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Combined effects of uncertainty and organizational justice on employee health: Testing the uncertainty management model of fairness judgments among Finnish public sector employees ☆

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Abstract

We examined whether the combination of uncertainty (lack of work-time control, and negative changes at work) and organizational justice (i.e., justice of decision-making procedures and interpersonal treatment at work) contributes to sickness absence. A total of 7083 male and 24,317 female Finnish public sector employees completed questionnaires designed to assess organizational justice, workload and other factors. Hierarchical regression showed that after adjustment for age, income, and health behaviors low procedural and interactional justice were related to long sickness absence spells. In accordance with the uncertainty management model, these associations were dependent on experienced work-time control and perceived changes at work.

Keywords: Organizational justice; Uncertainty; Psychosocial factors; Health care personnel; Sickness absence; Finland

Introduction

Organizational justice is a construct defining the quality of social interaction at work (Greenberg, 1990; Konovsky, 2000;Lind & Tyler, 1988). The term 'organizational justice' refers to the extent to which employees are treated with justice at their workplace (Moorman, 1991). Organizational justice has been mainly divided as a distributive, procedural and interactional component (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Folger & Konovsky, 1989; Greenberg,

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1986; Konovsky, 2000). These components of justice have been used as a theoretical framework in a wide range of contexts (e.g. Elovainio, Kivimäki, & Helkama, 2001; Folger & Konovsky, 1989; McFarlin & Sweeney, 1992; Moorman, 1991; van den Bos, Vermunt, & Wilke, 1997).

In the present study we focused on the procedural and the interactional component of organizational justice. The procedural component indicates, among other things, whether decision-making procedures: include input from affected parties; are consistently applied; suppress bias; are accurate; are correctable; and are ethical (Leventhal, 1980). The interactional element refers to treating individuals with politeness and consideration by supervisors when procedures are implemented (Bies & Moag, 1986; Tyler & Lind, 1992).

Organizational justice has been shown to play an important role in the health and well-being of employees (Brockner & Wiesenfeld, 1996; Elovainio et al., 2001). It has been associated with job dissatisfaction, retaliation, workplace aggression, lower work commitment and withdrawal (Folger & Konovsky, 1989; Jawahar, 2002; Masterson, Lewis, Goldman, & Taylor, 2000; McFarlin & Sweeney, 1992; Moorman, 1991). Previous research also suggests that low perceived justice is related to factors that influence susceptibility to illness, such as elevated unfavorable serum lipids and negative feelings (Räikkönen, Matthews, Flory, Owens, & Gump, 1999; Richards, Hof, & Alvarenga, 2000). Low justice has also been shown to increase risk of mental distress, psychiatric disorders, sickness absence, and poor self-rated health status (Boer, Bakker, Syroit, & Schaufeli, 2002; Elovainio, Kivimäki, & Vahtera, 2002; Kivimäki, Elovainio, Vahtera, & Ferrie, 2003a; Kivimäki, Elovainio, Vahtera, Virtanen, & Stansfeld, 2003b; Tepper, 2001; Zohar, 1995). The idea, proposing that perception of injustice is caused by discrepancy between efforts and rewards, resembles assumptions behind most of the classic occupational stress theories (Vermunt & Steensma, 2001).

A recent explanation for the strong effects of experiences of organizational justice on human reactions was offered by van den Bos, Wilke, and Lind (1998), who proposed that fairness matters to people, because it helps them to deal with uncertainty. This uncertainty model is based on the previous theory called fairness heuristic theory (Lind, 2001; Lind & Earley, 1992; Van den Bos & Van Prooijen, 2001) suggesting that people especially need fairness judgments when they are concerned about potential problems associated with social interdependence and socially based identity processes. The tension between the benefits of interdependence on the one hand and the risks associated with interdependence on the other has been termed the fundamental social dilemma.

This dilemma is concerned with the question of whether one can trust others (Lind & Tyler, 1988; Tyler & Lind, 1992; Smith, Tyler, Huo, Ortiz, & Lind, 1998). According to fairness heuristic theory, if people do not have information about the authority's trustworthiness, procedural fairness serves as a heuristic substitute in the process of deciding how to judge the trustworthiness. As a consequence, fairness heuristic theory suggest, that when people do not have information about authority's trustworthiness, they will react more positively towards the outcome they received from the authority when they believe that the authority had been employing fair as opposed to unfair procedures. On the other hand, this theory also suggests that when people do have direct, explicit information about authority's trustworthiness they are less in need of procedural fairness as a heuristic substitute and less strong fair process effects should occur.

