

Review Article

Organizational Justice and Health: Reviewing Two Decades of Studies

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Received 22 February 2022; Accepted 16 June 2022; Published 5 July 2022

Academic Editor: Richard Crisp

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Organizational justice refers to employees' perceptions of the fairness of decision-making rules and policies in the workplace. Lack of justice is suggested to be a significant psychosocial risk factor that affects employees' attitudes and health. The aim of this narrative review was to compile the evidence available about the effects of organizational justice on health. To this end, a literature search was carried out using the Web of Science, PubMed, and PsycINFO databases. The final sample consisted of 103 articles that studied the effects of justice on mental health (40 results), job stress (26), sickness absence (15), physical health (14), absenteeism/presenteeism (3), safety at work (3), and health of third parties (2). The results show that perceptions of workplace justice predict employees' mental health, stress-related health problems, and lower levels of sickness absence were relatively compelling. Future studies should focus on less-researched outcomes and on how these associations are modified by other variables for a better understanding of how justice affects health, with a view to being able to carry out preventive measures more efficiently.

1. Introduction

Psychosocial risk factors at work play a crucial role in employees' health, joining the traditional work-related problems of unemployment and exposure to physical, chemical, and biological hazards [1]. There are multiple theoretical models aiming to explain employees' responses to workplace psychosocial factors and their impact. More general approaches to work-related issues involve a wider set of factors, such as the motivation potential model [2] and the conservation of resource model [3], while others focus on more specific aspects of work and social relations, such as the job strain model [4], the effort-reward imbalance model (ERI) [5], the team climate model [6], the uncertainty model [7], and the organizational justice model [8]. These models have all been rigorously tested, and all of them have gained empirical support in predicting health and well-being.

Of these models, the job-demand-control-support (JDCS) model, the effort-reward imbalance (ERI) model, and the organizational justice (OJ) model [9] are probably

the most widely tested, and in this review, we focus on the last and most recent organizational justice (OJ) model.

According to the JDCS model, an imbalance between the amount of workload and the resources that the individual has for coping with it leads to sustained strain reactions and increases the risk of poor health. The third element, social support, moderates the negative impact of high strain [10]. From the ERI model perspective, the recurrent exposure to the combination of high efforts at the workplace with low rewards (e.g., money, esteem, and job security/career opportunities) increases the risk of incident stress-related disorders, due to the experience of failed reciprocity [11].

Conversely, the OJ model focuses on the employees' perceptions of the fairness of decision-making and the treatment of employees in organizations [12, 13], including three dimensions: distributive, procedural, and interactional justice. Distributive justice refers to the fair distribution of benefits and resources, procedural justice to the fairness of processes and decision-making procedures, and interactional justice to interpersonal relations and the interpersonal

treatment of employees by their supervisors [14, 15]. Some researchers further divide the third dimension into interpersonal (also called relational) and informational categories [1, 16].

The OJ model has its origins in the “equity theory” developed in the 1960s by John Stacy Adams, who considered that there is an impulse towards equity and that people compare their rewards and investments with those in the same job position, or with their own previous experiences [17]. Compared with the other main models in occupational psychology (JDCS and ERI), the OJ model stands out for paying special attention to social interactions at work [1] and for studying the procedures and rules that guide the decision-making in the organization [17].

Since the early twenty-first century, OJ has been considered a potential occupational health risk, as injustice in the distribution of resources and social rules and norms that govern a company can be a source of adverse emotional reactions that promote mental and physical morbidity [1, 9, 15]. Prolonged exposure to the stress caused by inequity is one of the most studied pathways that explain its impact on health [14], causing problems such as depression, anxiety disorders, sleep problems, or cardiovascular disease [1, 8].

As research has developed over the past two decades, more questions have arisen about how justice affects health. This has prompted research into the potential buffering effects of justice (e.g., [18] or [19]), its mediation/moderation role among other factors related to work or health (e.g., [20, 21] or [22]), the possible reverse effects on the relationship between the perception of justice and health (e.g., [23] or [24]), the effect of changes in levels of justice over time (e.g., [25, 26] or [27]), the effects of deviation from the group mean of perceived justice in the individual [28], and how perceptions of justice are socially constructed within the other unit/group members [29].

Previous reviews have explored some of these topics focusing on specific health outcomes or occupational groups. Ndjaboue et al. [15] completed a systematic review of prospective studies showing that procedural justice and relational justice are associated with mental health even after controlling for the DCS and ERI models. Additionally, Duchaine et al. [9] conducted a systematic review and meta-analysis, finding that workers exposed to psychosocial stressors at work had a higher risk of sickness absence due to a mental disorder. More recently, Lönnqvist et al. [30] showed that high organizational justice has been found to improve the work-related outcomes, health, and well-being of registered nurses.

