

台灣高等教育教師聘任 性別差別待遇之研究

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《中文摘要》

本文旨在探討婦女應徵高等教育教職的過程中，是否存在雙重審核標準，因而低估了婦女的能力與成就。本研究係採分層隨機抽樣法，將十份虛擬的履歷表及問卷寄給台灣地區 33 所大專院校 11 個系所的現任與前任的系主任，及現任系教評會委員。實証研究結果顯示，當應徵者資歷完全相同時，性別並不構成聘任的關鍵因素。本研究對象中之教評會委員的各項特質，包括學歷、年資、職別等，對於應徵人員的判斷及選擇，亦無一致的影響趨向。

關鍵詞：性別歧視、相對具吸引力、教師聘任、評估履歷、雙重審核標準

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Introduction

Gender segregation is one indicator of unequal opportunity in the workplace. Symbolically, gender segregation at work connotes the inferiority of women and/or contributes to maintaining women as men's inferiors. How to increase equal work opportunity for women, decrease occupational gender segregation, and decrease the phenomenon of tokenism in higher education is an increasingly important issue in Taiwan. The purpose of this study is to analyze empirically how prevalent gender-based discrimination in faculty hiring is in Taiwanese universities and how the hiring or selection process may work against women there.

Despite the traditional Chinese view of women as being necessarily tied to home, economic conditions have given rise to new role expectations, and women have entered the labor market in increasing numbers. The female labor-force participation rate in Taiwan increased from an average of 34 percent in the 1960s to 45 percent in 1993. Yet on average, women earned only 70 percent of the wages paid to men (Directorate-General of Budget, Accounting and Statistics, Executive Yuan 1993). Due to their responsibility for the family and their disrupted employment, female workers were always engaging in relatively less attractive and less lucrative occupations, and were more likely to be concentrated on the lower levels of the occupational ladder.

Taiwan's economic growth and the decline in its fertility rate have jointly contributed to increased access to education for Taiwanese women. Although the percentage of female students in higher education was the highest among Asian countries, 46 percent in 1992 (UNESCO 1992), the number of female faculty members increased only eleven percentage points from 1971 to 1990, from 15 percent to 26 percent. Moreover, women were underrepresented at the full and the associate professor ranks. Women were 10 percent at the rank of professors, 20 percent at the associate professor rank, and 43 percent at the lecturer rank. In terms of the disciplines, women were more likely to be in less lucrative areas such as humanities rather than in sciences. The percentages of female faculty were 33 in humanities, 28 in social sciences, and 15 in sciences and technology (Ministry of Education 1993).

The question of discrimination in faculty hiring in Taiwan cannot be determined by looking at cross-sectional statistics such as those provided above. We need to go beyond the available statistics and focus on the faculty hiring process itself, if we are to understand the subtle nature of possible discrimination in Taiwanese universities. The theoretical framework of this study is built upon Strober's relative attractiveness theory. Discrimination against women in higher education in Taiwan seemed likely, because higher education is an "attractive" occupation, in Strober's terms (Strober 1990).

Occupational Attractiveness

Strober's studies of occupations whose gender designation has changed over time--elementary school teachers (Strober 1984), bank tellers (Strober and Arnold 1987), and physicians (Strober 1992)--showed that white men's representation in a given occupation declined as that occupation's attractiveness to white men declined, relative to the attractiveness of other occupations. Strober's relative attractiveness theory argues

that the view that men have the primary responsibility for the economic support of the family has had a powerful effect on the labor market. Unequal power relations in the society are reflected in the labor market by employers perceiving that it is incumbent upon them to offer white men first choice of relatively attractive occupations (Strober 1990).

Among the four elements that make an occupation attractive, namely monetary returns on human capital investment, working conditions, the degree of power, prestige and status, and the potential for future rewards (Strober 1990), two elements make university teaching a relatively attractive occupation in Taiwan. First, the sociocultural value of the teaching profession is very high in Taiwan. In study after study, the Taiwanese have ranked the prestige of the university professor very high. In a study that surveyed elementary and secondary school teachers, parents, students, and normal school students, among thirty occupations, university professors ranked third in prestige, lower only than university president and cabinet members (Chen 1982).

In another survey of occupational prestige sent to a sample from the military, government, teachers, agriculture, blue-collar workers, businesses, and students in different counties in Taiwan, among forty occupations, university professors ranked fourth, lower than university president, minister, and military general (Lin 1982). When grouped into six prestige levels, university professors were ranked first, equal to university president, cabinet members and supreme court justices. The results of these studies indicate that the prestige of the university professor is higher than that of the engineer, medical doctor, attorney, architect, or accountant, although the professor's salary is lower (Lin 1982; Hsieh 1986).

