words elicit more male referents than female even knowing the fact that they are inclusive of both the sexes. In order to address this issue Hamilton structured her study in which participants were required to make use of either sexist pronoun he, nonsexist pronoun he or she and they to fill the blank slots in the sentences either in traditional or academic way or in modern or casual way. After finishing the task, participants were directed to describe images elicited in their minds of the people in the sentences. The results of the study revealed that participants who employed sexist he produced more male images and those who used nonsexist he or she and they, and supports the claim that one's own use of male generic words can bias one's perception and the linguistic relativity hypothesis that it is a fact that language does not determine thought, it definitely has the power to influence the thought to some extent.

III. Statement of the Problem

Usually in Grammar classes, students are taught to use generic pronoun he in sex indefinite sentences. Similarly generic nouns such as man, mankind etc. are also supposed to be used in generic context to refer to both men and women with equal likelihood but actually they are tend to be interpreted as predominantly referring to masculine gender only.

IV. Research Hypothesis

Language as a powerful tool exercises profound influence over perception. Male generic noun and pronoun turn sexist while interpreting and initiate the thoughts of male referent while reformed language use is inclusive of both the gender.

V. Objectives

1) To investigate the role of English language in creating gendered perception.
2) To establish a relationship between English language and its role in inducing and inculcating gendered
3) To examine the extent to which language is responsible for developing and inculcating gendered perception in its speakers.
4) To test the hypothesis with the help of the proposed theory.

VI. Significance of the Study

The purpose of the present study is to establish a relationship between the use of language and its influence on perception in general and the impact of English generic terms that turn sexist when interpreting, in developing gendered perception in particular. Many research inquiries and studies have been conducted to establish the fact that English language is sexist and exhibit male bias. All the studies undertaken up till now have been carried out on the native speakers of English. All those studies were consistent with the view that English generic terms develop male bias and prejudice against women. Present study is carried out on the non-native speakers of English and to find out whether the results are consistent with those carried on the native speakers. The results obtained might be a new addition to the present store of knowledge pertaining to the influence of generic terms on the perception of people.

VII. Limitation and Delimitation of the Study

Sexism, gendered language or linguistic discrimination is a much broader and highly debated phenomenon in the realm of feminist linguistics. Language exhibits prejudice against women in a number of ways; feminine terms are derived from male terms, noun and pronoun despite of their generic use are often interpreted as referring to male gender and discrimination even in word order, connotative meaning, collocation and in proverbs and idioms. However researcher has confined or delimited her focus only on the generic noun and pronoun as being responsible for developing gendered perception. Moreover the study has been delimited to SBKWU for feasibility.

VIII. Operational Definition

- **Sexism:** Discrimination on the basis of sex
- **Gendered Language:** Words, phrases or expressions that either discriminate between men and women or trivialize women.
- **Generic Nouns:** Nouns (man, mankind) that tend to refer to the whole race without any reference to a particular gender.
- **Generic Pronouns:** Pronouns (he, his, and himself) that tend to refer to a subject of common or an unspecified gender (teacher, doctor etc.).

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- **Gendered Perception:** Perceiving generic noun and pronoun as sex specific.

IX. Research Methodology

The design of the present study is quantitative as the data gathered has been analyzed statistically and is a relational investigation attempting to establish a relationship between the two constructs namely language and perception.

a) Theoretical Framework

Sapir-Whorf hypothesis also known as the Whorfian hypothesis deals with the relationship between language and thought. This hypothesis is said to be put forward by anthropological linguists Edward Sapir and his student Benjamin Whorf but as matter of fact neither of them formally stated the hypothesis. This hypothesis was deduced by scholars from the works of these linguists and since then has given rise to a controversy among philosophers, psychologists, anthropologists and linguists. The more radical proposal known as language determinism states that language strictly determines the thought or the way people perceive the world. However the moderate proposal known as linguistic relativity substantiates the view as language habits affect or influence the thinking process. There is little empirical evidence for linguistic determinism however linguistic relativity has contributed a lot in producing influential research from different perspective (Cassanato, 2012). Present study takes the moderate proposal of Whorfian hypothesis that is linguistic relativity to support the argument that English language being sexist has contributed to developing gendered perception and making women invisible.

