

Deakin Research Online

This is the published version:

Lawson, K., Noblet, A. and Rodwell, J. 2008, Promoting health at work : the relevance of organizational justice, in *PERA 2008 : Proceedings of The 8th Annual Pacific Employment Relations Association Conference*, Ballarat University, Ballarat, Vic., pp. 139-149.

Available from Deakin Research Online:

<http://hdl.handle.net/10536/DRO/DU:30018389>

Reproduced with the kind permissions of the copyright owner.

Copyright : 2008, Pacific Employment Relations Association

Promoting Health at Work: The Relevance of Organizational Justice

Katrina J. Lawson, Andrew Noblet & John Rodwell
Deakin University, Victoria

Research focusing on the relationship between organizational justice and health suggests that perceptions of fairness can make significant contributions to employee wellbeing. However studies examining the justice-health relationship are only just emerging and there are several areas where further research is required, in particular, the uniqueness of the contributions made by justice and the extent to which the health effects can be explained by linear, non-linear and/or interactional models. The primary aim of the current study was to determine the main, curvilinear and interactive effects of job characteristics and organizational justice perceptions on psychological wellbeing and job satisfaction. Job characteristics were measured using the Demand-Control-Support (DCS) model (Karasek & Theorell, 1990), while Colquitt's (2001) four justice dimensions (distributive, procedural, interpersonal and informational) were used to assess organizational justice. Hierarchical regression analyses found that in relation to psychological wellbeing, perceptions of justice did not add to the explanatory power of the DCS model. In contrast, organizational justice did account for unique variance in job satisfaction, the second measure of employee wellbeing. The results supported direct linear relationships between the psychosocial working conditions and the outcome measures. The implications of the results of this study, especially in terms of how working conditions should be managed in order to promote health, are discussed. Notably, the findings from the current study indicate that in addition to traditional job stressors, health promotion strategies should focus on perceptions of organizational justice and their relationships with health.

Keywords: workplace health promotion, employee wellbeing, organizational justice, job stress.

Introduction

There is broad recognition in the workplace health promotion literature that psychosocial and organizational working conditions such as employee workloads, decision-making input and social support represent important avenues for protecting and promoting employee wellbeing (e.g., Noblet 2003; Chu et al., 1997). An additional work characteristic, organizational justice, has recently been recognized as a "new psycho-social predictor of health" that should also be taken into account when developing initiatives designed to prevent or reduce work-related ill-health (Elovainio et al., 2004, p1). While there is a growing body of research linking perceptions of injustice to a range of adverse health outcomes (e.g., lower wellbeing, increased depression and reduced job satisfaction) (Kivimäki, Ferrie et al. 2004; Ylipaavalniemi, Kivimäki et al. 2005), the vast majority of the research examining the justice-health relationship has been published since the year 2000 (Fujishiro & Heaney, 2007), and like any rapidly developing field, key elements of this relationship are yet to be fully investigated. For example, there is some uncertainty regarding the ability of fairness perceptions to account for variations in health outcomes after controlling for more established predictors of job stress (especially social support). Also, much of the previous research in this area has assumed there is a direct, linear pathway between justice and health (i.e., where the health

effects are proportional to the level of justice received), yet there are signs that interactional and non-linear effects may be involved. The current study aims to clarify the relationship between perceptions of justice and employee wellbeing by, first, assessing the extent to which organizational justice can make contributions to employee wellbeing over and above the influence attributed to more established sources of job stress and, second, by testing for direct, interaction and non-linear effects of organizational justice dimensions. These analyses will not only help to determine if organizational justice should be considered a key priority for people involved in developing workplace health promotion programs, but they will also shed light how these conditions should be managed in order to maximize the positive health outcomes.

The Demand-Control-Support (DCS) Model

The more established job stressors examined in the current study will be measured using Karasek and Theorell's (1990) Demand-Control-Support (DCS) model. This model is one of the most widely-used conceptual frameworks underpinning job stress research and has been found to have strong predictive capacity in a variety of occupational and industry contexts (De Lange, Taris et al. 2003). The DCS proposes that high levels of job strain will be experienced when employees are faced with high job demands, and have relatively low levels of decision-making control and/or support to deal with those demands. Although there is mixed support for the interactions between demand, control and support, the results of cross-sectional and longitudinal research consistently provide strong evidence for the independent contributions of the component variables (see van der Doef et al 1999 and de Lange et al. for reviews). We therefore expect that the full DCS (including direct and interactional effects) will provide a worthwhile reference point against which to measure the unique contributions of organizational justice.