Second, with respect to the working conditions, the teaching occupation provides a relatively high degree of autonomy and relatively greater opportunity for self-actualization (Maslow 1954). Teaching hours are flexible, the teaching job is autonomous, and there is fixed time off during both winter and summer vacations.

This study posits that because of the relative attractiveness of the university teaching occupation in Taiwan, male faculty members perceive that their interest is best served if women, because of their lower status characteristics, are kept out of the faculty as far as possible. Women may be kept out through the mechanisms of the social/information network and/or biased evaluation of women applicants' achievements and competence. This social/information network of men, overlapping with the traditional social structure, operates to minimize women's access to information about the job market; while the maintenance of double standards for evaluating men and women results in biased evaluation of women's abilities. These two mechanisms together may lead to persistent gender discrimination against women in faculty hiring, which results in disproportionately fewer women on university faculties in Taiwan.

On the other hand, since faculty members in higher education institutions are generally highly educated, better informed and represent the elite levels of the society. Many Taiwanese faculty members have lived abroad and received western social and cultural influences, they may be expected to be less willing to exercise the traditional prejudice or discrimination against women. Which of these forces is dominant in the current Taiwanese situation is unclear, as there have been no systematic studies to assess it. Therefore, it seems important and timely to empirically examine the question: How and to what extent are women and men treated differently in faculty hiring in Taiwan?

Empirical Approach: Resume Technique

The research method in this study is the resume technique. In this approach, participants (usually personnel decision-makers) are asked to review a set of job resumes and to determine the applicants' suitability for a given job. Since the stimulus persons are identical except for gender, systematic variation in their evaluation can be attributed largely to gender bias.

In a landmark study by Goldberg (1968), 40 female college students were asked to evaluate six professional articles in terms of writing style, professional competence, professional status, and the ability to sway the reader. The results indicated that identical articles received significantly lower ratings when attributed to a female author. The same pattern was found by Fidell (1970) when she applied this approach to study faculty hiring. Fidell sent out two sets of 10 curricula vitae each, to 228 graduate psychology department chairpersons in the U. S. The gender of the applicants was varied to see if identical credentials were judged differently for men and women. The results showed that men and women were rated differently and that a greater number of women received lower-level offers, while men received offers at higher levels and the positions offered were more likely to be tenure track.

Many subsequent empirical studies using resumes have shown that male applicants tend to be rated higher and selected more frequently than equally qualified females (Dipboye et al. 1975; Dipboye et al. 1977). Arvey (1979) reviewed 17 studies regarding the effects of applicant's gender in interview evaluations and showed that females were consistently given lower evaluations than males who had similar qualifications. In reviewing about fifty studies of evaluation bias, Nieva and Gutek (1980) concluded that males were generally given more favorable evaluations than women with identical qualifications and performance. Prejudicial evaluation of qualifications and performance has been found to be one of the major external barriers to women at work.

A serious methodological question regarding the resume technique concerns the external validity or generalizability of results. Gorman, Clover and Doherty (1978), and Murphy et al. (1986) had graduate students and experienced interviewers make judgments based on interviews and on test data alone. Their conclusions were that the paper-and-pencil paradigm (i.e., using hypothetical resumes) gave different results than the judgments based on actual interviews. Tosi and Einbender (1985) also suggested that gender discrimination should be less likely in real interviews than in studies using paper candidates. In view of this, recent research has begun to use methods that more fully approximate real interview situations (Parsons & Liden 1984; Raza & Carpenter 1987; Graves & Powell 1988).

Another limitation of this technique is that it tends to produce inconsistent results. Some more recent evidence has shown no significant effect of applicant gender (McDonald & Hakel 1985; Reid et al. 1986); in several instances, females received higher ratings than males (Parsons & Liden 1984; Gilmore et al. 1986; Raza & Carpenter 1987). Whether this reflects the increased use of settings and stimuli that provide a great deal more information on job-relevant qualifications in recent research, or whether discrimination against females is slowly declining in the US today, is unclear (Harris 1989).

Data

Data for the study were collected using a survey questionnaire. One of two forms, 1 and 2, along with a survey questionnaire was mailed to selected current department chairs, former department chairs, and professors who were on hiring *ad hoc* committees in the 11 fields of study in 33 universities and four-year colleges in Taiwan. Each form included ten resumes describing the applicants. Relevant criteria considered in judging the desirability of candidates for faculty positions were age, gender, marital status, educational attainment, publications, and work experience. The ten applicants were shown as having varying academic qualifications, such as education, publications and work experience, and personal characteristics (such as age, gender and marital status).