b) Population and Sample Size

The target population of the present study is all non-native English speakers/learners. However to make this investigation more convenient and feasible, researcher chose SBK Women's University students as the accessible population. It was hoped that sample of 20 participants would be representative of the whole population.

c) Sampling and Sample Design

Researchers selected 50 participants in the study as chi square distribution requires an adequate sample size so that its distribution may go unaffected.

d) Statistical Techniques

Gendered language and perception are nominal variables also termed as categorical variables as they can assume two or more values. The data is statistically analyzed by $\chi 2$ distribution. It is a test of significance which is often used for testing an association between two nominal or categorical variables when data is presented in the form of frequency counts and the point of concern is to find out how many participants fall into different groups.

In $\chi 2$ test, data arranged in the contingency table is used. Contingency table comprises of two or more rows and columns in which n observations are organized in accordance with the categorical variables. Chi square distribution has only one parameter known as degrees of freedom (df). Df is determined by the number of columns and rows in the table by the following formula

df=(number of rows-1)x(number of columns-1)(Chaudary & Kamal, 1978)

When collecting sample data, it is necessary to keep in mind that for chi square test, a small sample may generate smaller expected values which may affect the chi square approximation. Smaller expected frequencies are a common weakness encountered in chi square test which can be resolved either by adding 0.5 to all observed frequencies or by increasing sample size. Contingency table offers a valuable way of comparing categorical variables (Peers, 2006).

e) Data Collection and Instrumentation

1) Instrument employed in this study was selected keeping in view its suitability in securing information from the participants. This method was used by Gastil (1990) in his experiment to record the comprehension of generic noun and mental imagery of the participants. Participants were provided with 20 sentences out of which half were target sentences and rest were filler sentences. Participants were directed to read the sentences aloud and visualize whatever came into their mind. Their responses were recorded into a tape recorder. After completing the task, participants were asked to read the sentences again and recall the images and were recorded again. Six decision rules were employed when the images visualized and recalled did not match with each other.

f) Data Collection

Researcher collected data from 20 students attending SardarBahadur Khan Women's University Quetta (SBKWU). She read the instructions aloud and described one sentence with all possible details in order to give the participants an idea how to deal with the rest of the sentences. Sentences on the paper were not organized; they were not ordered as first 5 dealing with the generic he, then 5 dealing with man and finally giving the filler sentences. Rather they were put randomly so that the topic being investigated might not be guessed by the participants.

Each participant read the sentences aloud and each sentence was verbally described by the participant and was recorded into the tape recorder. For instance one participant read the sentence "a pedestrian must be careful while crossing the road." and verbally described it as, "I can see a heavy traffic on the road, children walking on the footpath, zebra crossingand so on.

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After reading and visualizing the target and filler sentences, participants were directed to read the sentences once again and recall the images and identify their gender. Their responses were recorded and the tape was turned off.

All the recordings were later on transcribed by the researcher and coded as alluding to either male, female or both the genders. While coding the images when the original image did not match the recalled one, researcher employed six decision rules as documented by Gastil (1990).

g) Data Analysis

Researcher performed statistical analysis of the data secured from the participants with the help of chi square test of independence which is used for estimating any relationship between the nominal variables. This test requires formulating null hypothesis which states that there is no statistical relationship between the variable and the alternative hypothesis which states that there exist a statistical relationship between the variables. If null hypothesis is accepted, it means that that the two variables under study are independent. If null hypothesis is rejected it implies that variables under study are associated with each other. The chi square statistic only reveals whether there exists any relation. It does not indicate the strength of the association. In order to indicate the strength of relationship Pearson's co efficient of mean contingency is used to measure the strength of association.

C=If C=0 then there is no association between the variables, but if there exists some relationship the value of C= which is 0.70 for 2x3 contingency table.

