

# ORGANIZATIONAL JUSTICE AS AN OUTCOME OF DIVERSITY MANAGEMENT FOR FEMALE EMPLOYEES: EVIDENCE FROM U.S. FEDERAL AGENCIES

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## Abstract

Diversity management has been implemented vigorously in organizations with workforce diversity practices. One of the possible outcomes of diversity management is increased fairness in the organization. However, women perceive organizations as still being unfair, even though diverse managerial practices have been adopted to address equity related problems.

In this article, we examine how female employees in federal agencies view diversity management and whether they believe that diversity management can lead to organizational justice. By using the 2013 Federal Employee Viewpoint Survey (FEVS) data, we found that diversity management leads to a higher level of organizational justice for female employees. However, white female employees have a higher agreement on the efficacy of diversity management in producing procedural and interactional justice than do non-white female employees. Also, female employees in the regulatory or redistributive agency category perceive less that diversity management leads to organizational justice than those in other agencies. We therefore conclude that diversity management is an effective tool to achieve organizational justice for particular groups.

**Keywords:** diversity management, organizational justice, agency category, female employees.

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## 1. Introduction

It has long been recognized that justice is an important concern of organizations. Previous research on organizational management has demonstrated that employee perception of organizational justice is positively related to their work attitudes and outcomes such as job satisfaction, job performance, and organizational commitment (Cohen-Charash and Spector, 2001; Colquitt *et al.*, 2001; Greenberg, 1990). In addition, organization justice is considered as the grounds on which the trust between employees and their supervisors or organizations is built (Colquitt *et al.*, 2006; Lind and Van den Bos, 2002). On the other hand, if an organization is not perceived to be fair, employees may retaliate against the organization (Foley, Hang-Yue and Wong, 2005; Skarlicki and Folger, 1997) or create conflict in the workplace (Gutek, Cohen and Tsui, 1996). Thus, organizational justice has become a significant context for understanding employee attitudes or behaviors in the workplace (Ambrose, Hess and Ganesan, 2007; Cropanzano and Rupp, 2003).

Even though the importance of organizational justice remains fundamental for organizations, female employees have suffered from unfair treatment when attempting to gain higher positions of authority in organizations (Bowling *et al.*, 2006; Newman, 1996; Riccucci, 2009) and by experiencing differences in salary and wages compared with males (Alkadry and Tower, 2006; Blau and Kahn, 2000). Such unfair treatment of female employees is metaphorically referred to as the glass ceiling (Morrison and Von Glinow, 1990) or glass wall (Cornwell and Kellough, 1994; Kelly and Newman, 2001). Glass ceilings or glass walls have not disappeared completely, despite the fact that female employment in public organizations has increased so much that approximately 45% of the federal workforce was made up of female employees in 2013 (U.S. Office of Personnel Management<sup>1</sup>, 2013). As one of the ways to improve organizational culture related to equal treatment or fairness, organizations in the public sector have implemented various managerial practices or initiatives such as diversity management. Organizations adopt diversity management in order to show their compliance with social norms and then achieve legitimacy for the adoption. However, the implementation would not be successful if diversity management was not in accord with other organizational actions, or if it is not fair for all employees regardless of race or gender (Yang and Konrad, 2011).

The purpose of this article is to examine how female employees in federal agencies perceive diversity management, and whether they believe that diversity management can lead to organizational justice, by drawing on a large sample of federal employees. As organizational justice has multifaceted characteristics in organizations (Cohen-Charash and Spector, 2001; Greenberg, 1990), we define organizational justice and explore how female employees perceive it, based on their individual characteristics as well as their agency categories. For this analysis, in the following section

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1 OPM from here on.

we review the literature on gender discrimination, organizational justice and diversity management. In the next section, our hypotheses are introduced based on demographic characteristics, focusing more closely on supervisory status and agency categories of female employees in public organizations. Next, the variables and measures used in our analysis will be identified, and we will introduce the ordinary least square (OLS) methodology for the key questions. Finally, we will analyze the results and draw some conclusions and discuss policy implications based on those findings.

## **2. Literature review**

### **2.1. Gender discrimination in organizations**

Organizations have applied norms and beliefs that are more accommodating to men than to women (Van Vianen and Fischer, 2002), thus women still perceive implicit or explicit discrimination in public organizations, even though different managerial practices or related legal initiatives have been implemented in organizations. When individuals perceive gender discrimination, employees believe their gender is disadvantaged at work compared to the opposite sex (Guttek, Cohen and Tsui, 1996). Female employees have experienced such occupational segregation as staying in lower-level or unimportant positions with lower wages in relation to males (Alkadry and Tower, 2006; French, 2005). Moreover, women have faced various forms of discrimination, including horizontal (glass wall) and vertical (glass ceiling) dimensions in organizations. Generally, the glass wall refers to an occupational segregation that restricts female employees from accessing certain types of agencies (Kerr, Miller and Reid, 2002). Thus, female employees can be easily excluded from important missions and roles in the organization (Guy, 1994; Kellough, 1990; Naff, 1994). In addition to the glass wall, the glass ceiling is another impediment, preventing female employees from being promoted above a certain level or position (Bowling *et al.*, 2006; Morrison and Von Glinow, 1990). The glass ceiling acts as an obvious barrier to prevent women and ethnic minorities from moving up in the higher management hierarchy (Morrison and Von Glinow, 1990).

Multiple factors can be attributed to gender discrimination (Kelly, 1991; Naff, 1994; Sneed, 2007). In general, they are explained by way of three approaches: the human capital model, the socio-psychological model, and the systemic model (Naff, 1994). The human capital approach examines discrimination based on individual differences such as education, work experience, and other job-related capacities, as well as biological differences according to an individual's gender or reproductive roles (Becker, 1985; Hakim, 1996; Sneed, 2007). The second approach is the socio-psychological model, which explains discrimination according to psychological factors such as gender roles, stereotypes based upon gender differences, or a masculine culture within an organization (Choi and Park, 2014; Connell, 2006; Guy, 1993). According to this theory, discrimination stems from stereotyped roles that are based on fixed psychological perceptions of gender differences. The last approach, the systemic model, is defined as systematic barriers that discriminate against certain groups; this theory explains why

female employees cannot be given equal opportunities to males based upon structural or organizational problems of gender discrimination. Among the three approaches, much of the discrimination can be explained through the socio-psychological model and the systemic model (Kelly, 1991; Naff, 2001; Newman, 1996), while no single theory of the three can provide a full understanding of sex-based discrimination (Kelly, 1991; Reskin and Hartmann, 1986). Multiple factors of discrimination against women have generated issues related to organizational justice in public organizations.

