

ANALYZING THE RELATIONSHIP BETWEEN COMPONENTS OF ORGANIZATIONAL JUSTICE AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR AND THE ROLE OF OCCUPATIONAL COMMITMENT (A CASE STUDY OF THE SOCIAL SECURITY ADMINISTRATION EMPLOYEES IN GOLESTAN)

Ayyub Sheikhy¹, *Shabnam Vaziri¹, Rostam Gharehdaghi² and Ali Asghar Zamani³

¹*Department of Management, Kerman Branch, Islamic Azad University, Kerman, Iran*

²*Department of Management, Miyaneh Branch, Islamic Azad University, Miyaneh, Iran*

³*Department of Management, Azadshahr Branch, Islamic Azad University, Azadshahr, Iran*

**Author for Correspondence*

ABSTRACT

The aim of this study was to investigate the relationship between organizational justice and organizational citizenship behavior according to the role of occupational commitment among employees. The research is descriptive and survey research. The population was 120 people that according to Morgan, 92 people were selected and the questionnaires of organizational justice, organizational citizenship behavior and job commitment were used to collect data of which Cronbach's alpha coefficient were 0.87, 0.90 and 0.79, respectively. LISREL software used to analyze the data and the results of structural equations show that the path coefficients= 0.23 is the impact of distributive justice on job commitment and $t= 2.28$ was obtained. Path coefficient=0.31 is interactional justice relationship with job commitment and statistic $t=3.04$, path coefficient= 0.5 is job commitment effect on organizational citizenship behavior and $t=4.25$ have been obtained with significant positive relationship in all three factor. But in the relationship between procedural justice of organizational and job commitment, path coefficient was 0.10 and statistical $t= 0.98$, in the relationship between distributive justice on organizational citizenship behavior, path coefficient was 0.03 and statistical $t= 0.98$. In the relationship between justice and organizational citizenship behavior, path coefficients was 53 and statistical $t= 0.52$ and in the relationship between interactional justice on OCB organizational citizenship behavior, path coefficients was - 0.13 and statistical t was - 1.3 which in conclusion shows no significant relationship.

Keywords: *Organizational Justice, Job Commitment, Organizational Citizenship Behavior (OCB)*

INTRODUCTION

Without the willingness of employees to work, organizations are not able to expand their effectiveness and efficiency. Spontaneous and mandatory cooperation difference is important, because in the case of coercion, their duties have been determined in accordance with laws, regulations, and standards in their organizations, while in spontaneous and deliberate cooperation, staffs use the effort, energy and insight personal ability to flourish even in the interest of the organization. Justice demands are within human. All people in all times and places, demand justice in their lives and do not like discrimination and inequality (Gabjnia, 2010). Therefore, the main duties of directors and management are to maintain and develop the sense of justice and fair treatment of employees. Justice, particularly in the management behavior with employee (distribution of rewards, relationships, administration, promotion and appointment) are important for the staff. Achieving a proper understanding of the influence of organizational justice on employee engagement and its domains enables managers to find the appropriate measures in order to develop a sense of justice in organizations. Mayer commented on the commitment of employees is that it will increase the organization social capital.

This means that public trust to the organization should increase and enhances their willingness and desire to work with the organization. Chalapy knows an employee engagement as "positive emotional and behavioral tendency to respect the rights of others in the form of moral rules accepted within the

Research Article

profession", and determined four dimensions as: "National, Professional, Organizational and Staff consensus ». If the person feels commitment and responsibility against four types, job commitment has been fulfilled (Mustafa, 2012).

With the introduction of organizational justice theories in organizational behavior issues, many researchers have investigated the effects of the main variables of organizational justice in the field of organizational behavior. One of these effects is justice effects on organizational citizenship behavior. The most important factors that could provide behaviors, attitudes and interactions with staff in order to better quality of service is voluntary behavior or OCB (Hui and Lam, 2001).

OCB is the kind of behavior that goes beyond the formal organization of predefined behaviors that are not directly rewarded or are not recognized by formal structures, but are critical to the success of the functional and operational organization (Robbins, 2001). Research and theory has shown that organizational justice cannot directly affect the behavior of citizens and there is a mediating variable. Present study investigates the relationship between justice and organizational citizenship behavior by considering the role of commitment.

Given the significance of the fundamental problem above, the importance of the study is that: Is justice on organizational citizenship behavior (according to mediate job commitment) affective on employees of the Social Security Administration in Golestan?

