

Gender Difference in Perception of Female Deans and Directors in Korean University: Focusing on Organizational Cultures and Competencies

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우리나라 여성 보직교수에 대한 성별 인식 차이 분석: 조직문화, 보직역량을 중심으로

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Abstract

This study examined perceptions of university professors' roles, capabilities, and gender to understand better the perceptions of gender discrimination regarding administrative positions within the organizational culture of Korean universities. We used t-tests to analyze differences in perceptions of professors' roles and capabilities and regression analysis to examine our hypothesis: Differences in perceptions about female professors are influenced by organizational culture and related capabilities. The results highlight (1) a view of Korean university culture dominated by rationality focused on productivity, efficiency, planning, goal setting, and achievement; (2) universities demanding higher competency among female positional professors in their personal and work capabilities; (3) holding a major position in a university is harder for females, and male professors felt that female professors' capability, driving forces, and leadership were insufficient compared to them; (4) barriers to major positions (i.e., president, vice president) for females include a lack of awareness among professors who emphasize personal capabilities. Additionally, perceptions about female professors in universities with consensus and development cultures are higher than in rational-culture universities. Hence, I recommend changes to the university organizational culture, gender awareness and equality education for professors, female professor leadership improvement programs, and redefined the role and capability of university professors.

Key words : Deans, Gender difference, Organizational culture, Competency

I. Introduction

The university professors can be appointed to various positions within administrative and affiliated organizations of the university, in addition to teaching students and conducting research.

Universities can appoint them to fill major administrative positions with set service lengths, such as department head, director, dean, graduate president, and vice president(Lee, 2009). In Korea, the primary role of a professor is to make and implement decisions on university policy, and while

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the roles vary somewhat depending on the type and characteristics of the university, most carry substantial administrative power. The small proportion of female professors holding these university positions excludes them from information and the decision-making processes(Lee, 2009; Yang and Kim, 2009).

In the case of the US, academic administration suggests that masculine practices and leadership norms function to exclude women. Only 22% of all four-year university presidents are women, 40% of all chief academic officers, and 43% of all other senior administrators(The Almanac of Higher Education, 2013). In Turkey, 8% of university presidents are women. The proportion of female deans among all university deans is 17.5%(Turkish Higher Education Council, 2019). From this data, it is easy to see that although the proportion of female university students in universities in Turkey is high, there are few women in top management positions within the universities. However, their ratio was higher than that of Korea. According to the 2017 "National University Professors Deployment Status." 132 universities nationwide had only 15.7% female deans and directors in the positions, only three out of 131 universities had the same number of male and female faculty, and 31 universities had no or only one female dean and director(University Journal, 2017).

According to the Seoul National University Diversity Committee(2017), 40.5% of undergraduates and 43.2% of graduate students were women, while there were only 15% of full-time female professors. 36% of departments and classes had less than 10% female professors. In addition, the proportion of women among full-time instructors was 61%, and that of non-full-time professors and researchers was 57.6%, but the participation rate of female

professors in major decision-making positions was 13.3%(Ahn, 2017). These statistics show that not only is the proportion of female professors in Korean universities low, it also means they have little influence in the organizations.

Considering that the proportion of female students, which is the direct target of the university's academic administration, is more than 40%, the ratio of female professors and female positional professors is not desirable. In particular, the phenomenon that female professors, who can be role models for female college students, are relatively alienated from the major policy making fields of universities does not seem positive. German sociologist Ulrich Beck(1990) commented on this phenomenon as follows. "The more central an area is to its society, the greater the power of a group, and the fewer women are represented. On the contrary, the more peripheral the task area is and the less influential a group has, the more likely it is that women are employed."(Beck, 1990).

In general, if the proportion of women in a workplace is small, they do not have practical power but have symbolic power and nominal status. This condition is due, in part, to the university's organizational culture, including the gender ratio of positions. Since the proportion of female professors in the teaching society is low, they cannot achieve a "critical mass," which is a certain percentage at which they have a noticeable influence(Yoo, 2006).