On the other hand, it could be hypothesized that lack of organizational justice could affect the diverse health outcomes to a different extent. In line with this, a previous meta-analysis showed that although perceptions of unfairness were associated with both poorer physical and mental health, the association was stronger with indicators of strain and employee psychological conditions, rather than with employee physical health or unhealthy behaviour [31].

This narrative review aimed to explore and unite the available evidence about the effects of justice on health

including various types of outcomes related to the well-being of workers. Previous reviews of the topic have focused on a specific health outcome or specific occupational sectors. This review adopts a more generic approach to be able to put into perspective all the research carried out in the field and compare justice’s impact on different health outcomes. Hence, the objective of this study was to describe the main findings, limitations, and possible future research trajectories.

2. Method

To identify relevant studies, literature searches were conducted during May and June 2021 using the keywords “organizational justice” and “health” in the following databases: Web of Science, PubMed, and PsycINFO. The research produced a total of 815 articles published between 2001 and 2021. Of them, 211 were duplicated and therefore eliminated. The remaining 604 articles were initially analysed by reading their titles and abstracts to decide which ones to include. As inclusion criteria, it was established that (1) an empirical investigation had been carried out, (2) the association between organizational justice and health outcomes was studied, (3) the paper was readily available in English, and (4) the sample was composed of at least 100 participants. Exclusion criteria were (1) non-indexed publications, (2) conference papers and dissertations, and (3) studies that only measured work-related outcomes (e.g., job satisfaction and turnover intentions).

The final sample of studies included 103 articles published between 2001 and 2021. These were firstly classified based on the health outcomes studied with the objective of facilitating the detection of potential differences between them. As a result, the following seven categories were established (starting from the one with the most results to the one with the least): (1) mental health, (2) job stress/burnout, (3) sickness absences/illness reporting, (4) physical health, (5) absenteeism/presenteeism, (6) safety at work, and (7) effects on the health of third parties. At the same time, each category was divided into two depending on the study design (cross-sectional/longitudinal).

3. Results

The results are presented following the seven established categories and are summarized in Table 1.

3.1. Organizational Justice and Mental Health

3.1.1. Organizational Justice and Mental Health: Cross-Sectional Studies

(1) *Depressive Symptoms.* Lower OJ was associated with a higher prevalence of depressive symptoms among Korean office workers [32] and Taiwanese executives [33]. High levels of overall OJ were also linked to depression and burnout in a sample of Italian school teachers [34]. Elliot et al. [35] found that informational justice was associated with depression and psychological distress among aged care

TABLE 1: Organizational justice effects on health: main results.

Categories	Number of studies	Study design (<i>n</i> °)	Main results
Mental health	40	Cross-sectional (19)	Lower OJ was associated with a higher prevalence of depressive symptoms, lower mental health, suicidality, tinnitus (pJ and iJ), and higher rates of psychiatric morbidity. High levels of OJ are associated with fewer sleeping problems
		Longitudinal (21)	Higher justice has been prospectively associated with lower antidepressant medication (pJ) (2-year follow-up), a lower incidence of depression (2-year follow-up), lower odds of sleep problems (2-year, 10- to 16-year, and 4-year follow-ups), lower rates of minor psychiatric morbidity, self-rated health (1-year follow-up), and physical and mental health (1-year, 3-year follow-ups). Some studies found only a short-term effect between OJ and depression, mental health, and sleep difficulties
		Cross-sectional (21)	High OJ is associated with lower job stress, occupational strain, job burnout, emotional exhaustion, psychological distress, and biological indicators of stress. OJ could work as a moderator of the effect of other stressors on health (e.g., job insecurity, patient-related stress, negative leadership styles, or team climate)
Job stress	26	Longitudinal (3)	Low OJ was associated with higher psychological distress (2-year follow-up) and pJ with higher perceived stress (1 year after). pJ also produced exhaustion-reducing effects
		Experimental (2)	The low iJ group showed higher cortisol levels (HPA axis activity) compared with the high iJ group. Justice variability: heart rate levels were higher among those in the variable fairness condition, compared with the always-fair and always-unfair conditions
Sickness absence	15	Cross-sectional (3)	Higher levels of pJ and rJ have been associated with higher odds of illness reporting, poorer self-reported work ability, frequent self-reported disability, frequent consultations with a general practitioner, and with a higher risk of medically certified sickness absence spells
		Longitudinal (12)	High OJ was associated with a lower risk of short- and long-term sickness absence (with different follow-up durations) and a lower risk of disability pensioning (due to depression or to musculoskeletal diseases). Lack of pJ has been associated with refraining from seeking medical care (1-year follow-up)
Physical health	14	Cross-sectional (9)	High OJ has been linked to lower musculoskeletal symptoms, lower rates of chronic pain, lower somatic complaints, a smaller prevalence of some coronary heart disease risk factors, and less substance abuse (alcohol dependence and smoking rates)
		Longitudinal (5)	High OJ has been associated with lower cardiovascular heart disease incidence and mortality, a lower risk of developing metabolic syndrome, and levels of physiological health (immunoglobulin A levels)
Absenteeism/ presenteeism	3	Cross-sectional (3)	Higher OJ has also been related to lower levels of absenteeism and higher rates of presenteeism due to low back pain (pJ)
Safety at work	3	Cross-sectional (3)	OJ has been associated cross-sectionally with higher safety behaviour, higher compliance with safety policies, and less occupational accident frequency
Effects on the health of third parties	2	Cross-sectional (2)	Low rJ perceived by school staff was related to a higher risk of psychosomatic symptoms and depressive symptoms among pupils. Supervisors' experience of interactional injustice was linked to subordinates' higher rates of psychological distress and insomnia