Research Literature

Organizational Justice

Justice is a social phenomenon that is has attracted the attention of many social experts and organizational behavior teachers. Thinkers such as Adam and Homanz, initially, raised the theory of social justice. They stated that people who receive social exchanges must be fair. Then the researchers perceived and observed the equity of resource allocation decisions such as the allocation of payments in one section. The result of distributive justice is equality theory which includes the allocation and distribution of resources. Further research showed that people will accept a certain level of inequality if procedures that decisions are made based on are equitable, in which procedural justice describes distribution the phenomenon (Cropanzano, 1991).

Justice is the highest human values and precious jewel in the realization of human rights. The main cause of humanity is to reach justice. Plato says that justice means putting anything in its place. Aristotle has been divided justice into two categories: general and specific. General Justice is all virtues and justice in the particular means to diver the right of everyone. The organizational justice can be defined as follows: the study of equality in the work (Cropanzo, 2001). Organizational justice is very important due to its connection with the vital organizational processes such as organizational commitment, citizen orientation, job satisfaction and performance (Colequite, 2002).

The dimensions of the components of organizational justice

1) Distributive Justice

Distributive justice refers to judge the fairness of the results distribution such as the level of payment or promotion opportunities in an organizational context. Base of the theory is Adams' Equity Theory. Adams in his study stressed the perceived fairness of the outcome as distributive justice. This theory states that people have a relative equilibrium, and consider the desired result by comparing its output to the input - output of his colleagues works (Charas-cohen, 2001). Distributive Justice is said as the main focus on the outcomes that individual or groups receive from other groups or individuals.

2) Procedural Justice

Procedural justice is called the methods that are used in the distribution of resources and outputs that refer to how formal decisions are made based on norms (norms) on the management of resources. In other words, staffs want to ensure that their needs are fairly well-placed in corporate decision making processes, it means that the right, moral, and attended decisions are taken by the presence of the staff representatives (Ghafuri and Rnoosfaderani, 2009).

Research Article

3) Interactional Justice

The term of interactional justice was used for the first time in 1986 by two researchers named Bais and Mog. They believed that interactional justice is a kind of justice that conceptually is distinct from distributive justice and refers to social policy and procedures. People are sensitive to the deal quality with personal interaction and the structural aspects of the decision-making process (Rezayian, 2005).

Job commitment:

Commitment and conscience are concepts that many definitions that have been done about them. Vilamosen and Anderson (1991) defined job commitment as intensity and extent of participation of the individual in the organization, belonging to the job and the sense of identity. These feelings will result in increment of dependence on individual and group work behavior (citizens). Salansik (1977) knows commitment as a link from a person to the individual factors and actions. Latham and others (2008) also attempted to provide a comprehensive definition of employee engagement, based on indicators such as speed and accuracy in work, loyalty, perseverance, respect, discipline, punctuality, trying to offer creative ideas for use in performing work, a deep attachment to the job and the responsibility of the organization.

Other studies that have been done on indicators to measure employee engagement, which suggest that factors such as professional affiliations, organizational commitment, the commitment to the values of work and job participation (engagement) affect more than another factor in determining the extent of employee engagement (Bella *et al.*, 1993).

To increase employee engagement, it is better to identify staff strengths and strengthen them to use targeted daily power, also alignment of employee and showing discussions' feedback between employees and their managers, concentration on professional job capitals, relying on leverage of the strengths and self management of employees by their achievements. Analyzing the equality of staff values and worth in workplace and if the weight of the value of staff is heavier, employees tend to leave their jobs and the lack of commitment to the work will be more. Acquisition and development of daily energy and innovation in work demonstrates job commitment and indicates the particular factors affecting the effective management and job commitment. Analyzing the details of job will cause the commitment to the cultures such as punctuality, respect of administrative law, such as uniforms, no use of personal phone, devotion and service in extra hours and etc and also represents the professional maturity(everydaylife.globalpost.com).