Where k is the smaller value either a row or column. The value of C lies between 0 and. The larger is the value of C the stronger is the association between the variables. (Chuadary).

i. *Decision Rules*

1) If a participant utters the word he while describing the image, it does not necessarily implies that the person in the image is male unless any other details are provided.
2) If the participant is unable to answer the question of recalled image, then the original image is preferred.
3) If the participant is not able to provide an original image, then any recalled image is not considered.
4) If the answer of the participant for the visualized image and the recalled image are different, then the original image is given preference.
5) If the original image is clear enough in terms of gender, and the recalled image is none of the gender, original image is used.
6) If the participant does not specify the gender of the person in original image, the code mixed gender is used

ii. *Tabulation of the Data*

After transcribing all the images as alluding to male, female or both the genders, researcher inserted the figures into a 2x3 contingency table to show how many images fall in a specific category. The table consists of rows and columns, depicting the number of images falling into a particular category and is known as observed frequencies. All the columns and rows are totaled to obtain column total and row total respectively. Grand total is obtained either by adding the row total or column total (Devore & peck, 2001)

1.1.1. Contingency Table for Generic He and Man

Images	Expected Cell Count	
	He	Man
Male	$91\frac{98}{195}=45.7$	$91\frac{97}{195}=45.3$
Female	$38\frac{98}{195}=19.1$	$38\frac{97}{195}=18.9$
Mixed	$66\frac{98}{195}=33.2$	$66\frac{97}{195}=32.8$

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1.1.2. Contingency Table for Reformed Language

Images	Expected Cell Count	
	He/She	Human
Male	$36\frac{98}{197} = 17.9$	$36\frac{99}{197} = 18.1$
Female	$94\frac{98}{197} = 46.8$	$94\frac{99}{197} = 47.2$
Mixed	$67\frac{98}{197} = 33.3$	$67\frac{99}{197} = 33.7$

