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Article

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MANAGEMENT | RESEARCH ARTICLE

Justice in organizations and its impact on Organizational Citizenship Behaviors: A multidimensional approach

Asaad Hameed Al-ali¹, Lubna Khalid Qalaja² and Ayman Abu-Rumman^{3*}

Abstract: This research was aimed at investigating the impact of multifocal organizational justice on Organizational Citizenship Behaviors (OCBs). Using convenience sampling, a questionnaire was administered to (330) employees in Jordanian pharmaceutical industry companies. The research adopted well validated measures for multifocal organizational justice (distributive, procedural, and interpersonal) and also for measuring OCBs. The results of hierarchical multiple regression analysis showed that overall organizational justice predicted (40%) of the variance in OCBs. Agent-referenced organizational justice was found to be a stronger predictor of OCBs than system-referenced organizational justice. Moreover, this research has pinpointed interpersonal justice as being the strongest predictor of OCBs. The research recommended the Jordanian pharmaceutical industry companies retain and employ direct supervisors who have the necessary awareness and understanding of the importance of their role in encouraging OCBs as well as the necessary experience for this role.

Subjects: Personnel Selection, Assessment, and Human Resource Management; Administration and Management; Management & Organization



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PUBLIC INTEREST STATEMENT

Organizational Citizenship Behavior (OCB) has been studied since the late 1970s. Over the past three decades, interest in these behaviors has increased substantially. Organizational behavior has been linked to overall organizational effectiveness; thus, these types of employee behaviors have important consequences in the workplace, and this research aimed to investigate the impact of multifocal organizational justice on Jordanian pharmaceutical industry companies. The results of hierarchical multiple regression analysis showed that overall organizational justice predicted (40%) of the variance in OCB. Agent-referenced organizational justice was found to be a stronger predictor of OCB than system-referenced organizational justice. Moreover, this research has pinpointed interpersonal justice as being the strongest predictor of OCB. The research recommended the Jordanian pharmaceutical industry companies to retain and employ direct supervisors who have the necessary awareness of the importance of their role in encouraging OCB as well as the necessary experience for this role.

Keywords: Organizational Justice; Organizational Citizenship Behaviors (OCBs); Agent Referenced Justice; System Referenced Justice; Jordanian Pharmaceutical Industry

1. Introduction and problem

The atmosphere of fierce competition amongst the key pharmaceutical companies in Jordan has imposed an additional requirement on their workers to perform beyond their traditional roles to demonstrate organizational citizenship behaviours (OCBs). It is recognised that improved OCBs amongst the pharmaceutical industry's employees can greatly contribute to enhancing the industry's competitiveness. Moreover, the issue of organizational justice is heavily debated by scholars; whether this debate is regarding the dimensionality and conceptual framework of organizational justice; or regarding the impacts of the organizational justice on various organizational facets, of which the OCBs is one. For example, Colquitt, Conlon, Wesson, Porter, and Ng (2001) conducted a meta-analytic review of 25 years of organizational justice research, and the results suggested that although different justice dimensions are moderately to highly related, they contribute incremental explained variance in fairness perceptions. On the other hand, there is almost a consistency in the results of previous research with regard to the positive relationship between overall organizational justice and OCBs. These consistencies also apply when the three most studied dimensions; procedural, distributive, and interactional dimensions are studied. However, there are some inconsistencies in the current research. Some studies which adopted a combination of two or three dimensions have led to mixed findings. For example, some studies have indicated distributive justice as being a weaker predictor for OCBs in comparison with procedural, interactional or both types of justice (Moorman, 1991; Niehoff & Moorman, 1993; Ball, Trevino, & Sims, 1994; Mohammad, Binte Habib, & Bin Alias, 2010; Young, 2010), whereas other studies have indicated it as being the strongest (Ahmadi, Akbar Ahmadi, & Tavreh, 2011; Nadiri & Tanova, 2010). This research was therefore conducted to address these inconsistencies and aimed to contribute to the scientific debate to pinpoint the types of organizational justice (distributive, procedural, or interpersonal), and to determine if justice which emanates from the organization itself or from the organizational supervisors has the greatest impact on OCBs. It was felt that this study would help to address the gaps in the current literature in this field. Thus, the researchers aimed to explore what differential impacts of multifocal organizational justice have on the OCBs within the Jordanian pharmaceutical industry. More specifically, this study aimed to answer the following questions:

- (1) Do distributive, procedural, and interpersonal justices differentially predict OCBs within the Jordanian pharmaceutical industry companies?
- (2) Is agent-referenced organizational justice a stronger predictor for OCBs than a system-referenced organizational justice within the Jordanian pharmaceutical industry companies?
- (3) Is agent-referenced interpersonal justice the strongest predictor of OCBs in comparison to the other agent-referenced justice dimensions within the Jordanian pharmaceutical industry companies?