Organizational Justice: An independent predictor of health?

The term organizational justice is used to describe people's perception of fairness in organizations (Greenberg 1988). The concept of justice, or 'fairness' as it is also referred to, consists of four main forms; distributive, procedural, informational and interpersonal justice (Colquitt, Conlon et al. 2001). Distributive justice focuses on the individuals' perception of how fairly their 'inputs' (i.e., effort, experience, education) are rewarded in comparison to referent others (e.g., co-workers), while procedural justice refers to the perceived fairness of the procedures used to make justice-related decisions such as those involved in performance appraisals or promotion applications (Cohen-Charash & Spector, 2001). Studies have found that high levels of procedural fairness can off-set the negative effects of unfavorable distributive outcomes; a phenomenon sometimes referred to as the 'fair process effect' (e.g., Greenberg and Folger 1983; Shapiro and Brett 1993). Interpersonal justice and informational justice (Greenberg, 1993) are collectively known as "interactional justice" and together refer to the interpersonal conduct and communication of the parties in charge of the resource allocation decisions (Bies & Moag, 1986; Cohen-Charash & Spector, 2001). Interpersonal justice focuses on the degree to which people are treated with respect and dignity, whereas informational justice refers to the extent to which employees receive timely and accurate information about the decision-making processes, or the outcomes of those processes (Colquitt 2001).

In terms of studies testing the capacity of organizational justice to make independent contributions to employee wellbeing, findings generally indicate that perceptions of fairness provide unique insights into the work-health relationship. For example, Kivimaki, Elovainio and colleagues found that procedural and relational justice were independent predictors of a range of stress-related outcomes including self-rated health (Kivimaki, Ferrie et al. 2004), CHD risk scores (Kivimäki, Ferrie et al. 2005), minor psychiatric disorders (Elovainio, Kivimaki et al. 2002), sickness absence (Kivimaki, Head et al. 2003) and depression (Ylipaavalniemi, Kivimäki et al. 2005). Importantly,

these predictive relationships remained after adjusting for well recognized psychosocial work stressors such as job demand, job control and, to a lesser extent, social support.

Although previous studies suggest that fairness perceptions account for variations in employee wellbeing that are independent of the DCS components, there are two major limitations of such research that make it difficult to make this conclusion. The first limitation is that the previous justice-stress research did not assess the two (demand x control) or three-way (demand x control x support) DCS interactions and it is therefore difficult to assess the extent to which justice would add to the direct and interactional effects of this model. The second limitation involves the inconsistent application of social support. A large proportion of the justice-health studies did not assess work-based support, and when they did, it appears the authors have focused solely on emotional support (e.g., Elovainio, Kivimaki et al. 2002; Kivimaki, Elovainio et al. 2003). In contrast, the support matching hypothesis suggests that the effectiveness of support is heavily dependent on the extent to which the form and source of support matches the specific needs activated by the stressor (e.g., Cutrona 1990; Sarason, Sarason et al. 1990). Disaggregated measures of social support that tap into the commonly recognized forms (emotional, instrumental, informational and appraisal) and sources (supervisors, colleagues, subordinates) of support at work are hence more likely to be predictive of employee wellbeing. The current study will address the limitations of previous justice-health research by testing the extent to which all four organizational justice dimensions make independent contributions to employee wellbeing over and above the full DCS (i.e., direct and interactional effects of demand, control and support). In addition, social support will be operationalized according to the disaggregated definition (i.e., assessing multiple forms and sources).

Testing for moderating and non-linear effects

Much of the previous research examining the relationship between perceptions of justice and health has focused on a direct relationship (i.e., where perceptions of justice or injustice lead to increases or decreases in health). In contrast, very few justice-health studies have considered the capacity of procedural justice to off-set the negative effects of unfavorable distributive justice decisions; that is, the 'fair process effect' (Francis & Barling 2005; Tepper 2001). Unfavorable distributive justice decisions are considered an inevitable part of modern work life (particularly in an era of faced-paced, unpredictable organizational change) and further clarification of the moderating effects of procedural justice would provide important insights into how justice-related decisions should be managed in order to minimize the associated fall-out. A key aim of the current study will be to address the lack of information on the buffering effects of procedural justice by testing for two-way procedural x distributive justice effects.