The small number of female professors with major positions in Korea can be located in Korea's deep-rooted gender discrimination, which is based on Confucianism and intertwined with the university's unique organizational culture, and glass ceilings and glass cliffs continue to be common. Glass ceiling refers to a bar-rier that prevents women from being promoted in the workplace, and

glass cliff refers to a more difficult or crisis-prone organization that tend to choose women as leaders(Woo, 2020). Glass ceilings and glass cliffs are suitable concepts for explaining the phenomenon of fewer high-ranking female positions in the organization. I also applied the concept in this study as a meaningful way to describe male professors' perceptions of female professors in universities. On the other hand, the glass ceiling phenomenon overlaps with the cultural phenomenon, so there is a limit to legal action(Naff, 1997). That is, the glass ceiling phenomenon seems similar to the implicit practice that naturally permeates, and overcoming or alleviating the glass ceiling with individual efforts can be very difficult.

Accordingly, research on the phenomenon of female alienation in the organizational culture, policy making, position appointments, and administrative authority of universities was often conducted in connection with the university structure. The structure of many organizations, particularly in academia, has been viewed as a deterrent to aspiring women(Andruskiw et al., 1980). The shortage of women in educational administration roles could be caused by sex-role stereotyping and sex discrimination. Women professionals in education have undergone the same expensive basic training as their male counterparts. Therefore, such bias is not a rational use of human potential. Women are forced to develop the self-confidence and extra competence necessary to perform in pioneer roles(Kimmel et al., 1979).

In Korea, a qualitative analysis was conducted, mainly based on interviews, in a study by Kim (2004), who raised questions about the discriminatory university daily life faced by female professors, experience in male-centered administrative positions, relationships with administrative staff, and

gender inequality arising from participation in school committees(Kim, 2004). Koo(2007) questioned why it is difficult for women to become university professors, and tried to find ways to improve the status of female professors from a gender-political perspective, by analyzing government policy and educational statistics related to the status of female professors(Koo, 2007).

I discuss gender equality in university positions in this study because the information system that works mainly for men and the direction of the organization that corrects the alienation of female professors in the decision-making process is very important. In addition, even if the proportion of female professors in various committees or positions in universities is increased, women's status in universities will not improve, nor will their right to speak will be fundamentally strengthened(Kim, 2004). As long as the university does not abandon the prejudice that the organization has against women, the role of female professors in major positions and women's committee members will inevitably have limitations. Otherwise, there will have to be mobilization, rather than the participation of female professors, in areas where authority and responsibility follow. If the opinions or remarks of the female professor are respected and reflected in the policy making after over-coming the academic atmosphere that forces women to be silent and the practice of not respecting the opinions of the female professor who are not loud, female professor's participation in the position will have practical meaning(Koo, 2007).

Therefore, in this study, I conducted a quantitative analysis through a survey on the organizational culture of universities in Korea, the degree of professors' perception of capabilities and performance in their roles, the degree of gender

suitability, and the understanding of female professors to achieve. The aim of this study was to analyze the phenomenon of glass ceilings and glass cliffs in the organizational culture of university administration in Korea and make policy suggestions for solutions.

II. Methods

1. Data collecting and sampling

To analyze the difference in gender perception of male and female professors in Korean universities, this study conducted a purposive sampling by dividing Korean four-year universities by location. This study first divided universities by location into five districts (metropolitan areas, etc.) based on Korean administrative districts. A total of 20 universities were selected from five districts, with four from each district, after factoring in the

establishment type and size of the university. Quota sampling (i.e., location, type of establishment, and size of university) was performed on participants, including 5,285 professors from these 20 universities, through two expert advisory meetings. The classification criteria is based on the number of students in the first half of 2021 announced on the university information system. Universities with fewer than 5,000 students were classified as small, those with more than 5,000 but less than 10,000 students were medium-sized, and those with more than 10,000 students were classified as large(Moon, 2020). Based on these three criteria, the number of subjects to be analyzed for target universities was decided, and the number of personnel was allocated to each college.

