



When do multiple dimensions of procedural justice predict agreement to publicly endorse your employer in recruitment advertisements?

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This field study linked multiple dimensions of procedural justice to working nurses' ($N = 198$) agreement to permit their names to appear in recruiting advertisements for their employer. Using a longitudinal design, surveys were completed at two different times. After controlling for differences in gender, tenure, job involvement, and distributive justice; nurses who perceived higher procedural justice of work schedules and work assignments were more likely to permit their names to appear in recruitment advertisements. Unlike prior research that found high procedural justice offset the negative impact of low distributive justice, in this study high procedural justice interacted with high distributive justice to produce a positive organizational citizenship behaviour.

Using a social exchange framework (Ambrose & Schminke, 2003; Blau, 1964; Gouldner, 1960; Homans, 1961), this study investigates how procedural justice relates to employee recruiting-related organizational citizenship behaviour (Organ, 1988). Procedural justice has a strong record of predicting favourable employee attitudes towards employers (Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Furthermore, procedural justice has predicted increased intentions of applicants to recommend an employer to others (Cohen-Charash & Spector, 2001; Gilliland, 1994; Gilliland, Groth, & Baker, 2001; Maertz, Bauer, Mosley, Posthuma, & Campion, 2004; Smither, Reilly, Millsap, Pearlman, & Stoffey, 1993). However, given the moderate link between attitudes or behavioural intentions and actual behaviour (e.g. the mean correlation between turnover intention and actual turnover behaviour was reported to be 0.38 in Griffeth, Hom, & Gaertner, 2000), it is important to determine whether procedural justice will predict behaviours designed to assist in recruiting for one's employer. Furthermore, prior research has tended to measure recommendation intentions using multi-item scales that tap into other constructs such as willingness to

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apply for a job oneself or to recommend an employer's products to others (Gilliland, 1994; Maertz *et al.*, 2004). By contrast, we chose to focus more directly on current employee willingness to help their employer recruit other workers by telling others that their employer provided a great place to work. Therefore, consistent with the calls for more research that links procedural justice to practical consequences for organizations (Gilliland & Chan, 2001), this study uses procedural justice to predict an agreement to participate in recruiting-related behaviours.

This agreement consisted of signing a form that would allow one's name to be used in recruiting advertising endorsing the employer as a great place to work. This agreement exhibited an expressed acceptance that public statements made by the employer about having a great place to work may be attributed to the person signing the form. Thus, this agreement goes beyond prior research that measured behavioural commitments (e.g. Mowday, Porter, & Steers, 1982; Salancik, 1977) and intentions to engage in recruiting (Gilliland, 1994; Gilliland *et al.*, 2001; Smither *et al.*, 1993).

The use of employees to recruit others is important because several studies have shown that many employers rely on their current workers to help them in their recruiting efforts (Barber, 1998; Breaugh & Starke, 2000). Furthermore, the visible act of endorsing your employer to others is not only a useful behaviour for employer recruiting efforts, but also a strong indication of employees' true disposition towards their employer because it shows that they are willing to use their own name to publicly endorse their employer.

Organizational citizenship behaviours and social exchange theory

When employees help in their employer's recruiting efforts, it is a form of organizational citizenship behaviour. Therefore, social exchange theory provides a logical framework to understand these behaviours. Organizational citizenship behaviours are a type of extra-role performance that is not part of the normal job function, but shows support for one's employer (Bateman & Organ, 1983; Borman & Motowidlo, 1993; Smith, Organ, & Near, 1983). Organ (1988) proposed that individuals perform OCBs to reciprocate for fair treatment that they believe they have received. When employees perceive higher levels of procedural justice, they are more likely to express intentions to engage in citizenship behaviours (Cohen-Charash & Spector, 2001; Colquitt *et al.*, 2001; Niehoff & Moorman, 1993). They do so because of their perceptions that procedural justice received from the organization will continue in the future. This results from the establishment of a positive social exchange relationship (Organ, 1988).

Citizenship behaviours could be directed towards the organization as a whole (organizational citizenship behaviours - organizational: 'OCBO'; Cohen-Charash & Spector, 2001). Helping your employer's recruiting efforts is a type of OCBO behaviour. This study adds to the literature linking procedural justice to citizenship behaviours by examining the relationship between procedural justice and citizenship behaviours directed towards the organization.

According to social exchange theory the employment relationship consists of exchanges between employer and employee. Some of these exchanges are economic and others are social (Aryee, Budhwar, & Chen, 2002). Economic exchanges tend to be more formal and quantifiable (e.g. money, benefits). By contrast, social exchanges constitute exchanges that are designed to support the ongoing relationship (Shore & Shore, 1995). When the employer initiates fair treatment of its employees, it takes the first step in establishing a mutually beneficial social relationship. In response, employees

feel an obligation to reciprocate the fair treatment that they have received from their partner in this relationship (Blau, 1964; Homans, 1961). When this occurs employees reciprocate the fair treatment received from their employer. As time passes, this relationship develops a pattern of mutually beneficial social exchanges. However, unlike economic exchanges that are more likely to take on the form of calculable pecuniary outcomes, these social exchanges are generally more diffuse and indicative of goodwill and a mutually supportive relationship (Blau, 1964). For that reason social exchange behaviours are more likely to take on the form of extra-role behaviours (Robinson & Moorison, 1995), such as employee citizenship behaviours (Organ, 1988).

Multiple dimensions of procedural justice in multiple contexts

There is both theoretical and empirical support for the distinction between distributive justice (fairness of outcomes), procedural justice (fairness of procedures), and interactional justice (fair interpersonal treatment; Cohen-Charash & Spector, 2001; Colquitt *et al.*, 2001; Konovsky, 2000). This is an important distinction because procedural justice is often an incremental predictor of actual behaviour compared with distributive and interactional justice (Cohen-Charash & Spector, 2001). Procedural justice can be further broken down into multiple dimensions (Leventhal, 1980). Evidence suggests that multiple dimensions of procedural justice differ in how they influence employees (Konovsky, 2000).

