

Implicit Gender Bias: A study

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ABSTRACT

Gender refers to the socially constructed characteristics of women and men and is easily impactful in any social or professional situation. This study was conducted to find if people associate certain professional and personal traits to a particular gender. A set of distinct profiles were randomly assigned to each participant. The profiles could either be achievement oriented or neutral. The participants had to choose names for each of the profiles from a set of names(5 males and 5 females). It was found out that there was no implicit gender bias in the study. The Chi-square test failed to reject the null hypothesis. Though, there were a few patterns arising which could point towards gender bias, one cannot simply say for sure that there is one unless further studies.

Keywords: Implicit bias; gender bias; quantitative study; stereotypes; one-tailed test

INTRODUCTION

Gender is a powerful ideological device which produces, reproduces and legitimates the choices and limits that are predicted on sex category (Candice, Don, 1987). Stereotyped beliefs about the attributes of men and women are pervasive and widely shared (Madeline, 2001). Implicit gender biases are developed which unconsciously affect our small judgements and opinions about a particular gender. A recent meta-analysis revealed that stereotypes of successful leaders are unequivocally masculine and that individuals are more likely to view leaders as men than women, which in return often disadvantages women from entering competitive leadership roles (Koenig, Eagly, Mitchell, & Ristikari, 2011). This study mainly focuses on the implicit gender biases on account of achievements and an individual's idiosyncrasies. We hope to shed light to what extent the implicit gender biases are relevant while thinking about higher achieving individuals or their professional endeavours. For those women who choose to partake in a male-dominated career, they may face a variety of challenges such as: lack of support, lower income, a perception of incompetence, mistreatment and unfairness in their role, and overall lack of voice(Jainell, 2017). Stereotype threat comprises two elements; an opinion widely held by society that a certain group will perform poorly on a particular task, and the belief of the group in question that they will

conform to this opinion. (Claude, 1999). Evidence is accumulating that women remain vastly underrepresented in leadership and major institutions from business to politics in every country (World Economic Forum, 2015).

Our objective states the following hypothesis:

H1: People associate gender with certain personal traits or professional achievements.

H0: People do not associate gender with certain personal traits or professional achievements.

BACKGROUND

The human brain is a complex and a very impressive organ. No other animal is capable of generating the consciousness which a human brain can. In spite of that, our brain takes certain decisions implicitly which are mostly due to our subconscious mind. It creates a bias which can be wrong at times called Implicit bias. Implicit bias implies that regardless of our conscious thoughts and feelings, we each hold biased judgements in our subconscious mind. It has even been asserted that individuals often hold negative implicit bias attitudes toward members of their own racial or gender group (Richard, 2017). Biases lead to unintentional and illogical discrimination towards certain kinds of individuals. We have biases to reduce the amount of information we have to process and take actions swiftly. Because the implicit associations we hold, arise outside of conscious awareness, implicit biases do not necessarily align with our explicit beliefs and stated intentions. This means that even individuals who profess egalitarian intentions and try to treat all individuals fairly can still unknowingly act in ways that reflect their implicit—rather than their explicit—biases. (Cheryll, 2015)

Advocates of the concept of implicit bias suggest that these unconscious decisions or actions result in many instances of discrimination against women and members of racial minority groups. This study will focus mainly on the implicit gender bias. If asked, many of us would say, having a bias on account of someone's gender is a wrong thing. But, it is found out that, many individuals, both men and women have certain ideas related to a particular gender in their mind. Typically, western societies characterize females and femininity by sensitivity, harmony with others, affiliation, and strong communication. In contrast, males and masculinity are related to self-assertiveness, attainment, and the improvement of individual capabilities(Koenig, Eagly, Mitchell, & Ristikari, 2011)

People have cognitive associations linking gender categories with different traits and attitudes and these implicit associations are likely to be learned early, unrelated to explicitly endorsed stereotypes and attitudes, and can be activated automatically in ways that bias perception and behavior (Lindsay, 2014).

METHOD

This study uses a quantitative research design to collect data and analyse whether participants have Implicit Gender Bias while thinking about certain professional careers or traits.

Participants

The 19 participants were invited to participate in the experiment via social medias. Most of the participants were friends and family of age above 18 years. There was no particular condition for the selection of participants as the study was posted on social media and anyone willing to contribute was welcome. The social media has an age restriction and so we were sure that the participants were above 18 years of age. 13 participants got assigned the achievement oriented profiles whereas 6 got the neutral ones.