Second, approximately 10% of the subjects were selected for the final sample through simple random sampling at the college level. Next, emails were

<Table 1> sample demographics

N=387

| Characteristics | | N | Percentage (%) |
|-------------------------------------|---------------------|-----|----------------|
| Gender | Male | 246 | 63.6 |
| | Female | 141 | 36.4 |
| Age | 30s | 34 | 8.8 |
| | 40s | 146 | 37.7 |
| | 50s | 160 | 41.3 |
| | 60s | 47 | 12.1 |
| position | assistant professor | 95 | 24.5 |
| | associate professor | 82 | 21.2 |
| | tenure Professor | 210 | 54.3 |
| administrative professor experience | yes | 153 | 39.5 |
| | no | 150 | 38.8 |
| | missing | 84 | 21.7 |
| establishment type | national / public | 155 | 40.1 |
| | private | 232 | 59.9 |
| size of university | small scale | 48 | 12.4 |
| | medium scale | 74 | 19.1 |
| | large-scale | 265 | 68.5 |

sent to professors by referring to the email addresses disclosed on the university's website from purpose of the survey and obtained consent from participants before proceeding to the next step. This March 2, 2022, through March 22, 2022. In the email, surveyors explained the intention and the study received approval from the Institutional Review Board of Kosin University in Korea for the study design prior to starting the research(KU IRB 2021-0061). Participants who provided consent responded to an online questionnaire they accessed through a URL.

The questionnaire was created using Google Forms in a way that respondents were required to answer all questions before progressing to the next step. The question was received by 521 professors at 20 different four-year universities, and 387 (74.3%) of the recipients responded (63.6% male; 36.4% female, reflecting the general gender ratio of Korean university professors at 6.6:3.4) (Ko et al., 2020). <Table 1> presents the demographic characteristics of the sample.

2. Research Instrument and Statistical Analysis

In this study, I selected questions based on previous studies on the capabilities and role performance of professors in major positions, the perception of female professors, and gender suitability of university positions to analyze university professors' perceptions of the capability and gender suitability of university administrative professors. Referring to a study by Lee and Lee (2021) regarding the capabilities of a position professor, the survey included a total of 19 questions divided into three sub-variables (personal competency, relationship competency, and work competency)(Lee and Lee, 2021). The questions measuring perceptions of the role of a position

professor's role were selected based on Yang and Kim(2009) study and consisted of six questions, such as efforts in forming voluntary organizational culture and improving administrative work(Yang and Kim, 2009). The question asking about the perception of female professors was selected from a study by Jang(2014) and consisted of a total of five questions, including the atmosphere in which female professors found it difficult to hold major positions(Jang, 2014). As for the gender suitability of university positions, Kim and Lee (2020) selected two questions about the glass ceiling phenomenon of university positions(Kim and Lee, 2020). All questions for this study consisted of a Likert 5-point scale.

In the first round of revisions, the items were assessed for their suitability for the intention and purpose of this study after selecting the survey targets. Next, a group of experts (i.e., three prof professors of higher education) determined the second round of revisions. The third round of revisions was determined following a pilot study this study conducted with 83 university professors. Thereafter, the main survey was conducted with four-year university professors throughout the nation. A reliability analysis for each major variable was conducted with Cronbach's α . The Cronbach's α results demonstrated reliability, with $\alpha > .70$. <Table 2> presents the variables, measurement items, the scale, and Cronbach's α for this study.

The analyses followed two main steps. In the first, this study performed descriptive analysis and independent t-tests to examine the differences in male and female professors' perceptions of female professors. In the second, I used linear regression analysis to find the factors affecting the perception of female professors. These analyses were conducted using SPSS 21.0.

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<Table 2> Variables and Measurement Instrument