However, measurement problems have hindered the development of our understanding of procedural justice (Greenberg, 1990a; Paterson, Green, & Cary, 2002). A practical concern in the measurement of procedural justice is that the importance of multiple dimensions of procedural justice may differ in importance across different settings (Cropanzano & Greenberg, 1997; Greenberg, 1990a, 1993a). Thus, in one context a particular dimension of procedural justice may be important, but in another context it may be irrelevant. One approach to this problem has been to develop multi-dimensional measures that are relevant to a specific context. For example, multi-dimension procedural justice scales have been developed for employee selection procedures (Bauer *et al.*, 2001; Maertz *et al.*, 2004) and organizational change programs (Paterson *et al.*, 2002). However, to advance our theoretical understanding of how multiple dimensions of procedural justice vary in importance across contexts, it is necessary to develop more standardized measures that can be applied to multiple contexts simultaneously. Thus, one purpose of this study is to develop standardized measures of procedural justice that can be applied across multiple contexts.

We examined three dimensions of procedural justice: advance notice (Cropanzano & Konovsky, 1995), right to appeal (Brockner, Wiesenfeld, & Martin, 1995), and adequate explanation (Niehoff & Moorman, 1993) that prior research had measured with single item measures. In addition, we studied these three dimensions of procedural justice within three HR contexts. Furthermore, we also chose these dimensions because discussions with a sample of nurses indicated that certain types of procedural justice dimensions and HR practices would be important to nurses. A review of the nursing literature confirmed that these procedural justice dimensions would be important to nurses (advance notice: Miracle, 2003, right to appeal: Blumenreich, 2002; Leipert, 1998, and adequate explanation: Albaugh, 2003). The literature also indicated that salient HR practices would be pay raises (Stuart, 2002), work schedules (Gold *et al.*, 1992; Josten, Ng-A-Tham, & Thierry, 2003), and work assignments (Peerson, Aitken,

Manias, Parker, & Wong, 2002; Severinsson & Kamaker, 1999). Thus, varying degrees of perceptions of these dimensions should influence job-related outcomes such as OCBOs.

Advance notice

When there is advance notice, employees are informed that a decision that will affect them is going to occur before it is made (e.g. Bies, Martin, & Brockner, 1993). Where advance notice enables a worker to adjust to something or arrange events in their work and personal life, it gives the worker greater control over the outcome, thereby enhancing the value of the social exchange inherent in their employment relationship. On the other hand, advance notice of pay raises will be less likely to enhance the value of the social exchange between the organization and workers. Employees would accept and be grateful for the pay raise regardless of advance notice.

Hypothesis 1. Employee perceptions of advance notice will increase willingness to recommend an employer as a good place to work for work schedules and work assignment decisions.

Right to appeal

The presence of an appeal process that permits employees to address decisions that affect them could influence perceptions of fairness (Bies *et al.*, 1993; Brockner *et al.*, 1995). Having a right to appeal is likely to enhance the social exchange between the organization and employees when it allows employees to change the outcome or to correct an erroneous decision. The outcomes of work schedule and work assignment decisions are amenable to a formal appeal process. Pay raise decisions are typically management's prerogative and less appropriate for a formal appeal process. Thus:

Hypothesis 2. Employee perceptions of the right to appeal will increase willingness to recommend an employer as a good place to work for work schedule or work assignment decisions.

Explanation adequacy

Employees also judge the fairness of the procedure by whether they have received an adequate explanation (e.g. Greenberg, 1990b; Schaubroeck, May, & Brown, 1994). An adequate explanation for a decision will enhance the social exchange relationship between the organization and employee when the explanation gives employees information about how the decision was made, or how they can prepare themselves for favourable outcomes in the future. In addition, an adequate explanation requires that the employer spend time providing the information. This will serve to enhance the social exchange by showing respect and dignity to the employees. Thus, whether the decision context is pay raise decisions, work assignments, or work schedules, an adequate explanation will be an important dimension of procedural fairness.

Hypothesis 3. Employee perceptions of an adequate explanation will increase willingness to recommend an employer as a good place to work for pay raise, work schedule, and work assignment decisions.

Further, following a social exchange framework, we expect that extra-role OCBO behaviours will be more likely to result from procedural justice than from distributive

justice. Distributive justice focuses primarily on the perceived fairness of the outcomes received (Adams, 1965). Procedural justice focuses on the perceived fairness of the processes used to determine those outcomes (Leventhal, 1980; Thibaut & Walker, 1975). Distributive justice reflects the relative fairness of a calculated perception of exchanges, whereas procedural justice focuses more on the perceived fairness of processes used to make those decisions. Thus, procedural justice is more likely than distributive justice to signal an expectation of a supportive social exchange relationship. When employees reciprocate the supportive social exchange initiated by their employer, they are likely to do so in a manner that also signals a supportive social exchange. For that reason, procedural justice should be a better predictor of willingness to endorse one's employer than distributive justice.

Hypothesis 4a. Higher levels of procedural justice of work schedules and work assignments will be better predictors of willingness to recommend an employer as a good place to work than will distributive justice.

Also, perceptions of procedural justice in certain contexts are more likely than other contexts to signal the creation of a supportive social exchange relationship. Some contexts are more likely to tap into perceptions of an economic exchange and other contexts more likely to tap into perceptions of a social exchange. Perceptions of the fairness of pay raises are more likely to reflect an economic context and economic exchange mentality. By contrast, work process contexts such as work schedules and work assignments are more likely to reflect a social context and social exchange mentality. Thus, we expect that the fairness of work schedules and work assignments will be better predictors of employee reciprocation of the supportive social exchange than will perceptions of pay raises.

Hypothesis 4b. Higher levels of procedural justice of work schedules and work assignments will be better predictors of willingness to recommend an employer as a good place to work than will distributive justice.

Interaction effects

Several studies have shown that procedural justice can help to blunt the negative perceptions of low outcome fairness (Brockner & Wiesenfeld, 1996). Thus, it is expected that procedural justice will interact with distributive justice to predict outcomes relevant to organizations (McFarlin & Sweeney, 1992). However when the outcome is a type of extra-role behaviour, social exchange mechanisms are likely to play a role. Certain work contexts such as work schedules and work assignments are more likely to invoke cognitions of social interactions between supervisor and employee. Other work contexts such as pay raises are more likely to evoke cognitions of an economic exchange between employer and employee. Thus, in the context of work processes such as work schedules and work assignments, it is more likely that procedural justice will interact with distributive justice to predict an OCBO, than in the context of pay raise decisions. The result will be that when distributive justice is low, procedural justice will increase willingness to recommend an employer as a good place to work than when distributive justice is high. However, this will not occur in the context of pay raise decisions which are more likely to signal an expectation of an economic exchange.