According to a more generalized uncertainty management model of fairness judgments, people become especially attentive to the information they need to form fairness judgments when they find themselves in unclear or unpredictable situations (van den Bos, 2001; van den Bos & Lind, 2002; van den Bos & Miedema, 2000). Solid, firmly constructed fairness judgments either remove uncertainty or alleviate much of the discomfort that uncertainty would otherwise generate. Furthermore, when forming fairness judgments people make predictable leaps of judgment to resolve uncertainties they encounter within the fairness judgment process. According to van den Bos and Lind's (2002) uncertainty management model, fairness is important for people because fairness judgments are an effective and readily available device for handling the various uncertainties they face. Following this, it is reasonable to assume that perceived injustice in an uncertain situation represents a greater health risk than in a more certain and predictable situation.

According to the uncertainty management model, situations, whether social or not, that provoke feelings of uncertainty, doubt, or confusion provide the stimulus for seeking and using fairness judgments. The key element is the salience of either the unpredictability of future events or the inconsistency between important cognitions, experiences, or behaviors. In previous conceptions of the uncertainty management model, the range of uncertainty-provoking, unpredictable situations was very broad. In the current paper, we tried to specify this somewhat and, on the basis of previous literature, argue for operationalizing the work-related uncertainty through two sources: lack of control over working times, and recent negatively experienced changes at work.

The concept of control refers to power or mastery of the environment as a means for maintaining homeostasis, which may be reduced in stress situations

(Fisher, 1989). Controlling aversive situations make individuals believe that the consequence is created by their own response (Miller, 1979), thus increasing predictability and reducing uncertainty. Thus, control implies the power to reverse, attenuate or remove the source of threat. Competent decisions that enable the individual to control a potentially threatening situation are fundamental aspects of homeostasis, and are likely to reduce feelings of uncertainty (Fisher, 1989).

A form of control that has been shown to relate with health at work is control over working times, that is autonomy with regard to work-time (worker control over the duration, position, and distribution of his/her work-time) (Ala-Mursula, Vahtera, Kivimäki, & Kevin, 2002; Alfredsson, Spetz, & Theorell, 1985; Hammar, Alfredsson, & Theorell, 1994). Compared to other forms of job control (Karasek, 1979), which refers to multiple dimensions of control within work (opportunities to participate and use skills), the dimension of work-time control is located at the work/non-work interface. According to Frese (1989), the different dimensions of control may bear a varying relevance on health across individuals and across time. Low work-time control may hamper the successful combination of work-life demands with unavoidable non-work responsibilities, thus creating a sense of uncertainty and unpredictability reaching beyond a working day.

A recent meta-analysis has linked flexible scheduling, control over the beginning and end of a workday, with lower absenteeism (Baltes, Briggs, Huff, Wright, & Neuman, 1999). Low control of work-time at the occupational level has been linked with an increased risk of hospitalization and cardiovascular disease (Alfredsson et al., 1985; Hammar et al., 1994). A recent cross sectional study showed an association between perceived low work-time control and poor health among women, but not among men (Ala-Mursula et al., 2002).

Important sources of uncertainty in modern work life include continuous and rapid changes. According to the findings of Vahtera, Kivimäki, Pentti, and Theorell, (2000a) and Vahtera, Kivimaki, Uutela, & Pentti (2000b) and Kivimäki, Vahtera, Pentti, and Ferrie (2000), negative changes in the psychosocial work environment have detrimental effects on the health of employees. Their results showed that a combination of poor psychosocial work characteristics and an adverse change in some other psychosocial factor, such as predictability of the work environment or possibilities for participation in decision-making, was associated with the greatest risk of subsequent illness. We suggest that perceived negative changes in the work environment reflect a state in which employees are not able to affect things in predictable ways and, in this way, negative changes constitute one source of uncertainty at work.

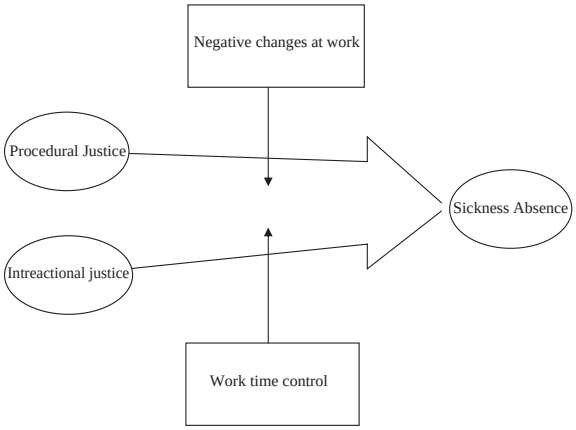

Fig. 1. The hypothetical model of the present study.