Another pathway that has been largely overlooked in the organizational justice literature, as well as broader job stress research, is the possibility that psychosocial working conditions may have a non-linear relationship with health outcomes (Rydstedt, Ferrie et al. 2006). Although the negative effects of injustice are well documented, support for their curvilinearity would suggest that, at the very least, the positive effects of organizational fairness may be attenuated at high levels or, at worst, that health and satisfaction would deteriorate when perceptions of justice are high. This being the case, practitioners would need to monitor employees' justice perceptions and ensure that the justice they receive is neither inadequate nor excessive. The current investigation will assess for curvilinearity among the DCS and justice variables. In addition to the tests for DCS (demand x control; demand x control x support) and justice (distributive x procedural justice) interactions, the non-linear test will provide important information on how the working conditions examined in this study need to be modified in order to create fairer and less stressful working environments.

Measuring employee wellbeing

In the current study, psychological health and job satisfaction will be used to measure employee wellbeing. Psychological health is regarded as a 'context-free' measure of wellbeing and, as such, provides an indication of people's wellbeing irrespective of the setting (i.e., work and non-work). In contrast, job satisfaction is a 'context-specific' measure of employee health and conveys how people are feeling about themselves in relation to their job (Warr, 1996). Utilizing both a context-specific and a context-free measure of wellbeing therefore provides a more comprehensive understanding of the potential effects of adverse working conditions.

Methods

Sample

Members of a state-based police force in Australia were notified about the study and asked to fill out a survey if they were interested in participating. Participation was voluntary and ethical approval was obtained by the relevant bodies. The data used within the present study was drawn from one region, with 1,764 sworn members, which included members of the police, recruits, PSOs and reservists. At the time of survey, the respondents were aged as follows; 14.7% were 20-29 years, 30.6% were 30-39 years, 39.7% were 40-49 years and 15.0% were 50-59 years. Further, 77.7% of the participants were male and 22.3% were female. Of the sample, 1.3% had worked for the police force for less than 12 months, while at the other extreme, 39.2% of the total sample had worked within the police force for more than 20 years. Nearly half of the sample had completed secondary school and 29.2% of respondents were university educated.

Measures

Job Demand

Participants completed an 11 item measure of workload developed by Caplan et al. (1980) to assess job demand. This measure encompasses physical workload (i.e. how often does your job require you to work very fast?) and psychological demand (i.e. how much time do you have to think and contemplate?). The items were answered on a five point Likert-type scale (1= 'rarely' and 5= 'very often') with higher scores indicating higher levels of job demand. (Cronbach's alpha = .69).

Job Control

A nine item scale developed by Karasek (1985) was used to measure participants' degree of job control. Participants were required to select the most appropriate answer for each item based on a five point Likert-type scale (1= 'strongly disagree' to 5= 'strongly agree'). Overall job control was determined by summing scores on each of the items. Note that higher scores indicated increased job control (Cronbach's alpha = .63).

Social Support

Respondents were required to indicate the extent to which they receive social support from work and non-work sources using a seven point Likert-type scale (1= 'very little' to 7= 'very much'). These two scales were developed by Etzion (1984) and incorporated multiple forms (e.g., emotional, instrumental, appraisal) and sources (e.g., supervisors, co-workers, family, friends) of support. Scores on the two scales were summed to create an overall score for support at work and outside of work. Higher scores on these scales indicated greater support. (Cronbach's alpha = .84 for work-support and .85 for non-work support).

Organizational Justice

Employees' perceptions of organizational justice were assessed by Colquitt's (2001) four justice scales, which require a total of 20 responses. Items were scored according to a five point Likert-type scale (1= 'very often' to 5= 'rarely'). Seven of the items pertain to procedural justice

(Cronbach's alpha = .81), four to distributive justice (Cronbach's alpha = .84), another four to interpersonal justice (Cronbach's alpha = .91) and five to informational justice (Cronbach's alpha = .88). Participants' scores on each scale were summed to indicate the extent to which they perceived each type of organizational justice within their workplace. Higher scores on each scale were indicative of higher perceived justice.

