The Role of Employee Empowerment on Federal Employee Job Satisfaction: The National Aeronautics and Space Administration

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Abstract

Increase in number of dissatisfied public employees encourages public sector to adopt different styles of leadership and process that enhances job satisfaction. This study examines how employees empowerment practices can be effects employees job satisfaction. Particularly, it examines how the four dimensions of empowerment practices, which are sharing information, authority, reward, and resources that achieve self-determination, can positively affect public employees' job satisfaction. This study analyzes a large data using the 2019 Federal Employee Viewpoint Survey of NASA employees. The OLS regression analysis indicated that all four dimensions of empowerment practices increased employees' job satisfaction. The findings indicated that employees empowerment practices have positive impacts on public employees job satisfaction. Additionally, leader who sharing information about organization performance with employees has the high positive effects on employees' job satisfaction. Limitation of the study, it might limit the generalization of the findings in other federal agencies, or state and local level.

Keywords: Job satisfaction; Self Determination; Employee Empowerment; NASA; Job Satisfaction and Public Sector

1 Introduction

Employee empowerment has been embraced in industry and government during the past three decades. Today, employee empowerment is employed in many businesses to enhance service efficiency, foster creativity, and inspire consumer loyalty (Bowen & Lawler, 1992).

The restructuring of the public sector by using employee empowerment has also brought about a significant enhancement of government strength (Kettl, 2005). Therefore, employee empowerment has positively impacted productivity, performance, and attitudes, according to several empirical research done by scholars such as Fernandez & Moldogaziev (2010); Kirkman & Rosen (1999). Moreover, employee empowerment has been a positive effect on job satisfaction among public employees.

Job satisfaction's significant role has positive impacts on employee innovation, organizational commitment, and job involvement (Spreitzer, 1995; Guthrie, 2001; Kirkman & Rosen, 1999). However, several studies found the public employees' job satisfaction lesser than private employees (Wright and Davis, 2003; Wang et al., 2012). Therefore, the study aims to examine the relationship between public employee job satisfaction and employee empowerment at the federal level by setting the research question; does employee empowerment affect public employees' job satisfaction?

The earlier studies have several positive results on the relationship between employee empowerment and job satisfaction. However, these studies focused on different ways of employee empowerment and different samples. Therefore, the current study will contribute to the field by investigating the relationship from a different angle, which will study how and why the four practices of employees empowerment set by Bowen & Lawler (1992), which are: "1) information about the organization's performance, (2) rewards based on the organization's performance, (3) knowledge that enables employees to understand and contribute to organizational performance, and (4) power to make decisions that influence organizational direction and performance" (p.13) the job satisfaction. Also, the study will use the National Aeronautics and Space Administration employees because NASA has had the first best place to work for two decades, according to federal government-wide Best Places to Work (2019).

The study uses the Self-Determination theory to explain how it can answer the research question. The hypothesis set by using empowerment practices that has been proposed by Bowen and Lawler (1992), which are

sharing information, authority, reward, and resources that achieve self-determination, can positively affect public employees' job satisfaction.

The first section of the study provides the literature review of employee empowerment and job satisfaction that includes conceptual definitions of employee empowerment and job satisfaction, also it provides theoretical framework that is followed with four hypotheses. The second part of the study provides methodology section and description of the data. Statistical analysis results are presented in the third section. The last section discusses the implications of the study findings, and study limitations.

2   Literature Review

Job satisfaction

Job satisfaction (JS) is an optimal goal that any employee strives to achieve. JS is an essential element that encourages employees to stay in organization and have a long commitment to their organization. JS is defined as "a pleasurable or positive emotional state resulting from the appraisal of one's job and job experience." (Locke, 1969 p.1304). Moreover, job satisfaction discusses as "an overall affective orientation on the part of individuals toward work roles which they are presently occupying" (Kalleberg, 1977, p.126). Job satisfaction can be observed when employees measure what they wish to gain from their jobs, and they receive. In this sense, the degree of employees' efforts, innovation, and skills that they give to their organizations is really affected by benefits they receive from their agencies. The more benefits they receive, the more efforts, innovation, and skills they generate which result in JS (Wright and Davis, 2003). However, variations in the definition of JS lead to variation in how it has been measured. In the literature, we see that some studies measure JS by a statement such as how an employee is satisfied in their job. Others ask whether an employees plan to find different job next year or whether they recommend their agency to others. Variation also can be observed in failure to reach an agreement on a theoretical framework that determines job satisfaction attributes that in turn lead to varied findings (Jung, 2013).