## *2.2. Perceived organizational justice*

Organizational justice is generally regarded as one of the key factors for understanding employee attitudes or behaviors in the workplace (Ambrose, Hess and Ganesan, 2007; Cropanzano and Rupp, 2003). It is defined as 'the individual's and the group's perception of the fairness of treatment received from an organization and their behavioral reaction to such perceptions' (Aryee, Budhwar and Chen, 2002, p. 269). In terms of social exchange and equity theories, people are continually seeking a balance between what they invest in and what they expect to receive for their efforts (Adams, 1965; Noblet and Rodwell, 2009). If the perceived balance satisfies employees' expectations, then organizational justice leads to positive work-related attitudes of employees, resulting in organizational trust in management, stronger job performance, and greater job satisfaction (Cohen-Charash and Spector, 2001; Colquitt *et al.*, 2001; Linnehan and Konrad, 1999). Thus, organizational justice is a key factor in managing employee job performance or job satisfaction in organizations (Cropanzano and Rupp, 2003; DiTomaso, Post and Parks-Yancy, 2007).

Much of the literature generally describes the three dimensions of organizational justice, which are distributive, procedural, and interactional (Cohen-Charash and Spector, 2001). Distributive justice is introduced first, and focuses on the fairness of outcome distribution (Adams, 1963 and 1965; Homans, 1961). It is directly related to outcomes (e.g., pay, performance, evaluation, and promotion) at the individual level (Colquitt *et al.*, 2006). Later, scholars began to concentrate on procedural justice, explaining how outcomes are decided (Lind and Tyler, 1988). Procedural justice is closely tied to the organizational level compared to distributive justice, in that procedural justice covers the whole process of how outcomes are produced and allocated; procedural justice is most correlated with the perception of fairness (Lind and Tyler, 1988). Finally, interactional justice focuses on fairness in interpersonal relationships within organizations and consists of two dimensions: interpersonal and informational justice (Cropanzano and Randall, 1993).

Regarding the perception of justice, there is variation among the perceived organizational justice among employees (Greenberg, 1996) as female and male employees have different perceptions about organizational justice (Naff 1994; Soni, 2000); female employees regard their working environments and treatment less positively than males. Females think that the organizational climate is less favorable to them than to white males (Soni, 2000), and they perceive both distributive and procedural justice

less than males, while they recognize interactional justice more than males. Moreover, African-American female employees place more value on interactional justice than on the other two organizational justice dimensions (Simpson and Kaminski, 2007). Lee, Pillutla, and Law (2000) also argued that women and men value different dimensions of organizational justice: for example, men value distributive justice more than women. In addition, gender discrimination can be explained by occupational segregation based on gender (Kelly and Newman, 2001; Reskin and Roos, 1990). Thus, female employees perceive organizational justice less in a certain agency category than in other agency categories because they feel themselves less likely to be promoted in those organizations.

### ***2.3. Organizational justice as a normative outcome from diversity management***

Managing diversity is defined as 'planning and implementing organizational systems and practices to manage people so that the potential advantages of diversity are maximized while its potential disadvantages are minimized' (Cox, 1993, p. 11). Diversity management and its related initiatives have the purpose of 'fully and equitably utilizing, integrating, and rewarding workers' (Soni, 2000, p. 395) for different backgrounds in terms of race and gender, etc. Pitts (2006) suggested the definition of diversity management as a comprehensive approach that merges the affirmative action and diversity management programs. One of the normative outcomes of diversity management is improved organizational justice.

There are several perspectives that explain the adoption of diversity management initiatives. Demographic changes altered the labor market in the private sector, and these organizations were forced to prepare to welcome people from various social or ethnic backgrounds as well as women in the workplace (Kelly and Dobbin, 1998; Lynch, 1997). Public organizations faced similar demographic changes and were also required to focus more carefully on diversity management (Dolan and Rosenbloom, 2003; Naff, 2001; Pitts, 2009; Selden, 1997). As a result, public organizations have introduced diversity management in pursuit of organizational performance and satisfaction since the 1990s (Adler, 2002; Pitts, 2005 and 2009; Pitts and Jarry, 2007). In addition, institutional theory focuses on the normative contexts within organizations (Yang and Konrad, 2011). Organizations adopt diversity management in order to show their compliance with social norms, and then gain legitimacy through the adoption (Yang and Konrad, 2011). Diversity management practices are implemented for leading positive outcomes, but there are inconsistencies in the acceptance of diversity management, as well as of its outcomes (Soni, 2000; Pitts, 2009).

Regarding variances in acceptance of the diversity according to race and gender, white males are less favorable to diversity management than females and other ethnic minorities, therefore, women and ethnic minorities are more likely to adopt diversity management (Soni, 2000). However, diversity management was also evaluated as a 'double-edged sword' bringing about negative aspects in public organizations as well (Skerry, 2002; Whitaker, 1996). For example, organizations with diversity man-

agement easily lose the attention of employees from various diverse backgrounds, and they have difficulties in controlling and treating themselves with equity (Caudron and Hayes, 1997; Morrison, 1992; Pitts, 2009). Thus, ethnic minorities agreed less often than whites with the idea that supervisors managed the value of diversity and considered difference effectively. Negative perceptions of diversity management could influence intergroup relations. However, all the groups, regardless of race or gender, said it was necessary to consider a 'moral inclusion' for reducing discrimination against minorities.

Also, regarding diversity management initiatives, there are disagreements about the concept of diversity management, even though organizations have tried to meet the goals of diversity management. Specifically, white males believed that diversity initiatives are targeted to give an advantage to females and ethnic minorities. On the other hand, ethnic minorities believed that white females get more advantages from diversity initiatives. Different groups (by race and gender) respond differently about the acceptance of diversity and its perception of discrimination in the organization (Soni, 2000). Kaiser *et al.* (2013) argue that diversity structures 'have potential to create an illusion of fairness, whereby high-status group members' perceptions of how fairly members of underrepresented groups are treated may be influenced by the presence, not the efficacy, of a diversity structure' (p. 504). In conclusion, the organizational justice resulting from diversity management is perceived differently depending on the race, gender, and status of each group.