Psychological Wellbeing

The General Health Questionnaire 12-item version (Goldberg & Williams, 1998) was used to assess psychological wellbeing. The 12 items were scored on a four point Likert-type scale (0= 'much less than usual' to 3= 'more so than usual') and items were summed to create an overall wellbeing score for each participant. Higher scores indicated more positive psychological wellbeing (Cronbach's alpha = .85).

Job Satisfaction

A 16-item scale was used to determine employees' perceived levels of job satisfaction (Warr et al., 1979). The items were measured on a seven point Likert-type scale (1= 'extremely satisfied' to 7= 'extremely dissatisfied') and higher scores indicated increased job satisfaction (Cronbach's alpha = .86).

Results

All data were screened and analyzed using SPSS Version 15. Data for the total sample were examined for input errors, missing values and outliers. All cases with outliers identified through Mahalanobis distance were deleted. After removing outliers and missing data, complete data from $N=373$ was used for employee wellbeing and $N=360$ for job satisfaction. Further, the seven independent variables were "centered", whereby the means for each variable were subtracted from each participant's score (Aiken & West, 1991). The process of centering is recommended before variables are included in interaction terms to reduce multicollinearity (Tabachnick & Fidell, 1996). The means, standard deviations and intercorrelations (Pearsons) are summarized in Table 1.

Table 1. Pearson's Bivariate Correlations Between Job Strain, Organisational Justice, Wellbeing and Job Satisfaction

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Job Control	32.24	3.65									
2. Workload	38.81	4.49	.060								
3. Support at Work	39.53	8.80	.216**	-.201**							
4. Support Outside Work	47.97	8.71	.092	.000	.450**						
5. Procedural Justice	16.45	4.84	.171**	-.055	.333**	.184**					
6. Distributive Justice	9.51	3.79	.031	-.207**	.302**	.103*	.456**				
7. Interpersonal Justice	13.94	3.27	.182**	.010	.289**	.079	.386**	.264**			
8. Informational Justice	14.77	4.22	.172**	-.046	.339**	.088	.475**	.421**	.616**		
9. Wellbeing	23.70	4.49	.091	-.221**	.345**	.170**	.034	.085	.094	.083	
10. Job Satisfaction	70.30	11.79	.370**	-.230**	.584**	.186**	.399**	.436**	.348**	.480**	.352**

* $p < .05$, ** $p < .01$

Demand had a small to moderate significant negative correlation with the wellbeing variable. Both of the work and non-work social support variables also had significant positive correlations with wellbeing. All of the DCS variables, organizational justice types and wellbeing were significantly correlated with job satisfaction.

Two separate hierarchical multiple regressions were undertaken to assess the independent contributions made by the justice dimensions and to test for linear, non-linear and interactional effects (see Table 2).

TABLE 2. Summary of Hierarchical Regression Analysis for Variables Predicting Wellbeing and Job Satisfaction

	<i>Psychological Wellbeing</i>			<i>Job Satisfaction</i>		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Step 1						
Workload	-.188	.055	-.187**	-.374	.110	-.142**
Job Control	.042	.068	.034	.810	.135	.251***
Support at Work	.144	.032	.283***	.544	.065	.407***
Support Outside Work	.043	.030	.084	-.074	.061	-.055
ΔR^2			.145			.428
Step 2						
Workload ²	.008	.010	.043	.021	.019	.046
Job Control ²	-.017	.015	-.063	.013	.029	.018
Support at Work ²	-.001	.003	-.011	.002	.005	.017
Support Outside Work ²	.003	.002	.075	-.002	.005	-.013
ΔR^2			.009			.002
Step 3						
C x W	-.002	.015	-.009	.023	.031	.032
C x Supp@Work	.011	.009	.079	-.023	.017	-.066
C x SuppOutside	-.012	.008	-.088	.006	.016	.018
W x Supp@Work	.012	.008	.101	-.012	.016	-.037
W x SuppOutside	-.008	.006	-.073	.003	.012	.011
C x W x Supp@Work	-.001	.002	-.025	.002	.004	.025
C x W x SuppOutside	.001	.002	.050	-.002	.003	-.029
ΔR^2			.020			.005
Step 4						
Procedural Justice	-.064	.057	-.069	.131	.115	.054
Distributive Justice	-.028	.072	-.024	.594	.145	.191***
Interpersonal Justice	.041	.091	.030	.205	.182	.057
Informational Justice	.000	.074	.000	.433	.150	.155**
ΔR^2			.007			.099
Step 5						
Procedural Justice ²	-.011	.010	-.070	-.010	.019	-.024
Distributive Justice ²	.011	.017	.037	-.029	.034	-.038
Interpersonal Justice ²	.015	.020	.043	.065	.039	.073
Informational Justice ²	-.011	.011	-.053	-.038	.022	-.072
ΔR^2			.009			.005
Step 6						
Procedural x Distributive	-.004	.016	-.015	.052	.032	.083
ΔR^2			.000			.004