2. Theoretical background

2.1. Organizational justice

Organizational justice has been the focus of research for more than 40 years (Cohen-Charash & Spector, 2001; Colquitt et al., 2001; Cropanzano & Greenberg, 1997). Prior to 1975, organizational justice was primarily concerned with distributive justice, which defined as fairness perception of outcome distributions or allocations (Deutch, 1975; Leventhal, 1976). Thibaut and Walker (1975) were the first to introduce the concept of procedural justice. Where distributive justice addresses outcomes, procedural justice addresses the processes through which outcome distributions are made. Bies and Moag (1986) focused attention on the importance of the quality of the interpersonal treatment people receive when procedures are implemented.

As justice can emanate from two sources, including an individual and the organization itself, the focus of the recipient (employee) may be on one or both of the sources, as indicated by the term, multifocal. Tyler and Bies (1990) posited a two-factor, agent-system perspective on justice (Colquitt et al., 2001; Colquitt & Greenberg, 2003; Greenberg, 1993a). Here, the source from which (or whom) justice emanates determines the dimension under which it falls. Justice is viewed as related either to the system (i.e. organization) or to the agent (i.e. the supervisor or person responsible for making the distributions). Karriker (2005) merged procedural and informational justice in one dimension. Thus, five rather than seven dimensions were ultimately examined. In this research, the five-factor model was used to articulate the multifocal organizational justice as perceived by the employees.

2.2. Organizational Citizenship Behaviors (OCBs)

Organ (1988) defined OCBS as “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization. By discretionary, we mean that the behavior is not an enforceable requirement of the role or the job description, that is, the clearly specifiable terms of the person’s employment contract with the organization; the behavior is rather a matter of personal choice, such that its omission is not generally understood as punishable.”

In 1988, Organ conceptualized OCBs as comprising of five-components; Altruism, Courtesy, Conscientiousness, Sportsmanship, Civic virtue. Organ’s five-component model of citizenship behavior is one of the best recognized and influential taxonomies in the literature (LePine, Erez, & Johnson, 2002).

One promising approach that has gained increased attention in the literature is to explicitly differentiate the dimensions of citizenship according to the intended beneficiary. Specification of the intended beneficiary was empirically tested in 1991 by Williams and Anderson, the researchers conceptualized and labeled *citizenship behavior directed toward the organization* as OCBO, and *citizenship behavior directed toward individuals* (including coworkers and supervisors) as OCBI, where the (O) refers to the organization and the (I) refers to individuals. Although OCBO and OCBI were correlated at ($r = .56$), Williams and Anderson found that intrinsic job satisfaction cognitions (e.g. autonomy) predicted OCBI but not OCBO, whereas extrinsic job satisfaction cognitions (e.g. pay) predicted OCBO but not OCBI. Others found that procedural justice is more likely to trigger positive organizational behavior (POB) of employees, whereas distributive injustice tended to trigger negative organizational behavior (NOB). Thus, organizational justice had greater effects on the POB of employees than NOB (Pan, Chen, Hao, & Bi, 2018).

With regard to Williams and Anderson’s (1991) framework and LePine et al. (2002) findings demonstrated that the relationships with OCBI were not significantly different than those with OCBO for any of the predictor variables (satisfaction, fairness, commitment, and leader support), LePine et al., concluded that OCBs are best represented as a single latent factor. Later in 2007, Hoffman, Blair, Meriac & Woehr explicitly tested competing models underlying OCB measures by using a meta-analytically derived correlation matrix as input for a confirmatory factor analytic comparison of the different models, the pattern of results suggested that OCBs are best viewed as a single factor. Hoffman et al., found that the estimated correlation between the two latent OCB factors (OCBO and OCBI) is .98, indicating little if any empirical differentiation between the two factors. Moreover, no support has been found for the differential effects of the target of OCBs on individual-level outcome variables of managerial ratings of: employee performance, reward allocation decisions, and a variety of withdrawal-related criteria (e.g. employee turnover intentions, actual turnover, and absenteeism) (Podsakoff, Whiting, Podsakoff, & Blume, 2009). Thus, here again, there does not seem to be any evidence of differential relationships with predictors across dimensions of OCBs.