The difference between Forms 1 and 2 was that four of the resumes (A, C, I and J) bore feminine first names on Form 1 and masculine first names on Form 2, while another set of four resumes (B, E, F and H) bore masculine first names on Form 1, but feminine first names on Form 2. The academic qualifications and experience shown on all the resumes on both forms were identical. The remaining two resumes D and G carried male first names on both forms, in order to control for potential effects due to different forms and also to constrain the percentage of resumes describing women to 40 percent on each form (Fidell 1970).

The questionnaire asked subjects to provide background information, such as their current rank, educational background (highest degree received, from a Taiwanese institution or abroad), numbers of years taught, administrative experience, age and gender. In the first part of the questionnaire, the subjects were asked to judge, after reviewing each of the ten resumes, the chances of each of the applicant's getting an offer of a full-time position. The questionnaire contained multiple measures of the dependent variable: competency, attractiveness as colleague, general desirability and the reviewer's inclination to hire the candidate. Subjects were asked to indicate each of the four measures of the applicant on a scale of 1 to 7.

The advantage of including multiple measures of the dependent variable in the design is that it allows closer determination of the complex relationships among the measures, especially because measurement in this field is not well-developed (Spector 1981). If the results of these four measures tended to be convergent, the reliability of this study would be enhanced. Finally, subjects were asked to rank order the 10 resumes, in terms of their recommendation to hire, using 1 as the strongest and 10 as the weakest recommendation.

A total of 404 participants received questionnaires in mid-December, 1993. Among the participants, 200 received Form 1 and 204, Form 2. A total of 102 of the participants were in the humanities, 130 in the social sciences and 172 in sciences and technology. Of the total respondents, 175 were in public universities, 169 in private universities and 60 in private and public four-year colleges. With a total of 283 questionnaires returned which resulted in a valid response rate of 70 percent. Among the 283 valid questionnaires, 136 were Form 1, and 147 were Form 2.

Results

The specific questions that together constituted the focus of this research and the answers to them based on the findings are presented.

1). Do women and men with identical academic qualifications have the same opportunity of being hired by higher education institutions?

In order to see if gender made a difference in the hirability ratings for each candidate, a summary rating of the four measures of applicant's hirability (competency, attractiveness as colleague, general desirability and the reviewer's inclination to hire the candidate) was calculated for each candidate. As indicated in Table 1, for five (A, C, E, I and J) of the eight applicants, the mean scores for the average of competency, attractiveness as colleague, desirability rating and hirability were lower when their resumes represented them as female rather than male. In three cases (B, F, and H), the scores were higher for women. However, independent *t*-tests showed no significant difference in the mean scores for the eight candidates when they were represented as women versus when they were represented as men. Thus, no gender difference was found in rating the applicant's hirability when both gender with the same academic qualification.

Table 1
Means and Standard Deviations for Desirability Ratings

Applicant	Gender	Mean	SD	Mdiff (M-F)	<i>p</i> -value*
A	M	5.73	1.09		
	F	5.67	1.06	0.06	0.60
B	M	4.06	1.25		
	F	4.12	1.27	-0.06	0.71
C	M	4.49	1.26		
	F	4.42	1.28	0.07	0.64
E	M	3.14	1.34		
	F	2.96	1.23	0.18	0.25
F	M	4.95	1.20		
	F	5.07	1.23	-0.12	0.40
H	M	4.53	1.30		
	F	4.54	1.25	-0.01	0.95
I	M	4.20	1.25		
	F	4.08	1.32	0.12	0.43
J	M	3.95	1.26		
	F	3.82	1.41	0.13	0.41

Note. * Use independent *t*-test for testing equality of two sample means.

Respondents also indicated how strongly they would recommend the candidates for hiring by rank ordering them. The relative ranking of the ten applicants of both Forms 1 (with a sample size of 136) and 2 (with a sample size of 147) are reported in Table 2 and 3. The mean ranking and standard deviation of each applicant was calculated. Ranking by Bonferroni's multiple comparison, as shown in Table 2, the 5 rank groups in Form 1 were: 1 (A), 2 (F, G), 3 (H, C, B), 4 (I, J) and 5 (E, D). As shown in Table 3, the 5 groups in Form 2 were: 1 (A), 2 (F, G), 3 (C, H), 4 (B, I, J) and 5 (E, D).