Job satisfaction has been attributed to intrinsic and extrinsic factors. Intrinsic factors include "autonomy at work, professional prestige, and development" while extrinsic factors involve pay and benefits (Bogler, 2001). JS also were attributed to personal characteristics and job characteristics. Personal characteristics involve to how extend employee are inspired and educated. They also involve employees' gender, tenure length, and position. On the other hand, Job characteristics are feedback, autonomy, and task significance (Rainey, 2009) Achieving satisfaction in those attributes may increase employees JS that will benefit organizations development and stability. Job satisfaction has been shown to improve organizational objectives such as performance (Wright & Kim, 2004) productivity (Aryee, 1992) and commitment (Brown & Peterson, 1993).

Job Satisfaction and Public Sector

As in private and non-profit sectors, JS in public organizations should be a central concern for public leaders. One reason those public leaders have to pay more attention to their employees' satisfaction is that public employees are less satisfied compared to private employees sector. Numerous studies suggested that employees in the private sector were more satisfied with their jobs than public employees. (Wright and Davis, 2003; Wang et al, 2012). Public sector employees are reasonably dissatisfied concerning extrinsic factors such as payment and privileges. Public em-

ployees tend to have less pay and promotions than private employees because of restrictions such as bureaucratic regulations that impose restrictions on promotional opportunities (Rainey and Bozeman, 2000). Consequently, job dissatisfaction among public employees has been attributed to less autonomy and workplace inflexibility. (Wang et al, 2012). A public agency that had less goal specificity tended to have dissatisfied employees. When employees have more experience a conflict in their roles, they tend to be confused about their responsibilities that eventually lead to frustration (Wright and Davis, 2003).

Self Determination and The Construct of Employee Empowerment

According to Self-Determination Theory, individuals have an inherent proclivity for development and intrinsic motivation. Therefore, intrinsic motivation and well-being entail fulfilling the three psychological requirements of relatedness, competence, and autonomy (Fernandez & Moldogaziev, 2015; Deci & Ryan, 1985).

Self-Determination Theory (SDT) proposes, "intrinsic and extrinsic motivations have significantly different effects on job satisfaction" (Lee et al, 2015, p.14). Intrinsic motivations include need for autonomy and need for competence (Kovjanic et al, 2012). Meeting a particular level of needs can help individuals evolve and produce optimum performance (Fernandez & Modogaziev, 2015; Vansteenkistee et al, 2007; Kovjanic et al, 2012). According to SDT, Individuals obtain those requirements from the environment in which they operate that increases leaders' commitment to meeting their followers' interests in an organizational sense (Kovjanic et al, 2012). Leaders can achieve employees job satisfaction by empowering them.

Employee empowerment is described differently by scholars (Conger & Kanungo, 1988; Potterfield, 1999; Thomas & Velthouse, 1990). In the literature, two contrasting analytical approaches have emerged, which are psychological and managerial. Psychological context of empowerment is a management framework comparable to an emotional state. Empowerment is described as an increased confidence in one's abilities to succeed and an anticipation of self-efficacy (Conger & Kanungo, 1988). Empowerment also defined as an increased degree of motivational construct or adopted contribution to a task as evidenced by four role analyses: effect, skill, rightness, and preference (Fernandez & Moldogaziev, 2015 Thomas & Velthouse, 1990).

Moreover, the degree that an employee views all four facets of the job positively, individual may experience increased inherent role of motivation and empowerment. Empowerment described as a four-dimensional motivating strategy for employees which divided into four: cognitive processes, ability, self-determination, and influence reflects an active, rather than inactive, attitude toward work (Spreitzer,1995). Employee empowerment, described from a managerial perspective, is a hierarchical concept that explains how individuals in positions of authority in organizations (i.e., executives) allocate influence, knowledge, and capital with the bottom line (i.e., employees).This framework has its vast importance in pioneering contributions to the organization theory movement in human relation approach (Fernandez & Moldogaziev,2015).

According to a structural theory of power formulated by Kanter (1979), The source of power is various: sources of information when task connect to expertise and selecting an appropriate:

sources of supply, especially to critical external resources: source of encouragement when top management support and ability to participate in innovative behavior. Managers motivate workers to the degree that they have connections to all three sources of power (Fernandez & Moldogaziev,2015).