OCB (Organizational Citizenship Behavior)

Organ defined organizational citizenship behavior as organizational behaviors that are not part of official duties, but has impact on performance (Organ, 1988). He believes that organizational citizenship behavior is a personal and voluntary behavior that is not designed directly by the formal reward system, however, improves the effectiveness and efficiency of the organization (Appelbaum, 2004). Although the term OCB was raised first by Batman and Organ, the concept is the result of Barnard literature about willingness to cooperate and based on Katz studies on the spontaneous and beyond expectations performance and behavior (Cohen, 2004). This type of behavior is a function of the meta-role behavior that stands against inter-role behaviors. The inter-role behavior refers to job behaviors that can be expressed in terms of tasks and roles of formal organization and can be recognized and rewarded by the organization officially recognized system. Extra-role behaviors are behavior beyond the formal professional staff. These behaviors are optional and usually not considered in the formal reward system (Hui and Chen, 1999).

As the interest in the study of organizational citizenship behavior grew, there is always a lack of consensus in the literature about its dimensions. Podsakoff researches have been identified nearly thirty different types of organizational citizenship behavior (Podsakoff and Mackenzie, 2000). Dimensions that attracted most attention among researchers include: types of friendship, work ethic, respect for others, magnanimity and reel and civil behavior (Wang and Chen, 2005). In the past researches, researchers have identified many factors affecting organizational citizenship behavior. The OCB in last fifteen years has been the subject of many articles and its importance is still growing. Articles are mainly in three types. A series of researches focused the predicted and experimental test agents of OCB. In this context, factors

Research Article

such as job satisfaction, organizational commitment, organizational identity, organizational justice, trust, and leadership types, the relationship between leaders and followers have been proposed as OCB producers (Podsakoff and Paine, 2000). On the other hand, a series of researches focused on OCB outcomes. In this context, factors such as performance, organizational effectiveness, organizational success, customer satisfaction, customer loyalty, and social capital are raised (Yoon and Suh, 2003, Bolino and Turnley, 2002). A small number of studies have focused exclusively on the concept of OCB, for instance, they have tried to have a new definition of OCB, determine its dimensions or measure the concept of creating a standard scales with the help of factor analysis (Van and Graham, 1994). According to the research literature, conceptual model is as follows:

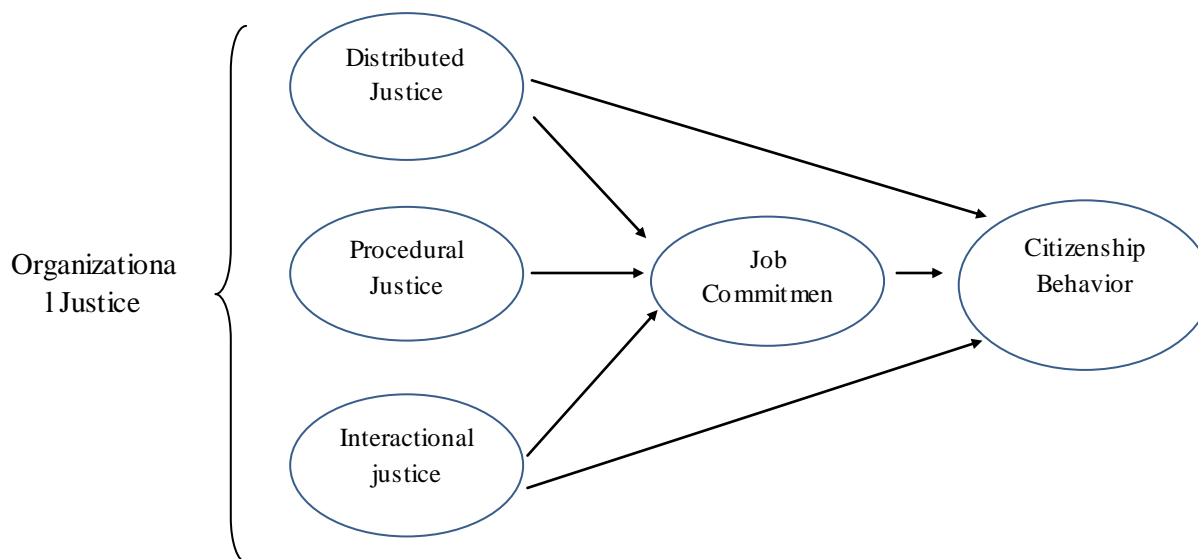


Figure 1: Conceptual model of study (research-made)

MATERIALS AND METHODS

If we consider the classification of research goal, this study is among the applied research and if we consider the classification based on the nature and methods of investigation, it is a descriptive survey research. Also according to the conceptual framework of the study, it used structural equation modeling (SEM). Measuring instruments were three questionnaires with simple and clear description of the objectives of the study and also how to answer the questions and the questions relation with the measurement, it means the perceptions of organizational justice, job commitment variable and changing organizational have been on the focus based on fluency and ability to set the terms of the measured variables. In order to determine the internal consistency, a total of 25 questionnaires were distributed among the employees and after collection and analysis, the results were in an acceptable range. The Cronbach's alpha for organizational justice Moorman scale was 0.87 and for Bella job commitment questionnaire it was 0.79 and for Oregon organizational citizenship behavior questionnaire it was 0.90 which indicate an acceptable reliability of the evaluation questionnaire.