Hypothesis 5a. Procedural justice will interact with distributive justice to increase willingness to recommend an employer as a good place to work in the context of work schedules and work assignments, but not for pay raises.

Several studies have observed that the effects of procedural justice are stronger or more likely to have a larger effect when distributive outcomes are low (Brockner & Wiesenfeld, 1996). Thus, when both distributive justice and procedural justice are low, the reactions of employees are likely to be particularly negative. However, most of these studies have focused on reducing counterproductive behaviours such as theft (Greenberg, 1993b) and turnover or on increasing levels of in-role worker behaviours such as task performance (Folger, Rosenfield, & Hays, 1978), task productivity (Folger, Rosenfield, Hays, & Grove, 1978) or performance quality and quantity (Gilliland, 1994).

By contrast, extra-role or OCBO types of behaviours are a particularly positive outcome for the employer because they exhibit employees who are going above and beyond the normal requirements of a job. Since we expect that OCBOs are responses to a perceived social exchange, we expect that employees will only be willing to engage in this type of particularly positive behaviour when they perceive the social exchange they experience at work is very positive. They will have these particularly high perceptions of the social exchange that they receive from their employer only when they perceive both high distributive and high procedural justice. Thus, in contrast to prior research that predicts that procedural justice will be more important when distributive justice is low, we expect that procedural justice will be more important when distributive justice is high. It will enhance or add to the positive effects of distributive justice and thereby result in an increased willingness to go beyond normal role requirements and engage in OCBO behaviours. Thus, in order for an employee to go outside of their normal role and be willing to endorse their workplace to others, they must experience both high levels of distributive and high levels of procedural justice.

Hypothesis 5b. Higher levels of willingness to recommend an employer as a good place to work will occur when both distributive justice and procedural justice are high.

Methods

Sample and design

Licensed registered nurses in a Midwestern state responded to two surveys. The state agency responsible for licensing nurses provided the names and addresses of the nurses. The surveys asked for their voluntary participation in responding to questions about their jobs. Confidentiality of survey responses was assured.

At Time 1 (T1), surveys were mailed asking about the procedural justice of pay raises, work assignments, and work schedules. Interviews with several practicing nurses indicated that these HR practices were especially important in this occupation. To increase response rates, T1 respondents were entered in a draw in which one person was selected at random to receive a \$100 US Savings Bond.

Those who responded to the T1 survey were asked if they would also volunteer to complete another survey. The Time 2 (T2) survey asked about the distributive justice of pay raises, work assignments, and work schedules. This permitted an examination of the effects of procedural justice after controlling for distributive justice effects. It also contained measures of job involvement and a wide range of potential control variables.

Also included with the T2 survey was a separate form that asked respondents to sign a statement authorizing their employer to use their name in recruiting materials.

This research design reduced the possibility of common method variance by collecting the predictors at T1 and the criterion at T2. Collecting the control variables at T2 strengthened the design by reducing the possibility of transient error effects that might have occurred due to the timing of the assessment.

Three types of nurses were surveyed. Some had a specialty certification as a nurse anaesthetist or nurse practitioner, and others had no specialty certification. By obtaining either of these two specialty certifications, an individual is entitled to engage in certain medical practices beyond those authorized for other registered nurses. Since the working conditions of those with specialty certifications may be different from those without a certification, we chose a stratified sampling method to collect a large sample from each type of nurse.

The T1 surveys were mailed to a random sample of nurse practitioners ($N = 440$), all of the nurse anaesthetists in the state ($N = 394$), and a random sample of other nurses with no specialty certification ($N = 666$). The surveys were mailed with first-class postage and included a business reply mail envelope with postage paid and addressed to the university. A total of 332 were returned for a 22% response rate at T1. The T2 survey was mailed approximately 2 weeks later to all of those who responded to the T1 survey. In addition, a 1 dollar bill was included in the envelope to increase response rate. A total of 198 usable responses were obtained to the T2 survey. This constituted a 59.6% response rate of those who responded at T1. Potential non-response bias is examined in a later section.

Measures

Justice measures

The T1 survey contained questions about the procedural justice experienced by nurses at their workplace. The T1 surveys contained items that measured perceptions of several dimensions of procedural justice in the context of the three HR decisions (pay raises, work assignments, and work schedules). A factor analysis with Oblimin rotation yielded a parsimonious and interpretable set of procedural justice factors. The reports of this analysis are in the attached Appendix A. All participants completed all items and none of the items were eliminated.

Three items each adequately measured the procedural justice dimensions of right to appeal and advance notice, and six items measured adequate explanation. The coefficient alpha internal consistency reliabilities for each of these multi-item scales are reported on the diagonal in Table 1.

To test if the procedural justice items loaded on the expected three dimensions we performed confirmatory factor analysis using LISREL 8.54 (Joreskog & Sorbom, 1996). This permitted us to investigate whether the items loaded on the expected dimensions (convergent validity) and whether the different dimensions were empirically distinguishable (discriminant validity). An χ^2 difference test compared a one-factor model of procedural justice to a three-factor model. This analysis was performed separately for items that asked about pay raises, work assignments, and work schedules. A nested model comparison (Kelloway, 1998) was used in which a one-factor procedural justice model was compared with a three-factor procedural justice model. The three factors were the three separate dimensions of procedural justice (advance notice, right to appeal, and adequate explanation).