2.3. Previous studies and hypotheses development

There is a large body of literature investigated the relationship between Organization justice and OCB, but results were not conclusive, one reason for that is the dimensionality and conceptual

framework of organizational justice or regarding the impacts of the organizational justice on various organizational facets, of which the OCBs. For example, the relationship between organizational justice (Distributive Justice, Interpersonal justice, Procedural Justice, and Informational Justice) and OCB were analyzed by Ahmadi et al. (2011), Ali, Mehmud, Baloch, and Usman (2010), Al-Quraan and Khasawneh (2017) the results indicate that there is a significant relationship between these variables. Nazir, Aslam, and Nawaz (2011) on the other hand asserted that distributive justice is most important, so he used the distributive justice index, as proposed by Price and Mueller (1986). Findings indicated that distributive justice significantly ($p < 0.001$) explained 19% variance in OCBs. The relationship between individuals' perceptions of procedural justice and OCBs was examined by Cho and Kim (2009) who used Moorman and Blakely's (1995) 26-item scale to measure OCBs, and procedural justice was measured using five items from the Procedural Justice Scale that tap into the structural aspect of procedural justice from the original 12 items by Moorman, Blakely, and Niehoff (1998). Results again indicated a significant ($p < 0.01$) positive relationships ($r = 0.50$) between procedural justice and OCBs. Regression analysis results indicated that 25% of the variance in OCBs is significantly ($p < 0.001$) explained by procedural justice.

By differentiating the dimensions of citizenship according to the intended beneficiary, Karriker (2005) conducted a research in the USA to explore the effects of agent-, and organization-referenced justice perceptions on OCBO and OCBs. Data were collected from 554 working individuals, working business students from five large universities. Agent- and organization-referenced justice were measured using Karriker and Williams' (2003). Results indicated that agent-referenced interpersonal justice is significantly ($p < 0.01$) correlated with OCBO ($r = 0.21$) and OCBs ($r = 0.31$). But in 2009, Karriker and Williams demonstrated that system-referenced distributive and procedural justice are not significantly related to OCBO, yet agent-referenced distributive justice had a significant direct relationship with OCBs, and agent-referenced distributive and procedural justice had significant indirect relationships with OCBs. These results led Karriker and Williams to conclude that the supervisor serves as a proxy for the organization in the eyes of the employee.

The relationship between system-referenced distributive and procedural justices and OCBO was investigated by Gotlib (2011), the results found no significant positive relationship between system-referenced distributive and procedural justice and OCBI, also a non-significant positive relationship between agent-referenced distributive, procedural, and interpersonal justice and OCBI. However, contrary to expectations, findings demonstrate a positive significant relationship between agent-referenced distributive, procedural, and interpersonal justice and OCBO. Gotlib interpreted the last result that the individual may not always choose to reciprocate agent perceived justice with its source, but rather engage with OCBO. An important exploratory finding for Gotlib's research is a significant ($p < .01$) positive relationship between agent-referenced distributive ($r = .49$), procedural ($r = .60$), and interpersonal ($r = .61$) justices and OCBs. Gotlib's findings support the researchers' direction in this research toward adoption of the OCBs as a single construct.

The aforementioned discussion provides evidence for the robust relationship between organizational justice and OCBs constructs. Previous research investigated the justice-OCBs relation through examination of the overall organizational justice (Aslam & Sadaqat, 2011; Guangling, 2011; Najafi, Noruzy, Azar, Nazari-Shirkouhi, & Dalvand, 2011; Noruzy, Shatery, Rezazadeh, & Hatami-Shirkouhi, 2011), adopting each dimension alone; distributive justice (Cho & Kessler, 2008; Haque & Aslam, 2011; Nazir et al., 2011), procedural justice (Cho & Kim, 2009; Evans, 2001; Siegal, 2000), interactional justice (Chiaburu & Lim, 2008), or a combination of two (Ball et al., 1994), three (Mohammad et al., 2010; Nadiri & Tanova, 2010), or four (Ahmadi et al., 2011) justice dimensions together.

Findings of previous research – though mixed – seems to be more agent dominant, and this dominance is more toward interpersonal justice, accordingly, the research hypotheses are summarized in Table 1 regarding the Jordanian pharmaceutical industry companies.

Table 1. Summary of the research hypotheses

Hypothesis no.	Hypotheses
H1	Perceptions of overall organizational justice will significantly predict OCBs.
H2	Perceptions of distributive justice will significantly predict OCBs.
H3	Perceptions of procedural justice will significantly predict OCBs.
H4	Perceptions of interpersonal justice will significantly predict OCBs.
H5	Perceptions of interpersonal, procedural, and distributive justices will significantly and differentially predict OCBs.
H6	Agent referenced organizational justice will explain more variance in OCBs than will system referenced organizational justice.
H7	Agent referenced interpersonal justice will be the strongest predictor of OCBs in comparison with the other agent referenced justice dimensions.

3. Research design and methodology

3.1. Research population and sampling

In Jordan, there are 16 pharmaceutical companies, five of them are publically listed on the Amman Stock Exchange, with one company, Hikma Pharmaceuticals, also quoted on the London Stock Exchange. About 75% of the Jordan’s pharmaceutical sector products—worth around \$600 million are exported to Middle East and North Africa (MENA), the United States and Europe (Mawajdeh, 2018).