### **3. Research framework**

#### ***3.1. Diversity management and organizational justice***

Diversity management pursues organizational justice in public organizations, from recruitment to promotion or evaluation within organizations (Gleeson and Husbands, 2001; Grabosky and Rosenbloom, 1975; Pitts, 2006; Riccucci, 1986). According to much of the previous literature, diversity management still contributes to the transparency of organizations in the public sector (Ball, 2001). Even though present-day diversity management concentrates more on performance in public organizations, it plays an important role in organizational justice (Kim and Park, 2015), involving employee recruitment, evaluation, or promotion strategies (Kaiser *et al.*, 2013; Kelly and Dobbin, 1998). However, while there have been previous studies on the relationship between diversity management and organizational justice (Kim and Park, 2015), little of the previous empirical research has examined whether female employees also perceive that diversity management can bring about organizational justice. However, female employees are thought to get more benefits from diversity management than males in the organization (Soni, 2000). Thus, we expect that female employees believe that diversity management is positively related to organizational justice, as such we formulate the following hypothesis:

- *H1a: Female employees perceive that diversity management leads to organizational justice.*

Moreover, considering demographic and social factors, non-white females are necessary in order to examine whether those groups perceive that diversity management is positively related to organizational justice more than white female employees. The impact of diversity management is more influential on non-white female employees than white ones, and this is an additional concern for managers regarding social equity and benefits from workforce diversity (Pitts, 2009). In addition to ethnic characteristics, we focus on other characteristics such as age, job status, work experiences, and payment categories. For example, gender disadvantages based on age are greater for younger and older female employees and smaller for those in the middle (Bihagen and Ohls, 2006). Working position is related to the perceived diversity management and organizational justice as the presence of organizational diversity structures leads to a perception among higher status group members that underrepresented groups are treated more fairly in the organization (procedural justice) (Kaiser *et al.*, 2013). For example, Sabharwal (2015) shows that female employees have experienced such a challenge in senior executive positions of federal agencies. Thus, the following hypotheses will be tested:

- *H1b: Non-white female employees perceive more strongly than white female employees that diversity management leads to organizational justice;*
- *H1c: Female supervisors perceive more strongly than non-supervisor females that diversity management leads to organizational justice; and*
- *H1d: Older female employees perceive more strongly than younger female employees that diversity management leads to organizational justice.*

### **3.2. Diversity management based on agency category and organizational justice**

While federal agencies have implemented diversity management programs, they have done so in different ways; some agencies have developed several 'programmatically recommended by literature' on diversity in the workplace, and others have implemented very limited programs that simply 'repackaged their traditional equal employment opportunity' (Kellough and Naff, 2004). Thus, the degree of diversity management in the workplace differentiates its outcomes. More specifically, in order to examine the perception of women's diversity management based on agency characteristics, we posit the theoretical works conducted by Lowi (1985) and Newman (1994). They investigated the relationship between agency mission and occupational segregation in public organizations, and they divided agency missions into three categories: distributive, regulatory, and redistributive agencies, establishing constituent agencies as a base group (Kerr, Miller and Reid, 2002; Lowi, 1985; Newman, 1994). Moreover, Sabharwal (2015) shows that women face challenges in senior executive service in the distributive and the constituent policy agencies category, compared to the redistributive and regulatory agency category. According to the three agency missions, female employees may perceive different degrees of discrimination in public organizations. In this study, we examine whether diversity management can

influence the perception of organizational justice on the part of female employees, depending on the agency's characteristics.

According to the agency categories, the degree of organizational justice that female employees can perceive will be different. First of all, distributive agencies are resistant to organizational change, therefore female employees may have some difficulty in entering into these agencies. They are heavily dependent on 'professional and occupational norms, promotion of specialists rather than generalists, limited due process requirements, relatively wide fields of discretion, and limited sensitivity to discriminatory practices' (Kerr, Miller and Reid, 2002, p. 414).

Regulatory agencies, which are most strongly represented by the police, can build natural occupational barriers to women due to their original work characteristics. Thus, female employees in those fields find it difficult to enter the field and even harder to be promoted (Lowi, 1972; Mladenka, 1991).

Redistributive agencies do the work of shifting wealth and authority between and within groups (Lowi, 1964). They support affirmative actions and are in favor of underrepresented groups such as women and ethnic minority groups (Newman, 1994). In conclusion, female employees may perceive that diversity management affects organizational justice differently based on the agency categories. From the categories that we have established, the following hypotheses are formulated:

- *H2a: Female employees in distributive agencies perceive less strongly than those in constituency agencies that diversity management leads to organizational justice;*
- *H2b: Female employees in regulatory agencies perceive less strongly than those in constituency agencies that diversity management leads to organizational justice; and*
- *H2c: Female employees in redistributive agencies perceive more strongly than those in constituency agencies that diversity management leads to organizational justice.*

## **4. Data and methodology**

### **4.1. Data and measurement**

In order to empirically investigate whether female employees perceive that diversity management is positively related to organizational justice, we measure it by using the 2013 Federal Employee Viewpoint Survey (FEVS). Administered by the U.S. OPM since 2002, FEVS data was used for full-time, permanent working employees in the federal agencies listed in the President's Management Council.

The sample from FEVS was stratified and representative of the various demographic characteristics of federal employees in the federal workplace. Approximately 376,000 federal employees in 57 executive branch agencies are the representative sample for FEVS, and the response rate is 48.2% (U.S. OPM, 2013). Among them, we restrict our range of sample only to female federal employees, and the total sample size is equal to 165,428.



#### *4.2. Dependent variables*

This study is interested in female employees' perception of the relationship between diversity management and organizational justice. Accordingly, the dependent variable is organizational justice. Diversity management can influence the type of organizational justice differently, thus our study uses three types of justice: distributive, procedural, and interactional. First of all, we use distributive justice as a dependent variable to tap into whether female employees perceive that promotions, rewards, and pay raises are fair by seeking answers to three questions. Responses on a Likert-type scale range from 1, representing 'Strongly disagree,' to 5, representing 'Strongly agree'.

The second dependent variable is procedural justice, indicating the perception of female employees of organizational justice. Three survey items are included as factor score values of procedural justice. Respondents also rate these questions on a Likert-type scale.