Hypotheses

1. There is a positive and significant relationship between distributive justice and commitment of employees.
2. There is a significant positive correlation between procedural justice and commitment among employees.
3. There is a significant positive correlation between interactional justice and commitment of employees.
4. There is positive and significant between job commitment and organizational citizenship behavior.

Research Article

5. There is a significant positive relationship between distributive justice and organizational citizenship behavior.

6. There is a significant positive relationship between procedural justice and organizational citizenship behavior.

1- There is a significant positive relationship between interactional justice and organizational citizenship behavior and there is a significant positive relationship.

Data Analysis

Before analyzing the hypotheses, it is necessary to consider mean, standard deviation and correlation between latent variables (Table 1). Correlation analysis showed that the relationship between the number of latent variables related directly and significantly ($P < 0.05$), together.

Table 1: Mean, standard deviation and correlation between research variables

5	4	3	2	1	Standard deviation	Mean	Symbol	Variable
				1	0.54	3.45	DJ	Distributive justice
			1	0.10	0.39	2.89	PJ	Procedural justice
		1	0.01	0.05	0.29	4.26	IJ	Interactional justice
	1	*0.28	0.14	*0.21	0.23	3.16	JC	Job commitment
1	*0.45	0.09	0.22	0.12	0.55	3.64	OCB	Organizational behavior

*. Correlation is significant at the 0.05 level (2-tailed).

Testing Measurement Model

In structural equation models, two models should be tested. The first model includes measurement models for each latent variable (hidden). Measurement model represents the observed variables loadings for each hidden variable. Terms of fit indices for latent variable models for 5 measurements is presented in the table below. As it can be seen, the goodness of fit indices for latent variable scope is appropriate and acceptable.

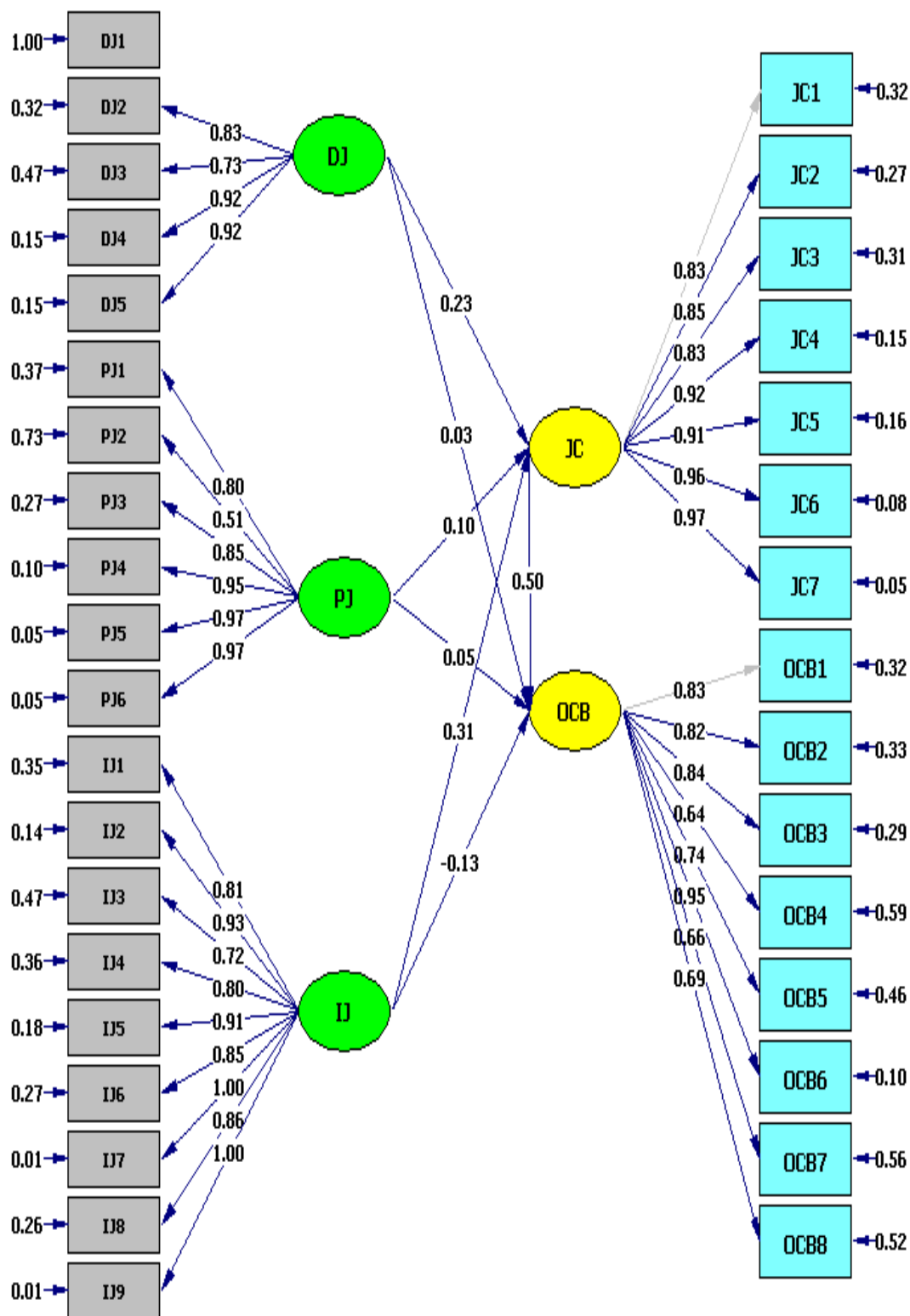
Table 2: The goodness of fit indices of research latent variables models measurement