Graphical representation of the Data

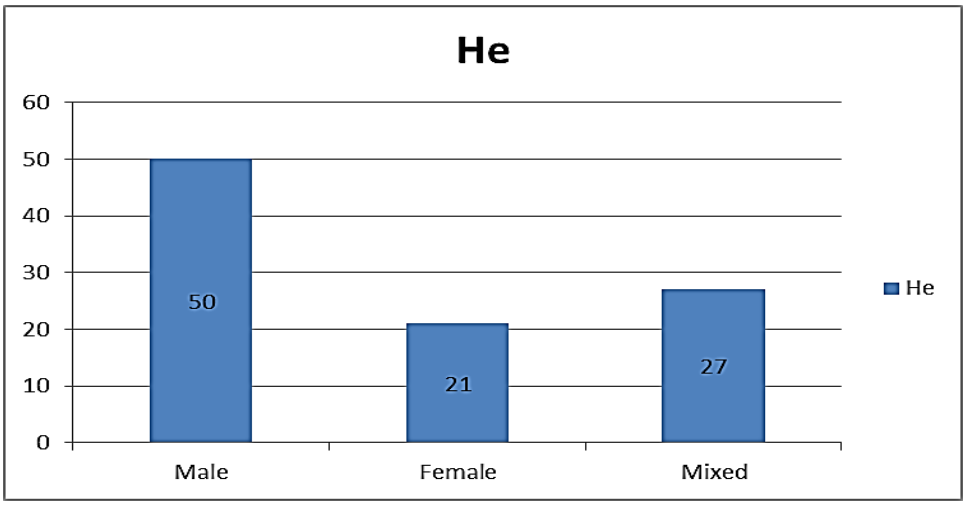


Figure 1 : images evoked by Generic He

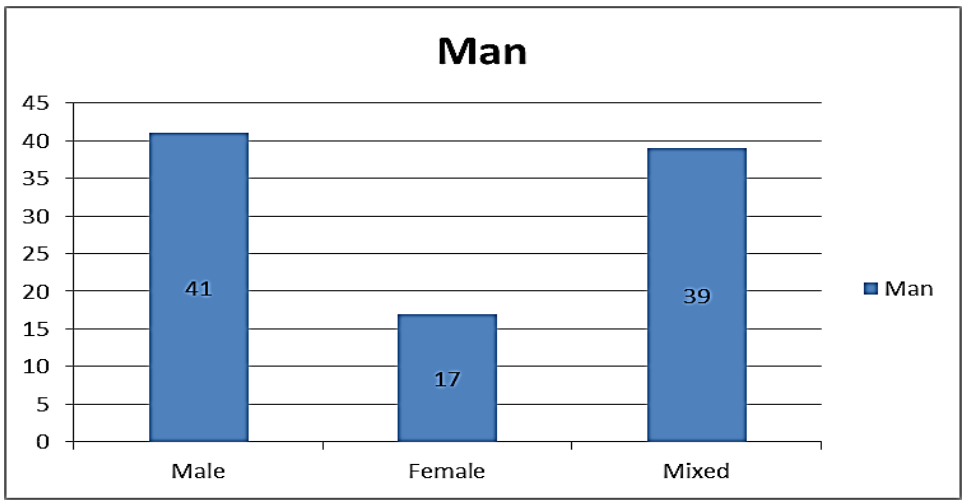


Figure 2 : Images evoked by generic noun Man

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Figure 1 and figure 2 provides a graphical represe-ntation of the images evoked for the generic terms he and man individually which shows that he and man evoked more male images than female images.

Graphs for Reformed Language

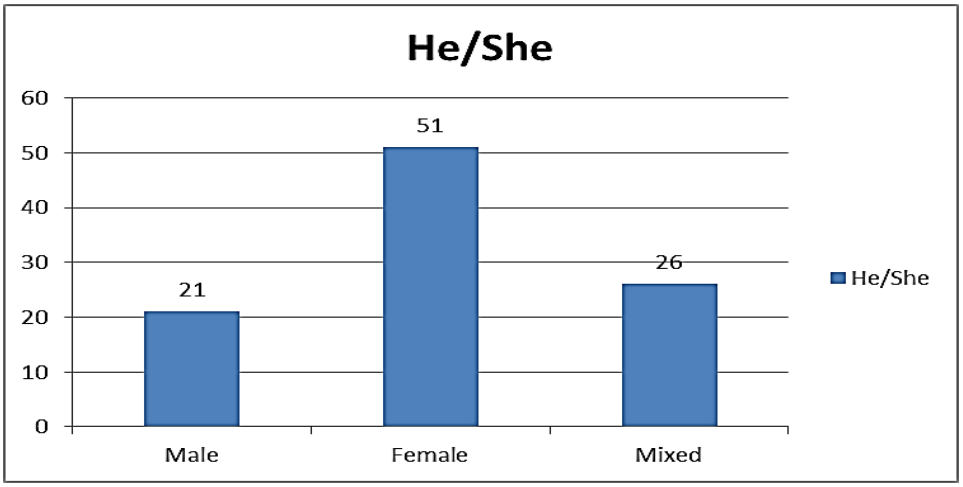


Figure 3 : Images evoked by reformed pronoun He/She

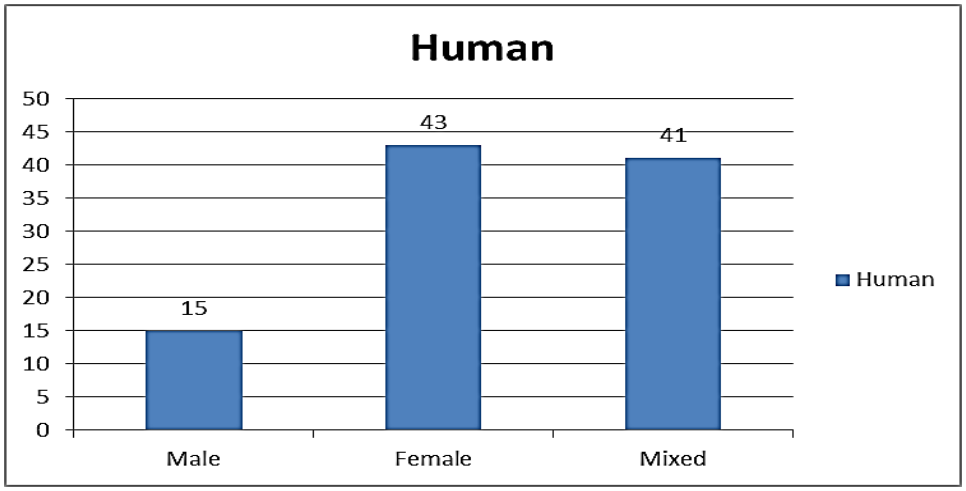


Figure 4 : Images evoked by reformed Human

Conversely figure 3 and figure 4 indicate that reformed language elicited more female images than male images.