*p<.05, **p<.01, ***p<.001

The results of these analyses indicate that the vast majority of the explained variance in both psychological health and job satisfaction were attributed to the DCS variables. Although the main effects of the four justice dimensions failed to account for additional variance when examining psychological health, the additive effects of the justice dimensions were significant for job satisfaction. In terms of the predictive value of individual variables, job demand had a significant negative main effect on employee wellbeing and job satisfaction. Work-based social support, was also predictive of both psychological wellbeing and job satisfaction, and produced positive main effects. Although job control was not significantly related to employee wellbeing, it was predictive of job satisfaction. The association between non-work support and the two measures of wellbeing

failed to reach significance. Similarly, none of the four forms of justice (i.e. distributive, procedural, interpersonal, informational) demonstrated significant main effects when regressed against psychological wellbeing. However, distributive justice and informational justice were significantly associated with job satisfaction.

In relation to the proposed DCS and justice interactions, none of the two-way or three-way DCS interactions were significantly associated with psychological wellbeing or job satisfaction. Further, the two-way distributive x procedural justice interaction did not reach significance for either outcome measure. The lack of significant relationships between the squared DCS and squared justice terms onto the two wellbeing measures indicates that linear, rather than curvilinear, relationships exist. Finally, the overall equations displayed in Table 2 significantly explained the variance in psychological wellbeing, $R^2_{adj} = .134$, $F(24, 348) = 3.390$, $p < .001$ and job satisfaction, $R^2_{adj} = 0.511$, $F(24, 335) = 16.624$, $p < .001$.

Discussion

The aims of the present study were to (1) determine the extent to which organizational justice contributes unique variance to employee wellbeing over and above more established sources of job stress (e.g., demand, control, support), and (2) identify the nature of the relationship between the psychosocial working conditions (represented in the DCS and organizational justice models) and employee health outcomes, by measuring for direct, interaction and non-linear effects. While the proportion of variance in psychological wellbeing attributed to organizational justice was not significant, the justice variables added to the explanatory power of the DCS when regressed against job satisfaction. In terms of the nature of the relationships between the working conditions and health, the results supported direct linear pathways between the predictors and the target variables. In terms of the interaction terms, none of the hypothesized DCS (e.g., demand x control x support) or justice (e.g., procedural x distributive justice) interactions were significant. The theoretical and practical implications of the specific findings will be discussed in the following sections.

The independent contribution of organizational justice

Overall, the regression analyses indicate that perceptions of organizational justice were a much stronger predictor of the work-specific measure of wellbeing (job satisfaction) than they were when examining the context-free measure (psychological health). It was expected that psychosocial working conditions would capture larger portions of the variance in job satisfaction, as this outcome specifically describes how people feel about themselves in relation to their work. Nevertheless, the inability of justice to capture a significant proportion of the variance in psychological health is in contrast to previous justice-health research where perceptions of fairness were predictive of mental health measures even after controlling for the effects of traditional stressors such as job demands and job control (e.g., Francis & Barling 2005; Elovainio et al 2004). The weak effects attributed to organizational justice in relation to psychological health may be due, in part, to an important operational difference between the current investigation and previous justice-health research. Specifically, the measure of social support used in the current study assessed multi-sources (e.g., supervisors and colleagues) and multi-forms (e.g., emotional, instrumental, appraisal) of support. This disaggregated approach is in contrast to the emotion-focused measure adopted in a number of previous studies in this area (e.g., Elovainio et al 2002; Kivimaki et al 2003) and may explain why the beta values for work-based support were particularly strong (see the columns labeled β in Table 2). Moreover, the inclusion of the disaggregated measure may be one of the key reasons why, after accounting for the DCS conditions, the justice dimensions failed to account for additional variance in psychological health. Unfair outcomes or treatment may still have an impact on job satisfaction, as this is more sensitive to what is happening in the workplace. However, the consequences of injustice may not be severe or persistent enough to

have a discernable impact on context-free measures of health once the full DCS has been taken into account.