Table 1. Correlations of descriptive statistics and correlations among study variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
1. Hospital	0.63	0.48	—																											
2. Metro area	0.55	0.50	.17	—																										
3. Post Second. Educ.	3.27	0.95	-.02	.04	—																									
4. Practitioner	0.36	0.48	-.35	-.15	.50	—																								
5. Anaesthetist	0.22	0.42	.33	.19	.24	-.41	—																							
6. 1st year licensed	86	6.34	-.07	-.15	-.16	-.21	-.06	—																						
7. Age	42	8.72	.01	.03	-.30	-.17	-.12	-.32	—																					
8. Minority	0.05	0.21	.02	.15	-.01	-.12	.06	.07	-.08	—																				
9. Women	0.91	0.29	-.13	-.07	-.02	.17	-.42	.01	-.08	.07	—																			
10. Union	0.14	0.35	.13	-.01	-.07	.01	-.08	-.03	-.04	-.09	.13	—																		
11. Years with employer	7.92	6.92	.21	.13	-.13	-.05	-.11	-.21	.27	-.10	-.01	.09	—																	
12. Hourly wage (\$)	28.0	8.26	.17	.17	.41	-.02	.64	-.20	-.14	.11	-.13	-.11	-.04	—																
13. Hours per week	37.4	11.5	.13	.05	.09	-.12	.18	.06	-.02	.02	-.16	-.01	-.08	.07	—															
14. DJ pay raises	3.28	1.04	-.14	-.06	-.03	-.02	.07	.08	.01	-.09	.06	.16	-.19	.09	-.09	.89	—													
15. DJ work schedule	3.87	0.83	-.06	-.03	.15	.10	.13	.12	-.05	.03	.04	.01	.06	.16	-.02	.36	.89	—												
16. DJ work assign.	3.74	0.85	-.02	.06	.09	.09	.12	-.02	.04	-.09	-.05	-.03	-.18	.12	-.02	.50	.59	.89	—											
17. PJ pay raises notice	3.16	1.10	-.01	-.02	-.08	-.07	.06	-.01	-.07	-.05	-.04	.14	.04	.07	-.03	.25	.09	.18	.96	—										
18. PJ pay raises appeal	2.76	1.11	.02	-.06	.06	.06	.05	.01	-.06	-.11	-.06	.03	.02	.06	-.04	.31	.24	.27	.35	.94	—									
19. PJ pay raises explain	2.99	1.14	-.02	-.04	.05	-.01	.13	-.02	-.07	-.03	-.05	.01	.04	.20	.08	.39	.27	.36	.39	.48	.92	—								
20. PJ schedule notice	3.61	1.04	.01	-.04	.20	.20	.16	-.03	-.24	-.07	-.10	.03	-.13	.20	-.01	.24	.46	.45	.19	.24	.24	.94	—							
21. PJ schedule appeal	3.32	1.09	.11	.10	.21	.02	.28	-.01	-.22	-.02	-.11	.05	.01	.23	.04	.15	.49	.36	.25	.32	.27	.53	.91	—						
22. PJ schedule explain	3.62	0.96	.08	.12	.25	.09	.18	-.04	-.26	-.08	-.09	-.03	-.01	.30	.06	.17	.50	.40	.23	.28	.34	.65	.63	.95	—					

Table 1. (Continued)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
23. PJ assign notice	3.36	1.00	-.10	-.05	.14	.19	.08	-.04	-.19	-.05	.03	-.04	-.10	.14	-.13	.18	.39	.39	.17	.21	.30	.32	.33	.42	.42	.94			
24. PJ assign appeal	3.19	0.90	-.08	.02	.11	.02	.09	-.02	-.08	-.10	-.07	.03	.02	.08	.04	.25	.35	.35	.36	.30	.42	.38	.36	.38	.42	.89			
25. PJ assign explain	3.24	0.99	-.02	-.06	.12	.14	-.01	-.04	-.13	-.05	-.01	-.01	.01	.14	-.06	.20	.40	.41	.11	.19	.33	.35	.34	.50	.61	.44	.94		
26. Job involvement	2.44	0.73	-.13	-.07	.03	.07	-.12	.09	.13	.03	-.01	.06	.03	-.09	.26	.10	.14	.14	-.02	.10	.23	.08	.12	.05	.14	.06	.10	.74	
27. Name in recruiting	1.59	1.30	.01	.03	-.09	-.07	.03	.01	.06	-.01	-.15	-.06	-.19	-.05	-.01	.06	.18	.21	-.07	.07	-.01	.11	.22	.11	.13	.05	.16	.17	.97
28. Name in rec. dichot.	0.20	0.40	-.02	.07	-.12	-.12	.04	.03	.03	.01	-.20	-.06	-.16	-.07	-.02	.07	.14	.21	-.04	.06	.03	.11	.16	.10	.15	.05	.19	.25	.91

Note. N = 198. Correlations $\geq .16$ significant at $p < .01$. Correlations $\geq .13$ significant at $p < .05$, one-tailed. Coefficient alpha reliabilities shown on diagonal. 'DJ' = distributive justice, 'PJ' = procedural justice.

For pay raises the three-factor model ($\chi^2 = 318.95$, $df = 51$, $p < .01$, GFI = .78, AGFI = .66, NNFI = .89, RMSEA = .17, RMSR = .13) was a significantly better fit than the one-factor model ($\chi^2 = 1,493.70$, $df = 54$, $p < .01$, GFI = .43, AGFI = .18, NNFI = .49, RMSEA = .38, RMSR = .38; $\Delta\chi^2 = -1,174.75$, $df = 3$, $p < .01$). For work schedules the three-factor model ($\chi^2 = 172.71$, $df = 51$, $p < .01$, GFI = .86, AGFI = .77, NNFI = .94, RMSEA = .13, RMSR = .08) was a significantly better fit than the one-factor model ($\chi^2 = 750.96$, $df = 54$, $p < .01$, GFI = .58, AGFI = .37, NNFI = .75, RMSEA = .29, RMSR = .17; $\Delta\chi^2 = -578.75$, $df = 3$, $p < .01$). For work assignments the three-factor model ($\chi^2 = 178.88$, $df = 51$, $p < .01$, GFI = .85, AGFI = .76, NNFI = .93, RMSEA = .13, RMSR = .11) was a significantly better fit than the one-factor model ($\chi^2 = 760.86$, $df = 54$, $p < .01$, GFI = .58, AGFI = .37, NNFI = .69, RMSEA = .29, RMSR = .14; $\Delta\chi^2 = -581.98$, $df = 3$, $p < .01$). These results support the conclusion that the three-factor model of procedural justice was a better fit to the data than a one-factor model. This finding was consistent within each of the three different HR contexts (pay raises, work schedules, and work assignments).

Three alternative forms of the survey rotated the order of the three HR decision contexts. Each item was preceded by an introductory question asking, 'Do you agree with these statements about your (pay raises, work assignments, or work schedule)?' A Likert response format allowed respondents to select strongly disagree, disagree, unsure, agree, or strongly agree for each item (1 = *strongly disagree*, 5 = *strongly agree*). Items were adapted from procedural justice measures used by other researchers (Brockner *et al.*, 1995; Cropanzano & Konovsky, 1995; Niehoff & Moorman, 1993).