| Variables | Items | Cronbach' α | |
|---|---|---|------|
| Organizational culture | 1. Emphasizing affinity and participation | .823 | |
| | 2. Valuing competency development of members | | |
| | 3. Valuing the group's morale and cohesion | | |
| | 4. Cooperation and high trust | | |
| | Developmental culture | 5. Emphasizing creativity, adaptability, and innovation | .849 |
| | | 6. Valuing growth and acquisition of resources | |
| | | 7. Valuing the intuition and insight of members | |
| | Rational culture | 8. Emphasizing an enterprising spirit | .788 |
| | | 9. Valuing productivity and efficiency | |
| | | 10. Emphasizing planning and goal setting | |
| | | 11. Performance-based evaluation | |
| | Hierarchical culture | 12. Goal-oriented actions | .789 |
| | | 13. Valuing safety and consistency | |
| | | 14. Emphasizing documentation, accountability, and information management | |
| | | 15. Strictly complying with rules and regulations | |
| | | 16. Emphasizing leadership and control | |
| Roles of deans and directors | Voluntary Organizational Culture Formation | .896 | |
| | Understanding the government's higher education policy trends | | |
| | Improvement of university administrative work | | |
| | Sharing a vision for the development of the university | | |
| | Maintaining cooperative relationships on campus through communication | | |
| Awareness of Female Deans and Directors | Maintaining off-campus partnerships through communication | .825 | |
| | Our university has an atmosphere in which it is difficult for female professors to take on major positions (deans and directors level). | | |
| | In our university, the ratio of female professors holding major positions (deans and directors level) is low. | | |
| | In our university, it is difficult for female professors to become presidents and vice-presidents compared to male professors. | | |
| | I do not think it is desirable for a female professor to occupy the majority of positions (deans and directors level). | | |
| Gender Compatibility | I think it is realistically difficult for a female professor to become the president and vice president of our university. | .930 | |
| | Female professors have lower work ability and drive than male professors. | | |
| | Female professors lack leadership compared to male professors. | | |

III. Results

This study first conducted a gender difference analysis on university organizational culture, positional teaching competency, and gender suitability to analyze gender differences in male

and female professors' experiences and perceptions of female professors according to organizational culture and competence as a professor in a major position. In addition, the effect on the experience and perception of female professors was analyzed through multivariate regression analysis.

1. Analysis of Gender Perception Differences in University Organizational Culture

Based on the review of previous studies, the university organizational culture was divided into consensus, development, rational, and hierarchical cultures in this study. Prior to comparing perceptions of university organizational culture according to gender, I conducted technical statistics analysis for each item. When asked about the perception of the current university's culture, the question with the highest overall average was rational culture's "Performance-based evaluation (3.91)," which showed the highest average value for both male and female professors and "Valuing growth and acquisition of resources (3.69)" in developmental culture and "Goal-oriented actions (3.69)" in rational culture. This describes the university culture perceptions held by professors working at four-year universities in Korea, reflecting an atmosphere that is performance-oriented and values goal achievement,

growth, and resource gain. The above contents are shown in <Table 3>.

An independent sample t-test was conducted to compare male and female professors' perceptions of the organizational culture of Korean universities. The variable for which statistically significant results were derived was "rational cul-ture" among organizational cultures. Korean university professors believe Korea's university culture is dominated by a rational culture centered on productivity and efficiency, emphasizing planning and goal setting, and performance and goal achievement. For "rational culture," the average of male professors was lower than that of female professors' points, indicating that female professors perceived uni-versities as having rational culture. In addition, the average difference (0.16 points) between male and female professors on rational culture was also higher than the average difference between consensus culture (0.01 points), development culture (0.10 points), and hierarchical culture (0.03 points). The details are shown in <Table 4>.

<Table 3> Descriptive statistical results of university organizational culture by gender