Goodness of fit indices						Latent variable
NNFI	NFI	AGFI	CFI	RMSEA	$\frac{\chi^2}{df}$	
0.91	0.92	0.91	0.92	0.03	2.5	Distributive justice
0.90	0.90	0.94	0.93	0.02	2.87	Procedural justice
0.93	0.94	0.91	0.90	0.04	1.98	Interactional justice
0.92	0.93	0.90	0.89	0.01	2.12	Job commitment
0.92	0.93	0.93	0.94	0.03	2.76	Organizational behavior

Structural Model Test

After models measurement, it is now required to test the structural model representing the relationship between latent variables. Structural model can be used to analyze the hypotheses. The results are shown using LISREL 8.8 software in standard mode as below.

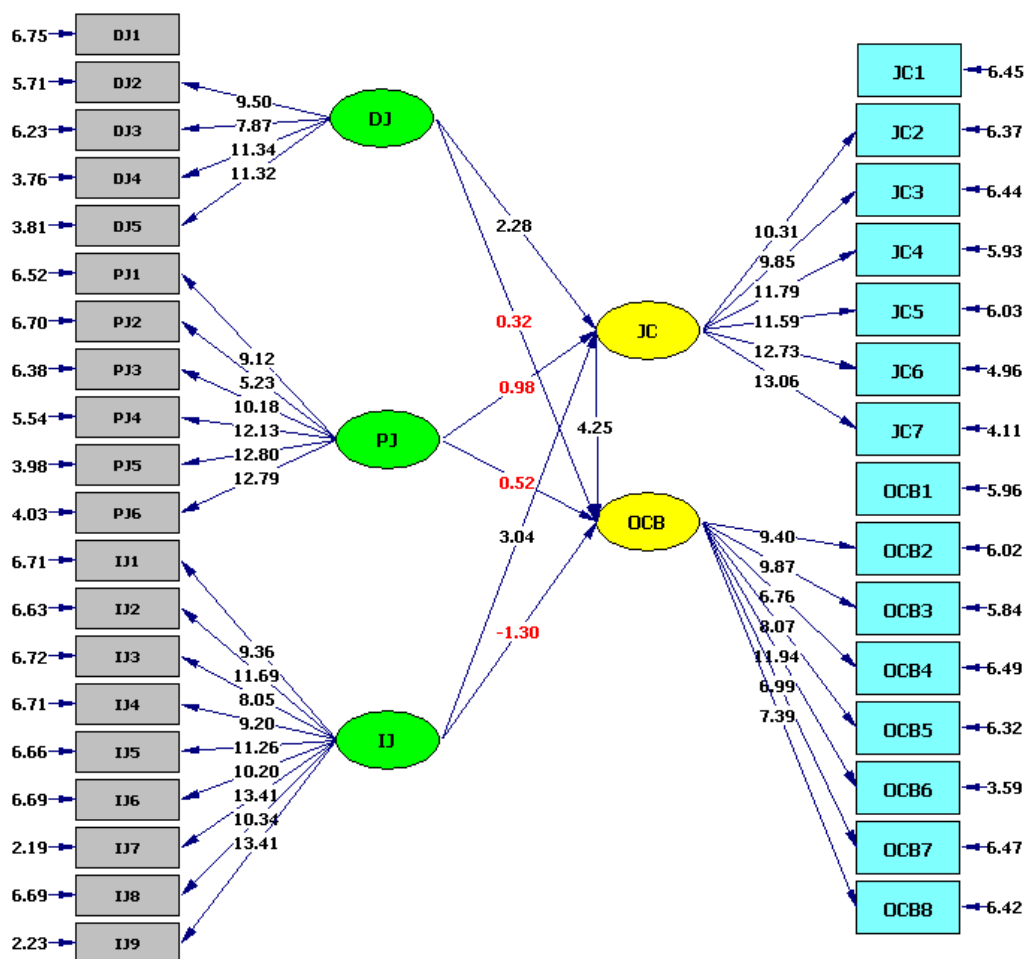
Research Article



Chi-Square=1540.51, df=551, P-value=0.00000, RMSEA=0.048

Figure 2: Structural model of research in standard mode

Research Article



Chi-Square=1540.51, df=551, P-value=0.00000, RMSEA=0.048

Figure 3: Structural model research in significant mood

The comparative fit index (CFI), fitness index (GFI), adjusted index fitness (AGFI), soft indicators of fitness (NFI), Non-Norm Fit Index (NNFI), root mean square error of approximation (RMSEA) were used for estimating the maximum likelihood method to evaluate the fit of the structural model from the ratio of

chi-square to degrees of freedom $\frac{\chi^2}{df}$

Table 3: Results of evaluating goodness of fit of the structural model

Goodness of fit indices (structural model)					
NNFI	NFI	AGFI	CFI	RMSEA	
0.92	0.093	0.92	0.91	0.02	2.1

The results of the structural model of goodness of fit indices are in the table below, show fit model, because the amount is less than 0.05 > RMSEA that indicate an acceptable fit of the structural model. The values of CFI, GFI, AGFI, NFI, NNFI are all higher than 0.9.