Empowerment has been found to be one of the most effective factors on job satisfaction during the past quarter century (Lee et al, 2006; Fernandez & Modogaziev,2013). Empowering employees through providing them opportunities to participate in managerial practices enhance their job satisfaction. Kim (2002) proved that "emphasizing participative management and fostering effective supervisory communications can enhance employee job satisfaction" (p.237). Involving employees in strategic planning process enhanced their level of job satisfaction. Such an empowerment not only increased job satisfaction but also enhanced public agency effectiveness (Kim, 2002). Participating in management process fulfilled essential needs for employees. Through participating, employees understood how organization was processing which helped them to improve their communication and problem-solving skills. By participating, they also could fulfill the need for self-actualization through perceiving the impact of their work (Wright & Kim, 2004).

Sharing power with employees to improve work environment had a positive impact on employees' job satisfaction. Additionally, when leaders provided employee's resources for knowledge and skills that they needed in their work, job satisfaction tended to be high (Fernandez & Modogaziev, 2015). Sharing power and providing necessary resources respectively fulfilled competence and autonomy needs (Kovjanic et al, 2012). Leaders who meet their followers' needs, mainly by empowering them and sharing power and resources, will have more followers who have more experiences. As workers experience increased personal development, they are more likely to feel satisfied due to their desires being met. Based on this argument, leader empowerment through providing needed resources and sharing power enhance their employees job satisfaction.

Latterly, scholars created concepts of employee empowerment that observe empowerment as a leadership style. For example, inspiring leadership style described occasions leadership practices that increase the sense of work, encourage engagement in decision-making, demonstrate confidence in favorable outcomes, and empower employees beyond hierarchical restrictions (Ahearne et al.,2005). Additionally, other scholars described empowerment as a leadership style that involves the following behaviors: setting a pattern, engaging others in decision-making, informing, and demonstrating compassion for followers (Arnold et al., 2005).

As a result of the finding proved by Bowen and Lawler (1992) that many empowerment programs fail because they emphasize power and redistribute content, information, and incentives. According to them, they proposed four elements of empowerment that managers should be sharing with their employees, which are:(1) information about the organization's performance, (2) rewards based on the organization's performance, (3) the knowledge that enables employees to understand and contribute to organizational performance, and (4) power to make decisions that influence organizational direction and performance" (Bowen & Lawler, 1992, p. 13).

Therefore, the study set the research hypotheses based on empowerment practices that have proposed by Bowen and Lawler (1992) which are sharing information, authority, reward, and resources that achieve self-determination, can positively affect public employees' job satisfaction. According to these the study set the following four hypotheses:

H1: The empowerment practice of sharing information about organization performance with employees positively affects employees' job satisfaction.

H2: The empowerment practice that provides employees rewards based on their performance positively impacts employees' job satisfaction.

H3: The empowerment practice that provides the knowledge that helps employees understand organizational performance positively impacts employees' job satisfaction.

H4: The empowerment practice that sharing authority with employees to make a decision has positive effects on employees' job satisfaction.

3   Methods

3.1   Data

In order to find the results of the study question, the study test the four hypotheses by using secondary data from Federal agencies in the U.S. The data collected from the Office of Personnel Management (OPM) annual Federal Employee Viewpoint Survey (FEVS). A 2019 FEVS was picked to use in this study. The data that used is free for public and can be obtained by download it directly online or via email.

According to OPM's annual report, the FEVS survey is used to measure employees' perception of how their agencies practice characteristics of successful organizations (OPM, 2019). The FEVS has 94 questions that include 84 that emphasize effectiveness of their agencies in workplace while 14 questions focus on demographic information.

The sample that the study utilized in this research is the federal employees who are working at NASA that responded to the FEVS in 2019, also the unit of analysis is federal employees. The survey was self-administrated web survey. According to the report, 1,443,152 employees received the FEVS and 615,395 completed it which account for response rate of 42.6 percent. The OPM weighted the obtained data in order to obtain population-representative outcomes.

NASA employees were recruited for the study via a questionnaire. Of the 16,778 employees who received an invitation, 10,789 responded, representing a response rate of 64.3 percent. The survey was open to both full–time and part–time employees.