This field study was applied in representative organizations of the pharmaceutical industry in Jordan. The population of interest in this research was employees of the 15 pharmaceutical companies in Jordan. Convenience sample was selected due to the large number of employees as well as the difficulty to gain access to detailed human resources data. Recommendation letters for data collection at the pharmaceutical companies were sent via fax, e-mail and by hand to the (15) companies. (8) companies replied with permission and the other (7) companies replied with different excuses such as; undergoing restructuring, not allowed by the management, or several postponements ended by refusal. Table 2 shows the number of employees for the (8) participating pharmaceutical companies in the study and the total number of employees working for the participating pharmaceutical companies was (2265) employee.

To determine the suitable sample size, (328) members are chosen depending on the scientific guidelines of sample size decision introduced by (Krejcie & Morgan, 1970) who provided a table that

Table 2. The participating pharmaceutical companies in the research

Company	Number of Employees
Hikma Pharmaceuticals	700
The Arab Pharmaceutical Manufacturing	600
Dar Al Dawa Development & Investment	300
Pharma International	200
Jordan Sweden Medical and Sterilization Company	150
Hayat Pharmaceutical Industries	100
Arab Center for Pharmaceuticals and Chemicals	140
Jordan River Pharmaceutical Industry	75
Total	2265

Source: developed by the researchers depending on data obtained from the companies’ and JAPM’s websites and through contacting the human resources departments of the companies both via telephone and e-mail.

ensures the representativeness of the sample for the study population. The number of returned questionnaires was (263) with a response rate of around (80%), the number of questionnaires entered the analysis was (249); since (14) were not suitable for analysis due to excessive incompleteness or to adopting one answer for all of the items despite of the fact that (7) items were reverse coded.

3.2. Questionnaire design

A questionnaire was designed depending on relevant literature. The questionnaire consisted of two parts; the first part measured factors related to demographic characteristics of the participating employees; gender, age, length of service, and academic qualifications, aiming at describing the sample. The second part included items measuring the research variables according to 5-point Likert-scale. Multifocal Organizational justice was measured using the measure originally used by Karriker and Williams (2009). OCBs were measured using Podsakoff, MacKenzie, Moorman, and Fetter (1990) scale, the most widely used in the OCBs literature.

3.3. Data analysis

This was a quantitative field study; the collected data were analyzed using Statistical Package for Social Science (SPSS) version 21.0 for purposes of descriptive statistics of the demographic characteristics of participants, as well as of the study variables, and for inferential statistics through hypothesis testing.

3.4. Instrument reliability and validity

The Cronbach's alpha reliability coefficient, as in Table 3, show that the study variables ranged from (.857) to (.933), indicating good inter-item consistency reliability.

Content (logical or rational) validity and factorial validity were used to test the validity of the research measures by designing a questionnaire referees form and presented it on a group of (12) referees. After taking all the referees' comments and suggestions into consideration the questionnaire became ready for distribution. For factorial validity, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value of (.932) is indicative of superb sampling adequacy, and Bartlett's test was highly significant ($p < .0001$), therefore factor analysis is appropriate.

Factorial validity for the organizational justice measure was tested through conducting Exploratory Factor Analysis on the final set of items after validating the content of the measure. The principal component analysis also used to extract the factors. Kaiser's recommendation (as cited in Field, 2009, p. 640) for retaining all factors with eigenvalues greater than (1) was used to decide whether or not a factor is meaningful. Moreover, after investigation of the rotated component matrix as shown in table 4, it was obvious that the organizational justice items clustered into meaningful groups, these groups were identical and congruent with the organizational justice dimensions; so, the factorial validity was inferred.

Table 3. Variables' Reliabilities

The variable	Cronbach's Alpha	Number of Items
System referenced distributive justice	.915	4
System referenced procedural justice	.893	6
Agent referenced distributive justice	.885	4
Agent referenced procedural justice	.885	6
Interpersonal justice	.892	5
Overall organizational justice	.933	25
OCBs	.857	17*

*After deleting item (40)

Table 4. KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.932
Bartlett's Test of Sphericity	Approx. Chi-Square	4377.372
	df	300
	Sig.	.000

4. Data analysis and research findings

4.1. Sample description

The research questionnaire involved five questions that asked about the demographic characteristics of participants to describe the research sample, as displayed in Table 5, these characteristics entail the respondent's gender, age, marital status, academic qualification, and experience.

4.2. Descriptive statistics for the research variables

In order to respond to the questions of the research; the means of OCBs, system-referenced organizational justice and agent-referenced organizational justice were demonstrated in Table 6.

As shown in Table 6, respondents on average highly agreed that OCBs are practiced within their companies, perceived the organization that they work in it as highly just, and perceived the direct supervisor that they work under his supervision as highly just.

Before turning to the research hypothesis testing, and as obvious in Table 7, overall organizational justice and all its dimensions and sub-dimensions were in the high mean category, with the highest mean of (4.1173) belonged to interpersonal justice, and the lowest mean of (3.8119) belonged to system-referenced procedural justice.