In sum, we hypothesized that organizational injustice is a type of job stressor, which affects psychological, physical, and behavioral reactions (Elovainio et al., 2002). Furthermore, we argued that the relationship between low justice and strain may be moderated by uncertainty-related aspects of the situation (van den Bos & Lind, 2002), such as low work-time control or negative changes. Several experimental studies indicate that uncertainty or lack of control and negative changes do not just affect people's perceptions of what they consider to be fair but also affect people's reactions to perceived fairness (Lind, 2001; van den Bos, 2001). This seems to provide supportive evidence for the idea that uncertainty or lack of control may intensify the relationship between organizational justice experiences and psychological, physical, and behavioral reactions.

Evidence from real-life situations and organizations is, however, scarce (Lind & van den Bos, 2002). In the current study, we examined whether both the procedural and interactional components of organizational justice became stronger predictors of employee health when a situation was perceived as uncertain (i.e., when work-time control is low, or when people perceive changes at work as being mainly negative). For the reasons mentioned above, we hypothesized that workers exposed to both low certainty and low justice (either procedural or interactional justice) would have the highest relative risk for sickness absence than other workers (Fig. 1).

Hypothesis 1. Procedural and interactional justice are related to a higher rate of sickness absence in men and women.

Hypothesis 2. The association between justice and health is stronger in uncertain situations characterized by low work-time control, and recent negative changes at work.

In previous studies a stronger health effect of injustice among women compared to men have been reported (Elovainio et al, 2001; Kivimäki et al, 2003b) and that is why we tested all models separately in men and women.

Methods

Sample

Data were drawn from the ongoing Finnish 10-town study, which is exploring the health of municipal employees in ten towns in Finland (Tampere, Espoo, Turku, Vantaa, Oulu, Raisio, Naantali, Valkeakoski, Nokia, and Virrat). (Vahtera, Kivimäki, & Pentti, 2001) These towns, including the five largest Finnish cities (except the capital) and five smaller nearby towns, provide municipal services for 1 million inhabitants (19% of the total Finnish population).

In 2000–2001, 32,299 full-time municipal employees responded to a questionnaire designed to assess organizational justice, workload, and other variables. Complete data was obtained from 7083 men and 24317 women and they formed the final cohort ($N = 31,400$) of this study. Of them, 85% were in permanent and the rest in fixed-term employment. The respondents consisted of 67% of the eligible population, i.e., all permanent and fixed-term employees at work full-time during the time of the survey, excluding temporary employees with a short-term contract (less than six months). Other characteristics of the respondents are presented in Table 1.

Measurements

Work-time control was measured on a six-item scale, modified from a standard survey instrument of Statistics Finland (Ala-Mursula et al., 2002). The respondents were asked to rate how much they were able to influence the following aspects of their working times:

(1) the starting and ending times of a workday
(2) the taking of breaks during the workday
(3) handling private matters during the workday
(4) the scheduling of workshifts
(5) the scheduling of vacations and paid days off, and
(6) the taking of unpaid leave.

The scale covered the work-time control elements contained in the regulations of municipal work contracts. Our scale also operationalized a key element of the different work-time models applied in the modern working life—that is, autonomy with regard to work time (worker control over the duration, position, and distribution of his/her individual work-time). Responses were given a five-point scale (1 = very little, 5 = very much). We used the mean of the six items (Cronbach's alpha (α) = 0.82). A more detailed description of the measure has been published elsewhere (Ala-Mursula et al., 2002).

Negative changes in the work environment were measured by an overall rating of changes at work that have taken place during the last 12 months "1 = mostly positive, 7 = mostly negative) and was used as a continuous variable.