3.1.1   Measurements

Dependent Variable

The FEVS measured employees' satisfaction based on global satisfaction index. According to the OPM, global satisfaction index measure employees satisfaction based on how they satisfied with "their job, their pay, their organization, and if they would recommend their organization as a good place to work" (OPM, 2019, p.8). The FEVS had four questions that measure these items. To measure job satisfaction in this study, an index was constructed using these four survey items. Numerous

studies have been conducted to establish such an index to measure job satisfaction (Asencio, 2014, Choi, 2012).

All items within the index were measured on five-point Likert-type scale with a score of 5 representing very satisfied and a score of 1 representing very unsatisfied and. The index reliability Cronbach's alpha score was .80. Appendix 1 contains the survey elements used to measure the job satisfaction index. The dependent variable's mean value was 3.960 and the standard deviation was .934, as shown in Table 1.

Independent Variables

The study consists of four dependent variables: empowerment practices proposed by Bowen and Lawler (1992) that share information, authority, reward, and resources. Eight survey items were used to determine the four dimensions of empowerment practices (see Appendix 1). All items were measured on five-point Likert-type scale with a score of 5 indicating strongly agree and a score of 1 indicating strongly disagree. Items selection was based on several studies that measure empowerment practices through providing a list of questions for each dimension (Lee et al, 2006; Fernandez and Modogaziev,2013; Fernandez & Moldogaziev, 2015). The study used survey measures to develop structured that summarized rating scales for Practice 1 sharing "information about the organization's performance," practice 2 "rewards based on the organization's performance," practice 3 sharing "the knowledge that enables employees to understand and contribute to organizational performance," and practice 4 sharing "power to make decisions that influence organizational direction and performance" (Bowen & Lawler, 1992, p. 32). Based on empowerment practices items, similar items were selected from the FEVS. For instant, practices 4 the selected item from FEVS matched previous items selection from previous studies "Employees have a feeling of personal empowerment with respect to work processes" (Fernandez & Moldogaziev, 2015). The eight survey items that were used to measure the four dimensions were computed into four indexes, which resulted in Cronbach's alpha reliability scores of .80 (practice 1), .74 (Practice 2), .89 (practice 3), and .84 (practice 4). The correlations of the four dimensions of this study are provided in Table 1.

Control Variables

Following previous studies (Lee et al, 2006; Fernandez and Modogaziev,2013; Fernandez & Moldogaziev, 2015), the current study also includes age, gender, education level, supervisory status, minority, and service experience as control variables. Age is a categorical variable that employees categorized as under 40, 40-49, 50-59 or over 60 years old. Gender is a dummy variable where (1 = male and 0 = female). Education level is a categorical variable where respondents have education prior to Bachelor's degree, bachelor's degree, or post-bachelor's degree. Supervisory status indicates whether a respondent has a non-supervisor coded 1 or a supervisor status coded 0. Minority is a dummy variable where (1 = minority and 0 = non-minority). Service experience indicates how long a respondent has been with the Federal agency excluding military service. The service experience is measured on a categorical measurement where employees have 5 or fewer years, 6-14 years, or 15 years or more. The Control variables in the original data set were coded by letters, so I recoded them numerically. For example, gender was coded as (A = male and B = female). Also, all categorical control variables used in this study were transformed to dummy variables. The reference groups in age, education, and experience variables were 50-59, post-bachelor, and 15 years or more respectively.

Analysis

In order to examine the study's four hypotheses, the relationship between four empowerment practices dimensions and job satisfaction was predicted using ordinary least squares (OLS) regression analysis. After data cleansing and missing data evaluation, 10,789 out of 16,778 cases were included in the final study. Due to the lack of a statistically significant difference between including all cases and excluding missing cases from the study, missing cases were excluded. In order to examine the four hypotheses, four models were run. Each model consists of a single independent variable and a set of control variables.

Findings

Among the 10,789 participated federal employees, about 5,761 (53.4 percent) were male. The majority of age respondents ranged from 50 to 59 years old who represented (36.4 percent) of total participants. Participants' years of experience varied where the majority had an experience of fifteen years or more which represented (43.5 percent) of federal employees. Education conducted to distribute equally among employees where generally participants maintain less than bachelor (31.6 percent), bachelor (34.2 percent), or post-bachelor's degree (34.2 percent). Further details of respondents' characteristics are provided in appendix 2.

