SOCIAL BEHAVIOR AND PERSONALITY, 2017, *45*(3), 387–398
© 2017 Scientific Journal Publishers Limited. All Rights Reserved.
https://doi.org/10.2224/sbp.4842

CROSS-LEVEL RELATIONSHIPS BETWEEN JUSTICE CLIMATE AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR: PERCEIVED ORGANIZATIONAL SUPPORT AS MEDIATOR

LI ZHANG, YANG QIU, AND ERYUE TENG
Harbin Institute of Technology

We investigated the mediating role of perceived organizational support in the cross-level relationships between procedural, interpersonal, and informational justice climate and organizational citizenship behavior. Hospital staff in China ($N = 468$) participated in this study. Using hierarchical linear modeling, we found that procedural and interpersonal justice climate had a significantly positive effect on organizational citizenship behavior. Informational justice climate, however, did not have a significant effect on organizational citizenship behavior. In addition, perceived organizational support mediated the effect of procedural and interpersonal justice climate on organizational citizenship behavior. Theoretical and practical implications of our findings are discussed in relation to justice climate and organizational citizenship behavior.

Keywords: procedural justice climate, interpersonal justice climate, informational justice climate, perceived organizational support, organizational citizenship behavior.

The focus in organizational citizenship behavior research has largely been on its potential antecedents (e.g., Lloyd, Boer, Keller, & Voelpel, 2015). In many organizations, employees often make judgments about how they perceive justice (Colquitt, 2001), especially at group level (Naumann & Bennett, 2000), which will affect employee attitudes and behavior. Moreover, the perceptions of justice across group members can have a greater effect on employee outcomes compared to individual-level justice perceptions (Ohana, 2014). However, despite these

Li Zhang, Yang Qiu, and Eryue Teng, School of Management, Harbin Institute of Technology.
This research was supported by grants from the National Natural Science Foundation of China (71102130 and 71472054).
Correspondence concerning this article should be addressed to Li Zhang, School of Management, Harbin Institute of Technology, No.13 Fayuan Street, Nangang, Harbin, Heilongjiang 150001, People's Republic of China. Email: **zhanglihit@hit.edu.cn**

robust findings, there are many unexplored aspects of the cross-level relationship between justice climate and organizational citizenship behavior.

Although numerous findings have demonstrated a positive effect of procedural justice climate on employee organizational citizenship behavior (e.g., Cole, Carter, & Zhang, 2013; Lin & Leung, 2014), few researchers have examined the relative influence of other types of fairness (e.g., interpersonal and informational justice climate) on organizational citizenship behavior. In this study, we used procedural, interpersonal, and informational justice climate measures to assess the extent to which they may be differentially related to organizational citizenship behavior.

Most empirical researchers of individual justice perceptions have examined the links between perceived justice and organizational citizenship behavior (e.g., Zhang, Farh, & Wang, 2012). However, few have focused on understanding how the forms of justice climate are related to employee organizational citizenship behavior. Thus, in this study, we sought to identify and examine the mechanisms of the effect of procedural, interpersonal, and informational justice climate on organizational citizenship behavior.

Literature Review and Hypotheses Development

Justice Climate and Organizational Citizenship Behavior

In line with the definition used previously (Naumann & Bennett, 2000), we defined *procedural justice climate* as a distinct group-level cognition of the procedural justice of organizational authorities. Similarly, *interpersonal justice climate* primarily refers to the group-level cognition of the interpersonal sensitivity by which organizational procedures are carried out and *informational justice climate* focuses on the extent to which explanations provided by management personnel are perceived to convey information about why decisions were made (Colquitt, 2001).