Distributive justice was measured on the T2 survey. Three items each measured the distributive justice of pay raises, work assignments, and work schedules using the same response format as above. Example item: 'Considering my knowledge and experience, my (pay raises, work assignments, work schedules) have been fair.'

Permission to use name to recruit

Those who responded to T1 were also asked if they would volunteer to sign a statement that gave their consent for the employer to use their name in recruiting advertising (see Appendix B). Further, because this instrument was mailed to participants' home address and they were guaranteed confidentiality; those receiving the instrument could feel free to respond positively, negatively, or not at all. The agreement form assured participants, 'Since your name was selected at random, your employer will not know if you refused to give your permission.'

Respondents could indicate whether they agreed, were unsure, or disagreed to using their names in five different contexts: newspaper advertisements, radio advertisements, television advertisements, letters or pamphlets sent to potential new employees, and company web site. The coding of responses to this form resulted in a 5-item scale from the responses to these questions. A *No* response was coded as 1, *Unsure* = 3, and *Yes* = 5. There were a large number of scores at each end of this scale, so this variable did not have a normal distribution. The distribution was essentially bimodal with employees either giving permission or not. Therefore, a dichotomous variable was created by coding responses less than 3.0 as 0 and 3 or more as 1. This variable facilitated ease of interpretation, and it was used in the *t* tests and the logistic regression analyses reported below. However, for comparison to the other continuous variables, it is also reported as a continuous variable in Table 1.

Other variables

There is some evidence that demographic variables may be related to organizational justice (Lee & Farh, 1999). To rule out these as possible alternative explanations, we looked at a wide range of potential control variables. Respondents reported whether they worked for a hospital (coded as 1) or some other type of employer (coded as 0), and whether they worked for one of the three counties in the major metropolitan area (coded as 1) or in some other county (coded as 0). Post secondary education was coded as certificate in nursing = 1, associates degree in nursing = 2, bachelors degree = 3, masters degree = 4, and doctoral degree = 5. The nurse practitioner license and nurse anaesthetist data obtained from state records were coded as 1 = yes, 0 = no. The first year the respondent had been licensed as a nurse was obtained from state records. Respondents reported their age (years), gender, and racial group status. A single question asked whether they were covered by a union contract where they worked (1 = yes, 0 = no). They also reported how long they had worked for their current employer (years), their current salary, and hours worked per week.

In addition, we measured job involvement as a control variable because it is central to the fairness heuristic explanations for procedural justice (Lind, 1995). It was measured at T2 with four items derived from Steel and Rentsch (1997; e.g. 'The most important things that happen to me involve my work'). The control variables that were significantly related to the criteria were included in the analyses and reported in Table 2.

Analysis of potential non-response bias and subject attrition

Several analyses were conducted to evaluate whether non-response bias may have affected the results. χ^2 tests and logistic regression analyses compared the distribution of county residence, type of employer, and age distribution of the population receiving T1 surveys and those responding to both T1 and T2. None of these analyses found non-response bias.

To determine if subject attrition between T1 and T2 may have affected the results, the procedures suggested by Goodman and Blum (1996) were followed by using logistic regression in which response at T2 was coded as 0 or 1. The predictor variables were the procedural justice measures at T1. None of the individual parameter estimates was significant suggesting that subject attrition did not affect the results.

Results

Table 1 reports the descriptive statistics and intercorrelations among all measures. The data show good variation on most measures. Since the sample size was 198, the power to detect significant correlations of .20 or greater was .80 (Cohen, 1988). Most respondents did not give permission for their names to be used in recruiting advertising ($M = 1.59$ on 5-point scale, $SD = 1.30$; and 40 out of 198 or 20.2% agreed to use their name in at least one form of advertising). The rates for those who agreed were essentially equal across all types of advertisements and ranged from 11.6% to 17.1%. The rates for those who indicated that they were unsure were also essentially equal across different types of advertisements and ranged from 3.5% to 4.0%. An exploratory principal components factor analysis for this 5-item scale yielded a one-factor solution. However, using the Kolmogorov-Smirnov test, we compared the observed cumulative

Table 2. Hierarchical logistic regression analysis of permission to use name in recruiting, on control variables; and multi-dimensional measures of distributive justice, procedural justice, and distributive \times procedural justice interactions

Measure	Step 1			Step 2			Step 3		
	B	SE	Wald	B	SE	Wald	B	SE	Wald
Women	-1.41	0.58	5.84*	-1.68	0.64	6.85**	-1.00	0.84	1.42
Years with employer	-0.07	0.04	3.63	-0.08	0.04	4.07*	-0.17	0.06	7.99**
Job involvement	0.91	0.29	9.96**	1.04	0.32	10.39**	0.91	0.40	5.09*
Distributive Justice (DJ)									
Pay raises	-0.20	0.23	0.75	-0.02	0.26	0.01	0.86	0.91	0.91
Work schedule	0.23	0.34	0.46	-0.08	0.39	0.05	0.75	1.08	0.49
Work assignment	0.60	0.37	2.68	0.63	0.39	2.63	-2.11	1.16	3.29
Procedural Justice (PJ)									
Pay raises									
Advance notice	-	-	-	-0.14	0.22	0.37	-0.28	0.89	0.01
Right to appeal	-	-	-	0.04	0.24	0.03	-0.86	0.93	0.85
Explanation	-	-	-	-0.23	0.23	1.05	1.86	1.04	3.22
Work schedule									
Advance notice	-	-	-	-0.25	0.29	0.74	7.33	3.10	5.61*
Right to appeal	-	-	-	0.71	0.32	4.98*	2.35	2.40	0.95
Explanation	-	-	-	0.41	0.40	1.02	5.70	2.68	4.52*
Work assignment									
Advance notice	-	-	-	0.10	0.28	0.13	4.52	2.78	2.65
Right to appeal	-	-	-	-0.35	0.31	1.34	5.64	2.30	6.00**
Explanation	-	-	-	0.72	0.33	4.84*	2.20	2.08	1.12
Interactions									
Pay raises DJ \times PJ									
Advance notice	-	-	-	-	-	-	-0.03	0.27	0.02
Right to appeal	-	-	-	-	-	-	0.28	0.28	1.06
Explanation	-	-	-	-	-	-	-0.57	0.30	3.67
Work schedule DJ \times PJ									
Advance notice	-	-	-	-	-	-	1.75	0.76	5.33*
Right to appeal	-	-	-	-	-	-	-0.30	0.59	0.25
Explanation	-	-	-	-	-	-	-1.57	0.68	5.42*
Work assignment DJ \times PJ									
Advance notice	-	-	-	-	-	-	-1.08	0.70	2.36
Right to appeal	-	-	-	-	-	-	1.29	0.57	5.16*
Explanation	-	-	-	-	-	-	0.70	0.56	1.56

Note. $N = 198$; * $p < .05$, ** $p < .01$.

