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A Study on Educational Discrimination in the Chinese Workplace

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ABSTRACT

This paper explores the prevalent phenomenon of educational discrimination in the Chinese workplace and attempts to quantify its extent. The article first introduces the concept and manifestations of educational discrimination and reviews relevant theoretical foundations, including human capital theory, signaling theory, and screening theory. The study employs Hagedorn's measurement method, collecting data through a questionnaire survey, and utilizes multi-factor variance analysis and logistic regression models for analysis. The research finds that years of education, educational background, and the industry of employment significantly affect wage levels, while gender, higher education majors, the nature of the employer, and work location do not have a significant impact. Further analysis reveals that the discrimination caused by educational attainment far exceeds that due to differences in university prestige. Finally, the paper concludes with suggestions for promoting workplace fairness and improving employee welfare.

KEYWORDS: *Educational discrimination, Discrimination coefficient, Wage income*

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I. INTRODUCTION

Currently, Educational discrimination refers to bias or unfair treatment based on one's educational background or level of education. In the workplace, individuals with higher education levels are often more likely to secure job opportunities, promotions, or social resources, while those with lower education levels or non-traditional educational backgrounds are frequently marginalized. Using education as a signal of personal ability or value may lead to signal distortion, resulting in educational discrimination in the workplace. On a macro level, educational discrimination exacerbates inequalities in workers' economic and social status, widening the gap between different socioeconomic classes. On a micro level, it can expose companies to moral or cost-related risks due to a lack of inclusiveness in personnel management.

In China, many companies offer preferential human resource management policies to employees with educational advantages, which is categorized as "statistical discrimination" in theoretical studies. Educational discrimination manifests in two primary forms: (1) Discrimination based on the prestige of the university where the degree was earned, with companies favoring graduates from key universities while treating non-key university graduates unfavorably. (2) Discrimination based on the level of education, with companies favoring employees with higher educational qualifications, potentially leading to overqualification perceptions, reduced job satisfaction, lower work efficiency, and wage suppression.

This paper explores the prevalence of educational discrimination in China's workplace. By investigating the relationship between employees' educational background and income, it aims to accurately determine the extent of educational discrimination and contribute theoretically to promoting workplace fairness and improving employee well-being.

II. EMPIRICAL RESEARCH

A. The Concept and Measurement of Educational Discrimination

1. The Concept of Educational Discrimination.

Becker (1957) argued that discrimination is a behavior driven by non-economic motives, which can negatively impact the economic benefits of businesses or individuals. For example, in the labor market, if employers refuse to hire certain employees based on race, gender, or other factors, even when these employees have productivity comparable to other groups, such discriminatory practices may cause the business to miss out on efficient workers, thereby increasing operating costs[1]. Charles (2008) used empirical methods to demonstrate that discrimination persists in various forms in terms of wage differentials and employment outcomes.[2].

Tinker (2007) pointed out that educational discrimination often manifests as unequal treatment of individuals with different educational levels in areas such as recruitment, promotion, and salary. It can also be institutional or structural, such as the excessive reliance on educational qualifications in certain organizations or industries, making it difficult for individuals without the required qualifications to access equal opportunities. This phenomenon is not limited to explicit discrimination but also includes implicit discrimination, such as biases and stereotypes in the workplace. [3].

Moss (2006) argued that the main forms of educational discrimination in the workplace include: (1) Unequal promotion opportunities. In the workplace, employees with higher educational qualifications are often given priority in promotion, even if their actual work performance is comparable to or lower than that of other employees. This phenomenon is prevalent in various companies and organizations; (2) Salary differences. Some companies set different starting salary standards based on educational qualifications, even when employees with different educational backgrounds are performing similar duties, resulting in significant wage disparities due to education level differences.[4].

2. Measurement of Educational Discrimination

Hagedorn (1995) adopted a human capital model to measure the degree of educational discrimination, breaking down wage differentials into "explained" and "unexplained" parts, with the unexplained portion attributed to educational discrimination [5].

B. The Theory of the Relationship Between Education and Income.

Theoretical research suggests that higher education is typically associated with higher income, but the underlying mechanisms involve the interaction of multiple complex factors.