Table 1
Means, standard deviations and correlations (Pearson) of the measured variables ($N = 31,400$)

	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12
1. Sex[a]	1.2 (0.4)	1.00											
2. Age (years)	44.9 (9.3)	.04	1.00										
3. Socioeconomic status[b]	1.2 (0.4)	.23	.06	1.00									
4. Current smoking[c]	0.2 (0.4)	.10	−.07	.13	1.00								
5. Sedentary life style[d]	0.2 (0.4)	.03	.09	.07	.07	1.00							
6. Obesity[e]	0.3 (0.4)	.10	.14	.11	.03	.15	1.00						
7. Alcohol consumption (g/week)	70.6(105.3)	.31	.02	.07	.19	.03	.06	1.00					
8. Control over working time	2.7 (0.9)	.05	−.09	−.12	.05	−.02	.02	.06	1.00				
9. Negative changes	3.7 (1.5)	.05	.05	.04	.02	.02	.02	.05	−.15	1.00			
10. Procedural justice	3.2 (0.9)	−.04	.02	−.05	−.03	−.02	−.03	−.04	.09	−.37	1.00		
11. Interactional justice	3.7 (0.9)	−.04	−.03	−.06	−.04	−.03	−.04	−.05	.11	−.36	.52	1.00	
12. Medically certified sickness absence	1.5 (1.9)	−.09	.05	.13	.13	.06	.12	−.02	−.08	.10	−.07	−.10	1.00

All correlations above 0.02 are statistically significant $p < 0.001$.
[a]Men = 1, women = 2.
[b]Manual worker = 1, White collard = 2
[c]Yes = 1, No = 2
[d]Yes = 1, No = 2
[e]Body mass index $< = 27 = 1$, Body mass index $> 27 = 2$

The procedural justice scale (seven items, Cronbach's alpha (α) = 0.92, Moorman, 1991) requested the degree to which respondents considered the procedures used at the workplace to be designed to collect accurate information necessary for making decisions, to provide opportunities to appeal or challenge the decision, to generate standards so that decisions could be made with consistency, and to hear the concerns of all those affected by the decision (cf. Leventhal, 1980).

The interactional justice scale (six items, $\alpha = 0.92$, Moorman, 1991) requested whether respondents thought that their supervisors were able to suppress personal biases, to treat subordinates with kindness and consideration, and to take steps to deal with subordinates in a truthful manner. In both scales, responses were given on a five-point scale ranging from 1 = strongly disagree to 5 = strongly agree.

Information on all of the participants' sickness absences between January 1, 2000, and December 31, 2001, were obtained from employers' registers and were used as measures of health. Medically certified sickness absence spells (more than three days of absence) were used. Overlapping, consecutive, or duplicated spells were checked. We counted the number of days worked during those years for each respondent. Days absent from work for reasons other than sickness were subtracted from that number. The number of days at work represented "days at risk" for each respondent and was weighted for in statistical models.

In Finnish municipalities, employers' registers contain information on each sick-leave period for every employee, giving the beginning and end dates of each spell. In accordance with regulations, each sick-leave certificate, irrespective of the place of issue, must be forwarded to these registers. In the case of short spells (three days or less), employees inform their supervisor on the morning of the first day of absence and fill out their own certificate explaining their absence. For long spells (more than three days), a physician's examination is needed. In this study we used only long spells as indicators of poor employee health.

In the municipalities, the employees are paid their full salary during periods of sick leave. The employers receive compensation from the Finnish Social Insurance Institution for salaries paid to employees on sick leave after the first eight days. To receive full compensation, the employers are required to keep strict records on sick leave. Maternity leaves and absences due to caring for a sick child are not, however, included as sickness absences. Regulations concerning the work contracts made by Finnish municipalities allow employees to be absent from work without interruptions in salary payment to care for under 10-year-old children who have an acute illness. Each such absence spell is fully compensated up to three days, and there are no limitations in the number of the spells per employee per year. Thus, the participants had no reason to falsely report being ill when staying at home to care for their own sick child.

Covariates were measured in standard ways: age, socioeconomic status (non-manual or manual) based on the Statistics Finland (1987) classification of the five-digit occupational titles smoking status (current smoker vs. not), alcohol consumption (high consumption >190 g of absolute alcohol per average week) (Kaprio, Koskenvuo, & Langinvainio, 1987), sedentary lifestyle (less than half an hour of fast walking per week) (Kujala, Kaprio, & Sarna, 1998), and obesity (body mass index $>27\,\mathrm{kg/m^2}$).

Statistical analysis

For each employee, the number of sickness absence was computed as well as the length of employment. We used Poisson regression analysis to estimate the strength of the association between job characteristics and sickness absence. Use of the Poisson model implies that the between-employee variance in the rates of sick leave equals the expected rate. When the dispersion of absences differed from that predicted by the Poisson model, we used the square root of the deviance divided by degrees of freedom to adjust for standard errors (Vahtera et al., 2000a, b). As regarding the job characteristics, the cut-off points for high and low level referred to $+1$ SD and -1 SD, respectively. The levels of job characteristics were treated as continuous variables. We adjusted rate ratios and their 95% confidence intervals for demographics (age and socioeconomic status) and behavioral factors (smoking, alcohol consumption, sedentary lifestyle, obesity).