| | | Male | | Female | | Total | |
|-----------------------|---|------|-------|--------|-------|-------|-------|
| | | M | SD | M | SD | M | SD |
| Consensual culture | Emphasizing affinity and participation | 3.5 | 0.837 | 3.57 | 0.768 | 3.52 | 0.812 |
| | Valuing competency development of members | 3.62 | 0.899 | 3.55 | 0.866 | 3.59 | 0.887 |
| | Valuing the group's morale and cohesion | 3.34 | 0.884 | 3.33 | 0.898 | 3.34 | 0.888 |
| | Cooperation and high trust | 3.28 | 0.906 | 3.26 | 0.823 | 3.27 | 0.876 |
| Developmental culture | Emphasizing creativity, adaptability, and innovation | 3.53 | 0.929 | 3.7 | 0.894 | 3.59 | 0.918 |
| | Valuing growth and acquisition of resources | 3.69 | 0.835 | 3.7 | 0.884 | 3.69 | 0.852 |
| | Valuing the intuition and insight of members | 3.15 | 0.919 | 3.21 | 0.885 | 3.17 | 0.906 |
| Rational culture | Emphasizing an enterprising spirit | 3.28 | 0.95 | 3.43 | 0.988 | 3.33 | 0.966 |
| | Valuing productivity and efficiency | 3.55 | 0.859 | 3.74 | 0.842 | 3.62 | 0.856 |
| | Emphasizing planning and goal setting | 3.62 | 0.782 | 3.79 | 0.835 | 3.68 | 0.805 |
| | Performance-based evaluation | 3.87 | 0.82 | 3.99 | 0.878 | 3.91 | 0.842 |
| Hierarchical culture | Goal-oriented actions | 3.64 | 0.763 | 3.77 | 0.897 | 3.69 | 0.816 |
| | Valuing safety and consistency | 3.41 | 0.847 | 3.5 | 0.946 | 3.45 | 0.884 |
| | Emphasizing documentation, accountability, and information management | 3.51 | 0.911 | 3.6 | 0.926 | 3.54 | 0.916 |
| | Strictly complying with rules and regulations | 3.63 | 0.893 | 3.64 | 0.943 | 3.63 | 0.911 |
| | Emphasizing leadership and control | 3.46 | 0.85 | 3.39 | 0.991 | 3.43 | 0.903 |

<Table 4> T-test result of university organizational culture by gender

| | Male | | Female | | <i>t</i> | <i>p</i> | |
|-----------------------------------|-------------------------|------|--------|------|----------|----------|------|
| | M | SD | M | SD | | | |
| Competencies of dean and director | 4.35 | .417 | 4.48 | .416 | -2.972 | .003 | |
| Competencies of dean and director | individual competency | 4.35 | .436 | 4.45 | .490 | -1.980 | .048 |
| | relationship competency | 4.47 | .437 | 4.62 | .433 | -3.367 | .001 |
| | work competency | 4.27 | .507 | 4.40 | .476 | -2.576 | .010 |

2. Differences in perception of gender suitability between female professors and university positions

Male and female professors were asked about whether there is a culture and atmosphere that makes it difficult for female professors to serve as major professors in Korean universities, and the difference in perception was analyzed by the independent sample T-test. As a result, all five questions asking for the perception of female professors had statistically significant gender differences. At the universities, female professors showed a higher average than male professors for whether female professors face a difficult atmosphere for holding major administrative positions such as professors, presidents, and vice presidents. In other words, female professors feel that it is more difficult for them to hold major positions in universities than male professors. In our university, it is particularly difficult for female

professors to become presidents and vice presidents compared to male professors. The difference in perception between male and female professors was the highest, with 0.53 points. And in the case of “I do not think it is desirable for a female professor to occupy the majority of positions (deans-and-directors level),” the average value of male professors was higher than that of female professors. The above details are shown in <Table 5>.

The question of gender suitability for university positions consisted of two negative questions: “Female professionals have lower work ability and drive than male professors” and “Female professors lack leadership compared to male professors.” As a result of analyzing the difference in the perceptions of male and female professors from the two items with the independent sample T-test, there was a statistically significant difference. Male professors felt that “the work ability and drive of female

<Table 5> T-Test Results on female dean and director by gender

| Items | Male | | Female | | <i>t</i> | <i>p</i> |
|---|------|-------|--------|-------|----------|----------|
| | M | SD | M | SD | | |
| Our university has an atmosphere in which it is difficult for female professors to take on major positions (deans and directors level). | 2.42 | 1.014 | 2.76 | 1.034 | -3.153 | .002 |
| In our university, the ratio of female professors holding major positions (deans and directors level) is low. | 3.29 | .988 | 3.56 | 1.078 | -2.480 | .014 |
| In our university, it is difficult for female professors to become presidents and vice-presidents compared to male professors. | 3.25 | 1.126 | 3.78 | 1.153 | -4.402 | .000 |
| I do not think it is desirable for a female professor to occupy the majority of positions (deans and directors level). | 2.12 | .995 | 1.70 | .870 | 4.250 | .000 |
| I think it is realistically difficult for a female professor to become the president and vice president of our university. | 2.76 | 1.204 | 3.23 | 1.267 | -3.631 | .000 |