Table 5. Sample demographic characteristics

Measure	Value	Frequency	Percentage (%)
Gender	Male	144	57.8
	Female	105	42.2
Age	Less than 30 Years	106	42.6
	30-40 years	83	33.3
	41-50 years	49	19.7
	More than 50 years	11	4.4
Marital Status	Single	115	46.2
	Married	129	51.8
	Widowed	5	2.0
	Divorced	0	0
Academic Qualification	High school or less	34	13.7
	Diploma	55	22.1
	Bachelor	138	55.4
	Post graduate	22	8.8
Experience	Less than 5 years	90	36.1
	5-10 years	89	35.7
	11-15 years	32	12.9
	More than 15 years	38	15.3

Table 6. Means of the research variables

Variables	Mean (M)	Std. Deviation
Overall Organizational Justice	3.9844	.39762
OCBs	4.0978	.45389
System-referenced Organizational Justice	3.8924	.48116
Agent-referenced Organizational Justice	4.0458	.43887
Interpersonal Justice	4.1173	.53527
Distributive justice	3.9839	.48710
Procedural Justice	3.9294	.47514
System-referenced Distributive justice	4.0131	.69748
System-referenced Procedural Justice	3.8119	.49481
Agent-referenced Distributive justice	3.9548	.48331
Agent-referenced Procedural Justice	4.0469	.47514

Table 7. Pearson's correlation coefficients of the relationship between OCBs and justice (Overall, distributive, procedural, and interpersonal)

The Variable	Pearson's Coefficient
Overall Justice	.588**
Distributive Justice	.411**
Procedural Justice	.481**
Interpersonal Justice	.562**

**Correlation is significant at the 0.01 level (2-tailed)

4.3. Hypothesis testing

The bivariate linear correlation was tested using Pearson's correlation coefficient. Table 7 displays the Pearson's correlation coefficients of the relationship between OCBs and overall justice, distributive justice, procedural justice, and interpersonal justice.

As displayed in Table 7, there were significant ($p < 0.01$) positive relationships between overall organizational justice, distributive justice, procedural justice, and interpersonal justice and OCBs ($r = .588, .411, .481, .562$, respectively). In order to respond to the research questions, for which **H1** was developed, Simple Linear Regression was proceeded using overall organizational justice as the predictor variable and the results were displayed from Table 8 to Table 10.

Results of simple linear regression yielded an R^2 equal to (.346) significant at ($p < 0.0001$), so, (34.6%) of variance in OCBs was explained significantly by overall justice; thus, the alternate hypothesis **H1** was accepted.

In order to respond to the other research questions and to test the hypotheses, a Hierarchical Multiple Regression was conducted using the Enter method in all of the models and the results

Table 8. Simple linear regression model summary

Model ^b	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.588 ^a	.346	.343	.36777	1.953

^aPredictors: (Constant), Overall Justice

^bDependent Variable: Citizenship

Table 9. ANOVA

Model ^b	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	17.685	1	17.685	130.755	.000 ^a
Residual	33.407	247	.135		
Total	51.092	248			

^aPredictors: (Constant). Overall Justice

^bDependent Variable: Citizenship

Table 10. Coefficients of the simple linear regression analysis

Model ^a	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	1.422	.235		6.046	.000
Overall Justice	.672	.059	.588	11.435	.000

^aDependent Variable: Citizenship

were displayed in Tables 11 and 12. The entrance of interpersonal justice to form model (1) yielded an R^2 equal of (.316), this value is logically similar to the change in R^2 (denoted as ΔR^2). A ΔR^2 equal to (.316) that was significant at ($p < 0.0001$) means that (31.6%) of variance in OCBs was explained significantly by interpersonal justice alone. The entrance of distributive justice to form model (2) caused a ΔR^2 equal to (.062) that was significant at ($p < 0.0001$) means that the entrance of distributive justice to the model caused an increase in the predictability equal to (6.2%) over and above that was contributed by interpersonal justice.

The entrance of procedural justice to form model (3) caused a ΔR^2 equal to (.020) that was significant at ($p < 0.05$) means that the entrance of procedural justice to the model caused an increase in the predictability equal to (2.0%) over and above that was contributed by interpersonal justice and distributive justice.

The aforementioned results revealed that the entrance of interpersonal justice, distributive justice, and procedural justice to the model caused an increase equal to (31.6%, 6.2%, and 2.0%, respectively) of explained variance in OCBs at ($p < 0.0001$, $p < 0.0001$, and $p < 0.05$, respectively), these results in the previous tables supported the presence of differential predictability that was attributed to those three dimensions, thus, the alternate hypotheses **H2, H3, H4 and H5** were accepted.