The results were presented separately for men and women. The statistical significance of the interaction effects of uncertainty and justice variables were tested by using cross product term as suggested by Cohen and Cohen (1983). Absence rates were estimated, and the corresponding rate ratios and 95% confidence intervals (Cis) calculated, from Poisson models, for different levels of work-time control, and negative changes in those perceiving organizational justice low and those perceiving organizational justice high. All these models were adjusted for age, socioeconomic status and health behaviors.

Results

Baseline characteristics the participants and correlations between study variables are shown in Table 1. Mean age was 44.9 years (SD 9.3 years). Of the respondents 20% were classified as white collar, 27% were obese, 16% had sedentary life style and 24% were current smokers. Age, control over working times, and

justice variables were all related to sickness absence, whereas smoking, SES, obesity, and negative changes at work were all positively associated with sickness absence.

Table 2 presents the univariate associations of work-time control, negative changes and justice variables on medically certified sickness absence separately in men and women. Low work-time control, negative changes in work environment, low procedural and low interactional justice were all significantly related to higher risk of medically certified sickness absence spells. Table 3 shows the multivariate associations of work-time control, negative changes and justice variables on medically certified sickness absence separately in men and women. All of these associations remained statistically significant even after adjusting for age, demographics, and health-risk behavior.

The results of the moderating tests are presented in Table 4. Figs.2–6 show the findings on the moderating role of work-time control and negative changes in the relationship between organizational justice components and medically certified sickness absence. In men there was a significant interaction effect of control over working time in the relationship between procedural justice and sickness absence. As can be seen in Fig. 2 the effect of low procedural justice on sickness absence spells was stronger among men experiencing low work-time control compared to those men experiencing work-time control as high.

In women there was a significant interaction effect of control over working time and of negative changes in the relationship between both justice variables and sickness absence. As can be seen in Fig. 3 among women with low work-time control, those who experienced low levels of procedural justice were at higher risk of sick leave than those who had experienced procedural justice as high, and this effect was smaller among women with high work-time control. Similar moderating effect of work-time control was obtained in the relationship between interactional justice and sickness absence (Fig. 4).

Negative changes in the work environment moderated the association between justice and sickness absence only in women. Among women who perceived changes in the work environment to be mainly negative, those who had experienced procedural or interactional justice to be low were at higher risk of sick leave than those who perceived procedural or interactional justice to be high. This relationship between justice variables and sickness absence was weaker among women who perceived changes in the work environment to be mainly positive (Figs. 5 and 6).

We additionally tested the three-way interactions of uncertainty × justice and × gender, but none of these interactions were statistically significant.

Table 2
Rate ratios (95% confidence intervals) of medically certified sickness absence for levels of workload, job control and organizational justice in men and women

Measurement	Men ($N = 7083$)	Women ($N = 24,317$)
Control over working time		
High	1	1
Low	1.48 (1.41–1.55)	1.20 (1.17–1.23)
Negative changes		
Low	1	1
High	1.55 (1.47–1.62)	1.24 (1.22–1.28)
Procedural justice		
High	1	1
Low	1.58 (1.51–1.66)	1.15 (1.12–1.17)
Interactional justice		
High	1	1
Low	1.57 (1.49–1.64)	1.23 (1.20–1.26)

Cut off points for levels refer to +SD and −SD.

Discussion

Our results offer further support for the previously reported findings that lack of organizational justice is a health risk for employees. In addition, we showed that uncertainty-provoking, unpredictable situations, may intensify negative health effects of low organizational justice. These findings are in line with our hypothesis that health effects of low organizational justice are more intense in uncertainty-related situations (van den Bos & Lind, 2002).

According to the uncertainty management model, people have a fundamental need to feel certain about their world and their place within it. Uncertainty can be threatening, and people generally feel a need either to eliminate uncertainty or to find some way to make it tolerable and cognitively manageable. Justice or fairness judgments are an important way of trying to reduce uncertainty. Furthermore, according to the uncertainty management theory (van den Bos & Lind, 2002), stronger fair-process effects should occur when people do not have direct information about an authority's trustworthiness or are in general, uncontrolled, or unpredictable situations. Following this reasoning we hypothesized that health effects related to fair or unfair treatment at work may be stronger when people are confronted with unpredictable or uncontrollable situations. Furthermore, we argued that the two previously studied psychosocial factors, low work-time control, and recent negative changes represent general unpredictability in working life.

