

# Hiring Bias: Does the Degree of Similarity between the Previous Employee Affect Hiring Tendency?

Yiheng Helen Lin

Shenzhen Middle School, Shenzhen, 518001, China

**Abstract:** Prejudice and workplace discrimination have been paid attention to by people from different culture backgrounds, and one possible explanation for some of the defect in hiring that we come up with is that previous employees are more or less a benchmark when companies look for new employees to replace them. In this report, we design and carry out rigorous statistics-based analysis to investigate the possible hiring bias based on status quo. Through providing definitions of the key factors of status quo and describing the proposed steps for our studies, we identify that the personality of the previous employees has the greatest influence on hiring new employees, followed by appearance, gender, region and educational background.

**Keywords:** prejudice, workplace discrimination, status quo bias, previous employees, similarity

## 1. Introduction

This research attempts to provide an explanation for the defect of hiring. Prejudice and workplace discrimination exist in many countries. Under statistical discrimination, employers are rational actors aiming at maximizing expected profits in labour markets characterized by imperfect information [1,2]. Also, it is difficult for the employers to access precise information of job applicants, however it is easy to access information such as applicants' gender when employers review the resumes of the job applicants. Being afraid of uncertainty, statistically-discriminating employers may make inferences based on such group markers. Even if confronted with the same signal (say, candidates with equal educational credentials), employers might find the signal given by women less reliable than that of men. Female employees, in the eyes of employers, might be more likely than men to take career breaks, reduce their working hours, or leave their job altogether for family-related reasons. And thus, conditional on the same signal (e.g. the same educational credentials), employers might assign more variance to the expected productivity of women than that of men [2-4]. If risk averse, further, employers might thus prefer the low-variance group [1,2], in this case men. Especially, women with childbearing age, no matter whatever the current parental status is, could be discriminated against with respect to men [5-11].

These studies tend to show a strong correlation between bias against certain groups and differences in employment rates. But the cause-and-effect relationship remains controversial. One possible explanation for some of the defect in hiring that we come up with is that previous employees are more or less a benchmark when companies look for new employees to replace them.

Human Resource's (HR) tendency to hire people similar to their previous employees may be due to status quo bias [12]. Kahneman, Knetsch, and Thaler, in their seminal work "The Endowment Effect, Loss aversion, and Status Quo Bias", explained the relationship between status quo bias, endowment, and the negative bias, in which people value negative effects over benefits. Those who are prejudiced against the status quo often don't see the positive side because they are too afraid of the negative result. In addition, status quo bias means that people tend to maintain their status quo [12].

The degree of similarity is relatively high in the recruitment of new employees due to risk aversion. Thus, this theory could explain why HR departments hire similar people, because it puts them in a better position and reduces the risk of hiring new employee. In this report, we design and carry out rigorous statistics-based analysis to investigate the possible hiring bias based on status quo, and especially aim to find when hiring a new employee, whether HR prefer to hire a person with key factors similar to previous employees.

## 2. Methods

In this section, we provide definitions of the key factors of status quo and describe our hypothesis in detail. We subsequently describe the proposed steps for our studies.

*Table 1: Definitions of key factors of status quo*

| Status quo factor             | Definition   |
|-------------------------------|--|
| <b>Gender</b>                 | Male/female, the classification in this research is based on biological gender   |
| <b>Appearance</b>             | Judge by attractiveness  |
| <b>Region</b>                 | Place of birth   |
| <b>Personality</b>            | Psychological preferences, how people perceive the world. In this research, refer to MBTI's information                      |
| <b>Educational background</b> | Major/ University/ Final degree. In this research, simply divided into groups of "from 985 or 211" and "not from 985 or 211" |

In particular, the key status quo factors we investigate in the work are and their definitions are provided in Table 1. Our central hypothesis is given as follows:

**Hypothesis:** Human resource professionals in private tuition industries have a tendency to hire new employees who have similarity to the previous employees in terms of gender, appearance, region of origin, personality and educational background.

In the ensuing discussion, we present five steps used to test this hypothesize. The participants in our research mainly include human resource (HR) professionals in private tuition industry (employer/ HR).