Note. OJ = organizational justice; pJ = procedural justice; iJ = interactional justice; rJ = relational justice.

nurses, while the other subdimensions were not. Inoue et al. [36] found that among workers in a Japanese manufacturing company, interactional justice was the subdimension significantly associated with major depressive episodes in the past 12 months. Interactional justice moderated the relationship between conflict management styles and symptoms of somatic strain and depression in Malaysian public sector subordinates [18]. Finally, the organizational justice climate seemed to buffer the effect of work-family conflict on depressive symptoms [37]. In addition, Spell et al. [38] found

that distributive and procedural justice climate dimensions significantly influenced individual feeling of depression and anxiety.

(2) *Sleep Problems.* High levels of OJ were related to less work interference with family and fewer sleep problems among Finnish nurses (buffer effects) [39]. High OJ has been negatively linked to insomnia among Japanese workers [40] and fewer sleep problems among Finnish nurses [41]. In another study, Heponiemi et al. [19] compared physicians

working in the public and private sectors, finding that those working in the private sector were more satisfied with and committed to their jobs and had lower levels of psychological distress and sleep problems; this association was mediated by perceptions of OJ. Lastly, Hayashi et al. [42] saw that procedural justice and interactional justice were related to the onset of insomnia, but not to insomnia persistence in a sample of Japanese employees from a private company.

(3) *General Mental Health and Minor Psychiatric Disorders.* Low procedural justice and interactional justice were related to a negative change in mental health (measured by the WHO 5 Well-being Questionnaire) among German white-collar workers, while among blue-collar workers only procedural justice was related to mental health [43]. These two subdimensions (pJ and iJ) have been associated with minor psychiatric disorders and only procedural justice with poor self-rated health among Finnish female hospital employees [8]. Psychiatric morbidity was lower among Italian public hospital employees with higher levels of OJ [44]. Fisher et al. [45] showed how among Kenyan workers a contract breach (example of low distributive justice) impacts more on mental health (measured with GHQ-12) if the level of interactional justice was high, probably due to a violation of expectations and the previous relationship established with the employer. Finally, in a study conducted with a sample of Swedish office workers, Eib et al. [46] found that mental preoccupation with work appears to mediate the association between OJ and mental health (GHQ-12); moreover, this association was stronger for those workers with an external locus of control (moderator).

Moreover, lack of OJ is one of the psychosocial work factors that were associated with suicidality among Finnish anaesthesiologists [47]. Procedural justice and interactional justice were associated with tinnitus (the perception of a sound while an external source is absent) in German pharmaceutical employees [48].