Step 1: $\chi^2 = 30.74^{**}$ $df = 6$; -2 Log Likelihood 169.42; $R^2 = .14$ (Cox & Snell), .23 (Nagelkerke).

Step 2: $\chi^2 = 43.81^{**}$ $df = 15$; -2 Log Likelihood 156.36; $R^2 = .20$ (Cox & Snell), .31 (Nagelkerke).

Step 3: $\chi^2 = 96.50^{**}$ $df = 24$; -2 Log Likelihood 105.90; $R^2 = .48$ (Cox & Snell), .65 (Nagelkerke).

distribution for this variable to a normal distribution. The analysis indicates that this variable is not normally distributed ($z = 6.47$, $p < .01$) and a histogram of the distribution of this variable indicated that it had a bimodal distribution with most respondents either completely agreeing to give permission or completely disagreeing to give permission. Therefore, in addition to presenting results for this variable as a continuous variable, we presented it as a dichotomous variable in Table 1.

Three control variables (sex, job tenure, and job involvement) had statistically significant, but small correlations with permission. Since the focus of the study was the effects of distributive and procedural justice, we chose to enter these control variables in the regression equation, thereby statistically parceling out their effects. None of the other potential control variables (worked for hospital, metropolitan area, years of education, specialty licence, first year licensed, age, minority group, union representation, hourly wage, or hours worked per week) significantly correlated with the criterion.

There were slightly higher perceptions of distributive and procedural justice of work schedules for those with an anaesthetist specialty licence. Since these nurses often assist in surgeries and surgeries are often scheduled on weekdays and during the day, nurse anaesthetists may perceive their schedules as more distributive and procedurally fair. However, there were no differences across nurse specialty in the outcome variable.

There was a small but statistically significant correlation between being represented by a labour union and the perceptions of the distributive justice of pay raises and the procedural justice of advance notice of pay raises. However, being represented by a union was not correlated with actual wage levels. Being represented by a union was not correlated with the criterion either, so it was not used as a control variable.

The distributive justice variables also had moderate to high intercorrelations (mean $r = .48$), small to medium correlations with the procedural justice variables (mean $r = .32$), and two of three correlations with permission were significant. The procedural justice variables had moderate to large intercorrelations (mean $r = .35$), and three of nine correlations with permission were significant. In addition, job tenure was negatively correlated with two distributive justice variables (pay raises and work assignments) and one procedural justice variable (schedule advance notice).

To provide a multivariate test of the hypotheses, a three-step logistic regression analysis was conducted in which permission to use name in recruiting was regressed on the significant control variables, the distributive justice measures (also serving as control variables), all of the procedural justice measures, and interaction terms between distributive justice and procedural justice. Logistic regression was chosen because it evaluates the odds or probability of group membership based on a combination of predictor variables (Tabachnick & Fidell, 2001). It is appropriate when the outcome variable is discrete (Neter, Kutner, Nachtsheim, & Wasserman, 1996). In this study one group indicated a willingness to permit their name to be used in recruitment advertisements and another group did not. The results of this analysis are reported in Table 2. In this regression equation, the power to detect significant effects for the individual procedural justice parameters averaged 76%. This power calculation was based on the .10 significance level to detect an effect equal to an odds ratio of 2.11. Power calculations for individual procedural justice parameters were made after calculating the R^2 of each procedural justice variable on the other independent variables (Mean $R^2 = .45$; Hsieh, 1989).

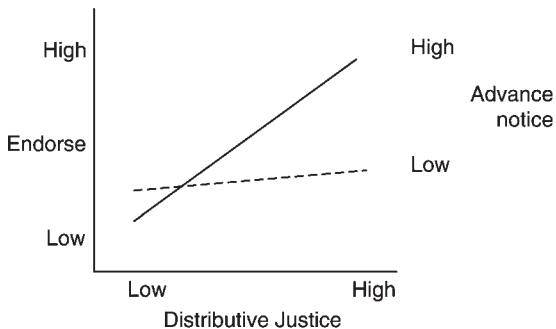
Step 1 shows that males and those with higher levels of job involvement were more likely to give permission. Step 2, in which the procedural justice variables were added, shows that males with fewer years of job tenure and higher levels of job involvement were more likely to give permission. In addition, the procedural justice variables of higher levels of perceived right to appeal work schedules and adequate explanations for work assignments also increased willingness to give permission.

At Step 3, when the interactions were added sex was no longer significant, but those with fewer years of tenure and higher levels of job involvement were more likely to give

permission. Using the Step 3 results to analyse support for the hypotheses, we found that Hypothesis 1 received mixed support because advance notice of pay raises was not significant, but work schedule advance notice did predict giving permission. However, work assignment advance notice was not significant. Hypothesis 2 also received mixed support because work assignment right to appeal predicted giving permission but work schedule right to appeal did not. Hypothesis 3 was supported by the significant coefficients for work schedule adequate explanation, but not for pay raise adequate explanation or work assignment adequate explanation. Hypothesis 4a was supported because several of the procedural justice dimensions of work schedules and work assignments were significant, and the procedural justice dimensions for pay raises were not significant. Hypothesis 4b was supported because several of the dimensions of procedural justice of work schedules were significant, but the distributive justice measures were not. Hypothesis 5a was supported by the significant interactions between distributive justice and work schedule, advance notice and explanation, and also work assignment distributive justice and work assignment right to appeal. Furthermore, Hypothesis 5b was supported because plots of the significant interaction terms show that procedural justice had more importance when distributive justice was high than when it was low. We dichotomized the variables at their means and then plotted the results. Figure 1 illustrates this relationship by showing that endorsement was significantly higher when both work schedule distributive justice and work schedule procedural justice (advance notice) were high. The form of the interaction was the same for all three significant interaction terms.