Researchers have suggested that individual group members concentrate on how the work group as a whole is treated and how other members of their group react to the treatment (Naumann & Bennett, 2000). Some researchers have indirectly suggested that justice climate is significantly related to organizational citizenship behavior. For example, Liao and Rupp (2005) found that if employees believe that they are being treated fairly, they will have a positive attitude toward their work, will display a high level of commitment to the organization, and will improve their overall level of organizational citizenship behavior. According to social exchange theory, employees who are treated fairly as a group will work in a positive manner (Blau, 1964). Therefore, employees who are treated fairly are more likely to engage in organizational citizenship behavior (e.g., help their coworkers). Thus, we proposed the following hypotheses:

Hypothesis 1a: Procedural justice climate will be positively related to organizational citizenship behavior.
Hypothesis 1b: Interpersonal justice climate will be positively related to organizational citizenship behavior.
Hypothesis 1c: Informational justice climate will be positively related to organizational citizenship behavior.

Mediating Role of Perceived Organizational Support

According to perceived organizational support theory (Eisenberger, Huntington, Hutchison, & Sowa, 1986), employee perceptions of fair organizational treatment contribute to their perceptions of organizational motives. *Organizational support* can be defined as the motivation of organizational managers to value their employees' contributions and to care about their well-being. Recent results have shown that employees who perceive procedural justice also perceive organizational support (Gillet, Colombat, Michinov, Pronost, & Fouquereau, 2013; Tremblay & Landreville, 2015; Zhang et al., 2012). In a meta-analysis of perceived organizational support research, Rhoades and Eisenberger (2002) identified organizational justice as an important factor affecting employees' perception of organizational support, especially with respect to procedural justice and interactional justice.

The link between perceived organizational support and organizational citizenship behavior can also be explained by organizational support theory. On the basis of the reciprocity norm, when employees perceive organizational support, this can produce a sense of obligation to commit to the organization, and a desire to engage in extra activities to help the organization reach its objectives (Rhoades & Eisenberger, 2002). In addition, perceived organizational support has been shown to enhance employees' pride in, and sense of belonging to, the organization, which not only inspires better task performance, but also motivates the employees to engage in extrarole behavior (Chiang & Hsieh, 2012; Wong, Wong, & Ngo, 2012).

In this study, we aggregated the justice judgments of individual employees in the work group, that is, we used the mean individual justice perceptions in the work group to represent the group-level evaluation of fairness. In our model, we assumed that perceived organizational support would play a mediating role in the cross-level relationships between justice climate and organizational citizenship behavior.

Thus, we proposed the following hypotheses:
Hypothesis 2a: Perceived organizational support will mediate the cross-level relationships between procedural justice climate and organizational citizenship behavior.

Hypothesis 2b: Perceived organizational support will mediate the cross-level relationships between interpersonal justice climate and organizational citizenship behavior.

Hypothesis 2c: Perceived organizational support will mediate the cross-level relationships between informational justice climate and organizational citizenship behavior.

Method

Participants and Procedure

We invited staff at 48 hospitals in China to participate in the study. We distributed 600 copies of our survey to the hospitals, of which 468 completed forms were returned, for a 78% response rate. Of the participants, 49.8% were women, and 15.8 % were aged younger than 31 years, 40.4% were between 31 and 40 years, 28.8% were between 41 and 50 years, and 25% were over 50 years. In regard to tenure, 19.9% of the participants had worked at the hospital for less than six years, 28% between six and 10 years, 36.1% between 11 and 20 years, and 16% for more than 20 years. With respect to education, 10.3% of the participants had a college degree, 43.8% had a bachelor's degree, 32.5% had a master's degree, and 13.5 % had a doctorate.

Participants completed the survey during work time in the presence of a researcher. A package containing the survey and a return envelope was given to each participant. In the introductory section of the survey form, the research background was explained and the participants' anonymity was assured. When they had completed the survey, the participants returned their form to the research team in a sealed envelope.

Measures

The measures were translated into Chinese and back to English following Brislin's (1980) back-translation procedure. Ten doctoral students then gave feedback in regard to understanding the questions. As a result, minor adjustments were made to the wording of some of the items. The items were rated on a 5-point Likert-type scale ranging from 1 (*completely disagree*) to 5 (*completely agree*).