3.1.2. Organizational Justice and Mental Health: Longitudinal Studies

(1) *Depressive Symptoms.* Higher levels of procedural justice were associated with lower risks of antidepressant medication during a two-year follow-up in a large sample of Swedish employees [27]. Bernhard-Oettel et al. [49] showed that procedural justice mediated the association between perceptions of job insecurity and depressive symptoms in Swedish employees only in the short term, without finding lagged effects. In addition, Åhlin et al. [50] found an immediate association between low levels of this dimension and depressive symptoms, but not two years after the initial measurement. Eib et al. [23] found longitudinal and bidirectional relations between procedural justice and depression and sickness absence. Distributive and procedural justice mediated the relationship between the employer's early response to a musculoskeletal injury in the workplace and the employee's subsequent depressive symptoms [51]. Distributive and procedural justice contributed to lower

depressive symptoms a year later in a sample of Dutch employees [52]. In this same study, distributive justice contributed to sickness absence in the following year and sickness absence was related to higher depressive symptoms. Low relational justice has been linked to a higher incidence of depression two years later among Finnish hospital personnel [53].

(2) *Sleep Problems.* Job insecurity has been associated with sleep difficulties via procedural justice in Swedish permanent employees in the short term (not finding lagged effects) [49]. Elovainio et al. [20] found in a large sample of white-collar British civil servants aged between 35 and 55 that long-term exposure to low organizational justice predicted sleep problems 10 to 16 years later. Sleep problems have also been studied as a mediator between OJ and other health outcomes, as minor psychiatric morbidity with a two-year follow-up [55]. When studying the effect of changes in OJ, Lallukka et al. [56] found that favorable changes in levels of relational justice were associated with lower odds of insomnia symptoms compared with a group with an unfavorable changeover in the long term (three waves of data at four-year intervals).

(3) *General Mental Health and Minor Psychiatric Disorders.* In a sample of Australian employees who have suffered a musculoskeletal workplace injury, lower levels of OJ were directly linked to poorer mental health shortly after the injury and indirectly at 6- and 12-month follow-up [57]. High levels of procedural justice were related to self-rated health at one-year follow-up [23] and bidirectionally among Swedish employees [58]. Relational justice was longitudinally associated with lower rates of minor psychiatric morbidity in British employees [59] and Finnish hospital employees at two-year follow-up [55]. In a sample of Swedish accountants, OJ was associated with physical and mental health at a one-year follow-up (GHQ-12); this relation was stronger when their working environment was perceived as demanding (high demands, low control, and low social support) [60]. After combining procedural and relational justice into a single dimension, higher levels of injustice were associated at the follow-up with health problems (self-rated health, minor psychiatric morbidity, and doctor diagnoses of depression) in a sample of public sector and hospital employees [61]. When studying the effects of changes in exposure to psychosocial factors in a sample of Dutch workers (aged 45–65), women exposed to a stable-unfavorable level of distributive justice had a significantly lower mental health score compared with those exposed to improved levels of this subdimension at the three-year follow-up [62].

In addition, high levels of procedural and interactional justice perceived by soldiers during deployment to an active war zone can protect them from post-deployment post-traumatic stress disorder symptoms two and a half years later [63].

Finally, some studies have explored the direction of the relationship between OJ and mental health. Lang et al. [24] carried out a longitudinal study with three different samples

of soldiers, concluding that depressive symptoms influence perceptions of justice, rather than vice versa. Nevertheless, Elovainio et al. [64] found results among Finnish physicians that provided more support for the predictive effect of work-related psychosocial factors on well-being (concretely on psychological distress, sleep problems, and job satisfaction) at four-year follow-up. Similar results were found by Elovainio et al. [65] when studying OJ as a risk factor for the onset of mental disorders in a sample of Finnish public sector employees.

3.2. Organizational Justice and Job Stress

3.2.1. Organizational Justice and Job Stress: Cross-Sectional Studies

(1) *Job Stress/Occupational Strain.* Higher interactional justice and distributive justice were associated with lower job stress among Turkish health personnel [66]. Frequently, OJ has been studied as a protective factor against work stressors. Procedural justice and job control were able to mitigate on-call-related stress symptoms among Finnish anaesthesiologists [22]. Janssen et al. [21] found that performing innovative behaviour was stressful only when both distributive justice and procedural justice were low. Heponiemi et al. [67] showed that OJ was associated with lower levels of patient-related stress and stress symptoms among Finnish female elderly care staff. Overall, levels of OJ seemed to mediate between team climate and occupational strain among Finnish municipal employees [8] and between OJ and the impact of negative leadership styles on stress and general health among Indian employees [68]. In addition, procedural justice seemed to mediate between job control and the development of strain symptoms in the same sample [69].