Table 2
Ranking of Applicants in Form 1

Applicant's ranking*		Mean	SD	C. I.**
First rank group:	A	1.6	1.4	(1.24-1.90)
Second rank group:	F	3.6	2.2	(3.06-4.10)
	G	3.7	1.7	(3.28-4.12)
	H	4.9	2.1	(4.43-5.43)
Third rank group:	C	5.0	2.3	(4.44-5.56)
	B	5.9	2.2	(5.40-6.46)
	I	6.6	2.2	(6.08-7.14)
Fourth rank group:	J	6.9	1.9	(6.45-7.37)
	E	8.3	1.6	(7.88-8.64)
Fifth rank group	D	8.5	2.3	(7.90-9.00)

Note. * Ranking by Bonferroni multiple comparison

** 95% Bonferroni simultaneous confidence intervals of mean rank

Table 3
Ranking of Applicants in Form 2

Applicant's ranking*		Mean	SD	C. I.**
First rank group:	A	1.6	1.2	(1.29-1.87)
Second rank group:	F	3.5	2.2	(2.99-4.01)
	G	3.6	1.7	(3.16-3.96)
Third rank group:	C	5.0	2.2	(4.50-5.52)
	H	5.1	2.2	(4.57-5.57)
Fourth rank group:	B	6.3	2.3	(5.78-6.82)
	I	6.5	2.2	(5.97-6.97)
	J	6.7	1.8	(6.30-7.16)
Fifth rank group	E	8.4	1.5	(8.01-8.69)
	D	8.5	2.2	(8.03-9.05)

Note. * Ranking by Bonferroni multiple comparison

** 95% Bonferroni simultaneous confidence intervals of mean rank

In summarizing Table 2 and 3, as shown in Table 4, the relative ranking of the ten applicants was consistent with the original ranking based on my evaluation of the ten applicants on both Forms of the resumes. The rankings were exactly the same in both "excellent" (A, F, G) and "average" (J, E, D) categories, as compared to my original evaluation rankings. The only differences were in the "good" category, where the rankings of applicants I and B were contradictory in both Forms 1 and 2, and the rankings of applicants H and C were reversed in Form 2. Since my original ranking of the applicants was based on their academic qualifications, it appears that the rankings of the applicants by respondents were also done mostly with respect to the applicants' qualifications.

To sum up, in comparing the mean scores of hirability for each of the eight candidates in terms of its gender, no significant gender difference was found in *t*-test result. In other words, applicants with the same qualification would get similar rating regardless of their gender. From the analysis of the relative ranking of the candidates, academic qualifications of the candidates seemed to be the most important criterion in faculty hiring for both forms. Gender did not play an important role in the hiring process, according to respondents' evaluations.

Table 4
Ranking of Applicants

Candidate's Ranking Form 2	Author's Evaluation	Form 1	
First Choice	A	A (1.6)	A (1.6)
Second Choice	F	F (3.6)	F (3.5)
Third Choice	G	G (3.7)	G (3.6)
Fourth Choice	H	H (4.9)	C (5.0)
Fifth Choice	C	C (5.0)	H (5.1)
Sixth Choice	I	B (5.9)	B (6.3)
Seventh Choice	B	I (6.6)	I (6.5)
Eighth Choice	J	J (6.9)	J (6.7)
Ninth Choice	E	E (8.3)	E (8.4)
Tenth Choice	D	D (8.5)	D (8.5)

Note. Figures in parentheses are mean ranking.

2). Are personal characteristics of the screeners related to discrimination against women in faculty hiring? Are the respondent's age, gender, educational background, the country or institution where he/she acquired his/her degrees, current academic rank held, administrative experience, and the number of years taught related to how he/she evaluates the applicants' resumes?

3). Are disciplines or fields of study related to discrimination in hiring? Is there more discrimination against women in traditionally male disciplines, such as the natural sciences and engineering departments?

4). Is the relative attractiveness of a given higher education institution or department related to discrimination against women in faculty hiring? If so, is there more gender-based discrimination in more prestigious universities or departments which are generally more attractive or in demand?

Questions two, three, and four were analyzed together in three statistical steps. In the first step, independent *t*-tests were employed to determine if the personal characteristics of the respondents, the discipline, or the prestige of the university or department were related to the practice of discrimination against women in hiring. Two hundred characteristics of the respondent (including current rank (2), educational background (2), country where degree was obtained (2), teaching experience (4), administrative experience (3), age (4), gender (2), institution (3), and department (3)) were examined to see if they had an effect on a difference in the score for candidate preference

by gender¹. Only 9 characteristics of respondents were significantly related to score for candidate preference by gender. There were 6 characteristics (four-year college, private university, social science, science, current chair, and studied abroad) which showed preference for male applicants, and 3 characteristics (four-year college, public university, and professor) which showed preference for female applicants.