Justice climate. We measured individual perceptions of procedural, interpersonal, and informational justice with items adapted from Colquitt's (2001) scale. The items are designed to measure the extent to which respondents perceive that fair procedures are used, that the supervisor treats subordinates fairly during a procedure, and that procedures are appropriately explained to subordinates.

Perceived organizational support. To measure perceived organizational support, we used four items from the Survey of Perceived Organizational Support

developed by Eisenberger et al. (1986). These items have demonstrated validity and reliability in previous empirical investigations (e.g., AlZalabani & Modi, 2014; Hayton, Carnabuci, & Eisenberger, 2012).

Organizational citizenship behavior. We used the six-item scale developed by Wayne, Shore, and Liden (1997) to measure organizational citizenship behavior.

Control variables. Because of the potential effect of various demographic variables on the participants' justice perceptions (Caldwell, Liu, Fedor, & Herold, 2009; Lin & Leung, 2014), we controlled for gender, age, education level, and job tenure in our analysis.

Data Aggregation

We aggregated participant responses to the organizational level using a referent-shift consensus composition approach recommended by Liao and Rupp (2005). First, we tested the within-group agreement for each type of justice climate by computing the mean r_{wg}. We used a uniform null distribution and found that the mean r_{wg} was .89 for procedural justice climate, .90 for interpersonal justice climate, and .84 for informational justice climate. These results indicated adequate levels of agreement (James, Demaree, & Wolf, 1984). In addition, the intraclass correlation coefficient (ICC) values (1) and (2) for procedural, interpersonal, and informational justice climate were .38 and .86, $F(47, 420) = 7.045$, $p < .001$; .18 and .68, $F(47, 420) = 3.138$, $p < .001$; and .31 and .82, $F(47, 420) = 5.424$, $p < .001$, respectively. Although the ICC (2) value for interpersonal justice climate was lower than ideal, according to the accepted standard, the ICC (1) value was well above the median .12 value used in organizational research, and the F-statistic indicated significant mean differences across groups. Also, the low ICC (2) stemmed in part from the small size of the groups (Bliese, 2000). These results showed that the aggregation of procedural justice climate was justified.

Results

Descriptive Statistics and Correlations

The descriptive statistics for, and correlations among, the key variables are shown in Table 1. All scales showed reliability above the .70 recommended by Nunnally (1978), and procedural, interpersonal, and informational justice climate were all significantly positively related to perceived organizational support, which, in turn, was significantly positively related to organizational citizenship behavior (see Table 1).

Table 1. *Means, Standard Deviations, Scale Reliabilities, and Correlations Among Study Variables*

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Gender[a]	1.50	0.50									
2. Age[b]	2.43	0.93	-.10*								
3. Education level[c]	2.49	0.85	.01	-.10*							
4. Job tenure[d]	2.48	0.98	-.05	.08**	-.11*						
5. Procedural justice climate	3.15	0.81	.03	.09	-.04	.01	(.90)				
6. Interpersonal justice climate	3.69	0.59	-.01	.07	.05	.05	.45**	(.72)			
7. Informational justice climate	3.17	0.86	.01	.05	-.03	-.04	.67**	.51**	(.89)		
8. Perceived organizational support	3.46	0.63	-.04	.18**	.12*	.12*	.50**	.53**	.53**	(.75)	
9. Organizational citizenship behavior	3.95	0.47	.04	.07	-.11*	.10*	.23**	.31**	.26**	.37**	(.72)

Note. $N = 468$ individuals for all individual-level correlations; $N = 48$ groups for all group-level correlations. [a] Gender (1 = male; 2 = female).; [b]Age (1 = younger than 31 years; 2 = between 31 and 40 years; 3 = between 41 and 50 years; 4 = over 50 years. [c] Education level (1 = college degree; 2 = bachelor's degree; 3 = master's degree; 4 = doctorate); [d] Job tenure (1 = less than six years; 2 = between six and 10 years; 3 = between 11 and 20 years; 4 = more than 20 years). Cronbach's α are shown on the diagonal in parentheses. * $p < .05$, ** $p < .01$.