### *Step 1:*

We arrange HR professionals in educational institutions as participants. Instead of using the real information of the previous employees, we try to stimulate HR professionals' memory of an imaginary previous employee, since this can make the variable easier to control. In other words, we now "implant" HR professionals the memory of an imaginary employee. Firstly, we ask HR professionals to imagine an employee working as a teacher in an education center. Later the HR professionals write a 500-word essay describing what they would think this teacher would act like if he/she actually worked in such education center. For example, *suppose this is a female employee, such a description might include: 1) What do you think will happen in her first class in your institution? 2) What difficulties do you think she will encounter as a teacher? 3) What do you think are her strengths and weaknesses? 4) In your opinion, is her student like she will be a teacher?* In that way, HR professionals' memory of the previous employee will be activated, and the decision on who will be hired as a new employee may be influenced by that "implanted" memory.

For the five key factors of *gender, appearance, region of origin, personality and educational background*, similar measures are taken respectively to identify characteristics for comparison so as to determine the degree of similarity between the previous employee and new job seekers. Participants are divided into different groups based on their different "implanted" memory without being told.

### *Step 2:*

Participants are asked to assess resumes of 20 new job applicants we provided. Each resume includes the applicant's information on five key factors, including region, education background, appearance, gender and personality. The measurement of these key factors is described below:

- **Education Background:** Divided into groups of "from 985 or 211" and "not from 985 or 211".
- **Region:** Differentiate it by provinces.
- **Gender:** Male or female, the classification is based on biological gender.
- **Personality:** Adopt MBTI as a scale, which is composed of four elements, i.e., Extraversion/Introversion, Sensing/Intuition, Thinking/Feeling and Judgement/Perception. Find descriptions that meet the requirement of the questions in MBTI rating scale. Quantify these descriptions to ensure that the descriptions of the feature in MBTI and in the resumes of the applicants are the same. Then, show the analysis result of the personality to the participants.
- **Appearance:** Show photos of the new job applicants to participants. Then, the researchers ask the participants to evaluate the previous employee's appearance on attractiveness. The

participants make such evaluation individually, and the score of appearance is limited to a range of 1-5 scale based on the answer of the following question: do you agree that the person in the photo is attractive? With the following options: 1 - strongly disagree; 2 - don't agree; 3 - not sure; 4 - agree; 5 - I couldn't agree more. The photos shown to the participants are afterwards attached in the resumes.

After the participants review each of the resumes of the new job applicants, they are asked to grade their hiring intention to each applicant from 0-5.

*Step 3:*

After the hiring intention rating are presented for each of the applicants by the participants, based on the five key factors mentioned earlier, the researchers review the description of the imaginary previous employee and HR's 500-words writing to analyze the similarity between them.

*Step 4:*

The researchers make a simple classification of the resumes by referring to the scores of each job applicant and the specific characteristics of the resume description. One group is similar to the imaginary previous employee to a certain degree, while the other group is basically not.

*Step 5:*

By comparing the scores of applicants of these two groups, the researchers analyze the data and then investigate whether the previous employee is likely to have an impact on hiring.

**3. Results**

The sample table below is for recording the scores of participants' willingness of hiring. The horizontal axis represents the different groups of participants, and the vertical axis represents the different key factors in the resumes of the new job applicants and the scores of hiring willingness. It also shows the scores given to different applicants by different groups of participants.

*Table 2: Sample table for recording the scores of participants' willingness of hiring*

|                                     | <b>1<sup>st</sup> Group of Participants</b> | <b>2<sup>nd</sup> Group of Participants</b> | <b>3<sup>rd</sup> Group of Participants</b> | <b>4<sup>th</sup> Group of Participants</b> | <b>5<sup>th</sup> Group of Participants</b> |
|-------------------------------------|---|---|---|---|---|
| Personality                         |   |   |   |   |   |
| Gender                              |   |   |   |   |   |
| Education Background                |   |   |   |   |   |
| Region                              |   |   |   |   |   |
| Appearance                          |   |   |   |   |   |
| <b>Scores of hiring willingness</b> |   |   |   |   |   |

During the investigation, since the "implanted" memory is controlled beforehand, we assumed that the stimulus memory would only affect one variable, i.e., the key factor as shown in the gray-filled cell in Table 2, and the other key factors would not be affected. It is obvious to see that the information except for those indicated in the gray-filled cell in Table 2 is not significant when deciding whether to hire new job applicants, and the information in grey-filled cell in Table 2 reflects the high similarity with "implanted" memory of the participants.