The effect of combined characteristics of the respondents on applicant's mean hirability scores was also examined, as indicated in Tables 5 and 6. Independent *t*-tests were employed to determine if combined characteristics of the respondents, the discipline, or the university were related to the practice of discrimination against women in hiring. The order of applicants in Tables 5 and 6 are listed by ranking of Bonferroni's multiple comparison, the 5 rank groups are: 1 (A), 2 (F, G), 3 (H, C, B), 4 (I, J) and 5 (E, D). The total number of characteristics was 275, which included the summation of the product of pairs of the following characteristic: current rank (2), educational background (2), country where degree was obtained (2), teaching experience (4), administrative experience (3), age (4), gender (2), institution (3), and department (3). Among a total of 2,200 characteristics (275 x 8 candidates), there were only 35 characteristics showing a significant difference, with 21 characteristics showing preference for male applicants, and 14 characteristics showing preference for female applicants.

Table 5 shows that, for example, respondents who obtained degrees from abroad and taught between 26 and 35 years, preferred male candidate A over female candidate A. Table 6 shows that, for example, respondents who were professors in public universities, preferred female candidate F over male candidate F. The characteristics of the respondents in Tables 5 and 6 did not show any consistent pattern with respect to gender preferences.

To sum up, among the nine screeners' background characteristics, namely, current rank, educational background, country where degree was obtained, teaching experience, administrative experience, age, gender, institution, and department, four characteristics (the respondent's educational background, teaching experience, age and gender) did not seem to have any effect on gender difference in faculty hiring. The remaining five characteristics (current rank, country where degree was obtained, administrative experience, institution and department) showed some relationship with gender preferences. However, these did not seem to form any pattern that would indicate discrimination against women in hiring.

¹ Adding all the numbers in parentheses together yields 25, 25 times 8 candidates comes to two hundred.

Table 5
Characteristics of Respondents That Preferred Male Applicants
(Combined Characteristics)

Ranking*	Applicant	Characteristics	<i>p</i> -value**
First group	A	Studied abroad & Taught 26-35 years Studied abroad & Social science	0.0289 0.0119
Second group	F	None	
Third group	H	Private university & Studied abroad Private university & Science	0.0425 0.0315
	C	Social science & Professor	0.0441
	B	Associate professor & Taught 6-15 years Associate professor & Current chair	0.0272 0.0312
Fourth group	I	Professor & Age over 55 Professor & Social Science	0.0206 0.0184
	J	None	
Fifth group	E	Private university & Professor Private university & Doctor Private university & Studied abroad Private university & Taught 6-15 years Private university & Former Chair Private university & Male Private university & Science Current Chair & Taught 6-15 years Current Chair & Science Current chair & Doctor Studied abroad & Professor Studied abroad & Age 46-55	0.0144 0.0444 0.0080 0.0198 0.0281 0.0407 0.0005 0.0265 0.0091 0.0490 0.0420 0.0189

Note. * Ranking by Bonferroni multiple comparison

** Independent *t*-test

Table 6
Characteristics of Respondents That Preferred Female Applicants
(Combined Characteristics)

Ranking*	Applicant	Characteristics	<i>p</i> -value**
First group	A	None	
Second group	F	Public university & Professor	0.0258
		Public university & Doctor	0.0140
		Public university & Studied abroad	0.0056
		Public university & Taught 6-15 years	0.0301
		Public university & Age 36-45	0.0262
		Public university & Male	0.0066
		Professor & Male	0.0256
Third group	H	Public university & Taught 16-25 years	0.0348
		Public university & Humanities	0.0315
		Professor & Humanities	0.0253
		Taught 16-25 years & Male	0.0421
	C	None	
	B	Professor & Current chair	0.0201
		Domestic degree & Taught 16-25 years	0.0312
Fourth group	I	None	
	J	Public university & Humanities	0.0296
Fifth group	E	None	

Note. * Ranking by Bonferroni multiple comparison

** Independent *t*-test

In the second step, using the regrouped 5 variables, namely, current rank, country where degree was obtained, administrative experience, institution, and department, a logit model was constructed. As shown in Table 7, each of the five explanatory variables had two possible values, namely, 1 or 0, thereby forming a total of 32 (2 x 2 x 2 x 2 x 2) combinations of the screeners characteristics. A logit model was fitted using the 32 combinations for candidates A, B, C, E, F, H, I and J, sometimes represented as male and the other time as female. The fourth item in the first part of the questionnaire asked the respondent to indicate, on a scale from 1 (totally not) to 7 (highly recommend), whether he or she would recommend hiring the candidate under review for a full-time faculty position. On the 1-7 scale that was used, 5, 6 and 7 reflected positive evaluation of the candidate for hiring, with 4 representing the midpoint, and 1 to 3 indicating negative evaluation.