<Table 6> T-Test Results on Gender Suitability for dean and director by gender

| Items | Male | | Female | | <i>t</i> | <i>p</i> |
|---|------|-------|--------|------|----------|----------|
| | M | SD | M | SD | | |
| Female professors have lower work ability and drive than male professors. | 2.02 | .925 | 1.58 | .838 | 4.686 | .000 |
| Female professors lack leadership compared to male professors. | 2.11 | 1.016 | 1.66 | .860 | 4.469 | .000 |

professors" and "the leadership of female professors" were insufficient compared to male professors. The difference in perception between male and female professors was similar with 0.44, and 0.45 points for both questions. The detailed results are shown in <Table 6>.

3. The Influence on the Perception of Female Professors in Major Positions in Universities

To analyze the factors affecting the perception of female professors, this study analyzed the model by entering the background variables of the study participants, the perception of the competency of professors in major positions, and the perception of university organizational culture. Based on the revised R-square value, Model 3, which includes all background variables, competencies of professors in major positions, and university organizational culture, showed the highest modified R-square value, and was selected as the final model. In Model 3, the results of the F test were also statistically significant.

The results of regression analysis based on Model 3 are as follows. In the background variable, only gender showed statistically significant results, and only individual competencies were statistically significant in the competency of professors in major positions. In the organizational culture, statistically significant results were shown

in the consensus, development, and rational cultures. Focusing on statistically significant variables, the perception of female professors has a negative value, and male professors are coded as 1 and female professors 2. In other words, I found that male professors had a worse perception of female professors than female professors, making it difficult for them to take major positions or become presidents and vice presidents.

The higher the individual competence (ethics, responsibility, dedication, autonomy, self-regulation, and management) of professors in major positions, the lower the perception of female professors, making it difficult for them to hold major positions or become presidents or vice presidents in Korea. In the organizational culture of universities, consensus and development cultures showed a negative impact, and rational culture showed a positive impact on the perception of female professors in universities. Universities with consensus and development cultures have a better perception of female professors in major positions, and those with rational culture showed a disparaging perception of female professors. This means that the more dominant the consensus and development cultures, the more favorable for a female professor to take on the main position, but the more dominant the rational culture, the more negative this possibility. The above contents are shown in the following table.

<Table 7> Regression model goodness of fit

| Model | <i>R</i> | <i>R</i> ² | Adjusted <i>R</i> ² | SE | <i>F</i> | <i>p</i> |
|-------|----------|-----------------------|--------------------------------|--------|----------|----------|
| 1 | .203a | .041 | .022 | .76816 | 2.130 | .050 |
| 2 | .254b | .065 | .036 | .76270 | 2.247 | .019 |
| 3 | .396c | .157 | .119 | .72895 | 4.146 | .000 |

<Table 8> Regression analysis results

| Variables | Collinearity | | Non-standardized coefficient | | Standardized coefficient | t | p |
|--|--------------|-------|------------------------------|------|--------------------------|--------|------|
| | tolerance | VIF | B | SE | β | | |
| Constant | | | 3.122 | .596 | | 5.239 | .000 |
| Position | .645 | 1.549 | .017 | .061 | .019 | .276 | .783 |
| Experience of dean and director | .716 | 1.396 | -.056 | .099 | -.036 | -.562 | .575 |
| Types of University Establishment | .686 | 1.457 | -.019 | .104 | -.012 | -.184 | .854 |
| University size | .807 | 1.239 | -.055 | .067 | -.050 | -.826 | .410 |
| University location | .793 | 1.262 | -.023 | .030 | -.048 | -.792 | .429 |
| Gender | .893 | 1.119 | .265 | .092 | .165 | 2.887 | .004 |
| Competencies personal characteristics | .476 | 2.102 | .392 | .130 | .236 | 3.017 | .003 |
| Competencies Relationship skill | .357 | 2.803 | -.169 | .155 | -.099 | -1.090 | .276 |
| Competencies work capability | .404 | 2.473 | -.112 | .127 | -.075 | -.880 | .380 |
| Organizational culture-Consensual culture | .410 | 2.438 | -.200 | .092 | -.184 | -2.182 | .030 |
| Organizational culture-Developmental culture | .344 | 2.909 | -.183 | .091 | -.186 | -2.023 | .044 |
| Organizational culture-Rational culture | .512 | 1.953 | .188 | .086 | .164 | 2.179 | .030 |
| Organizational culture-Hierarchical culture | .620 | 1.613 | -.074 | .075 | -.067 | -.978 | .329 |