Table 3
Rate ratios (95% confidence intervals) of medically certified sickness absence for demographic variables, work time control, negative changes and justice variables

Independent variables	Men ($N = 7083$)			
Age (years)[a]	1.00 (1.00–1.01)			1.00 (1.00–1.01)
Socioeconomic status (manual workers)	1.97 (1.85–2.09)			1.80 (1.69–1.92)
Current smoking (yes)	1.45 (1.36–1.54)			1.45 (1.36–1.55)
Sedentary life style (yes)	1.30 (1.13–1.51)			1.14 (1.05–1.22)
Obesity (body mass index >27)	1.25 (1.17–1.33)			1.24 (1.17–1.31)
Alcohol consumption (g/week)[a]	1.06 (1.02–1.11)			1.05 (1.02–1.11)
Control over working time[a]		1.38 (1.31–1.45)		1.11 (1.06–1.20)
Negative changes[a]		1.44 (1.38–1.52)		1.20 (1.12–1.27)
Procedural justice[a]			1.34 (1.24–1.41)	1.08 (1.01–1.18)
Interactional justice[a]			1.33 (1.27–1.41)	1.30 (1.20–1.37)
	Women ($N = 24,317$)			
Age (years)[a]	1.00 (1.00–1.01)			1.00 (1.00–1.01)
Socioeconomic status (manual workers)	1.36 (1.31–1.40)			1.32 (1.27–1.38)
Current smoking (yes)	1.42 (1.38–1.46)			1.41 (1.37–1.48)
Sedentary life style (yes)	1.12 (1.07–1.32)			1.11 (1.07–1.15)
Obesity (body mass index >27)	1.41 (1.37–1.45)			1.40 (1.36–1.44)
Alcohol consumption (g/week)[a]	0.94 (0.90–0.96)			0.94 (0.89–0.96)
Control over working time[a]		1.16 (1.13–1.19)		1.13 (1.10–1.17)
Negative changes[a]		1.22 (1.17–1.25)		1.15 (1.12–1.18)
Procedural justice[a]			1.05 (1.02–1.07)	1.03 (1.00–1.04)
Interactional justice[a]			1.22 (1.17–1.23)	1.11 (1.08–1.15)

Multivariate models in men and women ($N = 31,400$).
[a]Cut off points for levels refer to +SD and −SD.

Table 4
Relationships between justice-uncertainty interactions and medically certified Sickness Absence

Variable	Men ($N = 7083$)		Women ($N = 24,317$)	
	χ^2	p-value	χ^2	p-value
Procedural justice × Control over working time	8.55	0.003	30.06	<0.001
Procedural justice × Negative changes	0.16	0.691	19.10	<0.001
Interactional justice × Control over working time	2.00	0.157	36.07	<0.001
Interactional justice × Negative changes	1.18	0.277	17.10	<0.001

Adjusted for demographic variables, and main effects of work time control, negative changes and justice variables. Poisson Regression Models.

Our results offered support for our hypothesis concerning women across both sources of uncertainty, which were studied. Among men the association between interactional justice and sickness absence was not dependent on work-time control, and the relationships between either justice component and sickness absence were not dependent on negative changes at work. Among men the main effects of interactional and procedural justice on sickness absence were stronger than among women. In sum, perceived justice or fairness in itself seems to be even more important and less dependent on third factors for men than for women. This is a finding obtained also in previous studies (e.g., Elovainio et al., 2002). It is also possible that men are more reluctant to perceive events as uncertainty sources than women. The negative health effects of temporary and other uncertain job contracts have, however, shown to be stronger among men compared to women (Virtanen, Kivimaki, Elovainio, Vahtera, & Cooper, 2001). One reason for the interaction effect in women may be simply the bigger number of women in the sample.

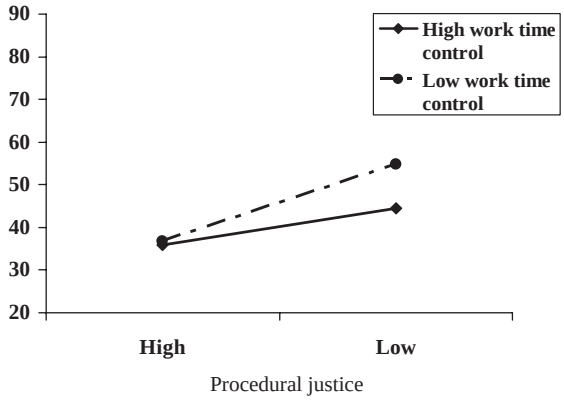

Fig. 2. Medically certified sickness absence spells in men/100 years worked.