Table 7
Description of the Explanatory Variables for the Logit Model

Variable	Description
a. Current rank:	1 = professor; 0 = associate professor or lecturer
b. Country got degree:	1 = abroad; 0 = domestic
c. Administrative experience:	1 = current chair; 0 = former chair or committee member
d. Institution:	1 = public university; 0 = private university or four-year college
e. Department:	1 = humanities or social sciences; 0 = sciences and technology

In this study, I constructed a six-dimensional contingency table. Variables a, b, c, d and e (Table 7) were explanatory variables, and variable z was the dichotomous dependent variable. The probability of the candidate receiving a positive evaluation (scale 5, 6 or 7) was:

$$P_{abcdez} = \frac{m_{abcde1}}{m_{abcde1} + m_{abcde0}} \quad a, b, c, d, e = 0 \text{ or } 1$$

where m_{abcde1} was the expected frequency of the candidate receiving a positive rating in the (a, b, c, d, e) cell;

and m_{abcde0} was the expected frequency of the candidate not receiving a positive rating in the (a, b, c, d, e) cell.

Based on results from logit model analysis, the probabilities of each of the 8 candidates (A, B, C, E, F, H, I and J) obtaining a positive evaluation from the screeners were tabulated. For this purpose, a positive evaluation, on the 1-7 scale, could be 7 (most), 6 or 7 (moderate to most) or 5, 6 or 7 (minimal to most).

Finally, multiple regression analysis that used a dependent variable created by a logit analysis (the difference in the probability of positive evaluation of male and female candidates) and five independent dummy variables (current rank, country where degree was obtained, administrative experience, institution and department) was performed. The five independent variables in the multiple regression analysis were the same as the explanatory variables in the logit model, and were shown as five dummy variables in Table 8.

Table 8
Description of the Independent Variables for the Multiple Regression

Independent Variables	Description
Professor:	1= professor; 0= associate professor or lecturer
Earned degree abroad:	1= abroad; 0= domestic
Current chair:	1= current chair; 0= former chair or committee member
Public institution:	1= public university; 0= private university or four-year college
Humanities or social sciences:	1= humanities or social sciences; 0= sciences and technology

Table 9 presents the summarized multiple regression results and only the respondent characteristics which showed statistically significant results at $p < 0.05$ are included. In this table, characteristics of respondents that show significant preference for male candidates (indicated as M) or significant preference for female candidates (indicated as F) for high rating (scale 7), moderate rating (scale 6 or 7) and minimal rating (scale 5, 6 or 7) are presented, respectively.

As shown in Table 9, all of the five independent variables showed different gender preference among different candidates. For example, in row 1, the variable "professor" showed that the respondents who were professors were more likely to give male candidate A high rating than non-professors. However, for candidate F, the respondents who were professors were more likely to give female candidate F high rating than non-professors. For both candidates A and F on scale 7, we found no consistent results.

According to the findings, gender preference did exist in terms of the respondent characteristics for individual applicant. However, the screeners did not behave consistently from applicant to applicant. To sum up, the selected respondent characteristics in this study did not show a consistent pattern of strong gender preference to fill the faculty positions.

Table 9

Multiple Regression Analysis of Characteristics of Respondents That Show Significant Preference for Male Candidates or Significant Preference for Female Candidates for High Rating, Moderate Rating and Minimal Rating

Independent Variable	Gender Preference							
	Candidate (High Rating)*							
	A	F						
Professor	M**	F**						
Earned Degree Abroad	M	F						
Current Chair	F							
Public Institution	M	F						
Humanities or Social Science	M	F						
	Candidate (Moderate Rating)*							
	A	F	H	C	B	I		
Professor	M	M	M		F	M		
Earned Degree Abroad	M		M	F		M		
Current Chair	M	M	F	M		F		
Public Institution	F	F	F		M	M		
Humanities or Social Science	M	F	F	M	M	M		
	Candidate (Minimal Rating)*							
	A	F	H	C	B	I	J	E
Professor	F		F	M	F	M	M	
Earned Degree Abroad			M	F	M	M		
Current Chair	F	M	M	M	F	M	M	F
Public Institution	M	F	F	F	M	M		F
Humanities or Social Science	F	F	F	M		M		F

Note. *High Rating = Scale 7;

Moderate Rating = Scale 6 or 7;

Minimal Rating = Scale 5, 6 or 7.