The relatively weak connection between the justice variables and psychological wellbeing in the regression results should not diminish the importance of the justice-satisfaction relationship. The majority of working adults spend between one to two-thirds of their waking hours at work and thus the level of satisfaction they derive from their job can have a large impact on their overall quality of life (Murphy and Cooper 2000). Both the DCS variables and perceptions of justice were closely associated with job satisfaction and hence the results of this study suggest that both sets of variables need to be taken into account when developing strategies that can help create more satisfying workplaces.

The influence of individual DCS variables

The multiple regression results involving both psychological wellbeing and job satisfaction provided strong support for the individual DCS variables – demand, control and social support. Not only were the additive effects of these three variables significant (as evidenced by the large R^2 's) all were predictive of at least one of the outcome variables. Work-based social support was predictive of both psychological wellbeing and job satisfaction, suggesting that support provided by supervisors and colleagues can offer valuable opportunities for protecting and enhancing employee wellbeing. In terms of specific strategies to boost social support, the results of this and other research, indicate there is a need for managers, human resource personnel and workplace health professionals to ensure that employees have access to multiple forms (emotional, appraisal, instrumental and informational) and sources (supervisors, colleagues) of support (e.g., Curtona 1990; Noblet 2003). Direct supervisors, in particular, need to have the capacity to provide this more adaptable style of support as they are often the ones who have the authority and the expertise to address many of the challenges faced by employees.

Job demands were also predictive of both psychological wellbeing and job satisfaction. The relationship between demands and the two indicators of employee wellbeing were in the expected direction, with high demands being inversely associated with wellbeing and job satisfaction. This result parallels previous research involving job demands (e.g., Jeurissen & Nyklicek, 2001) and indicates that the pace, volume and complexity of the demands faced by employees should be monitored to ensure these do not undermine the satisfaction and health of employees. The remaining DCS dimension, job control, was closely associated with job satisfaction, although similar to a number of other studies, it was not predictive of psychological health (e.g., Akerboom & Maes, 1999). This result suggests that providing employees with the opportunity for greater skill discretion and decision making authority may provide important benefits for employees' job satisfaction.

The direct effects of organizational justice on employee health

Unlike previous studies examining the relationship between organizational justice and employee-level outcomes (e.g., Cohen-Charash & Spector 2001; Schmitt & Dorfel, 1999), the present study included all four dimensions of fairness (i.e., distributive, procedural, interpersonal and informational). However only two of these forms - distributive and informational justice - were predictive of employee wellbeing. The significant relationship between these forms of justice and job satisfaction indicates that employees' are more likely to be satisfied with their jobs if they perceive they are being fairly rewarded and if they receive timely and accurate explanations about the processes leading to the justice-related decision (Colquitt 2001). There are a number of strategies organizations can adopt in order to promote distributive and informational fairness including; ensuring that equity (rewarding employees based on their contributions) and equality

(maintaining reasonable levels of parity between employees) are taken into account when distributing resources such as promotions, bonuses or new work roles; providing all employees involved in a particular justice-related decision with accurate information about the decision-making processes; and giving employees and explanations as to why decision outcomes may have been delayed (Cropanzano et al., 2007). Although these strategies are directly aimed at increasing perceptions of fairness, the findings from this and previous studies indicate they are likely to also enhance job satisfaction (Cohen-Charash & Spector, 2001; Judge & Colquitt, 2004).

Linearity and interactional effects

The relationships between the psychosocial conditions represented in the current study and the outcome variables were linear. That is, increases or decreases in a certain condition were associated with proportional increases/decreases in the outcome measures. For example, the present results indicated that increasing levels of job demands were associated with worsening health and that keeping stressors at a minimum should therefore be beneficial. However, it is worth noting that one of the predictor variables, namely squared informational justice, demonstrated an inverse U-shape relationship with job satisfaction during preliminary analyses. Although this relationship did not remain significant, it highlights the possibility that an over- or under-supply of a certain condition could be detrimental to wellbeing.

The lack of support for the hypothesized interaction between distributive and procedural justice was consistent with previous research involving employee health outcomes (Francis & Barling 2005). However the synergistic health effects of these two forms of justice is under-researched and, given that distributive x procedural interactions have been supported (Tepper, 2001), this issue requires further attention. The presence of interaction effects may be related to the context in which the current investigation was undertaken and a failure to test for these may result in an incomplete or erroneous understanding of how to best manage perceptions of injustice.