The third variable is interactional justice; the extent to which female employees perceive interactional justice in the organization is reflected by responses to the three survey questions.

#### *4.3. Independent Variable*

One of the most important independent variables in this research is diversity management. Much of the previous literature has found various measures for diversity management, but the majority of the literature has been confined to employee perceptions as an indicator of diversity management (Choi, 2009; Choi and Rainey, 2010 and 2014; Pitts, 2009). The diversity management variable uses a factor score produced from the principal components of factor analysis and varimax rotation. The factor analysis results as well as related survey questions are listed in Table 1.

Second, we examine the perceptions of women regarding the relationship between diversity management and organizational justice based on the agency categories. According to Lowi (1985) and Newman (1994), agencies can be segregated based on whether the agency missions are generally distributive, regulatory, or redistributive. Regulatory agencies literally do the job in order to control individuals in and around the organization (Lowi, 1972) and, finally, redistributive agencies perform management of welfare programs, employment securities, or programs for the disabled (Kerr, Miller and Reid, 2002). Due to the job characteristics, distributive and regulatory agencies in public organizations generally exclude underrepresented groups such as female employees or racial minority groups, while redistributive agencies, on the other hand, are likely to support those underrepresented groups, similar to its agency characteristics. Table 2 describes these general characteristics and the number of each agency category of federal organizations included in the sample.

Finally, we also include individual characteristics of female federal employees in order to see the variation dependent on such characteristics. These allow us to include supervisory, non-white, age, payment category, and work experience status in

**Table 1:** Factor analysis results

Variables	Factor Loading
(1) My supervisor/ team leader is committed to a workforce representative of all segments of society.	0.746
(2) Policies and programs promote diversity in the work place (for example, recruiting minorities and women, training in awareness of diversity issues, mentoring)	0.687
(3) Managers/ supervisors/ team leaders work well with employees of different backgrounds.	0.826
Diversity Management Initial Eigenvalue	2.132
Cronbach's Alpha	0.796
(1) Promotions in my work unit are based on merit.	0.822
(2) Awards in my work unit depend on how well employees perform their jobs.	0.826
(3) Pay raises depend on how well employees perform their jobs.	0.721
Distributive Justice Initial Eigenvalue	2.246
Cronbach's Alpha	0.832
(1) I can disclose a suspected violation of any law, rule, or regulation without fear of reprisal.	0.698
(2) Arbitrary action, personal favoritism, and coercion for partisan political purposes are not tolerated.	0.846
(3) Prohibited personnel practices (for example, illegally discriminating for or against any employee/ applicant, obstructing a person's right to compete for employment, knowingly violating veterans' preference requirements) are not tolerated.	0.862
Procedural Justice Initial Eigenvalue	2.283
Cronbach's Alpha	0.841
(1) Managers communicate the goals and priorities of the organization.	0.844
(2) Managers promote communication among different work units (for example, about projects, goals, and needed resources).	0.868
(3) How satisfied are you with the information you receive from management on what's going on in your organization?	0.756
Interactional Justice Initial Eigenvalue	2.353
Cronbach's Alpha	0.862

**Source:** Authors' computation based on FEVS data

**Table 2:** Description of Distributive, Regulatory, and Redistributive Agency

Agency	N	Example
<b>Distributive Agencies</b>	14	Department of Air Force, Army, or Navy Department of Agriculture Department of Transportation
<b>Regulatory Agencies</b>	19	Department of Commerce Department of Justice Department of Labor
<b>Redistributive Agencies</b>	9	Department of Education Department of Health and Human Service Department of Housing and Urban Development
<b>Constituent Agencies</b>	15	Residual group of agencies
<b>Total</b>	57	

**Source:** Authors' computation based on FEVS data

our analysis. The dichotomous variables are recoded as 1 if a federal respondent is a supervisor or a non-white. Furthermore, other demographic variables such as age, payment category, and work experience consist of a series of dichotomous variables. The descriptive statistics of all variables are shown in Table 3.

**Table 3:** Descriptive statistics

Variables	Mean	SD	Min	Max	Unit
<b>Supervisor</b>	0.16	0.37	0	1	Supervisor or manger=1
<b>Non-white</b>	0.38	0.49	0	1	Non-white=1
<b>Ages 40-49</b>	0.27	0.45	0	1	Ages 40 to 49=1
<b>Ages 50-59</b>	0.36	0.48	0	1	Ages 50 to 59=1
<b>Age 60 or older</b>	0.12	0.32	0	1	Age 60 or older=1
<b>GS 7-12</b>	0.47	0.50	0	1	Pay category/grade from GS 7 to 12=1
<b>GS 13-15</b>	0.34	0.47	0	1	Pay category/grade from GS 13 to 15=1
<b>6-14 years</b>	0.29	0.45	0	1	Work experience for 6 to 14 years=1
<b>Over 15 years</b>	0.48	0.50	0	1	Work experience for more than 15 years=1
<b>Distributive</b>	0.35	0.48	0	1	Distributive agency=1
<b>Regulatory</b>	0.27	0.44	0	1	Regulatory agency=1
<b>Redistributive</b>	0.19	0.39	0	1	Redistributive agency=1
<b>Diversity</b>	0.00	0.90	-2.56	1.34	Factor score
<b>Distributive</b>	0.00	0.92	-1.57	1.91	Factor score
<b>Procedural</b>	0.00	0.93	-2.23	1.30	Factor score
<b>Interactional</b>	0.00	0.93	-2.22	1.45	Factor score

**Note:**  $n = 165,428$

**Source:** Authors' computation based on FEVS data

#### 4.4. Model specification

An important goal of this study is to test female perception of diversity management on organizational justice. By using a series of ordinary least squares (OLS) regression models, we developed three models based on the type of organizational justice: distributive, procedural and interactional justice. The first model examines whether female employees in the federal agencies perceive that diversity management affects distributive justice in the organization. In the second model, procedural justice is used instead of distributive justice to test the relationship between diversity management and procedural justice. Finally, the third model includes interactional justice as a dependent variable in the model. We set the diversity management variable as an independent variable and include control variables such as supervisor, non-white, age, payment category, work experience, and agency categories in the model. In this model, the three dependent variables (distributive, procedural, and interactional justice) are estimated as shown in equation (1):

$$Organizational\ Justice_i = \alpha_i + \beta_1 Diversity\ Management_i + \sum_{k=1}^n \beta_{k+1} Control\ Variable_{k,i} + \varepsilon_i \quad (1)$$

## 5. Results

Table 4 provides the regression results for three organizational justice variables (distributive, procedural, and interactional) as a dependent variable.