**M = Significant preference for male;

F = Significant preference for female.

Discussion

This research utilized a survey of department chairpersons and hiring committee members to examine empirically how and to what extent women and men are treated differently in higher education faculty hiring in Taiwan. The focus of the investigation was gender-based discrimination at the resume-evaluation stage of the faculty hiring process in Taiwanese universities. The study sought to understand why a disproportionately high percentage of women were concentrated in low-prestige

institutions and less attractive disciplines by examining the criteria which department chairpersons claimed they use in selecting applicants for interview and hiring as faculty members.

To sum up on the basis of these findings, no gender difference was found in rating the applicant's hirability when both genders had identical academic qualification. Moreover, the selected respondent characteristics in this study did not seem to show a consistent pattern of strong gender preference in faculty hiring, at least in the resume-evaluation stage.

The results were unexpected given the conceptual framework built upon in this study. Two issues are necessary to be addressed in this section. First, the validity and reliability of the resume technique used in the study. Secondly, the theoretical implication of this study.

First, the resume-based approach employed in this study was developed in the western socio-cultural context, primarily the U. S. The resume technique itself has some inherent weaknesses, as discussed earlier. The extent to which the technique is adequate or sensitive enough to address some of the unique psychosocial features of Taiwanese people, in spite of the modifications made for the study, is worth evaluating.

Resume evaluation is an important stage in the faculty hiring process in Taiwan. The candidate's resume was reported to be crucial in faculty hiring by our respondents, with approximately 80 percent of the respondents reporting resume as important. In the case of candidates whom they did not personally know or who had not been strongly recommended to them, the respondents claimed that they would base their evaluation heavily on the resume.

In order to minimize the effect of the participants' own biases and their possible desire to be viewed as non-discriminatory, the participants were not told that the main purpose of the research was to determine if chairpersons displayed gender bias in selecting faculty members. The cover letter mailed with the questionnaires stated that the purpose of the research was to examine the criteria used by chairpersons in selecting applicants for interview. In the absence of specific legislation or executive orders, such as US Affirmative Action orders, to remedy the effects of past injustices, the participants in Taiwan may be less sensitive to any anti-discrimination laws and regulations aimed at assuring equal treatment for all participants in the labor market. It was considered not very likely that the respondents would figure out the purpose of this study and craft answers intentionally. Thus, the resume technique seemed to be a reliable instrument for assessing gender discrimination in the process of hiring in Taiwanese universities.

In three respects, the questionnaire was designed to accurately assess the criteria used in faculty hiring. First, subjects were not asked explicitly about the criteria they used in the hiring decision, but revealed them through the choices they made in the resume-review. Thus, a behavioral measure of their criteria was obtained. Second, the respondents were asked to indicate explicitly the importance they placed on each criterion in choosing a faculty member. Finally, subjects were asked to rank order the 10 resumes. Since all of these three measures yielded the same result, that academic qualification was the most important criterion in the resume-evaluation stage in choosing a full-time faculty member in Taiwanese universities and colleges, the validity of the result seemed clear.

Insofar as theory is concerned, this study was conducted, in part, to see whether there might be more gender discrimination against women in faculty hiring at more

prestigious universities or departments which are more attractive to men. The perception of university teaching as a relatively attractive occupation in Taiwan, I hypothesized, might lead to male domination over the profession, and women finding it relatively difficult to enter it in spite of their qualifications. The study sought to see if there was biased evaluation of women's competence from the demand-side perspective of the labor market.

As indicated in the sample department in this study, the percentage of female faculty members in the humanities was 35 percent, while it was 27 percent in the social sciences and only 8 percent in the sciences and technology. All public university departments, with the exception of mechanical engineering, had lower female faculty percentages, compared to private universities and four-year colleges. In the humanities, women were 32 percent of faculty in public universities and 42 percent of faculty in private universities and four-year colleges. In the social sciences, women were 20 and 31 percent, respectively, in public universities and private universities and colleges. The corresponding figures for sciences and technology were 7 percent and 10 percent. Thus, the patterns seem to be consistent with Strober's relative attractiveness theory that women are concentrated in less attractive areas, such as the humanities, and in less prestigious institutions, such as private universities and four-year colleges, in the case of Taiwan. However, Strober's relative attractiveness theory does not deal solely in the resume screening stage of the hiring process, but, rather with the hiring process in its entirety. It may be that the relative attractiveness of occupations and institutions plays a role in Taiwan in later stages of hiring.