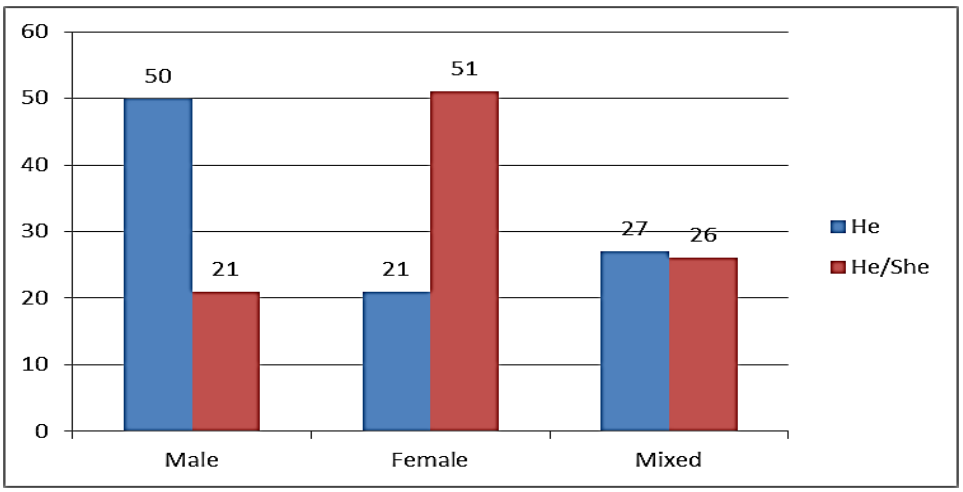


Figure 5 : comparative presentations of the images evoked by the generic and reformed pronoun

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Figure 5 gives a comparative analysis of the pronouns (generic and reformed) and indicates that generic term he elicited more male images than female while he/she elicited more female images than male images. However both the pronoun seems to have similar ratio of mixed gender.

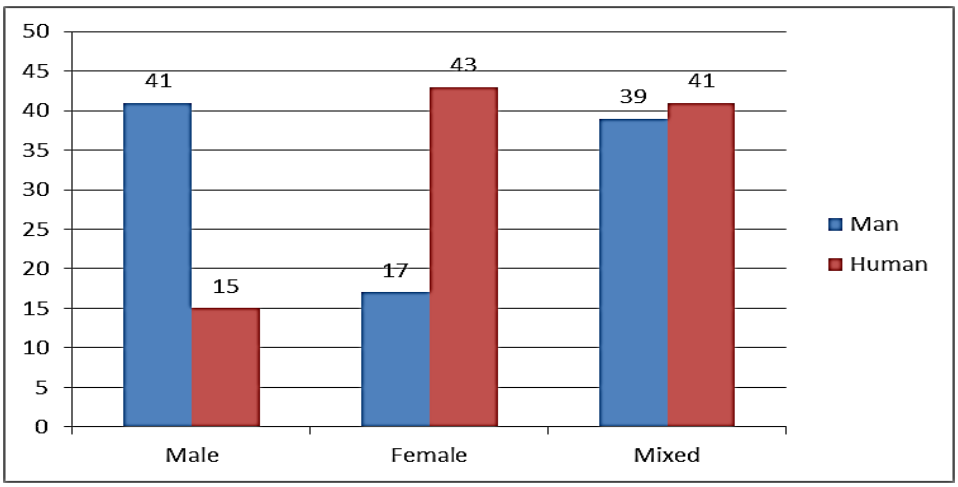


Figure 6 : comparative presentations of the images evoked by the generic and reformed nouns

Similarly the generic noun man and the reformed human are also indicating the same results. Generic man produced more male images and excluded female while human included more female images. However the ratio remains the same for mixed gender.