There are two limitations that need to be kept in mind when interpreting the results of the current study. We utilized a cross-sectional study design involving employees from one occupational group (law enforcement). Future research in this area would therefore benefit from testing the combined DCS-justice model across time and with employees from multiple occupations and sectors. Further, due to reliance on self-report data obtained from the same source, for both the independent and dependent variables, common method variance is a possibility (Podsakoff & Organ, 1986). However, the latter limitation is more relevant to the dependent variables, wherein additional objective measures of the outcome variables would have enhanced the validity of the findings.

Conclusion

The results of the present study indicate that there is some potential for focusing on organizational justice as a means of protecting and enhancing employee wellbeing. The strong performance of the DCS across both job satisfaction and psychological health suggests that there would be considerable value in using this model as a foundation for addressing psychosocial working conditions, but building on this foundation to include organizational justice. Strategies involving distributive and informational justice may be particularly useful in achieving higher levels of job satisfaction. Overall, the present study has provided additional support for the health promoting potential of the DCS, but more importantly, the findings have added to the limited research linking organizational justice with employee wellbeing.

References

- Aiken, L. S., & West, S.G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Akerboom, S., & Maes, S. (2006). Beyond demand and control: The contribution of organizational risk factors in assessing the psychological well-being of health care employees. *Work & Stress*, 20(1), 21-36.
- Bies, R.J., & Moag, J.S. (1986). Interactional justice: Communication criteria of fairness. In R.J. Lewicki, B. H. Sheppard, & M. H. Bazerman (Eds.), *Research on negotiation in organizations* (Vol. 1, pp. 43-55). Greenwich, CT: JAI Press.
- Caplan, R. D., Cobb, S., French, J. R. P., Harrison, R. V., & Pinneau, S. R., Jr. (1980). *Job demands and worker health*. Ann Arbor, MI: Institute for Social Research.
- Chu, C., Driscoll, T., & Dwyer, S. (1997). The health-promoting workplace: an integrative perspective. *Australian and New Zealand Journal of Public Health*, 21(4), 377-385.
- Colquitt, J.A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, 86, 386-400.
- Cohen-Charash, Y., & Spector, P.E. (2001). The role of justice in organizations: A meta-analysis. *Organizational Behaviour and Human Decision Processes*, 86(2), 278-321.
- Colquitt, J.A., Conlon, D.E., Wesson, M.J., Porter, C.O.L.H., Yee Ng, K. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, 86(3), 425-445.
- Cropanzano, R., Bowen, D. E., & Gililand, S. W. (2007). The Management of Organizational Justice. *Academy of Management Perspectives*, November, 34 - 45.
- Cutrona, C.E. (1990). Stress and social support: In search of optimal matching. *Journal of Social and Clinical Psychology*, 9(1), 3-14.
- De Lange, A. H., T. W. Taris, et al. (2003). The very best of the Millennium: Longitudinal research and the Demand-Control-(Support) model. *Journal of Occupational Health Psychology*, 8: 282-305.
- Elovainio, M., M. Kivimaki, et al. (2002). Organizational Justice: Evidence of a New Psychosocial Predictor of Health. *American Journal of Public Health*, 92(1): 105-108.
- Elovainio, M., Kivimaki, M., Steen, N., & Vahtera, J. (2004). Job decision latitude, organizational justice and health: multilevel covariance structure analysis. *Social Science & Medicine*, 58, 1659-1669.
- Etzion, D. (1984). Moderating effect of social support on the stress-burnout relationship. *Journal of Applied Psychology*, 69, 615-622.
- Francis, L., & Barling, J. (2005). Organizational Injustice and Psychological Strain. *Canadian Journal of Behavioural Science*, 37(4), 250 - 261.
- Fujishiro, K., & Heaney, C.A. (2007). Justice at work, job stress, and employee health. *Health Education and Behavior*, Pre-published November, 15, DOI: 10.1177/1090198107306435.
- Goldberg, D., & Williams, P. (1988). *GHQ: Users Guide to the General Health Questionnaire*. Windsor: NFER-Nelson.
- Greenberg, J. (1990). Organizational justice: Yesterday, today and tomorrow. *Journal of Management*, 16, 399-432.
- Greenberg, J. (1993). Stealing in the name of justice: Informational and interpersonal moderators of theft reactions to underpayment inequity. *Organizational Behavior and Human Decision Processes*, 54, 81-104.
- Greenberg, J. and R. Folger (1983). Procedural justice, participation, and the fair process effect in groups and organizations. *Basic Group Processes*. P. Paulus. New York, Springer-Verlag: 235-256.
- Jeurissen, T., & Nyklicek, I. (2001). Testing the vitamin model of job stress in Dutch healthcare workers. *Work & Stress*, 15(3), 254-264.
- Judge, T.A., & Colquitt, J.A. (2004). Organizational justice and stress: The mediating role of work-family conflict. *Journal of Applied Psychology*, 89(3), 395-404.
- Karasek, R.A. (1979). Job demands, job decision latitude, and mental strain: Implications for Job Redesign. *Administrative Science Quarterly*, 24(2), 285-308.
- Karasek, R., & Theorell, T. (1990). *Healthy Work. Stress, Productivity and the Reconstruction of Working Life*. New York: Basic Books.
- Kivimaki, M., Elovainio, J., Virtanen, M., & Stansfeld, S.A. (2003). Association between organizational inequality and incidence of psychiatric disorders in female employees. *Psychological Medicine*, 33, 319-326.
- Kivimaki, M., J. E. Ferrie, et al. (2004). Organisational justice and change in justice as predictors of employee health: the Whitehall II study. *Journal of Epidemiology & Community Health*, 58(11): 931-7.
- Kivimäki, M., J. E. Ferrie, et al. (2005). Justice at Work and Reduced Risk of Coronary Heart Disease Among Employees. The Whitehall II Study. *Archives of Internal Medicine*, 165, 2245 - 2251.
- Kivimaki, M., J. Head, et al. (2003). Sickness absence as a global measure of health: Evidence from all-cause mortality in the Whitehall II study. *British Medical Journal*, 327, 364-369.
- Murphy, L. and C. Cooper, Eds. (2000). *Healthy and Productive Work: An international perspective*. London, Taylor and Francis.