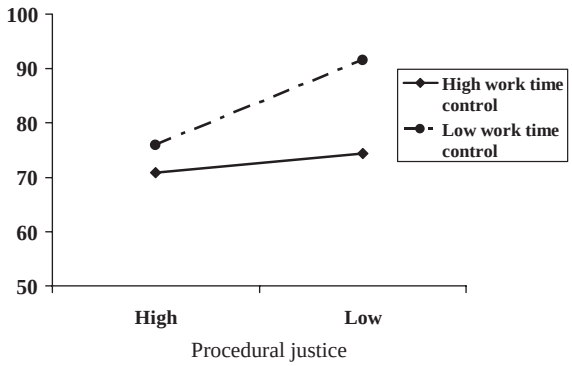

Fig. 3. Medically certified sickness absence spells in women/100 years worked.

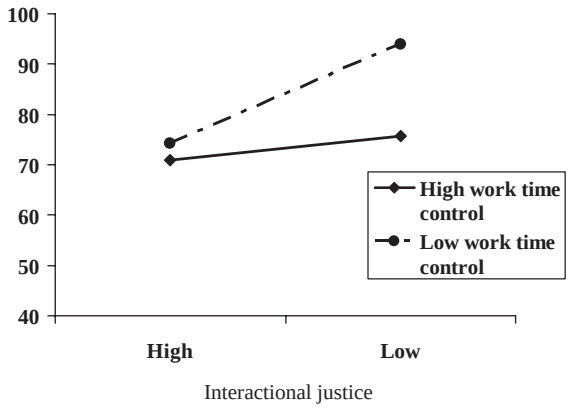

Fig. 4. Medically certified sickness absence spells in women/100 years worked.

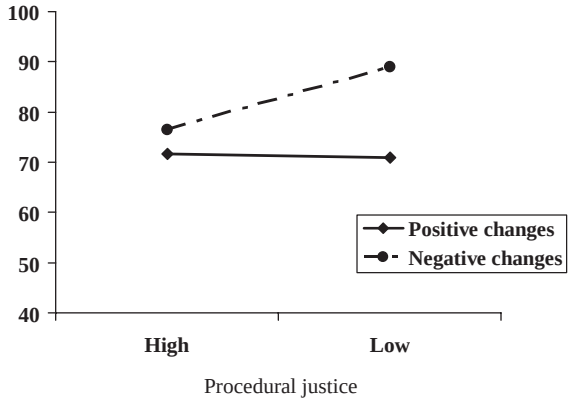

Fig. 5. Medically certified sickness absence spells in women/100 years worked.

Fig. 6. Medically certified sickness absence spells in women/100 years worked.

The relationship between perceived fairness of organizational decision-making procedures and employee health has been demonstrated by several studies across a wide variety of indicators of ill health: psychological distress, self-rated health status, incidence of psychiatric morbidity and sick leave (Elovainio et al., 2001, 2002; Elovainio, Kivimäki, Vahtera, & Steen, 2004; Kivimäki et al., 2003a, b).

Evidence of potential mechanisms through which injustice impacts health has also begun to emerge. Elovainio, Kivimäki, Vahtera, Virtanen and Keltikangas-Järvinen (2003) suggested that lack of organizational justice is associated with sleeping problems. According to Elovainio et al.(2001) both procedural and interactional justice evaluations are associated with stress reactions.

Justice research offers a theoretical framework for understanding the relationships between psychosocial factors and health problems. Control is a central concept in that framework. Control is a feeling that one can affect things in predictable ways (e.g., Langer, 1975; Thibaut & Walker, 1975; Thompson, Armstrong,

& Thomas, 1998; for an exception, see Nickels, Cramer, & Gural, 1992), so this concept too is related to certainty and uncertainty. Control implies that one can, or perceive that one can, change one's own outcomes or one's situations if one wishes to do so (Tan & Lipe, 1997). Confidence and control are related in that both seem to be reassuring and to promote feelings of being an effective actor in one's social context (Spreitzer & Mishra, 1999). When control is lacking, people have a greater interest in, and arguably a greater need for, fairness. Fairness defines a limited amount of rules and consequences of one's own actions and in that way offers a way to rebuild certainty and predictability. When an environment offers no control and decision-making rules which do not provide ways to ease the stress, negative health effects may follow.