Path coefficients and meaningfulness are in the table. As observed, the path coefficients for the three connections at 0.05 (t smaller than -1.96 and t higher than 1.96) were significant but were not significant for the four correlation.

Research Article

Table 4: Results of the direct relationship and significant coefficients model hypotheses

result	significant (t-value)	Path coefficient (β)	symbol	path
accepted	4.25	0.50	OCB---JC	Occupational commitment---OCB
accepted	2.28	0.23	JC --- DJ	Distributive justice --- Job Commitment
Rejected	0.98	0.10	JC --- PJ	Procedural justice --- Job Commitment
accepted	3.04	0.31	JC --- IJ	Interactional justice--- Job Commitment
Rejected	0.32	0.03	OCB --- DJ	Distributive justice --- OCB
Rejected	0.52	0.05	OCB --- PJ	Procedural justice --- OCB
Rejected	-1.03	-0.13	OCB --- IJ	Interactional justice --- OCB

RESULTS AND DISCUSSION

First Hypothesis

As shown in Table (4), the path coefficient between distributive justice and job commitment is 0.23. T-statistics for the relationship is 2.28 and is above significant threshold value 1.96. Given the above, it can be concluded that there is a significant positive relationship between distributive justice and job commitment. The first hypothesis is confirmed by this study.

The Second Hypothesis

Path coefficient between procedural justice and job commitment is 0.10. Since the t-value for this factor equals 0.98, it can be concluded that the obtained coefficient is not significant. The second research hypothesis cannot be verified. In other words, there is no significant relationship between procedural justice and job commitment.