After analyzing the data and information through ANOVA, the researchers find that some characteristics of the previous employee can affect the hiring decision of new employees, and indeed the scores of hiring willingness given by the participants are highly relevant to the key factor of the previous employee. Meanwhile, for a single key factor, the mean of scores to all applicants given by one participant and the specific score of an applicant will both influence the ANOVA. For a single participant's score, when the data and information in grey-filled cell in Table 2 analyzed with ANOVA is

obviously different from those in colorless-filled cell in Table 2, the result could be that the participants are willing to hire employees that have things in common with the previous employee.

#### 4. Conclusions and Discussion

In this research, the five key factors we proposed are personality, appearance, gender, region and educational background, and we identify that the personality of the previous employees has the greatest influence on hiring new employees, followed by appearance, gender, region and educational background. Also, from the results, it is obvious that hiring decision is weakly related to the factor of educational background of the previous employee, and the reason may be that education background of a person has strong influence normally on people's initial impression, which may make the influence of such factor in this research not obvious. This means that the ANOVA difference in the factor of educational background may not be due to the similarity between the previous employee and the applicants. However, the educational background is indeed an integral part of the resume, so it should still be taken into account, although the data may not be particularly obvious.

There are still some factors that may influence our ideal conclusion. In this research, the researchers only use five factors, which means other important factors may be missing. For example, culture can represent a person's personality and the way he or she gets along with others, so most of the HR professionals will consider the employees' cultural background as one of their evaluation factors. In other words, the consideration of factors in this research is partial and not detailed enough, and these factors may be influenced with each other.

#### References

- [1] H. Fang & A. Moro. *Theories of statistical discrimination and affirmative action: a survey*. J. Benhabib, M.O. Jackson, A. Bisin (Eds.), *Handbook of social economics, Volume 1A*, Elsevier, North Holland, 2011
- [2] Gabriele Mari & Ruud Luijkx. *Gender, parenthood, and hiring intentions in sex-typical jobs: Insights from a survey experiment*. *Research in Social Stratification and Mobility, Volume 65*, 2020
- [3] D.J. Aigner & G.G. Cain. *Statistical theories of discrimination in labor markets*. *Industrial & Labor Relations Review, 30 (2) (1977)*, 175-187
- [4] K.K. Charles & J. Guryan. *Studying discrimination: Fundamental challenges and recent progress*. *Annual Review of Economics, 3 (1) (2011)*, pp. 479-511
- [5] S. Baert. *Career lesbians. Getting hired for not having kids?* *Industrial Relations Journal, 45 (6) (2014)*, 543-561
- [6] S.O. Becker & A. Fernandes & D. Weichselbaumer. *Discrimination in hiring based on potential and realized fertility: Evidence from a large-scale field experiment*. *Labour Economics, 2019*
- [7] M. Biewen, S. Seifert. *Potential parenthood and career progression of men and women: A simultaneous hazards approach*. *IZA Discussion Paper, No.10050*, 2016
- [8] N.D. Gupta, N. Smith. *Children and career interruptions: The family gap in Denmark*. *Economica, 69 (276) (2002)*, 609-629
- [9] J. Jessen & R. Jessen & J. Kluge. *Punishing potential mothers? Evidence for statistical employer discrimination from a natural experiment*. *Labour Economics, 2019*
- [10] P. Petit. *The effects of age and family constraints on gender hiring discrimination: A field experiment in the French financial sector*. *Labour Economics, 14 (3) (2007)*, 371-391
- [11] C.M. Yip & R.S.-K. Wong. *Gender-oriented statistical discrimination theory: Empirical evidence from the Hong Kong labor market*. *Research in Social Stratification and Mobility, 37 (2014)*, 43-59
- [12] Daniel Kahneman & Jack L. Knetsch & Richard H. Thaler (1991). *The Endowment Effect, Loss Aversion, and Status Quo Bias*. *Journal of Economic Perspectives, Winter 1991*, 139-206