Table 1 presents details of descriptive statistics, correlations coefficients, and reliability score for variables of the study. There were no issues with multicollinearity in any of the research variables. In order to limit significant multicollinearity, Klein (1962) proposed that the variance inflation factor (VIF) should be less than $1/(1- R2)$ and the tolerance value should be greater than $(1-R2)$ (Klein, 1962). The results satisfied this requirement, with the maximum VIF value of 2.5 and the maximum tolerance value of.971. There were no outlier findings in the results with a Cook's D value between.000 and.001.

The descriptive results in Table 1 propose that federal employees tended to have similar response level of on all four empowerment practices dimensions. Participants have scored a mean of (3.360) for practice 1, (3.451) for practice 2, (3.265) for practice 3, and (3.432) practice 4 dimension. The mean score suggest that participants "neither agree or disagree" with their leaders empowerment practices. The standard deviations of the four independent variables were 1.14, .97, 1.16, and 1.07 respectively.

Multivariate Analysis

The results of a multiple regression analysis using ordinary least squares (OLS) are shown in Table 2. The adjusted R2 for the four models ranged from .46 to .64. All models' equations statistically significant at the.001 level. Model 1 had the highest adjusted R2 of .64 which indicated that 64% of the variation in job satisfaction can be explained by perception of employees about employee empowerment practice by sharing information about organization performance and the control variables. On the other hand, model 2 had the least explanatory power of job satisfaction with an adjusted R2 of .46 which indicated that 46% of the variation in job satisfaction can be explained by employee empowerment practice that provides rewards based on employees performance and control variables.

As suggested, this study's four hypotheses were all satisfied and statistically significant. All empowerment practices dimension hypotheses were statistically significant predictors of positive effects of employees'

job satisfaction. As shown in Table 2, Hypothesis 1 provided statistical support (p < .001). Federal leaders who sharing information about organization performance with employees were likely to have satisfied employees (β = .664). Hypothesis 2 also was supported. It postulated that leaders who empowerment of their employees increased employees' job satisfaction. Model 2 revealed that employees who perceived empowerment and consideration from their leaders tended to be satisfied in their job. The model supported this hypothesis statistically at significant level of (p < .001). The data indicated that leaders who exhibited rewards based on the organization's performance through empowering their employees tended to have satisfied employees (β = .622).

Model 3 also supported statistically hypothesis 3. As proposed, the empowerment practice that provides the knowledge that helps employees understand organizational performance positively impacts employees' job satisfaction. Leaders who share the knowledge that helps employees to understand organizational performance had high satisfied employees (β = .608). The data findings indicated that results were statistically significant (p < .001). The last hypothesis indicated that leaders who share authority with employees to make a decision has positive effects on employees' job satisfaction (β = .628). The data supported statistically and positively this hypothesis at significance of (p < .001).

Although employee empowerment practice that share information about organization performance with employees had the greatest unstandardized regression coefficient in relation to job satisfaction, standardized coefficient of empowerment practices dimensions provided accurate estimation of job satisfaction. Across the four models, the standardized estimated coefficients ranged from .662 to .780. empowerment practice 1 had the greatest relative impact on job satisfaction with a value of .790 which indicated that one level increase in sharing information about organization performance with employees, employees job satisfaction tended to increase .780 standard deviation. On the other hand, empowerment practice 2 which is the rewards based on the organization's performance had the weakest relative impact on job satisfaction with a value of .662.

Across the four models, control variables yielded interesting and remarkable findings. The control variables were varied across each model and had inconsistent estimations. Therefore, this section presents the estimations of the control variables in model 1 since it has the greatest explanatory power (adjusted R2 = .64). In general, male federal employees tended to be less satisfied than female (β = -.011). In regard to age, the findings indicated that the older the employees, the more they are satisfied. Those who were 60 years or older tended to be more satisfied than those who were 50-59 years old (β = .045). On the other hand, employees who aged fewer than 40 were less satisfied than those who were 50-59 years old (β = -.013). In terms of experience, the regression results indicated that employees who had less than 5 years' experience were more satisfied than those who had less 5 years of experience (β = .043). Minority employees were less satisfied than non-minority employees (β = -.006).