IV. Conclusions

To analyze the experience and perception of female professors in major positions, this study focused on Korea's university organizational culture, the degree of professors' perception of competence and role performance, the degree of gender suitability, and the understanding of female professors. In addition, a comparative analysis was conducted on the perception of male and female professors in Korea. The analysis results are as follows. First, Korean university professors thought that Korean university culture was dominated by rational culture, which focuses on productivity and efficiency, emphasizing planning and goal setting, and performance and goal achievement. The

average of male professors for "rational culture" was 3.66 points, and the average of female professors was 3.82 points. Thus, female professors were found to have a greater perception that universities have a rational culture. Second, female professors require a higher level of competence than male professors in all the personal, related, and work competencies of positional professors. The difference in perception between male and female professors was high, with 0.10 points for individual competencies, 0.15 points for related competencies, and 0.13 points for work competencies.

Third, female professors felt that it was more "difficult for female professors to hold major positions in universities" than male professors. In addition, male professors felt that the "work ability

and drive of female professors” and “the leadership of female professors” were insufficient compared to male professors. Male professors thought that it was difficult for female professors to hold major positions or become presidents or vice presidents due to their perception of female professors. This difference in perception between male and female professors was due to discrimination in the role of major professors, whether they had experience providing opportunities to develop capabilities, and in participation in various activities on campus. Female leaders feeling undervalued in this way can be explained by the role of the incongruity theory which argues the gender roles of women and the role characteristics of leaders(Eagly and Karau, 2002). In particular, the undervaluation of leadership for female leaders in male-centered organizations was “strong”, and the evaluation of female leaders is “stingy” because leadership is traditionally considered the prerogative of men(Kim and Yoon, 2009). In the research results of Won (2009), it was also found that men had a fairly high level of stereotypical evaluation of female managers. She said that women's perception of female managers' progresses according to changes in the situation, while men's perception is at a standstill. As of 2022, it was confirmed that men's perception of female professors who are female managers in university society was still similar.

Fourth, male professors in major positions who emphasize the importance of personal competence are less positive about female professors in major positions, making it difficult and undesirable for them to take major positions such as presidents, and vice presidents in Korean universities. In addition, it was found that universities with consensus and development cultures had more positive perceptions of female professors, and those

with rational cultures had fewer positive perceptions of female professors to be in major positions. This means that the more dominant the consensus and development cultures, there is the more favorable atmosphere for the female professor to take on a major position, but the more dominant the rational culture, the more negative this atmosphere. Eagly and Karau (2002) argued that women leaders are more likely to weaken or give up their feminine characteristics to meet the needs of these organizations, as organizations with a higher sexist culture prefer and demand a more strongly masculine leadership style(Eagly and Karau, 2002). Druskat (1994) pointed out that the difference between men and women in transformational and transactional leadership lies in organizational culture, and organizational culture plays an important role in determining women's leadership styles. The formation of the organizational culture of the university is particularly important because the perception and expected role of female positions (director) vary depending on what kind of organizational culture they have(Kim and Shin, 2014).

Based on the above analysis results, this study proposed the following policy suggestions. First, to break away from prejudice against female professors and evaluate them on their leadership efficiency, not the difference between men and women, changes should be made in the organizational culture of universities. Organizational culture is the value and belief system of organizational members, which forms identity as organizational members and directly affects members(Cho et al., 2021). Such changes in the organizational culture of universities will be possible only when leadership education and gender awareness education are implemented together. A

gender-sensitive perspective is formed through education, and this is greatly influenced by the professor, especially in major subjects (Paik et al., 2015). Therefore, gender awareness education and gender equality education for professors are very important. Currently, professors at all universities are required to receive more than one hour of violence prevention education (sexual trafficking, sexual harassment) a year in Korea. However, the effectiveness of education is questioned as many universities do not conduct formal education. Effective educational programs should be planned and implemented for an organizational culture, based on changes in university members' perceptions of gender equality.