Table 2. *Results of Hierarchical Linear Modeling for Effect of Study Variables on Organizational Citizenship Behavior*

Variable	Perceived organizational support			Organizational citizenship behavior				
				Model 1			Model 2	
Intercept	2.38***	1.37**	2.38***	3.63***	3.28***	3.64***	3.11***	3.01***
Gender	-0.05	-0.05	-0.06	0.03	0.03	0.03	0.05	0.05
Age	0.08	0.09	0.08	-0.03	-0.03	-0.03	-0.05	-0.05
Education level	0.12	0.11**	0.12**	-0.04	-0.05	-0.04	-0.07	-0.07
Job tenure	0.02	0.01	0.02	0.07	0.07	0.07	0.07	0.06
Procedural justice climate	0.20**			0.08*			0.04	
Interpersonal justice climate		0.44***			0.17*			0.08
Informational justice climate						0.08		
Perceived organizational support			0.19**				0.31***	0.31***
σ^2	0.27	0.27	0.27	0.19	0.19	0.19	0.17	0.17
τ(intercept)	0.09	0.08	0.10	0.03	0.03	0.03	0.02	0.02
R^2 within-group				0.01	0.01	0.01	0.13	0.13
R^2 between-groups				0.18	0.21	0.21	0.12	0.12

Note. N (Level 1) = 468; N (Level 2) = 48. * $p < .05$, ** $p < .01$, *** $p < .001$.

Hierarchical Linear Modeling Analysis

Step 1: Null model. We used hierarchical linear modeling (HLM 6.08) to test our cross-level hypotheses. First, we estimated a null model to confirm that it was necessary to move to the group level and conduct further cross-level analyses. We found that 15% of the variance resided between groups and the chi-square test result indicated that the between-group variance was significant ($\chi^2 = 126.36$, $p < .001$). These results justified testing our cross-level hypotheses as follows:

Step 2: Random coefficient regression model-1. In the context of multilevel mediation tests, it has been recommended to decompose the mediation effect into within- and between-group effects. We thus followed only the first two steps of the procedure recommended by Baron and Kenny (1986). In the third step, we used the group-mean centered mediator in the Level 1 units and included its group mean in Level 2 (Zhang, Zyphur, & Preacher, 2009). Results are presented in Model 1 of Table 2. They showed that both procedural justice climate ($\gamma = .08$, $p < .05$) and interpersonal justice climate ($\gamma = .17$, $p < .05$) had a significantly positive effect on organizational citizenship behavior, supporting Hypotheses 1a and 1b. However, as informational justice climate did not have a significant effect on organizational citizenship behavior ($\gamma = .08$, $p > .05$), Hypothesis 1c was not supported. The results also indicated that procedural ($\gamma = .20$, $p < .01$), interpersonal ($\gamma = .44$, $p < .001$), and informational ($\gamma = .19$, $p < .01$) justice climate all had a significantly positive effect on perceived organizational support. Hence, the first two mediation criteria were met for procedural justice climate and interpersonal justice climate.

Step 3: Random coefficient regression model-2. After we had changed perceived organizational support to the group-mean-centered form in the Level 1 units and included its group mean in Level 2 in Model 2, perceived organizational support was entered into the equation. The relationship between procedural ($\gamma = .04$, $p > .05$) and interpersonal ($\gamma = .08$, $p > .05$) justice climate and organizational citizenship behavior, which had previously been significant, then became nonsignificant. These findings suggests that perceived organizational support fully mediated the positive effect of procedural and interpersonal justice climate on organizational citizenship behavior. Therefore, Hypotheses 2a and 2b were supported. As the main effect of informational justice climate on organizational citizenship behavior was nonsignificant, Hypothesis 2c was not supported.