Conclusions and recommendations

An important finding of this study was that several dimensions of procedural justice and several interactions between procedural and distributive justice were associated with the agreement of nurses to allow their names to appear in their employers' recruiting advertising. Several dimensions of procedural justice were differentially important across several HR contexts. Even when distributive justice and several control variables were factored in, procedural justice and procedural justice by distributive justice interactions still predicted willingness to endorse the employer.



Note: Means of willingness to endorse employer: DJ high and PJ high = 3.67, DJ High and PJ low = 2.07, DJ low and PJ high = 1.66, DJ Low and PJ low = 1.38.

Figure 1. Interaction of work schedule distributive justice and procedural justice (adequate explanation) on willingness to endorse employer as a great place to work.

This study makes several important contributions to the literature. First, using a social exchange framework, this study found linkages between several dimensions of procedural justice and a citizenship behaviour directed toward the organization (OCBO). This supports the conclusion that employees who perceive procedural justice are more likely to reciprocate the good treatment they receive from their employer by agreeing to engage in an extra-role behaviour involving agreeing to permit their names to be used in recruitment advertisements. Furthermore, the fact that distributive justice and the procedural justice of pay raises were not significant predictors of this extra-role behaviour supports the conclusion that this agreement was in response to a social exchange as opposed to an economic exchange. In addition, by measuring and parceling out job involvement, we reduced the possibility that fairness heuristic theory is a possible alternative explanation for these findings. Since the procedural justice variables were significant after measuring job involvement, it is probable that the social exchange model accounts for the reported findings.

Second, this study developed and used standardized measures of multiple dimensions of procedural justice that were applied across several different HR contexts. By using these standardized measures across multiple contexts, our results supported the expectations of organizational justice theorists that multiple dimensions of procedural justice do vary in their importance across different contexts (Cropanzano & Greenberg, 1997; Greenberg, 1990a, 1993a). The result was a more precise specification and identification of the important dimensions of procedural justice across different contexts. However, our hypotheses about the differential importance of specific dimensions of procedural justice across contexts received only mixed support. For example, although we expected that advance notice of work assignment would be significant, it was not. Thus, further research will be needed to identify stable predictable patterns across contexts.

Third, this study adds to the literature by showing that the interaction effect between distributive and procedural justice functions differently when predicting a recruiting-related OCBO behaviour that is important for organizations. Prior research found that a combination of low distributive and low procedural justice has particularly negative outcomes such as turnover intentions and theft (Brockner & Wiesenfeld, 1996). However, this study found that the combination of high distributive and high procedural justice had a particularly positive outcome on organizational citizenship behaviour. Thus, while prior research showed that procedural justice could interact with low levels of distributive justice to reduce negative organizational outcomes, this study showed that high levels of distributive justice interacted with high levels of procedural justice to significantly increase a positive organizational outcome.

Future research on procedural justice should continue to identify relationships between procedural justice and important outcomes to the organization (e.g. actual candidate referrals obtained through employee referral bonus programs, filing EEOC complaints). Future research should also continue to explore how different dimensions of procedural justice are important in the context of different HR decisions. The identification of consistently significant procedural justice dimensions by HR context relationships can further our understanding of the effects of context on the importance of procedural justice. Furthermore, future research should examine whether the use of multi-dimensional procedural justice measures will facilitate the identification of significant interactions with distributive justice. It may be that parceling out procedural justice into component parts will enable the identification of other significant interactions with distributive justice. Furthermore, these multi-dimensional measures

may be more likely to identify interactions in which procedural justice is more important when distributive justice is high as opposed to the prevailing view that procedural justice is more important when distributive justice is low.

This study has several methodological strengths that are often lacking in other studies (Cohen-Charash & Spector, 2001). This study collected data at two different points in time to reduce problems that arise from cross-sectional single-source design (e.g. method bias, common method variance, or percept-percept bias, Schmitt, 1994; Spector & Brannick, 1995). These problems may artificially inflate the relationship between predictors and criteria. This study did not eliminate all common method variance, but it reduced the problem by collecting data at two different points in time.

Furthermore, most research examines the effects of procedural justice within a single organization or business setting. A single organization is likely to have relatively consistent policies or procedures that apply to all employees. Therefore, the variance of procedural justice perceptions may be limited when comparing individual workers who experience the same procedures. This could suppress the effects of procedural justice that could appear when examining workers across different employers or business settings where procedures are more likely to vary. This study examined procedural justice across different work settings. In addition, we chose persons within one occupation (nurses) to control for possible extraneous sources of error variance that could result from differences between occupations due to different tasks, work settings, skills and qualifications of workers, norms and expectations.

Furthermore, we chose currently employed persons as our sample because they will have had the opportunity to form perceptions about fairness of the employer's practices in multiple contexts, whereas studies that examine job applicants could probably only have formed perceptions of their employer's recruiting and selection processes.

In addition, the voluntary nature of the recruiting measure and the fact that the employer would not know which participants declined to engage in recruiting indicates that this study used an organizational citizenship behaviour linked to an other-serving or traditional social exchange rationale as opposed to a more self-serving or impression management oriented motive for engaging in citizenship behaviour (Bolino, 1999; Organ, 1988). In addition, this study linked procedural justice to an agreement to engage in a recruiting-related agreement by current employees, and not just an attitude or behavioural intention from applicants.

Despite these strengths, future research should overcome some potential weaknesses in this study. For example, this study did not measure all potentially significant dimensions of procedural justice. Similarly, the generalized ability to apply the findings to other occupations should be explored. In addition, this study focused on one type of behavioural outcome. Future research should examine other types of potentially important behavioural outcomes of procedural justice.

In terms of implications for practice, one of the best sources for recruiting new employees is an organization's current workforce (Barber, 1998; Breaugh & Starke, 2000). This study shows that an employer's current workforce may be more willing to help them to recruit if the organization uses procedurally-just HR practices. This is particularly important in the nursing profession where the continuing critical shortage of trained nurses induces many organizations to adopt innovative recruiting strategies such as creative advertising and recruitment advertisements that feature the endorsements of current nurses (e.g. Unger, 1990).