Through investigation of Table 12, the standardized β coefficients of the five entered dimensions were as follows: interpersonal justice ($\beta = .403$, at $p < 0.0001$), agent-referenced distributive justice ($\beta = .128$, at $p < 0.05$), system-referenced distributive justice ($\beta = .127$, at $p < 0.05$), agent-referenced procedural justice ($\beta = .143$, at $p < 0.05$), and system-referenced procedural justice ($\beta = .052$, at $p = .431$), the results also imply that interpersonal justice is the strongest (of the five variables entered the hierarchical multiple regression analysis) OCBs predictor. By obtaining this result the alternate hypothesis **H6** was accepted.

From the aforementioned discussion, the conclusion was: agent-referenced justice was a stronger predictor for OCBs than system-referenced justice; thus, the alternate hypothesis **H7** was accepted.

Finally, through a comparison for the three regression model summaries that were displayed, it could be noticed that; for overall justice in Table 8, an R^2 equal to (.346) was obtained. However,

Table 11. Hierarchical multiple regression model summary

Change Statistics										
Model ^d	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df ₁	df ₂	Sig. F Change	Durbin-Watson
1	.562 ^a	.316	.314	.37607	.316	114.258	1	247	.000	
2	.615 ^b	.378	.370	.36023	.062	12.103	2	245	.000	
3	.630 ^c	.398	.385	.35592	.020	3.983	2	243	.020	1.991

^aPredictors: (Constant), Interpersonal Justice

^bPredictors: (Constant), Interpersonal Justice, System distributive justice, Agent distributive justice

^cPredictors (Constant), Interpersonal Justice, System distributive justice, Agent distributive justice, System procedural justice

^dDependent Variable: Citizenship

Table 12. Coefficients of the hierarchical multiple regression analysis

Unstandardized Coefficients Standardized Coefficients		B	Std. Error	Beta	t	Sig.	Collinearity Tolerance	Statistics
Model^a								
1	(Constant)	2.134	.185		11.523	.000		
	Interpersonal justice	.477	.045	0.562	10.689	.000	1.000	1.000
2	(Constant)	1.433	.228		6.294	.000		
	Interpersonal justice	.392	.047	.462	8.272	.000	.814	1.229
3	Agent distributive	.171	.055	.182	3.106	.002	.737	1.357
	System distributive	.093	.035	.143	2.675	.008	.885	1.130
	(Constant)	1.274	.233		5.473	.000		
	Interpersonal justice	.342	.050	.403	6.826	.000	.710	1.408
	Agent distributive	.120	.060	.128	2.020	.045	.615	1.626
	System distributive	.082	.036	.127	2.299	.022	.819	1.221
	Agent procedural	.105	.044	.143	2.421	.016	.708	1.412
	System procedural	.048	.061	.052	.789	.431	.564	1.772

^aDependent Variable: Citizenship

the results of entering all of the five dimensions of overall justice in hierarchical regression together showed an R^2 equal to (.398) in both of the two conducted hierarchical regression analyses. As the five dimensions that have been used to represent overall justice in both of the hierarchical regression analyses were built on the results of exploratory factor analysis, the results that have been obtained through using them are more reliable.

From the aforementioned discussion, overall justice was able to explain (39.8%) of variance in OCBs, to know the significance of this value in a scientific approach a multiple regression analysis was conducted in which all of the five dimensions were entered in a single step, results of the multiple regression were displayed in Tables 13 and 14, coefficients of regression were similar to those of the previously conducted hierarchical multiple regression analyses, to avoid redundancy they were not reported.

Here once again, to draw conclusions about a population from the results of the regression analysis, obtained through studying a sample, a check for meeting the assumptions was done. However, in the multiple regression an extra assumption should be verified; there should be no perfect linear relationship between two or more of the predictors, in other words, there should be no perfect multicollinearity (Field, 2009). Investigation of Table 14 revealed that all VIF values were well below (10) and ranged from (1.221) for system distributive justice to (1.772) for system procedural justice. Its logic that all values of tolerance (1/VIF) were well above (0.1), the values of tolerance ranged from (.564) to (.819), the assumption of no perfect multicollinearity was met. Investigation of Table 13 also revealed that Durbin-Watson value was (1.991), so close to 2, that the assumption of independent errors has almost certainly been met, and to test the normality of residuals, a histogram of the regression standardized residuals, and a normal probability plot were plotted and investigated to make sure that all of the points were lying on the straight line of the normal probability plot. Thus, the assumption of normally distributed errors was achieved. Building on the aforementioned discussion, the findings obtained from the model of hierarchical multiple regression using data obtained from a sample drawn from employees of the pharmaceutical industry could be confidently generalized to the population of pharmaceutical industry employees. To summarize, **all of the research hypotheses were accepted.**

Table 13. Multiple regression model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.630 ^a	.398	.385	.35592

^aPredictors: (Constant), System procedural justice, System distributive justice, Interpersonal justice, Agent procedural justice, Agent distributive justice.