We think that the uncertainty perspective tested here provides interesting and valuable insights into the psychology of fairness and justice and the effects these concepts may have on people's health. Besides the aforementioned reasons, we think that the uncertainty explanation may be important for organizational researchers because it contradicts economic perspectives on organizational behavior and managerial practice, which tend to think of organizational justice as some luxurious good, to be awarded to employees in quiet times. The uncertainty analysis and the data reported here, however, suggest that it is especially in times of turmoil that organizational justice is important and may have strong effects on human health.

Justice has been shown to be a fundamental dimension when people evaluate their relationships between other people in a given social context. Justice evaluations do not only affect people's beliefs, feelings, attitudes and behaviors, but also their self-esteem and their social identity (Lind & Tyler, 1988).

Several explanations, other than uncertainty management, have been offered for the strong effects of justice perceptions. Thibaut and Walker (1975) proposed an instrumental explanation, suggesting that people value fairness because it provides them indirect influence over the outcome of the decision-making process. A non-instrumental explanation for this relationship was offered in Lind and Tyler's (1988) identity-based group-value model. This model suggests that fair treatment informs people of their connections between group members and group authorities. Being fairly treated by important group members leads to positive feelings, such as feeling respected and being proud of one's group, and is associated with the perceived quality of social relationships between individuals and decision-makers (Tyler, 1990, 1994; Tyler & DeGoey, 1996; Tyler, DeGoey, & Smith, 1996).

Although our results are in line with the uncertainty management theory offered by van den Bos and Lind (2002; see also Lind & van den Bos, in press), the exploration of the links of different sources of uncertainties (of low work-time control or negative changes at work) and organizational justice with sickness absence produced some variability to the model. Low work-time control and the perception of negative changes at work added to the picture of the health effects of justice at least in women, reflecting the possibly varying relevance of different uncertainties on health. On the other hand, according to Elovainio et al. (2001) the ability to control relevant aspects of the environment alter the perceived justice of organizational procedures (procedural justice) and perceived interactional justice. According to this idea, justice judgments are not just a way to cope with uncertainty, but unfair treatment is also a source of uncertainty and unpredictability.

A limitation of this study is the reliance it places on cross-sectional design. This limitation prevents us from making causal statements about the results. We were partially able to prevent problems of common method variance by using both self-reported measures and organizational records. Common method variance may artificially inflate relationships between variables and may bias the results concerning bivariate associations. (Koeske & Koeske, 1990; McClelland & Judd, 1993). In medical studies, recorded sickness absence has been repeatedly used as a measure of health (e.g., Kivimäki et al., 2000; Vahtera, Kivimäki, & Pentti, 1997). Such data have at least two advantages. First they cover information on the health problems faced by employees during every working day of each study period. Thus, the quality of data in terms of coverage, accuracy, and consistency over time is likely to be higher than that attainable via self-reports. Errors related to limitations of memory are avoided. Second, sick leave records are not as open to reactivity as are self-reports. Because the process of recording sick leave is a routine procedure, the impact of measurement on the responses being obtained is minimized.

In the present study we were not able to take into account the effects of some established sickness absence risk factors. Previous studies have shown that stressful life events (Kivimäki et al., 2003b), organizational downsizing (Vahtera, Kivimäki, & Pentti, 1997), self-rated health, longstanding illness, minor psychiatric disorders and prevalence of coronary heart disease (Ferrie et al., 2005) are all strong predictors of sickness absence. However, it has also been shown that psychosocial factors at work, such as low control and low social support act as mechanisms or moderators in those relationships (Kivimäki et al., 2000).

Longitudinal research needs to be conducted to determine the causality of the relationships. The evidence reported here suggests that in future research the view should be broadened from individual-level concepts of control and injustice experiences to organizational-level

issues such as the functioning of management. Further studies are needed to clarify which specific fairness procedures and practices contribute to perceptions of control and workload. It is also important to examine the extent to which stressful characteristics of work create feelings of injustice.

The findings reported here suggest that procedural justice at the workplace may be a crucial and independent aspect of the psychosocial environment and that the health effects of justice evaluations may be stronger in uncertain and unpredictable situations. These results may not only increase our understanding of the psychosocial risks but also suggests new priorities for strategies of promotion of health and well-being at workplaces. Given the importance of justice and health concerns in the workplace managers should pay attention to decision-making and managerial procedures especially when big changes take place in organizations.

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