Discussion and Conclusion

As in private and non-profit sectors, job satisfaction in public organizations should be a central concern for public leaders. One reason that public leaders have to pay more attention to their employees' satisfaction is that public employees are less satisfied compared to their peers

in private sector (Wright and Davis, 2003; Wang et al, 2012). The current study aims to examine whether this dissatisfaction is related to leadership style and how empowerment practices may change the current situation and enhance public employees' satisfaction. Particularity, the current study investigates whether empowerment practices are associated to employees' job satisfaction and how. A large sample of federal employees used to analyze this association. The study found that empowerment practices were positively associated to employees' job satisfaction.

The findings indicated that the employee empowerment practice of sharing information about organization performance with employees positively affects employees' job satisfaction.
Therefore, when leaders behaved in a way that encouraged sharing information about organization performance with their employees, employees were likely to be satisfied. Employees' perception of leader's encouraging to share information about organization performance was the key that promoted job satisfaction. Additionally, the findings indicated that rewarding employees' creativity and innovation was related to their job satisfaction. As the results revealed, among the four dimensions of empowerment practices, sharing information about organization performance with employees had the greatest impact of employees' job satisfaction. Such an impact asserts the significant of this dimension and indicates that employees prefer organization's climate that promote and share sharing information about organization performance with employees to encourage employees to be more innovation. The findings consist with previous studies that innovative practices increase job satisfaction (Garcia et al, 2015; Park et al, 2016; Griffin et al, 2010; Nalla et al, 2011). The main implication of empowerment practice of sharing information about organization performance with employees that findings suggest that public leader should be aware how the practice can be impacts their employees.

Additionally, the results found that the employee empowerment practice that provides employees rewards based on their performance positively impacts employees' job satisfaction.
Leaders who empower their employees are likely to have high-satisfied employees. The findings indicated that leaders who provided employees rewards based on their performances, tended to have satisfied employees.

The employee empowerment practice that provides the knowledge that helps employees understand organizational performance has been found to increase employees' job satisfaction. The study findings revealed that when employees perceive high level of respect toward their leaders, they tend to have high job satisfaction. Employees' perception of leader that provides the knowledge that helps them to understand organizational performance positive effects on their job satisfaction. The findings consisted with other studies that employees' trust in leader increased their job satisfaction (Ashleigh & Prichard, 2011; Kim & Park, 2014). Public organization managers should maintain high standards of integrity and honesty since they impact their employees' trust in them. When employees trust in their leaders, they tend to be satisfied in their job.

Finally, the findings found that the employee empowerment practice that sharing authority with employees to make a decision has positive effects on employees' job satisfaction. Leaders who communicated clear and increased their employees authorizes in decision making process that increase their job satisfaction. When employees sharing authority to make decision and know exactly what they were required to

do, their job satisfaction tend to be high. As previous findings suggested, sharing in decision making process increased employees job satisfaction (Wright and Davids, 2003; Jung, 2014; Kim and Wright, 2007). Public leaders who aim to increase their employees job satisfaction should be aware that sharing authority with employees to make a decision has positive effects on employees' job satisfaction.

Although the current study revealed that empowerment employees' practices increased job satisfaction among federal employees, it faces some limitations that might limit the generalization of the findings. The main limitation is that the study analyzed one federal agency and that may yield unbiased estimations. Some agencies may have high level of job satisfaction while others don't. The distribution of employees among agencies may suggest such unbiased estimate.

Another limitation is that nature of federal agencies workplace may different from state and local agencies environment which limit the findings generalizability. Huge number of employees in each agency may suggest that empowerment employees' practices only is effective in large organization while small organizations such local agencies may not achieve such effectiveness when adopting empowerment employees' practices. Replicating the current study in different settings is recommended especially in local government level to ensure whether findings from federal agency can be generalized to local and state level.

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Table 1   Descriptive Statistics, Reliability and Correlations

Employee empowerment practices	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Practice 1	3.360	1.14	1	(.80)									
2. Practice 2	3.451	.97	.60	1	(.74)								
3. Practice 3	3.265	1.16	.67	.53	1	(.89)							
4. Practice 4	3.432	1.07	.67	.54	.72	1	(.84)						
5. Gender	.53	.49	-.006	-.01	0	-.01	1						
6. Age in years	2.43	.98	.34	.02	.01	.03	.04	1					
7. Supervisory	.78	.41	-.14	.01	-.09	-.12	-.09	0.108	1				
8. Education	2.03	.81	.04	-.01	.05	.02	.06	-0.09	-.105	1			
9. Experience	2.22	.78	.006	-.02	-.06	-.009	-.07	0.44	-.18	-.13	1		
10. Minority	.33	.47	-.003	.05	.003	.009	-.11	0.04	.05	-.08	-.003	1	
11. Job Satisfaction	3.960	.934	.79	.65	.77	.74	.003	.039	-.137	.03	0	0	1

N =10,789 $^*p \le .05$, $^{**}p \le .01$, $^{***}p \le .001$; the coefficient alpha reliability estimate for all of variables are reported in the parenthesis.