Table 14. ANOVA

Model ^b	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	20.309	5	4.062	32.064	.000 ^a
Residual	30.783	243	127		
Total	51.092	248			

^aPredictors: (Constant), System procedural justice, System distributive justice, Interpersonal justice, Agent procedural justice, Agent distributive justice.

^bDependent Variable: Citizenship.

5. Discussion of findings and recommendations

5.1. Findings of the exploratory factor analysis

Exploratory factor analysis was used to check the factorial validity of the organizational justice measure; the analysis revealed that the items of the measure have loaded meaningfully on five factors (dimensions). This is consistent with the findings of Karriker (2005); Karriker and Williams (2009) and Gotlib (2011). This means that overall justice is a reflection or a resultant of these five dimensions; thus, seeking to improve overall justice recommends improvement of these dimensions, in other words, any improvement in any of these dimensions will be reflected on the overall justice.

Another conclusion that might be more important is that the employees of the pharmaceutical industry have identified both of the content and the source (agent or system) of justice; thus seeking to improve any justice dimension should involve improvement of these two facets. For example, to improve the fairness of an existing procedure, it is important to search for the cause of identifying the procedure as unfair; the cause might be in the procedure itself (system referenced) or in the enactment of the procedure (agent referenced) or both. This result is so significant; decisions regarding improvements here and there in the outcomes, the procedures, and the interpersonal treatment should first locate the source of the defect to guide the improvement toward a clear target.

5.1.1. Organizational justice and OCBs

It was found that overall organizational justice had a positive effect on OCBs; this result was consistent with previous research findings of Ahmadi et al. (2011), Najafi et al. (2011) and Noruzi et al. (2011) to mention few examples. Moreover, overall organizational justice was identified as being a significant predictor for OCBs; it was found that about (40%) of OCBs could be predicted by overall organizational justice, here once again, this result was congruent with the results obtained by Ali et al. (2010), Aslam and Sadaqat (2011), Guangling (2011), Mohammad et al. (2010) and Nadiri and Tanova (2010) as examples. In the context of this research, these results mean that the company that seeks to improve the OCBs practiced by the employees should first seek to improve the overall employee's perceptions of fairness.

Previous research found OCBs to be positively correlated to unit-level performance and customer satisfaction (Podsakoff et al., 2009), work group performance (Nielsen, Hrivnak, & Shaw, 2009; Podsakoff, Ahearne, & MacKenzie, 1997), as well as overall organization performance (Walz & Niehoff, 2000). Moreover, OCBs contribute to the effective functioning of the companies (Organ, 1988; Robbins & Judge, 2011). Taking these findings into consideration, companies operating within a highly competitive industry just like the pharmaceutical industry should exploit every effort to improve OCBs practiced by the employees.

Investigation of Table 8 revealed that within the companies there was a high extent of practicing OCBs ($M = 4.0978$) and that there was a high overall perception of fairness ($M = 3.9844$). This result combined with the fact that overall justice was found as a significant OCBs predictor should be exploited for the benefit of the companies; building on the discussed results these companies should maintain this high level of OCBs practicing and should try to improve OCBs practicing more and more through overall justice manipulation.

5.1.2. Organizational justice dimensions and OCBs

According to the results of this research, procedural justice has a positive effect on OCBs; moreover, it was identified as a predictor for OCBs, these results were consistent with what Cho and Kim (2009), Evans (2001), Siegal (2000), Skarlicki and Latham (1996) had obtained from studying the procedural justice dimension solely, and with what Young (2010) had obtained from studying the procedural justice with the other two global dimensions. But inconsistent with results obtained by Nadiri and Tanova (2010) that studied the three global dimensions of justice and identified only distributive justice as a significant predictor for OCBs.

Although procedural justice can significantly (at $p < 0.05$) predict OCBs, this predictability represents only (2%) of variance in OCBs over and above the predictability contributed by interpersonal justice and distributive justice, by this result procedural justice is the weakest predictor for OCBs in comparison to the other two dimensions (distributive justice and interpersonal justice).

Research findings demonstrated that distributive justice has a positive effect on OCBs; this result was consistent with previous research findings of (Haque & Aslam, 2011).

Distributive justice was identified as an OCBs predictor to come in congruence with the studies conducted by Cho and Kessler (2008), Nazir et al. (2011) and Young (2010). It was able to predict (6.2%) of OCBs over and above the (31.6%) of variance in OCBs predicted by interpersonal justice as opposed to high values reaching (19%, and 16.7%) that were identified by Nazir et al; and Cho and Kessler, respectively, yet not so far from the (10%) that was obtained by Young.

In this research interpersonal justice was the strongest OCBs predictor; it was alone able to predict (31.6%) of OCBs, this result is congruent with those obtained by Gotlib (2011), Karriker (2005), Karriker and Williams (2009).