Discussion

Theoretical Implications

Our findings in this study contribute to the justice climate and organizational citizenship behavior literature in two ways. Firstly, we extended previous individual-level analyses by demonstrating the cross-level effects of multifocal

justice climate on perceived organizational support and organizational citizenship behavior. We found that whereas procedural and interpersonal justice climate predicted organizational citizenship behavior, the informational justice climate relationship with the focused outcomes was nonsignificant. These different effects of the three justice types provide further evidence that the work group perception of the climate of procedural, interpersonal, and informational fairness has a distinct effect on the attitudes and behavior of employees. With respect to the exchange relationship between group members and the organization, not every type of justice can induce employees to behave in ways that enhance organizational effectiveness. Accordingly, other variables may affect the relationship between employees' perception of informational justice climate and organizational citizenship behavior. Thus, justice climate researchers should explore the reasons for these different effects.

Secondly, our findings shed additional light on the mechanisms through which the perception of procedural and interpersonal justice climate influences employee organizational citizenship behavior. Although previous researchers have reported the positive effect of procedural justice climate on organizational citizenship behavior (e.g., Naumann & Bennett, 2000), with the exception of Lin and Leung's (2014) study, there has been little research conducted in which the mediator in this relationship has been empirically examined. In this study, we examined the relationship from the perspective of organizational support theory, which is different from the social identity perspective. Overall, our findings suggest that, as a group-level construct, procedural and interpersonal justice climate influence individual behavioral outcomes through individual perceptions of organizational support.

Practical Implications

Our results revealed that both procedural and interpersonal justice climate directly and positively affected employee organizational citizenship behavior. Therefore, to enhance group members' perception of justice, managers should not pay special attention to only one type of unfairness. They also need to focus on both instrumental (i.e., procedural) and emotional (i.e., interpersonal) justice in their treatment of the whole group. From a practical point of view, our results also provide insight into how procedural justice climate is instrumental in developing employees' perception of organizational support, which can enhance their citizenship behavior in the organization. Managers can act in a way that will lead to the employee work group feeling supported. Moreover, our results suggest that not only organizational policies, but also interpersonal treatment should be considered during organizational procedures. Accordingly, organizational managers need to develop and use strategies and routines that will boost their employees' perceptions of procedures as fair. Organizational

managers should also treat employees with consideration to enhance their satisfaction with the organization. This will lead to these employees engaging in organizational citizenship behavior.

There are several limitations in this study. Firstly, the data were cross-sectional, which meant that the causal direction of the relationships was not clear. Thus, future researchers should adopt a longitudinal design. Secondly, although all data were obtained from the same source, the three types of justice climate that we examined were aggregated from individual perceptions, and both the hypotheses involved cross-level relationships. Overall, common method variance was not a substantial concern for our findings (Liao & Rupp, 2005). Thirdly, we aggregated the employees' individual justice perceptions in the work groups to derive the measure of justice climate. However, other researchers (e.g., Naumann & Bennett, 2000) have measured justice climate based on the average of the treatment received by members of a group. Future researchers should evaluate the implications of these two different measures of justice climate.

References

AlZalabani, A., & Modi, R. S. (2014). Impact of human resources management practice and perceived organizational support on job satisfaction: Evidence from Yanbu Industrial City, KSA. *IUP Journal of Organizational Behavior*, *13*, 33–52.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182. **http://doi.org/cwx**

Blau, P. M. (1964). *Exchange and power in social life*. New Brunswick, NJ: Transaction.

Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analyses. In K. J. Klein & S. W. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 349–381). San Francisco, CA: Jossey-Bass.

Brislin, R. W. (1980). Translation and content analysis of oral and written material. In H. C. Triandis & J. W Berry (Eds.), *Handbook of cross-cultural psychology* (Vol. 2, pp. 389–444). Boston, MA: Allyn & Bacon.