Second, to change the perception of female professors in major positions in organizations and to be recognized as positional professors in the organizational culture, female professors should make efforts to have leadership suitable for the organization and position. Since positional professors must play a pivotal role in changing universities and are responsible and empowered to make decisions, female professors must make great efforts on their own to have appropriate competencies. In male-dominated organizations, female professors are alienated from male-centered networks and excluded from decision-making, which appears to be a passive attitude towards female professors. In addition, some female professors are not aware of the seriousness of the problem due to their weak gender awareness. Gender awareness education and competency-building programs for professors are therefore necessary. Female managers construct an organizational culture that induces participation and cooperation based on their expertise and strive to lead work performance while horizontally exchanging opinions with members (Park

et al., 2022). Therefore, female professors need to be aware of their self-esteem and efficacy in university society. In addition, university organizations need to provide active support so that female professors can be satisfied with their jobs and continue to demonstrate their capabilities to establish themselves as excellent leaders who facilitate growth. In previous studies on the male-centeredness of universities, they were said to be "multi-layered female exclusion space, everyday female silence space, and male-centered cultural reproduction space" (Na, 2005). For university leadership to be evaluated by competence rather than gender difference, universities should strive to improve the organizational culture of university professors with equal, gender by assigning a certain percentage of university positions to female professors or planning and implementing programs to strengthen female professors' leadership.

Third, to improve the university society's perception of female professors, it is necessary to redefine the role and competency of university professors in major positions. Professors have an identity as potential leaders while performing their positions, and most professors develop their education, research, and volunteer skills along with their main jobs by performing various positions, starting within departments as department heads (Bisbee, 2007). Such positions can be a way to develop leadership through administration, and job performance is an opportunity to develop competencies as administrators, other than educators and researchers. Therefore, it is necessary to appoint a university organization that focuses on competence and qualifications without considering gender, educational programs to improve professionalism, specify appointment standards and procedures, transparency, and form a talent pool for

prospective professors. A personnel system that values fairness and efficiency, such as stipulated personnel regulations, transparency in evaluation standards, and performance orientation, was not introduced to prevent gender discrimination, but as a result, it has the effect of alleviating discrimination against women (Kim and Shin, 2014). In summary, university organizational members should work together to improve the university's organizational culture and organizational atmosphere, which divides university positions by the standard of men and women and makes negative evaluations of the role of women's leadership.

University organizations cannot expect educational development or their own operational performance without professional activities changing with the times along the lines of quantitative increase, diversity, complexity, and qualitative change. In addition, with the advent of the Fourth Industrial Revolution and the emergence of future generations, universities are required to change organizational culture and transform more than ever. Therefore, there is a growing demand for the roles and competencies of key personnel in the university, that is, professors in major positions who can transform the university in line with the function of the university and the realistic trend of change. Leadership accompanied by an understanding of university administration, philosophy, and vision for the job, creative problem-solving skills, amicable relationships with members, dedication, and communication skills are the skills required for professors in modern universities (Yang and Kim, 2009). University leaders and professors in major positions with these capabilities should be evaluated by their abilities and qualities, not by their gender, to perform administrative tasks. Changes in perception of university organizational culture are of

paramount importance for a healthy university society, where discussion and respect exist, to overcome gender discrimination in the male-centeredness and organizational culture of Korean universities and professors.

This study was made in consideration of the current status, structure, and cultural specificity of Korean universities, and the composition of gender-discriminatory positions. To this end, four-year universities in Korea were classified by location and subdivided by university size to select universities and professors to be studied. In the future, I hope that international comparative research on improving the awareness of female professors, their leadership, and changing the organizational culture of universities will be activated in the future. Research that reflects the characteristics of university organizational culture in each country should be conducted to contribute to the development of global higher education.

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