Third Hypothesis

As seen in Table 4 placed, the path coefficient for the relationship between interactional justice and job commitment is 0.31. T-statistic for the coefficient is 3.04, so the third hypothesis of this study also confirm. In other words, there is a significant and positive relationship between interactional justice and job commitment.

Fourth Hypothesis

According to Table 4, it can be said that path coefficient of relationship between occupational commitment and OCB is 0.50. T-statistic for the coefficient is 4.25, and the value is significantly higher than the threshold 1.96. Thus fourth hypothesis of this research confirms a significant and positive relationship between employee commitment and citizenship behavior.

Fifth Hypothesis

According to Table 4, path coefficient between distributive justice and OCB is 0.03. T-statistics for the relationship is 0.32 and its value is significantly lower than the threshold 1.96. Given the above, we can conclude that there is no meaningful relationship between distributive justice and OCB. The fifth hypothesis of the study is not confirmed.

Sixth Hypothesis

The path coefficient between procedural justice and OCB is 0.05. Since the t-value for this factor, is 0.52, we can conclude that the obtained coefficient is not significant. Thus sixth research hypothesis is not confirmed. In other words there is no significant relationship between procedural justice and OCB.

Seventh Hypothesis

As seen in the table, path coefficient for the relationship between interactional justice and citizenship behavior is -0.13. T-statistic for the coefficient is 0.30, so the seventh hypothesis of the study is not confirmed. In other words, there is no significant relationship between interactional justice and OCB.

Conclusion

According to the results, we found that there is positive and significant relationship between distributive justice and interactional justice with employee engagement in the target population. Thus, since perceptions of justice impact on employee engagement, we can prevent the occurrence of distrust in staff by increasing the dimensions of organizational justice. To establish and maintain employee motivation

Research Article

through space and the perception that there is equity in the subsidiaries and staff, and with regard to all aspects of administrative and behavioral development, occupational commitment will be provided, because those with positive understanding of justice will perform effective and structural. Lack of attention to this important underlying will cause destructive behavior and will face difficulties achieving organizational objectives.

In order to increase the sense of distributive justice in personnel following actions can be performed:

1. Trying to fair compensation to organization members
2. Trying to design a compensation system based on performance
3. Trying to redesign jobs so that the duties and responsibilities commensurate with the paid salaries
4. efforts to establish the relationship between training program and individual rights

it is also recommended that managers in research organizations take step in order to maintain and promote good behavior by employees in a way that does not interfere in the Terms of Reference and also maintain fair, ethical and honest collisions with staff. Lack of attention to these factors cause a decrease in interactional understanding and also causes job commitment. Also, due to significant and positive relationship between employee engagement and organizational citizenship behavior in this study, it is suggests that the utilize employee engagement as a value in the organization. In order to increase the commitment of employees it is recommended to adopt necessary measures that will ultimately lead to a sense of staff citizenship behavior. It is proposed to increase employee commitment executives bring the goals to the real world. To get a sense of job commitment, ask for the feedback in employee scheduling meetings. Encourage groups to engage in work. Employees are the best people who know the needs of the group. Creating a sense of ownership in staff will be very helpful to transfer job commitment to a culture.

Incentives should be repeated. Every effort to make job commitment on behalf of an employee has an expiration date. For this reason, it should not be assumed that one motivation is enough for each employee. Working environment, requirements, and even knowing a person will change with time. The motivation for job commitment of each individual should be dynamic. Also encouraging employees to participate in decision making and appreciating people for their superior performance, is a helpful incentive to maintain the commitment of the staff. The use of financial incentives such as increased salaries, benefits, applauded payments for exceptional performance and high efficiency are important for staff commitment maintenance.

ACKNOWLEDGEMENT

We are grateful to Islamic Azad University, Kerman branch authorities, for their useful collaboration.