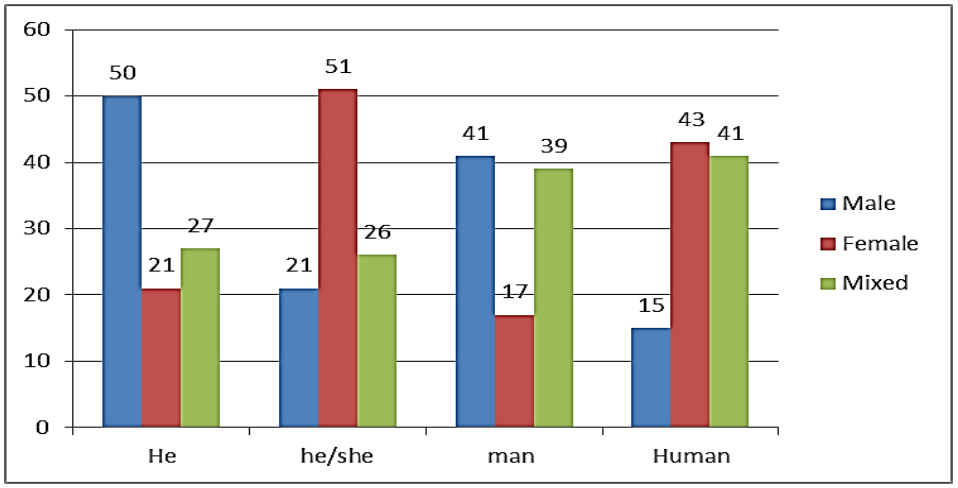


Figure 6

This final graph provides a visual comparison of all the groups, showing a relationship between the language and its influence over perception and more specifically in developing gendered perception. He elicited more male images, while he/she elicited more female images. Similarly generic man again elicited more male images as compared to term human.

The graphical display of the data clearly exhibits the fact that English language is sexist and is biased towards female gender. It excludes women where they should not. The generic noun and pronouns are predominantly perceived as referring to male gender only. On the other hand data on reformed language reveals that he/she and human were less associated with the masculine gender.

However more reliable results can be obtained by the statistical analysis of the tabulated data.

iii. *Statistical Analysis of the Data*

a. *Chi square Test for Independence*

As already discussed chi square test statistic is used to investigate the relationship between two categorical variables which are the noun and pronoun (generic and reformed) and the images that they elicit.

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Contingency Table for Generic He and Man

Images	Generic Noun and pronoun		Row Marginal Total
	He	Man	
Male	50	41	91
Female	21	17	38
Mixed	27	39	66
Column Marginal Total	98	97	195

The researcher is interested in investigating whether there is an association between perception and language use. The hypotheses to be tested are.

Ho = the use of generic he and man and the images elicited are independent of each other

H1 = the use of generic he and man and the images elicited are not independent of each other.

Significance Level = $\alpha = 0.95$

DF = (r – 1) (c – 1) = (3– 1) (2– 1) = (2) (1) = 2
Critical Value = C.V= 0.103

In order to check the assumptions, it is necessary to compute the expected frequencies of the corresponding observed frequencies. Expected frequencies are computed by using the following formula.

E = Row Total

Images	Expected Cell Count	
	He	Man
Male	$91\frac{98}{195}=45.7$	$91\frac{97}{195}=45.3$
Female	$38\frac{98}{195}=19.1$	$38\frac{97}{195}=18.9$
Mixed	$66\frac{98}{195}=33.2$	$66\frac{97}{195}=32.8$

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Observed Frequency O	Expected Frequency E	(O-E)	(O-E)2	(O-E)2/E
50	45.7	4.3	18.49	0.4
21	19.1	1.9	3.61	0.19
27	33.2	-6.2	38.44	1.16
41	45.3	-4.3	18.49	0.41
17	18.9	-1.9	3.61	0.19
39	32.8	6.2	38.44	1.17
–	–	–	–	3.52

Test Statistic =

= 3.52

As the value falls in the acceptance region so we reject the null hypothesis and accept the alternative hypothesis that the pronoun use and the images elicited are related to each other.