In addition, since the advertisements that the employees were agreeing to endorse stated, 'This is a Great Place to Work', this study provides some insight as to what that phrase means to employees. It may be more likely to refer to certain types of procedural justice as opposed to distributive justice, and more likely to refer to certain HR contexts such as work schedules and work assignments than other contexts such as pay raises. This may also apply to other HR contexts and would be an interesting avenue for future research.

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Appendix A

Factor pattern matrix for procedural justice scale items (scale items in bold)

Items	1	2	3	4	5	6	7	8	9
Pay raises									
I received advance notice	.92	.03	.02	.05	.05	-.03	.05	-.01	-.01
Happy with how much advance notice received	.96	.01	.03	-.02	-.06	.02	-.02	.06	-.01
Degree of advance notice I received was sufficient	.96	.03	.02	-.01	.04	-.01	-.01	-.01	.03
I could appeal decisions that had been made	.07	.91	-.06	.02	-.03	-.06	.02	-.02	-.02
An appeal process was provided	.01	.89	-.01	.01	-.02	-.01	.01	.02	.01
Employer provided an opportunity to appeal	-.02	.96	-.01	-.07	.01	.02	-.07	-.03	.01
Adequate detail in the explanations	-.02	.09	.73	.02	.05	.07	.02	.11	.05
Explanation and justification was adequate	.09	.05	.78	.03	.07	-.04	.07	.04	-.05
Mgmt. clearly and carefully explained reasons	-.05	.10	.84	.07	-.01	-.02	-.01	.02	-.08
Applied decisions consistently	.11	.01	.25	-.01	-.07	.06	-.03	-.01	-.01
All have been judged by the same standards	.18	-.03	.45	-.03	-.06	.06	-.02	.01	-.01
Decisions have been free of bias	.13	-.01	.40	-.02	-.01	.05	.07	.04	-.02
Work schedules									
I received advance notice	.02	.02	-.05	.86	.03	.01	.07	.02	.03
Happy with how much advance notice received	.02	.02	.02	.78	.01	-.01	.02	.04	.09

Appendix A (Continued)

Items	1	2	3	4	5	6	7	8	9
Degree of advance notice I received was sufficient	-.03	-.03	.02	.61	-.01	-.02	.06	-.07	.02
I could appeal decisions that had been made	.01	.01	-.07	.07	.82	.07	.06	.07	.04
An appeal process was provided	.04	.04	.02	.13	.80	.01	.13	.01	-.01
Employer provided an opportunity to appeal	.06	.06	-.04	.07	.73	-.03	.07	-.02	.06
Adequate detail in the explanations	-.05	-.05	-.03	.19	.24	.34	.19	.19	.24
Explanation and justification was adequate	.03	.03	-.04	.21	.22	.42	.21	.15	.35
Mgmt. clearly and carefully explained reasons	.06	.06	.02	.18	.18	.38	.18	.08	.32
Applied decisions consistently	-.01	.11	.05	.22	.21	.41	.04	.05	.17
All have been judged by the same standards	.12	-.01	.07	.16	.25	.45	.01	.05	.18
Decisions have been free of bias	.12	.03	-.05	.12	.21	.41	-.02	.04	.26
Work assignments									
I received advance notice	-.01	-.01	-.04	.01	.07	.02	.86	.01	.11
Happy with how much advance notice received	.03	.04	-.01	.09	.09	.10	.78	-.02	.13
Degree of advance notice I received was sufficient	.04	.04	-.08	-.04	.06	.05	.61	.13	.14
I could appeal decisions that had been made	-.01	-.01	.02	.04	-.08	.11	.06	.86	-.01
An appeal process was provided	.07	.07	-.01	.03	.04	.02	.02	.83	.06
Employer provided an opportunity to appeal	-.02	-.02	-.10	.06	.01	.05	-.04	.74	-.04
Adequate detail in the explanations	.06	.06	-.02	.15	-.03	.01	-.07	.04	.76
Explanation and justification was adequate	.01	.01	-.03	-.06	.12	-.04	.04	.05	.81
Mgmt. clearly and carefully explained reasons	.01	.01	-.07	.09	-.01	.02	.03	-.02	.93
Applied decisions consistently	.01	.01	.13	.09	-.07	.01	.09	.13	.58
All have been judged by the same standards	.01	-.07	.04	.01	.11	-.02	.09	.22	.46
Decisions have been free of bias	-.07	-.06	.10	.01	.09	.09	.01	.21	.60
Initial Eigenvalues	14.0	3.73	2.79	1.98	1.65	1.40	1.36	1.26	1.06
Rotation: Percent of variance explained	7.23	5.05	5.28	5.65	4.62	7.10	7.31	6.90	7.77

Extraction method: Unweighted least squares. Rotation method: Oblimin.

Appendix B

Statement indicating willingness to permit employer to use employee's name in recruiting advertising

Recruiting authorization permission form

Employers like to use their current employees to recruit new employees. By signing this form you give your current employer permission to use your name in recruiting advertisements or literature. Recruiting materials referring to you by name will state, 'This is a Great Place to Work!'

Circle a 'YES' to select the medium in which your name may be used. If you circle any 'YES' below, your employer may be notified that you've approved using your name in the recruiting method you specified. If you do not give permission, place a circle around the word 'NO'. Your employer will not be notified if you circle all of the 'NOs'.

The answers given on the enclosed survey and the prior survey will not be shown to your employer.

Since your name was selected at random, your employer will not know if you refused to give your permission.

Whether or not you circle any 'YES' your name will be entered in the drawing for the \$100 US Savings Bond.

May your current employer use your name to recruit new employees?

... do you give your current employer permission to use your name in

	Circle		
Advertisements printed in newspapers	Yes	Unsure	No
Advertisements on the radio	Yes	Unsure	No
Television advertisements	Yes	Unsure	No
Letters or pamphlets sent to potential new employees	Yes	Unsure	No
An electronic web page on the Internet	Yes	Unsure	No

Name of your current employer: _____,

Location: City _____, County _____ State ____.

I authorize my current employer (shown above) to use my name in the recruiting methods specified above for a period not to exceed one year from the date shown below.

Sign your name here: _____ Date: _____

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