**Table 4:** Regression model results

Variables	Distributive		Procedural		Interactional	
	Coefficient	Std. Err.	Coefficient	Std. Err.	Coefficient	Std. Err.
Supervisor	0.141 *	0.005	0.143 ***	0.005	0.052 ***	0.005
Non-white	0.158 ***	0.004	-0.015 ***	0.004	0.170 ***	0.003
Ages 40-49	-0.027 ***	0.006	-0.023 ***	0.005	0.018 ***	0.005
Ages 50-59	-0.042 ***	0.006	-0.025 ***	0.005	0.032 ***	0.005
Age 60 or older	0.001	0.007	0.004	0.007	0.058 ***	0.006
GS 7-12	-0.012 **	0.005	-0.004	0.005	-0.014 ***	0.005
GS 13-15	0.067 ***	0.006	0.024 ***	0.005	-0.075 ***	0.005
6-14 years	-0.046 ***	0.006	-0.043 ***	0.005	-0.021 ***	0.005
Over 15 years	0.020 ***	0.006	-0.024 ***	0.005	0.026 ***	0.005
Distributive	-0.064 ***	0.006	0.001	0.005	-0.039 ***	0.005
Regulatory	-0.011 *	0.006	0.031 ***	0.05	0.041 ***	0.005
Redistributive	-0.046 ***	0.006	-0.006	0.006	-0.002	0.006
Diversity (Div)	0.663 ***	0.006	0.763 ***	0.006	0.787 ***	0.006
Div×Supervisor	-0.001	0.006	0.008	0.005	0.018 ***	0.005
Div×Non-white	0.019 ***	0.004	-0.016 ***	0.004	-0.024 ***	0.004
Div×Ages 40-49	0.012 **	0.006	0.007	0.005	0.014 ***	0.005
Div×Ages 50-59	0.004	0.006	0.011 **	0.005	0.017 ***	0.005
Div×Age 60 or older	0.029 ***	0.008	0.022 ***	0.007	0.038 ***	0.007
Div×Distributive	-0.016 ***	0.006	0.009	0.005	-0.005	0.005
Div×Regulatory	-0.024 ***	0.006	-0.013 **	0.006	-0.024 ***	0.006
Div×Redistributive	-0.018 ***	0.007	-0.009	0.006	-0.018 ***	0.006
R <sup>2</sup>	0.672		0.751		0.754	

**Note:** \*\*\*, \*\*, and \* indicate significance at the level of 1%, 5%, and 10%, respectively.

**Source:** Authors' computation based on FEVS data

First of all, if distributive justice as a dependent variable is included in the model, diversity management is positively related to the perception of distributive justice by female employees. Also, non-white female employees perceive more readily that diversity management leads to distributive justice than white females. Female employees aged 40-49 and older than 60 perceive more that diversity management leads to distributive justice than females under the age of 40. Regarding the agency category variables, female employees in the distributive, regulatory, and redistributive agencies perceive less than those in the constituency agency category that diversity management leads to distributive justice.

For control variables, supervisor and non-white female employees perceive more distributive justice than non-supervisory and white employees. However, age, payment category, and work experience show different results within the group of variables. For example, female employees aged from 40 to 49 and from 50 to 59 perceive

less distributive justice compared to those aged 40 or younger. Female employees with payment categories from 7 to 12 perceive less distributive justice than those with lower payment categories, but those that fall within the payment categories of 13 to 15 and work experience over 15 years perceive more distributive justice than the base groups, and they are statistically significant at the 1% level. Finally, female employees in the distributive, redistributive, and regulatory agencies perceive less distributive justice than those in constituent agencies.

Secondly, the model that sets procedural justice as a dependent variable proves that diversity management has a positive relationship with procedural justice. However, non-white female employees perceive less than white females that diversity management leads to procedural justice. Female employees aged from 50 to 59 and 60 or older perceive more than females aged 40 or younger that diversity management leads to procedural justice. Regarding the agency category, female employees in regulatory agencies perceive less than those in the constituency agency category that diversity management leads to procedural justice.

Finally, the third model includes interactional justice as a dependent variable. Diversity management is positively related to interactional justice. Also, non-white female employees perceive less that diversity management leads to interactional justice than white females. Female supervisors perceive more that diversity management leads to interactional justice than non-supervisory females. Furthermore, female employees aged 40 or older perceive more that diversity management leads to interactional justice than females aged younger than 40 years old. Regarding the agency category, female employees in the regulatory and the redistributive agency category perceive less that diversity management leads to interactional justice than those in the constituency agency category.

For control variables, supervisor employees, non-white female employees, and those aged 40 or older perceive more interactional justice than non-supervisory, white, younger female employees, and they are statistically significant at the level of 1%. However, female employees with a payment grade from 7 to 12 and payment categories from 13 to 15 perceive interactional justice less than those with payment grades below 7. In addition, female employees with work experience from 6 to 14 years perceive less interactional justice, but those with work experience over 15 years perceive more interactional justice than those with work experience of less than 6 years. Moreover, female employees in the distributive agency category perceive less interactional justice than those in the constituency agency category, but female employees in the regulative agency category perceive more interactional justice than those in the constituency agency category.

## **6. Conclusion and discussions**

Our results found that diversity management results in a positive perception of organizational justice by female employees. According to the previous literature, organizational justice is regarded as a normative outcome of diversity management. Pitts

(2006) argues that diversity management is defined as a comprehensive approach that merges the affirmative action/equal employment opportunity and diversity management programs that seek to prevent underrepresented groups such as women or racial minorities from experiencing any form of discrimination. The results of this research demonstrate that the general effect of diversity management is positively related to the perception of three types of organizational justice by female employees.