Design and Experimental Manipulation

The experiment is of a between-participant design because each participant could get one of the independent variable. The independent variable (nominal) will be the type of profiles (achievement oriented or neutral) that they will have to name. There can be two sets profiles that a participant will randomly be assigned. One set of profiles will have more achievement-oriented. The second set would include more of a hobby and activity oriented profiles. The goal is to find out if the participants relate the achievement oriented profiles with male names and the other one with a more neutral approach.

The dependent variable (nominal) is the gender name the participants choose for the set of profiles.

The control variable is the age of the participants and all the participants are above 18 years. No other constraint was put as it was not necessary in the experiment.

Materials

The experiment was made by using StudyCrafter which was uploaded online on the website. This platform has been developed to innovate in education, in particular to empower and enable students to perform experimental research.

No personal data was collected from the participants and the participation was completely anonymous. Only the input which was the dependent variable was recorded and was used as data.

Procedure

The experiment will be a setting of a normal office where the names of people were messed up and the participant is trying to sort them back. The participants are then given profiles one after the other with a list of 10 names (5 male and 5 female). The participants have to enter an input which will be a name for that particular profile. The input will be taken as an open response i.e the participant will have to type in the name that he/she thinks the profile would belong to. Once all the 5 profiles are done, the next scene is where the debriefing is done. The participants are made aware that they just contributed to a study of implicit gender bias.

RESULTS

The table below shows the number of male and female names chose by the participants for both sets of profiles. As we can see from the data, participants choose male names overall for any kind of profiles irrespective of the kind of profiles.

| | Achievement oriented profiles | Neutral profiles |
|--------------|-------------------------------|------------------|
| Male names | 50 | 19 |
| Female names | 15 | 11 |

Table 1: Number of responses by the participant for each profile

The data obtained is nominal data which has to be seen with a quantitative approach. We are concerned with the number of times participants picked male names. Hence, a Chi-Square test of independence would suffice. The data analysis was done using R in Rstudio and can be referred from the appendix of this paper. As we can see, the p-value is 0.257 and is greater than 0.05. It thus fails to reject the null hypothesis and we can conclude that there is no implicit gender bias detected in this study.

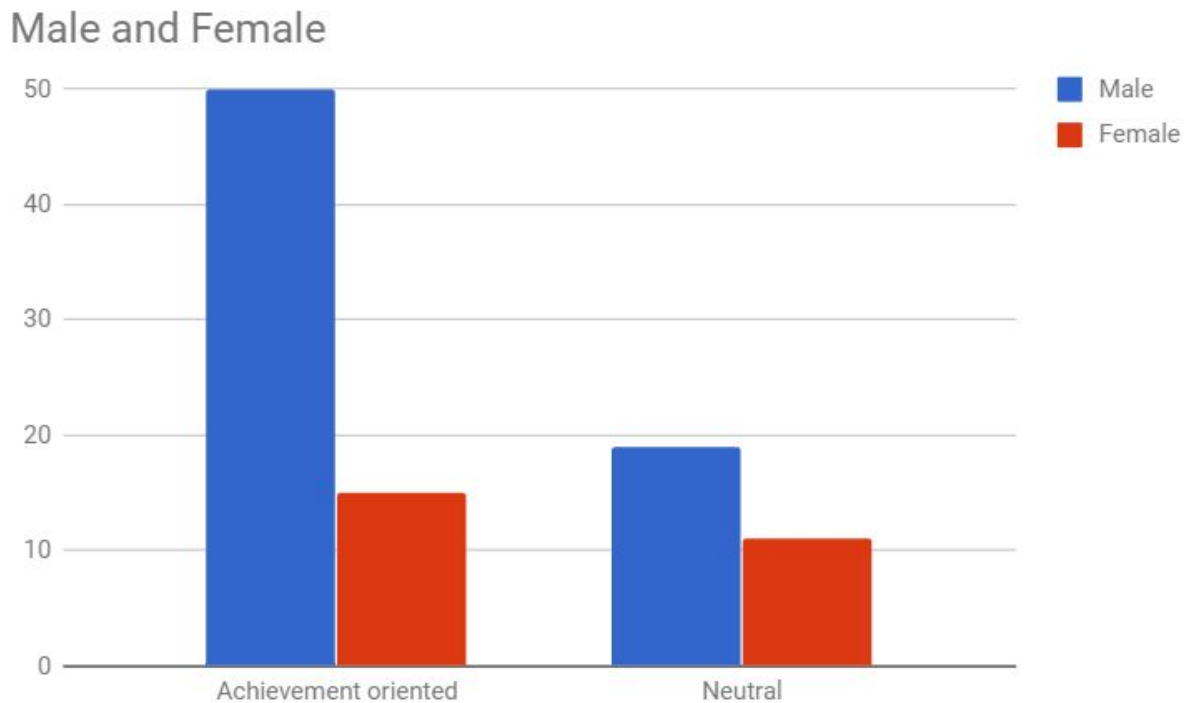


Figure 1: Participants responses

DISCUSSION

The Chi-Square test fails to reject the null hypothesis, i.e it says, participants don't associate certain profession or traits with a specific gender. That could be because, the participants have majorly chose male names instead of female names in either of the two profiles.