The human capital theory seeks to explain how an adherence to traditional gender roles in the family may produce lower investment in women's education and training. Women, according to human capital theory, avoid fields where the rate of technological change is rapid and concentrate in fields where the cost of work force interruptions is relatively low (Becker 1975; Blau & Ferber 1986). Human capital theory may partially explain why there are fewer women than men having doctoral or master's degrees who are qualified for faculty positions, or why women applicants tend to be concentrated in humanities or social sciences departments in Taiwan.

Furthermore, the institutionalized socialization processes, and the stereotypes reinforced by parents, peers, teachers and the media together influence an individual's attitude and behavior. Boys and girls are treated differently by parents, mentors and teachers, and are encouraged to take different types of courses and choose different fields of specialization in school. This results in differential status, occupations and rewards for men and women in society. The lower expectation of women on the part of parents and teachers thus leads to lower human capital investment, expectation, and aspiration for women. Then, there are fewer role models for women to be inspired by and to emulate.

Consequently, women not only lack the encouragement and opportunities but are also denied access to the social and information network, which is vital for occupational attainment, especially in a society like Taiwan where information tends to travel mostly through informal channels. In academe, as in other sectors of society, success is often affected by not only what you know but whom you know; not only on hard work, but also by guidance, support and advocacy from those who are already established in the system. The exclusion of women from the information network or the under-representation on

faculties contribute to unequal opportunities for women to translate their educational attainments into gains in the academic marketplace.

Future Research

The strength of the paper-people resume technique is that the researcher can generate cue profiles for an appropriate number of hypothetical ratees and can also manipulate the profiles to different participants. Moreover, the participants may be less sensitive to any anti-discrimination laws and regulations, given the absence of specific legal provisions aimed at protecting women's rights in Taiwan. Thus, the paper-people method seems to be a very practical technique in Taiwan.

A weakness of the resumes used in this study lay in the virtually unavoidable absence of the names of publications (articles in journals and books). Thus, the resumes do not appear totally realistic. Since the quality of the publication is not shown in the resume, the reviewers are handicapped in seriously and thoroughly evaluating the resume. There is a trade-off between obtaining a large sample for a relatively simple task, such as designing a general resume for 11 disciplines, and using a small sample to design a more complex resume for fewer disciplines. Designing appropriate resumes for 11 different disciplines in the form used proved to be a demanding and time-intensive task; it would be even more so if we were to attempt creating real-life resumes.

It is difficult to predict whether the responses would have been different had the resumes contained the names of claimed publications. Tosi and Einbender (1985) reviewed 21 studies investigating gender bias and showed that judges faced with limited information about candidate competence or job requirements tended to make biased judgments based on sex-role stereotypes; whereas those with more information did not. They concluded that more information was related to less gender discrimination. It seems that as more information becomes available to the screener, reliance on stereotypes diminishes. There is no doubt that more realistic resumes would elicit a more realistic response. However, to what extent including more information would increase the validity of the study is unknown. Researchers using more realistic resumes are encouraged to replicate this study.

The findings of this study should be viewed in light of the fact that this study was confined to higher education institutions. It would be inappropriate to generalize from these results to other segments of Taiwanese labor market. Since faculty members are generally highly educated and they often represent the elite levels of the society, the sample in this study is not representative of the population in Taiwan. Further examination of the hiring process regarding gender discrimination in different segments of the labor market is recommended.

Whether there is discrimination against women in faculty hiring in Taiwan remains an unanswered question. Since resume-screening is the pre-interview stage of the faculty recruitment process, it performs only a screening function before the interview. The criteria necessary to pass a screening may be different from those necessary to be actually hired for a real vacancy. Thus, other stages of the hiring processes should also be studied in order to have a more comprehensive understanding of a possible discrimination problem.

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Gender Differences in Faculty Hiring in Taiwan

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《Abstract》

The focus of the investigation was gender-based discrimination at the resume-evaluation stage of the hiring process. A set of ten fictitious job resumes, along with a survey questionnaire was mailed to selected current department chairs, former chairs, and professors in the 11 fields of study in 33 higher educational institutions in Taiwan. The result showed that no gender differences were found in rating the applicant's hirability when both genders had identical academic qualifications. Moreover, the selected respondent characteristics in this study did not show a consistent pattern of strong gender preference in faculty hiring in the resume-evaluation stage.

Keywords: double standard, faculty hiring, gender-based discrimination, relative attractiveness, resume-evaluation

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