However to find out the strength of the relation Pearson's co efficient of mean contingency is used.

C=

=

=

=0.38

C =0.4

The maximum value of C=0.07 for 3x2 contingency table, showing a perfect relationship. The value of C for the above mentioned data is 0.4 showing a strong relationship.

Contingency Table for Reformed Language

Images	Reformed Noun and pronoun		Row Marginal Total
	He/She	Human	
Male	21	15	36
Female	51	43	94
Mixed	26	41	67
Column Marginal Total	98	99	197

Ho = the use of reformed he/she and human and the images elicited are independent of each other.

H1 = the use of reformed he/she and human and the images elicited are not independent of each other.

Significance Level = α = 0.95

Df = (r – 1) (c – 1) = (3– 1) (2– 1) = (2) (1) = 2

Critical Value = C.V= 0.103

Expected frequencies are computed using following formula.

E = Row Total

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Images	Expected Cell Count	
	He/She	Human
Male	$36\frac{98}{197} = 17.9$	$36\frac{99}{197} = 18.1$
Female	$94\frac{98}{197} = 46.8$	$94\frac{99}{197} = 47.2$
Mixed	$67\frac{98}{197} = 33.3$	$67\frac{99}{197} = 33.7$

Observed Frequency	Expected Frequency	(O-E)	(O-E)2	(O-E)2/E
O	E			
21	17.9	3.1	9.61	0.54
51	46.8	4.2	17.64	0.38
26	33.3	-7.3	53.29	1.6
15	18.1	-3.1	9.61	0.53
43	47.2	-4.2	17.64	0.38
41	33.7	7.3	53.29	1.58
–	–	–	–	5.01

Test Statistic =

=5.01

As the value falls in the acceptance region so we reject the null hypothesis and accept the alternative hypothesis that the pronoun use and the images elicited are related to each other.

Strength of the relationship can be found out by

C=

=

=

=

=

C=0.4

The value of c= 4 thus a strong relationship between the two variables.

h) Findings

Graphical representation of the relevant data revealed a rough approximation of the relationship between the two variables namely language and the images. However a more detailed estimate was obtained after the statistical analysis of the data. The results obtained were significant. Chi square analysis indicated a relationship between the variables. Pearson's co-efficient of mean contingency revealed a strong relationship between the two variables. The maximum value of Pearson Coefficient is 0.70. The values obtained from the statistical analysis were 0.4 for masculine generic words and reformed language words which are an indication of a strong relationship between the variables. The findings clearly support the proposed

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hypothesis that English language owing to its gendered nature tends to reflect male view of the world. On the other hand reformed language tends to be in inclusive of both the genders. Thus the findings deduce those feminists are justified to argue in favor of the reformed language in order to eliminate androcentricity and allow for an environment of equity.

The Pearson coefficient (C= 0.4) indicated a strong association between the variables under study. The relationship between language and the subsequent images elicited by the male generic words and reformed words show that language does exercise influence on our perception. The findings of this study are consistent with the previous researches that revealed that generic he and man are responsible for the subsequent biased interpretation. Generic he and man reinforce gendered perspective and attitude. On the other hand he/she and human elicited more female images, thereby supporting the proposed hypothesis that despite the generic use of he and man, they are most of the time interpreted as referring to masculine gender. However reformed language he/she and human revealed results quite different from the generic he and man.

X. Conclusion

Findings of the study revealed that there exists a strong relationship between the two variables. It can be deduced from the results that English language owing to its gendered nature, is responsible for creating and expressing male bias to a great extent. However use of reformed language has a positive influence on thinking process as it did not perpetuate male bias. Thus the results is an evidence for the validity of Sapir Whorf hypothesis that maintains that language does exercises an influence in shaping perception. The findings of the study are consistent with the proposed theory.

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