REFERENCES

- Appelbaum S, Bartolomucci N, Beamier E, Boulanger J, Corrigan R, Dore I, Girard C and Serroni C (2004).** Organizational citizenship behavior: a case study of culture, leadership and trust. *Management Decision* **42**(1) 13-40.
- Bolino MC, Turnley WH and Blood Good JM (2002).** Citizenship behavior and the creation of social capital in organizations. *Academy of Management Review* **27**(4) 5-522.
- Chou TY, Seng-cho T, Chou JJ and Jiang GK (2013).** The organizational citizenship behavior of ARE personnel: Does organizational justice matter?. *Information & Management* **150** 105–111.
- Cohen A and Kol Y (2004).** Professionalism and organizational citizenship behavior an empirical examination among Israeli nurses. *Journal of Managerial Psychology* **19**(4).
- Cohen-charash Y and Paul ES (2001).** The role of justice in organizations: ameta – analysis. *Organizational behavior and human decision processes* **86**(2) 278-321.
- Colquitt JA, Conlon DE, Wesson MJ, Porter COLH and Ng KY (2001).** Justice at the millennium. A meta-analytic review of 25 colliers of organizational justice research. *Journal of Applied Psychology* **86**(3) 424-45.
- Cropanzano R and Ambrose R (2001).** Procedural justice and work motivation. In: *Motivation and Work Behavior*, 5th edition, edited by Steers RM and Porter LW 131-143.

Research Article

Crow MS, Chang-Bae L and Jae-Jin J (2012). Organizational justice and organizational commitment among South Korean police officers and investigation of job satisfaction as a mediator Policing. *An International Journal of Police Strategies & Management* **35**(2) 402-423.

Ganji Nia H, Goudarzvand ChM and Ghafarzadeh A (2010). The effect of understanding the organizational justice and organizational citizenship behavior in Ports and Maritime Customs Office of Bandar Anzali. *Journal of Management Studies, Improvement and Transformation* **61** 91-120.

Ghafouri MR and Renosafadarani M (2009). The investigation of the relationship between components of organizational justice and organizational commitment in Isfahan Municipality employees. *Psychological Studies Journal* **5**(4).

Greenberg G (1993). The social side of fairness: interpersonal and informational classes of organizational justice. In: *Justice in the Workplace: Approaching in Fairness in Human Resource Management*, edited by Cropanzo R, Lawrence Erlbaum associate, hillsdale 79-103.

Hui C, Law KS and Chen ZX (1999). A structural equation model of the effects of negative affectivity, leader-member exchange and perceived job mobility on in-role and extra-role performance: A Chinese case. *Organizational Behavior and Human Decision Processes* **77** 3-21.

Hui C, Lam SSK and Schaubroeck J (2001). Can good citizens lead the way in providing quality service?. *Academy of Management Journal* **44**(5) 988-995.

Mostafa Nejad H (2012). The investigation of factors affecting job commitment of Fateb employees. *Security Management Studies* **7**(2).

Organ DW (1988). Organizational citizenship behavior: The good soldier syndrome. Lexington, MA: Lexington Books.

Podsakoff PM, MacKenzie SB, Paine JB and Bachrach DG (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management* **26** 513-563.

Rezayian A and Masirdar L (2010). The impact of employee perceptions of organizational justice on organizational citizenship behavior. *Ethics in Science and Technology Journal* **5**.

Robbins SP (2001). *Organizational Behavior* (Prentice-Hall) Upper SaddleRiver, NJ.

Seyyed Javadin SR, Farahi MM and Taheri Attar Gh (2008). Understanding the influence of organizational justice on job satisfaction. *Journal of Business Management* **1**(1).

Staley AB, dastoor B, Magner NR and Stolp C (2003). The contribution of organizational justice in budget decision making to federal managers organizational commitment. *Journal of Public Budgeting, Accounting & Financial Management* **15**(4) 505-515.

Suliman A and Majid AK (2013). Organizational justice, commitment and performance in developing countries: The case of the UAE. *Employee Relations* **35**(1) 98-115.

Vedadi A and Akhondi F (2010). The investigation of relationship between organizational justice and administrative health in Customs Administration of Islamic Republic of Iran. *Journal of Public Administration* **1**(2) 79-98.

Vahedi M (2002). Evaluation of job commitment of elementary school, guidance schools and high schools teachers in the city of bonab. *Journal Management in Education* **3**(31).

Van Dyne L, Graham JW and Dienesch RM (1994). Organizational citizenship behavior: construct redefinition, measurement, and validation. *Academy of Management Journal* **37**(4) 765-802.

Wang H, Law KS, Hackett R, Wang D and Chen ZX (2005). Leader-member exchange as a mediator of the relationship between transformational leadership and followers' performance and organizational citizenship behavior. *Academy of Management Journal* **48**(3) 420-432.

Yoon M and Suh J (2003). Organizational citizenship behaviors and service quality as external effectiveness of contact employees. *Journal of Business Research* **56** 597-611.