Through investigation of Table 6 it was found that the pharmaceutical industry employees' perceptions of the fairness of the manner in which they are treated by authority figures was high ($M = 4.1173$). It was even the highest among all other justice dimensions. This fair treatment involves; the supervisors consistent refraining from improper remarks and comments, dealing with employees with respect and dignity in a polite manner, and being candid during the communication. In turn, the employees that receive this fair treatment try to reciprocate it one avenue being OCBs.

The point that needs more explanation here is why the employee tends to reciprocate the interpersonal justice rather than the other two global justice dimensions despite that both of the employee's perceptions that they have received fair amounts of valued work-related outcomes (distributive justice) and the employee's perceptions of the fairness of the procedures, methods, mechanisms, and processes employed to determine the outcomes they receive (procedural justice) were rated as high by the employees ($M = 3.9839$ and $M = 3.9294$, respectively).

A possible explanation for the strong predictability attributed to interpersonal justice might be the nature of the prevailing national cultural values; building on Hofstede findings (as cited in Robbins & Judge, 2011, p. 158), Arab region is a collectivistic culture in which interpersonal relationships are highly valued and tight social framework is common. As a reflection, the employer/employee relationships are perceived in moral terms like a family link and the work security is guaranteed through a social network. This work environment is a facilitating factor for the reciprocation; the employees receive fair treatment and reciprocate it with practicing OCBs.

5.1.3. Multifocal organization justice and OCBs

As discussed previously, interpersonal justice is a mono-focal justice dimension, it is purely agent referenced. Being the strongest predictor for OCBs of the three global justice dimensions will render the agent-referenced justice that was represented by agent-referenced distributive justice, agent-referenced procedural justice, and interpersonal justice a stronger OCBs predictor than system referenced justice. Findings of this research demonstrated that agent-referenced justice was clearly a stronger predictor for OCBs than system-referenced justice. Whereas (37.9%) of variance in OCBs was predicted by agent-referenced justice, only (1.8%) was predicted by system-referenced justice. Fassina, Jones, and Uggerslev (2008) referred to such findings as indicative of an agent dominance model, this entails that the agent-referenced justice is the strongest OCBs predictor just similar to the obtained results in this research.

5.2. Conclusions

Based on the discussion of the findings displayed earlier, it is now possible to draw some conclusions. The most important conclusion that can be reached from this research is that the direct supervisor represented the most important determinant of practicing OCBs within the Jordanian pharmaceutical industry companies.

Although the generalizability of the findings of this research is scientifically guaranteed to the whole population of the pharmaceutical industry companies, one might argue whether these important findings could be extrapolated to other Jordanian sectors. Putting in mind that the researchers expressed a logic explanation for the findings of this research in the light of Hofstede model, the findings of this research might be extrapolated to other Jordanian work settings being operating in similar cultural settings. Despite of the fact that this extrapolation is logically drawn, it should be done cautiously and will be scientifically guaranteed, only through the replication of this study in other Jordanian sectors.

5.3. Recommendations

Building on the discussion of findings and the conclusions drawn from this research, the practical recommendations are as follows: Being the most important determinant in practicing OCBs, the direct supervisor will be the focus of the practical recommendations.

- (1) The Jordanian pharmaceutical industry companies are recommended to provide all of the employees with enough awareness about the importance of OCBs practicing, as well as providing the supervisors with enough awareness about the importance of their role in improving OCBs practicing within the companies. This could be achieved through attending relevant training workshops.
- (2) Training courses that might improve the manner in which the supervisor deal with employees should be held for the existing supervisors and recommended from new applicants, for example, training courses in communication skills and in Neuro- Linguistic Programming (NLP) might serve this target.
- (3) Inclusion of criteria that rate the quality of treatment in the evaluation form of the supervisors that is rated building on the opinions of subordinates. This practice might encourage the supervisor to deal in a better manner with the subordinates.

5.4. Limitations and future research

This research was applied in the Jordanian pharmaceutical industry; the results could be generalized to the whole population of the pharmaceutical industry, this was guaranteed by meeting the assumptions of regression analysis. Still, the results cannot be confidently generalized to other sectors. Replication of this research in other crucial sectors is expected to improve the generalizability of the obtained findings, paying careful attention to issues of justice source, justice type, and their interactions. Justice researchers have used various dimensional models to study the antecedents and consequences of fairness perceptions; this condition highlights the need for additional empirical research to establish a fixed and durable representation of the justice construct.

The organizational justice is one of the OCBs predictors that was found to predict (40%) of OCBs, still (60%) of OCBs could be predicted through the investigation of other predictors, although the intention of this research from the beginning was to pinpoint the justice dimension that has the greatest impact on OCBs rather than building a model that investigates most of OCBs predictors, still the later mentioned intention might be an important subject for future research. Moreover, mediators and moderators of justice-OCB relationship should be explored, to improve the understanding of this relationship.

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