Table 2. Employee Job Satisfaction on Employees Empowerment Practices Regressions Results

Predictors	Model 1 Job Satisfaction		Model 2 Job Satisfaction		Model 3 Job Satisfaction		Model 4 Job Satisfaction	
	B (βeta)	s.e	B (βeta)	s.e	B (βeta)	s.e	B (βeta)	s.e
Employees Empowerment practices								
Practice 1	0.664*** (.780)	.001						
Practice 2			.622*** (.662)	.001				
Practice 3					0.608*** (.758)	.001		
Practice 4							.628*** (.749)	.001
Control Variables								
Gender (Male)	-.011***	0.002	.008***	.004	-.004	.002	-.009***	.002
Age in years (under 40)	-.013***	0.003	-.036***	.004	-.014***	.003	-.024***	.004
40-49	-.005	0.003	-.008**	.003	.019***	.003	.007*	.003
60 or older	.045***	0.003	.011**	.004	.007**	.003	.017***	.004
Education (Prior Bachelor)	.012***	0.003	-.064***	.003	.018***	.003	-.027***	.003
Bachelor	.024***	0.003	-.010***	.003	.033***	.003	-.021***	.003
Experience (Less 5 years)	.043***	0.003	.052***	.004	-.078***	.003	.022***	.003
6-14 years	-0.004	0.003	-.029***	.003	-.064***	.003	-.021***	.003
Minority	-.006***	0.002	.055***	.003	.001	.002	.008***	.002
Nonsupervisory	-.054***	0.003	-.316***	.003	-.131***	.003	-.098***	.003
Constant	1.206***	0.007	1.390***	.009	1.41***	.007	1.274***	.008
Model F	43660.837***		38467.01***		38311.209***		32164.924***	
Model degrees of freedom	11, 279554		11, 279554		11, 279554		11, 279554	
R^2	0.632		0.46		0.601		0.559	
Adjusted R^2	0.642		0.46		0.601		0.559	
S_e	0.55982		0.67349		0.58284		0.61316	

Note: N = 10,789; β = unstandardized regression coefficient; s.e = standard errors, (βeta) = standardized regression coefficient. $^*p \leq .05$, $^{**}p \leq .01$, $^{***}p \leq .001$

Appendix 1 Survey Items
Measures of Employee Empowerment Practices

Practice 1: (providing information about the organization's performance)

1. "Managers review and evaluate the organization's progress toward meeting its goals and objectives" (1 = strongly disagree through 5 = strongly agree).
2. "Supervisors/team leaders provide employees with constructive suggestions to improve their job performance" (1 = strongly disagree through 5 = strongly agree).

Practice 2: (offering rewards based on the organization's performance)

1. "Employees are rewarded for providing high-quality products and services to customers" (1 = strongly disagree through 5 = strongly agree).
2. "Awards in my work unit depend on how well employees perform their jobs"
(1 = strongly disagree through 5 = strongly agree

Practice 3: (providing the knowledge that enables employees to understand and contribute to organizational performance)

1. "I am given a real opportunity to improve my skills in my organization"
(1 = strongly disagree through 5 = strongly agree).
2. "The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals" (1 = strongly disagree through 5 = strongly agree).

Practice 4: Sharing the power to make decisions that influence organizational direction and performance

1. "Employees have a feeling of personal empowerment with respect to work processes"
(1 = strongly disagree through 5 = strongly agree).
2. "How satisfied are you with your involvement in decisions that affect your work?"
(1 = very dissatisfied through 5 = very satisfied).

Job Satisfaction

1. Considering everything, how satisfied are you with your job?
2. Considering everything, how satisfied are you with your pay?
3. Considering everything, how satisfied are you with your organization?
4. I recommend my organization as a good place to work.