However, considering individual characteristics and agency characteristics, the effects of diversity management differ. Non-white female employees perceive that diversity management results in higher distributive justice, even though they put more value on interactional justice. The origin of diversity management is more related to organizational outcomes (e.g., performance and promotion) (Cox, 2001). However, non-white female employees in federal agencies perceive that less diversity management results in procedural and interactional justice. That is, non-white female employees still think that diversity management is not effective for organizational justice in the process of decision-making or being treated with dignity and respect. In terms of supervisory status, our study is consistent with the findings of Kaiser *et al.* (2013): organizational diversity management leads to higher-status group members perceiving that underrepresented groups are treated more fairly in the organization (procedural justice), but our study shows the effects of diversity management on interactional justice. In terms of age, gender disadvantages owing to age are greater for younger and older women and less for middle-aged women (Bihagen and Ohls, 2006). This indicates that younger female employees do not think that diversity management leads to organizational justice as gender disadvantages owing to age are still larger for younger employees, even though diversity management has been implemented.

More specifically, much of the previous literature has argued that female employees can be discriminated against based on the characteristics of agency categories. For example, female employees in the regulatory agency category are discriminated against more than those in any other agency category, while those in the redistributive agency category are discriminated against less (Mladenka, 1991). Our results demonstrate that female employees in the constituency agency category regard diversity management as a tool for improving distributive justice. However, female employees in the regulatory agency category perceive less that diversity management results in procedural and interactional justice, which means that those in those categories regard themselves as being discriminated against, and that implementing diversity management is ineffective for generating organizational justice. Female employees in the redistributive agency category perceive less that diversity management results in interactional justice. Thus, diversity management is not effective for improving organizational justice in the regulatory and the redistributive agency categories for female employees. It also implies that several agencies have implemented very limited diversity programs or have done so passively; they have simply 'repackaged their traditional equal employment opportunity' (Kellough and Naff, 2004).

However, this study has some limitations. First of all, we had to depend on survey data and, as a result, it is difficult to see the changes of the impacts over time, especially in terms of how female employees perceive the implementation of diversity management over time. Thus, it is necessary to collect a data set over a greater timespan in order to guarantee more specific causal relationships. Second, we need to secure firm ground regarding the content validity of index variables in this study because we depend on survey data, and that is not enough to measure the components of diversity management or organizational justice. A data set that supports our study more directly and appropriately is necessary to improve the quality of our research. For future research with a more specific and richer set of variables, we must examine how and why other employee groups perceive differently the impact of diversity management and organizational justice.

### References:

1. Adams, J.S., 'Inequity in Social Exchange', in Berkowitz, L. (ed.), *Advances in Experimental Social Psychology*, New York: Academic Press, 1965, pp. 267-299.
2. Adams, J.S., 'Toward an Understanding of Inequity', 1963, *Journal of Abnormal and Social Psychology*, vol. 67, no. 5, pp. 422-436.
3. Adler, N.J., *International Dimensions of Organizational Behavior*, Cincinnati: South-Western, 2002.
4. Alkadry, M.G. and Tower, L.E., 'Unequal Pay: The Role of Gender', 2006, *Public Administration Review*, vol. 66, no. 6, pp. 888-898.
5. Ambrose, M., Hess, R.L. and Ganesan, S., 'The Relationship between Justice and Attitudes: An Examination of Justice Effects on Event and System-Related Attitudes', 2007, *Organizational Behavior and Human Decision Processes*, vol. 103, no. 1, pp. 21-36.
6. Aryee, S., Budhwar, P.S. and Chen, Z.X., 'Trust as a Mediator of the Relationship between Organizational Justice and Work Outcomes: Test of a Social Exchange Model', 2002, *Journal of Organizational Behavior*, vol. 23, no. 3, pp. 267-285.
7. Ball, S.J., 'Performativities and Fabrications in the Education Economy: Towards the Performative Society', in Gleeson, D. and Husbands, C. (eds.), *The Performing School. Managing Teaching and Learning in a Performance Culture*, London: Routledge Falmer, 2001, pp. 210-226.
8. Becker, G.S., 'Human Capital, Effort, and the Sexual Division of Labor', 1985, *Journal of Labor Economics*, vol. 3, no. 1, pp. S33-S58.
9. Bihagen, E. and Ohls, M., 'The Glass Ceiling – Where Is It? Women's and Men's Career Prospects in the Private vs. the Public Sector in Sweden 1979-2000', 2006, *The Sociological Review*, vol. 54, no. 1, pp. 20-47.
10. Blau, F.D. and Kahn, L.M., 'Gender Difference in Pay', 2000, *Journal of Economic Perspectives*, vol. 14, no. 4, pp. 75-99.
11. Bowling, C.J., Kelleher, C.A., Jones, J. and Wright, D.S., 'Cracked Ceilings, Firmer Floors, and Weakening Walls: Trends and Patterns in Gender Representation among Executives Leading American State Agencies, 1970-2000', 2006, *Public Administration Review*, vol. 66, no. 6, pp. 823-836.