Caldwell, S., Liu, Y., Fedor, D. B., & Herold, D. M. (2009). Why are perceptions of change in the "eye of the beholder"? The role of age, sex, and tenure in procedural justice judgments. *The Journal of Applied Behavioral Science*, *45*, 437–459. **http://doi.org/cd6f66**

Chiang, C.-F., & Hsieh, T.-S. (2012). The impacts of perceived organizational support and psychological empowerment on job performance: The mediating effects of organizational citizenship behavior. *International Journal of Hospitality Management*, *31*, 180–190. **http://doi.org/bs5d24**

Cole, M. S., Carter, M. Z., & Zhang, Z. (2013). Leader–team congruence in power distance values and team effectiveness: The mediating role of procedural justice climate. *Journal of Applied Psychology*, *98*, 962–973. **http://doi.org/bhfc**

Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, *86*, 386–400. **http://doi.org/hjw**

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, *71*, 500–507. **http://doi.org/bmzkg6**

Gillet, N., Colombat, P., Michinov, E., Pronost, A.-M., & Fouquereau, E. (2013). Procedural justice, supervisor autonomy support, work satisfaction, organizational identification and job performance: The mediating role of need satisfaction and perceived organizational support. *Journal of Advanced Nursing*, *69*, 2560–2571. **http://doi.org/bhfd**

Hayton, J. C., Carnabuci, G., & Eisenberger, R. (2012). With a little help from my colleagues: A social embeddedness approach to perceived organizational support. *Journal of Organizational Behavior,* 33, 235–249. **http://doi.org/c92t5j**

James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, *69*, 85–98. **http://doi.org/g5c**

Liao, H., & Rupp, D. E. (2005). The impact of justice climate and justice orientation on work outcomes: A cross-level multifoci framework. *Journal of Applied Psychology*, *90*, 242–256. **http://doi.org/cj3n7j**

Lin, X., & Leung, K. (2014). What signals does procedural justice climate convey? The roles of group status, and organizational benevolence and integrity. *Journal of Organizational Behavior*, *35*, 464–488. **http://doi.org/bhff**

Lloyd, K. J., Boer, D., Keller, J. W., & Voelpel, S. (2015). Is my boss really listening to me? The impact of perceived supervisor listening on emotional exhaustion, turnover intention, and organizational citizenship behavior. *Journal of Business Ethics*, *130*, 509–504. **http://doi.org/bhfg**

Naumann, S. E., & Bennett, N. (2000). A case for procedural justice climate: Development and test of a multilevel model. *Academy of Management Journal*, *43*, 881–889. **http://doi.org/ccsb2m**

Nunnally, J. (1978). *Psychometric theory*. New York, NY: McGraw-Hill.

Ohana, M. (2014). A multilevel study of the relationship between organizational justice and affective commitment: The moderating role of organizational size and tenure. *Personnel Review*, *43*, 654–671. **http://doi.org/wzz**

Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, *87*, 698–714. **http://doi.org/b5m38p**

Tremblay, M., & Landreville, P.-E. (2015). Information sharing and citizenship behaviors: Mediating the roles of empowerment, procedural justice, and perceived organizational support. *International Journal of Business Communication*, *52*, 347–368. **http://doi.org/bhfh**

Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal*, *40*, 82–111. **http://doi.org/fsbdxq**

Wong, Y.-T., Wong, C.-S., & Ngo, H.-Y. (2012). The effects of trust in organisation and perceived organisational support on organisational citizenship behaviour: A test of three competing models. *The International Journal of Human Resource Management*, *23*, 278–293. **http://doi.org/bh7dwk**

Zhang, Y., Farh, J.-L., & Wang, H. (2012). Organizational antecedents of employee perceived organizational support in China: A grounded investigation. *The International Journal of Human Resource Management*, *23*, 422–446. **http://doi.org/d8fwqx**

Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. *Organizational Research Methods*, *12*, 695–719. **http://doi.org/fdqhm6**