Griliches & Mason (1972), based on the human capital theory hypothesis, demonstrated that education can enhance an individual's skill level, making them more competitive in the labor market and enabling them to earn higher wages. [6]

Jiansheng, L. (2018), drawing on signaling theory, argued that education itself does not necessarily directly improve productivity but serves as a signal for employers when selecting employees. Individuals with higher education may not necessarily be more efficient or intelligent, but their higher education signals certain traits or abilities to employers, such as responsibility, perseverance, and intelligence. Thus, employers are willing to offer higher wages for these signals. [7]

Katz & Ziderman (1980), based on screening theory, posited that education serves as a screening tool to distinguish between high-ability and low-ability workers. Since companies cannot directly observe a candidate's abilities, they rely on education as a selection criterion. Although education does not necessarily enhance ability, individuals with higher education typically possess stronger work capabilities, and companies are willing to pay higher wages for this. [8]

III. Empirical Study of Educational Discrimination in the Chinese Workplace

This paper primarily adopts Hagedorn's measurement method for empirical research. The designed questionnaire consists of two main types of questions: the first category covers demographic characteristics of the respondents, such as gender, age, educational background, degree level, etc.; the second category addresses workplace characteristics, including industry, work location, work experience, and disposable income in the past month. The research respondents were selected using a random sampling method, with a clear distribution across different professions, industries, and regions. The respondents' cumulative work experience ranges from six months to 42 years. To ensure the sampling is more representative, this study employed a combination of random sampling and targeted distribution methods, distributing a total of 335 questionnaires and ultimately obtaining 321 valid responses.

A. Description of the Sample

The frequency distribution characteristics of the sample in this study are as follows: (1) In terms of gender, males account for 62.305% and females 37.695%; (2) In terms of years of education, 3-4 years account for 66.978%, 5-7 years account for 21.807%,

8-12 years account for 4.984%, and over 12 years account for 6.231%; (3) In terms of educational background, 63.24% graduated from regular universities, while 36.76% graduated from key universities; (4) In terms of professional distribution, engineering, economics and management, mechanics, humanities and social sciences (law, philosophy), medicine, education, arts, and military science account for 45.794%, 30.841%, 8.723%, 6.854%, 3.427%, 2.492%, 1.558%, and 0.312%, respectively; (5) In terms of industry, information technology, transportation (including logistics) or commerce, education and culture (science, healthcare), mining, manufacturing or construction, finance or real estate, power, gas or water production and supply, and other sectors account for 19.003%, 15.888%, 14.642%, 11.215%, 10.592%, 3.427%, and 25.234%, respectively; (6) In terms of the nature of the work unit, private enterprises, state-owned or collective enterprises, government agencies or public institutions, foreign-funded enterprises, individual economies, non-profit organizations, and others account for 35.202%, 28.972%, 15.888%, 6.231%, 5.607%, 0.623%, and 7.477%, respectively; (7) In terms of work location, first-tier, second-tier, and third-tier cities account for 63.863%, 17.445%, and 18.692%, respectively; (8) In terms of cumulative work experience, the sample distribution ranges from 0.1 to 42 years, with an average of 13.475 years.

From the sample distribution, it can be concluded that the primary data collected in this study ensure representativeness and credibility in terms of sample diversity and even distribution. The cross-regional data can reveal differences and similarities between regions, helping to better understand the connections and influencing factors across different areas. The cross-industry data allow for comparison of the development status and relationships of different industries. The empirical research and analysis results based on this data will have broad applicability and reference value.

B. Main Effects Analysis of Factors Influencing Wage Levels

Using a multi-factor variance analysis, the results show: (1) The significance P-values of the F-test for the three variables—years of education, educational background, and industry—are 0.000***, 0.005***, and 0.000***, respectively, indicating significance. This means that these three variables have a significant impact on wage levels and exhibit main effects; (2) The significance P-values of the F-test for gender, major in higher education, nature of the work unit, and work location are 0.286, 0.288, 0.456, and 0.650, respectively, suggesting that these four variables do not have a significant impact on wage levels and do not exhibit main effects.Educational Discrimination Coefficient

Using Hagedorn's model, wage differentials were divided into explainable and unexplained parts, where the latter was defined as educational discrimination. The study found that the discrimination based on educational attainment significantly exceeded that based on university prestige.

Table 1: Multi-Factor Variance Analysis

Item	Mean Square	F	P
1. Gender	341827481.901	1.142	0.286
2. Years of Education	7679640096.651	6.416	0.000***
3. Educational Background	2363202767.166	7.898	0.005***
4. Higher Education Major	2568227358.592	1.226	0.288
5. Industry	12209590378.974	6.801	0.000***
6. Nature of Work Unit	1714324031.316	0.955	0.456
7. Work Location	258614189.248	0.432	0.650

C. Educational Discrimination Coefficient

Using Hagedorn's measurement model, wage differences can be decomposed into an explainable part and an unexplained part. The explainable differences are defined as characteristic effects, while the unexplained differences are defined as educational discrimination. The dosage model for the educational discrimination coefficient (D) is (Equation 1):

$$\ln(D+1)=X_M(\beta_M-\beta_W)$$

Based on the results of the multi-factor variance analysis, the measurement of the educational discrimination coefficient in this study will be conducted across two dimensions: "educational background" and "years of education."