12. Caudron, S. and Hayes, C., 'Are Diversity Programs Benefiting African Americans?', 1997, *Black Enterprise*, vol. 27, no. 7, pp. 121-136.
13. Choi, S. and Park, C.O., 'Glass Ceiling in Korean Civil Service Analyzing Barriers to Women's Career Advancement in the Korean Government', 2014, *Public Personnel Management*, vol. 43, no. 1, pp. 118-139.
14. Choi, S. and Rainey, H.G., 'Managing Diversity in U.S. Federal Agencies: Effects of Diversity and Diversity Management on Employee Perceptions of Organizational Performance', 2010, *Public Administration Review*, vol. 70, no. 1, pp. 109-121.
15. Choi, S. and Rainey, H.G., 'Organizational Fairness and Diversity Management in Public Organizations: Does Fairness Matter in Managing Diversity?', 2014, *Review of Public Personnel Administration*, vol. 34, no. 4, pp. 307-331.
16. Choi, S., 'Diversity in the U.S. Federal Government: Diversity Management and Employee Turnover in Federal Agencies', 2009, *Journal of Public Administration Research and Theory*, vol. 19, no. 3, pp. 603-630.
17. Cohen-Charash, Y. and Spector, P.E., 'The Role of Justice in Organizations: A Meta-Analysis', 2001, *Organizational Behavior and Human Decision Processes*, vol. 86, no. 2, pp. 278-321.
18. Colquitt, J.A., Conlon, D.E., Wesson, M.J., Porter, C.O. and Ng, K.Y., 'Justice at the Millennium: A Meta-Analytic Review of 25 Years of Organizational Justice Research', 2001, *Journal of Applied Psychology*, vol. 86, no. 3, pp. 425-445.
19. Colquitt, J.A., Scott, B.A., Judge, T.A. and Shaw, J.C., 'Justice and Personality: Using Integrative Theories to Derive Moderators of Justice Effects', 2006, *Organizational Behavior and Human Decision Processes*, vol. 100, no. 1, pp. 110-127.
20. Connell, R., 'Glass Ceilings or Gendered Institutions? Mapping the Gender Regimes of Public Sector Worksites', 2006, *Public Administration Review*, vol. 66, no. 6, pp. 837-849.
21. Cornwell, C. and Kellough, J.E., 'Women and Minorities in Federal Government Agencies: Examining New Evidence from Panel Data', 1994, *Public Administration Review*, vol. 54, no. 3, pp. 265-270.
22. Cox, T.H., *Creating the Multicultural Organization: A Strategy for Capturing the Power of Diversity*, San Francisco: Jossey-Bass, 2001.
23. Cox, T.H., *Cultural Diversity in Organizations: Theory, Research, and Practice*, San Francisco, CA: Berrett-Koehler, 1993.
24. Cropanzano, R. and Randall, M.L., 'Injustice and Work Behavior: A Historical Review', in Cropanzano, R. (ed.), *Justice in the Workplace: Approaching Fairness in Human Resource Management*, Hillsdale: Erlbaum, 1993, pp. 3-20.
25. Cropanzano, R. and Rupp, D.E., 'An Overview of Organizational Justice: Implication for Work Motivation', in Porter, L.W., Bigley, G.A. and Steers, R.M. (eds.), *Motivation and Work Behavior*, Burr Ridge: McGraw-Hill Irwin, 2003, pp. 82-95.
26. DiTomaso, N., Post, C. and Parks-Yancy, R., 'Workforce Diversity and Inequality: Power, Status, and Numbers', 2007, *Annual Review of Sociology*, vol. 33, pp. 473-501.
27. Dolan, J. and Rosenbloom, D.H., *Representative Bureaucracy: Classic Readings and Continuing Controversies*, Armonk: M.E. Sharpe, 2003.
28. Foley, S., Hang-Yue, N. and Wong, A., 'Perceptions of Discrimination and Justice. Are There Gender Differences in Outcomes?', 2005, *Group & Organization Management*, vol. 30, no. 4, pp. 421-450.



29. French, E., 'The Importance of Strategic Change in Achieving Equity in Diversity', 2005, *Strategic Change*, vol. 14, no. 1, pp. 35-44.
30. Gleeson, D. and Husbands, C., *The Performing School: Managing, Teaching, and Learning in a Performance Culture*, London: Routledge Falmer, 2001.
31. Grabosky, P.N. and Rosenbloom, D.H., 'Racial and Ethnic Integration in the Federal Service', 1975, *Social Science Quarterly*, vol. 56, no. 1, pp. 71-84.
32. Greenberg, J., 'Organizational Justice: Yesterday, Today, and Tomorrow', 1990, *Journal of Management*, vol. 16, no. 2, pp. 399-432.
33. Greenberg, J., *The Quest for Justice on the Job: Essays and Experiments*, Thousand Oaks: Sage Publications, 1996.
34. Gutek, B.A., Cohen, A.G. and Tsui, A., 'Reactions to Perceived Sex Discrimination', 1996, *Human Relations*, vol. 49, no. 6, pp. 791-813.
35. Guy, M.E., 'Organizational Architecture, Gender, and Women's Careers', 1994, *Review of Public Personnel Administration*, vol. 14, no. 2, pp. 77-90.
36. Guy, M.E., 'Three Steps Forward, Two Steps Backward: The Status of Women's Integration into Public Management', 1993, *Public Administration Review*, vol. 53, no. 4, pp. 285-292.
37. Hakim, C., *Key Issues in Women's Work: Female Heterogeneity and the Polarisation of Women's Employment*, Atlantic Highlands: A&C Black, 1996.
38. Homans, G.C., *Social Behavior: Its Elementary Forms*, New York: Harcourt, Brace & World, 1961.
39. Kaiser, C.R., Major, B., Jurcevic, I., Dover, T.L., Brady, L.M. and Shapiro, J.R., 'Presumed Fair: Ironic Effects of Organizational Diversity Structures', 2013, *Journal of Personality and Social Psychology*, vol. 104, no. 3, pp. 504-519.
40. Kellough, J.E. and Naff, K.C., 'Responding to a Wake-up Call: An Examination of Federal Agency Diversity Management Programs', 2004, *Administration & Society*, vol. 36, no. 1, pp. 62-90.
41. Kellough, J.E., 'Integration in the Public Workplace: Determinants of Minority and Female Employment in Federal Agencies', 1990, *Public Administration Review*, vol. 50, no. 5, pp. 557-566.
42. Kelly, E. and Dobbin, F., 'How Affirmative Action Became Diversity Management Employer Response to Antidiscrimination Law, 1961 to 1996', 1998, *American Behavioral Scientist*, vol. 41, no. 7, pp. 960-984.
43. Kelly, R.M. and Newman, M., 'The Gendered Bureaucracy. Agency Mission, Equality of Opportunity, and Representative Bureaucracies', 2001, *Women & Politics*, vol. 22, no. 3, pp. 1-33.
44. Kelly, R.M., *The Gendered Economy: Work, Careers, and Success*, Newbury Park: Sage Publications, 1991.
45. Kerr, B., Miller, W. and Reid, M., 'Sex-Based Occupational Segregation in US State Bureaucracies, 1987-97', 2002, *Public Administration Review*, vol. 62, no. 4, pp. 412-423.
46. Kim, S. and Park, S., 'Diversity Management and Fairness in Public Organizations', 2015, *Public Organization Review*, DOI 10.1007/s11115-015-0334-y, pp. 1-15.
47. Lee, C., Pillutla, M. and Law, K.S., 'Power-Distance, Gender and Organizational Justice', 2000, *Journal of Management*, vol. 26, no. 4, pp. 685-704.