Even though there are no implicit biases detected in the study, there are definitely patterns that arise from the data. For example, in one profile, the profession was mentioned "Mechanical Engineering". Out of 13 participants, only one of them chose a female name for it. All there rest 12 entries are male names. It can be argued that there is gender bias with that particular profile and not the rest.

Also, for the profile of "Captain in Merchant Navy", 12 out of 13 participants chose male names. It can't be said certainly that there was a bias but, we can argue that there seems to be one.

In the neutral profiles, the profile that mentioned "Has 2 cats", out of 6 participants 5 chose a female name for it. The Chi-Square test fails to reject that there is a bias, but such patterns are worth mentioning.

Males and Females

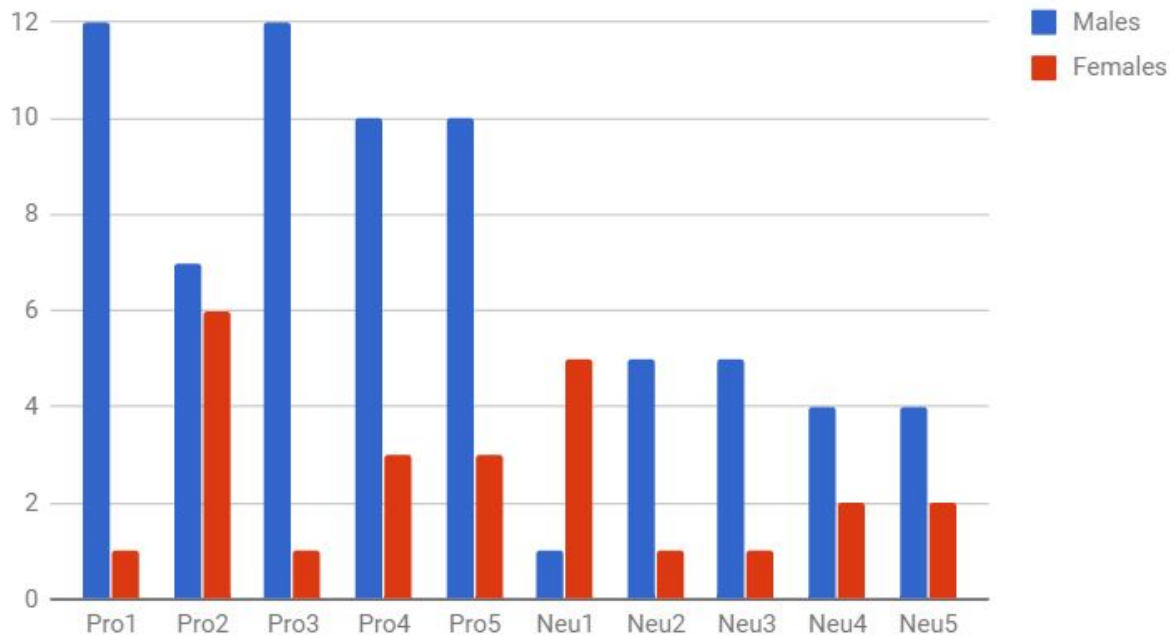


Table 2: Participants responses for each profile

CONCLUSION

The results from the Chi-Square test show us that there was no Implicit Gender Bias detected in this experiment. The participants did not take into account the profiles and the traits. Although, there were some patterns that arose for a few profiles but those are not enough to reject the null hypothesis.

The study of which profiles in particular has a gender bias could be an interesting one. Though, there were a few patterns arising which could point towards gender bias, one cannot simply say for sure that there is one unless studies further.

ANNOTATED REFERENCES

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APPENDIX

R scripts for Chi-Square test:

[Workspace loaded from ~/Quant/.RData]

```
> x <- matrix(c(50,19,15,11), byrow = 2, ncol = 2)
> View(x)
> colnames(x) <- c("Male, Female")
Error in dimnames(x) <- dn :
  length of 'dimnames' [2] not equal to array extent
> colnames(x) <- c("Male", "Female")
> rownames(x) <- c("Achievement", "Neutral")
> View(x)
> chisq.test(x)
```

Pearson's Chi-squared test with Yates' continuity correction

data: x

X-squared = 1.2847, df = 1, p-value = 0.257

Pictures of the experiment