- Noblet, A. (2003). Building health promoting work settings: Identifying the relationship between work characteristics and occupational stress in Australia. *Health Promotion International*, 18(4), 351-359.
- Rydstedt, L.W., Ferrie, J., & Head, J. (2006). Is there support for curvilinear relationships between psychosocial work characteristics and mental wellbeing? Cross-sectional and long term data from the Whitehall II study. *Work & Stress*, 20(1), 6-20.
- Schmitt, M., & Dorfel, M. (1999). Procedural injustice at work, justice sensitivity, job satisfaction and psychosomatic wellbeing. *European Journal of Social Psychology*, 29, 443-453.
- Shapiro, D., & Brett, J. M. (1993). Comparing three processes underlying judgements of procedural justice: A field study of mediation and arbitration. *Journal of Personality and Social Psychology*, 65, 1167-1177.
- Tabachnick, B. G. & Fidell, L. S. (2001). *Using multivariate statistics* (4th Ed.). Allyn and Bacon: Massachusetts.
- Tepper, B.T. (2001). Health consequences of organizational justice: Tests of main and interactive effects. *Organizational Behavior and Human Decision Processes*, 86(2), 197-215.
- Van der Doef, M., & Maes, S.(1999). The job demand-control(-support) model and psychological well-being: A review of 20 years of empirical research. *Work & Stress*, 13(2), 87-114.
- Warr, P.B. (1996). Employee well-being. In P. Warr (Ed.), *Psychology at work* (pp.224-253). London: Penguin Books.
- Warr, P., Cook, J., & Wall, T. (1979). Scales for the measurement of some work attitudes and aspects of psychological wellbeing. *Journal of Occupational Psychology*, 52, 129-148.
- Xie, J. L., & Johns, G. (1995). Job scope and stress: Can job scope be too high? *Academy of Management Journal*, 38(5), 1288-1309
- Ylipaavalniemi, J., Kivimaki, M., Elovainio, M., Virtanen M., Keltikangas-Jarvinen, L., & Vahtera, J. (2005). Psychosocial work characteristics and incidences of newly diagnosed depression: A prospective cohort study of three different models. *Social Science & Medicine*, 61, 111-122