48. Lind, E.A. and Tyler, T.R., *The Social Psychology of Procedural Justice*, New York: Springer Science & Business Media, 1988.
49. Lind, E.A. and Van den Bos, K., 'When Fairness Works: Toward a General Theory of Uncertainty Management', in Staw, B.M. and Sutton, R.I. (eds.), *Research in Organizational Behavior*, Greenwich: JAI Press, 2002, pp. 181-223.
50. Linnehan, F. and Konrad, A.M., 'Diluting Diversity. Implications for Intergroup Inequality in Organizations', 1999, *Journal of Management Inquiry*, vol. 8, no. 4, pp. 399-414.
51. Lowi, T.J., 'Four Systems of Policy, Politics, and Choice', 1972, *Public Administration Review*, vol. 32, no. 4, pp. 298-310.
52. Lowi, T.J., 'Review: American Business, Public Policy, Case-Studies, and Political Theory', 1964, *World Politics*, vol. 16, no. 3, pp. 677-715.
53. Lowi, T.J., 'The State in Politics: The Relation between Policy and Administration', in Noll, R. (ed.), *Regulatory Policy and the Social Sciences*, Berkeley: University of California Press, 1985, pp. 67-104.
54. Lynch, F.R., *The Diversity Machine: The Drive to Change the 'White Male Workplace'*, New York: Free Press, 1997.
55. Mladenka, K.R., 'Public Employee Unions, Reformism, and Black Employment in 1,200 American Cities', 1991, *Urban Affairs Review*, vol. 26, no. 2, pp. 532-548.
56. Morrison, A.M. and Von Glinow, M.A., 'Women and Minorities in Management', 1990, *American Psychologist*, vol. 45, no. 2, pp. 200-208.
57. Morrison, A.M., *The New Leaders: Guidelines on Leadership Diversity in America*, San Francisco: Jossey-Bass, 1992.
58. Naff, K.C., 'Through the Glass Ceiling: Prospects for the Advancement of Women in the Federal Civil Service', 1994, *Public Administrative Review*, vol. 54, no. 6, pp. 507-514.
59. Naff, K.C., *To Look Like America: Dismantling Barriers for Women and Minorities in Government*, Boulder: Westview Press, 2001.
60. Newman, M.A., 'Equal Employment Opportunity and Glass Ceilings: A Contradiction in Terms?', 1996, *Public Administration Quarterly*, vol. 19, no. 4, pp. 420-434.
61. Newman, M.A., 'Gender and Lowi's Thesis: Implications for Career Advancement', 1994, *Public Administration Review*, vol. 54, no. 3, pp. 277-284.
62. Noblet, A.J. and Rodwell, J.J., 'Integrating Job Stress and Social Exchange Theories to Predict Employee Strain in Reformed Public Sector Contexts', 2009, *Journal of Public Administration Research and Theory*, vol. 19, no. 3, pp. 555-578.
63. Pitts, D.W., 'Diversity, Representation, and Performance: Evidence about Race and Ethnicity in Public Organizations', 2005, *Journal of Public Administration Research and Theory*, vol. 15, no. 4, pp. 615-631.
64. Pitts, D.W. and Jarry, E., 'Ethnic Diversity and Organizational Performance: Assessing Diversity Effects at the Managerial and Street Levels', 2007, *International Public Management Journal*, vol. 10, no. 2, pp. 233-254.
65. Pitts, D.W., 'Diversity Management, Job Satisfaction, and Performance: Evidence from U.S. Federal Agencies', 2009, *Public Administration Review*, vol. 69, no. 2, pp. 328-338.
66. Pitts, D.W., 'Modeling the Impact of Diversity Management', 2006, *Review of Public Personnel Administration*, vol. 26, no. 3, pp. 245-268.

67. Reskin, B.F. and Roos, P.A., *Job Queues, Gender Queues: Explaining Women's Inroads into Male Occupation*, Philadelphia: Temple University Press, 1990.
68. Reskin, B.R. and Hartmann, H.I. (eds.), *Women's Work, Men's Work: Sex Segregation on the Job*, Washington: National Academy Press, 1986.
69. Riccucci, N.M., 'Female and Minority Employment in City Government: The Role of Unions', 1986, *Policy Studies Journal*, vol. 15, no. 1, pp. 3-15.
70. Riccucci, N.M., 'The Pursuit of Social Equity in the Federal Government: A Road Less Traveled?', 2009, *Public Administration Review*, vol. 69, no. 3, pp. 373-382.
71. Sabharwal, M., 'From Glass Ceiling to Glass Cliff: Women in Senior Executive Service', 2015, *Journal of Public Administration Research and Theory*, vol. 25, no. 2, pp. 399-426.
72. Selden, S.C., *The Promise of Representative Bureaucracy: Diversity and Responsiveness in a Government Agency*, Armonk: M.E. Sharpe, 1997.
73. Simpson, P.A. and Kaminski, M., 'Gender, Organizational Justice Perceptions, and Union Organizing', 2007, *Employee Responsibilities and Rights Journal*, vol. 19, no. 1, pp. 57-72.
74. Skarlicki, D.P. and Folger, R., 'Retaliation in the Workplace: The Roles of Distributive, Procedural, and Interactional Justice', 1997, *Journal of Applied Psychology*, vol. 82, no. 3, pp. 434-443.
75. Skerry, P., 'Beyond Sushilology: Does Diversity Work?', 2002, *Brookings Review*, vol. 20, no. 1, pp. 20-23.
76. Sneed, B.G., 'Glass Walls in State Bureaucracies: Examining the Difference Departmental Function Can Make', 2007, *Public Administration Review*, vol. 67, no. 5, pp. 880-891.
77. Soni, V., 'A Twenty-First-Century Reception for Diversity in the Public Sector: A Case Study', 2000, *Public Administration Review*, vol. 60, no. 5, pp. 395-408.
78. U.S. Office of Personnel Management (OPM), 'Federal Employee Viewpoint Survey (FEVS) 2013', 2013, [Online] available at <http://www.fedview.opm.gov/2013/>, accessed on June 1, 2016.
79. Van Vianen, A.E.M. and Fischer, A.H., 'Illuminating the Glass Ceiling: The Role of Organizational Culture Preferences', 2002, *Journal of Occupational and Organizational Psychology*, vol. 75, no. 3, pp. 315-337.
80. Whitaker, W.A., *White Male Applicant: An Affirmative Action Expose*, Smyrna: Apropos Press, 1996.
81. Yang, Y. and Konrad, A.M., 'Understanding Diversity Management Practices: Implications of Institutional Theory and Resource-Based Theory', 2011, *Group & Organization Management*, vol. 36, no. 1, pp. 6-38.