1. Educational Discrimination under the Category of Educational Background

Educational background can be classified into regular universities and key universities. Using key universities as the non-discriminatory state, then $\overline{X}_M$ is the monthly average disposable income for the key university sample. β_M and β_W are the coefficient vectors for the main effect variables of key universities and regular universities, respectively. The difference between the two represents the unexplained wage disparity, which is the part of the wage difference caused by educational background discrimination.

$\overline{X}_M$,the monthly disposable income for key universities can be determined by calculating the mean is 20,170 RMB.

Through effective logistic regression, the coefficient vectors for the main effect variables of key universities and regular universities are as follows: β_M (1.445, -0.302) ; β_W (0.231, -0.0659).

Substituting into Equation 1, the educational discrimination coefficient is $D = e^{1.97} - 1$.

Table 2: Main Effect Coefficients Based on Educational Background

Category		Main Effect Coefficients
Key Universities	2、Years of Education	1.445
	6、Industry	-0.302
Regular Universities	2、Years of Education	0.231
	6、Industry	-0.0659
a. Dependent variable: 9. Monthly income (after tax) (unit: 10,000 RMB/month)		

2. Educational Discrimination under the Category of Years of Education

Years of education can be classified into 3-4 years, 5-7 years, 8-12 years, and over 12 years, which represent educational levels such as associate degree, bachelor's degree, master's degree, PhD, and beyond, respectively. Using over 12 years as the non-discriminatory state, then $\overline{X}_M$ is represents the monthly average disposable income of the sample with more than 12 years of education. The coefficient vectors for the main effect variables of those with more than 12 years of education and those with other years of education represent the difference between the two, indicating the unexplained wage disparity. This portion of the wage difference is caused by educational background discrimination.

$\overline{X}_M$,the monthly disposable income for those with more than 12 years of education is 38,130 RMB, based on the mean calculation.

Through effective logistic regression, the coefficient vectors for the main effect variables of those with more than 12 years of education and the other three education duration categories are as follows:

- β_M (−0.728, −6.021) for more than 12 years,
- $\beta_{W\,(3\text{-}4)}$ (0.231, −0.0659) for3–4 years,
- $\beta_{W\,(5\text{-}7)}$ (−0.104, −0.434) for 5–7 years,
- $\beta_{W\,(8\text{-}12)}$ (−0.536, −1.304) for 8–12 years.

Substituting into Equation 1, the educational discrimination coefficients for the three categories of years of education are as follows:$e^{22.98}$-1、$e^{23.69}$-1、$e^{18.72}$-1.

Table 3: Main Effect Coefficients Based on Years of Education

Years of Education	Category	Main Effect Coefficients
3-4 years	6、Industry	-0.068
	3、Educational Background	-0.654
5-7 years	6、Industry	-0.104
	3、Educational Background	-0.434
8-12 years	6、Industry	-0.536
	3、Educational Background	-1.304
12years and above	6、Industry	-0.728
	3、Educational Background	-6.021
a. Dependent variable: 9. Monthly income (after tax) (unit: 10,000 RMB/month)		

CONCLUSION

This paper, through empirical research, reveals the widespread phenomenon of educational discrimination in the Chinese workplace and quantifies its extent. The study found that educational discrimination mainly manifests in the following aspects:

1. Discrimination based on university background: Even after controlling for other factors (such as years of education, work experience, etc.), graduates from key universities still earn significantly higher average incomes than graduates from regular universities.
2. Discrimination based on the level of education: Even after controlling for other factors (such as university background, work experience, etc.), employees with higher education (master's degree and above) earn significantly higher average incomes than those with lower education (bachelor's degree and below).
3. Discrimination based on the level of education is much more significant than that based on university background.

The important implications of this study are:

Companies and organizations should recognize the negative impact of educational discrimination and establish more fair and just mechanisms for talent selection and promotion, avoiding an over-reliance on academic qualifications as the sole criterion for evaluating an employee's ability and value.

Individuals should enhance their overall competencies and not overly depend on academic qualifications as their primary competitive advantage in the job market. At the same time, they should actively protect their rights and oppose educational discrimination.

The government should strengthen the supervision of educational discrimination, refine relevant laws and regulations, and protect workers' right to equal employment opportunities.

In summary, educational discrimination is a complex social issue that requires the joint efforts of all sectors of society to eliminate. By eliminating educational discrimination, we can build a fairer and more just workplace environment, fostering social harmony and development.

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