(2) *Burnout/Emotional Exhaustion.* OJ was negatively associated with job burnout among Chinese medical interns [70], Chinese primary school teachers [71], Taiwanese employees [72], and Swedish employment officers [73]. High distributive and procedural justice dimensions were related to lower emotional exhaustion among counsellors in therapeutic communities in the United States [74] and among Finnish municipal employees [75]. Moreover, perceived OJ reflected an inverse correlation with moral distress among Iranian intensive care nurses [76]. Distributive justice mediated the relationship between job insecurity and emotional exhaustion [77]. Lastly, Kausto et al. [78] found that job insecurity moderated the effect of procedural justice (among men and women) and interactional justice (only among women) on stress symptoms and emotional exhaustion in a sample of Finnish employees.

(3) *Psychological Distress.* Procedural justice and interpersonal justice were related to psychological distress in a sample of Japanese workers from a manufacturing company [79]. Additionally, Kobayashi and Kondo [80] found that low OJ was associated with higher psychological distress

among Japanese workers [80]. However, Noblet et al. [81] found that this association was significant only for the interpersonal justice dimension in a sample of Australian police officers. On the other hand, Yokouchi and Hashimoto [28] studied the deviation from the justice group mean as an alternative pathway by which OJ could affect health, finding that both low deviation and high deviation from the group mean in the case of interactional fairness and only high deviation in the case of procedural justice were positively associated with psychological distress.

(4) *Biological Indicators of Stress.* Herr et al. [82] found that the experience of injustice impaired endogenous regulation of leukocyte function by cortisol in German male factory workers. In addition, high levels of procedural justice and interactional justice were related to reduced heart rate variability in white-collar workers [83].

3.2.2. *Organizational Justice and Job Stress: Longitudinal Studies.* A lack of procedural justice was linked to increased perceived stress after one year in American construction workers, especially for the older ones [84]. Kampa et al. [85] found that authentic leadership negatively predicts emotional exhaustion through procedural justice (its exhaustion-reducing effects were stronger when emotional demands were high) in a sample of Finnish and German workers (lagged data from three waves). Oshio et al. [86] found that OJ was one of the job stressors related to psychological distress at a two-year follow-up in a large sample of Japanese workers. This relationship between work factors and psychological distress was mediated by work-family conflict, especially for women [86].

3.2.3. *Organizational Justice and Job Stress: Experimental Studies.* In two studies, the levels of OJ were experimentally manipulated. Yang et al. [87] found that the low interactional fairness group showed higher levels of cortisol (HPA axis activity) compared with the high interactional fairness group. In another study, Matta et al. [26] analysed the impact of justice variability on stress (measured as heart rate), finding that heart rate levels were higher among those in the variability-fair condition, compared with the always-fair and always-unfair conditions. Thus, justice variability appeared to moderate the relationship between workplace uncertainty and stress. It should be noted that both studies used a sample of undergraduates.

3.3. Organizational Justice and Sickness Absence

3.3.1. *Organizational Justice and Sickness Absence: Cross-Sectional Studies.* Higher levels of procedural and interactional/relational justice have been cross-sectionally associated with higher odds of illness reporting among Japanese workers with chronic disease [88], poorer self-reported work ability, frequent self-reported disability, and frequent consultations with general practitioners among German workers with prior poor sickness absence payments [89].

These two subdimensions have also been linked to a higher risk of medically certified sickness absence spells in Finnish public employees [90].

3.3.2. Organizational Justice and Sickness Absence: Longitudinal Studies

(1) *Sickness Absence.* High levels of organizational justice were longitudinally associated with a decreased risk of long-term sickness absence among Danish male employees with depressive symptoms [91], sickness absence in Finnish hospital employees during a two-year follow-up [92], and a reduced sickness absence rate after suffering a stressful life event and 30 months after the event (buffer effect) in a sample of Finnish hospital employees [14]. Interactional justice has been longitudinally associated with short-term (1–3 days) sickness absence in Finnish municipal employees at a 12-year follow-up [25], long and frequent sickness absence in Swedish employees [93], and short and long sickness absence spells in Finnish public sector employees [94]. Furthermore, Head et al. [95] found an association between low relational justice and an increased risk of sickness absence among both sexes, but relational justice levels predicted long spells of sickness absence only among women. In another study, the association between relational justice and sickness absence was found to be moderated by the financial situation in the workplace, in that high levels of relational justice predicted a lower rate of sickness absence during a stable financial situation and, conversely, higher levels of sickness absence under financial instability [96]. Additionally, high procedural justice has been associated with lower rates of sickness absence at a one-year follow-up [97] and lower rates of medically certified illnesses among Finnish public sector employees, especially among the older ones [94].

(2) *Disability Pensioning.* High interactional justice has been related to a lower risk of acquiring a disability pension due to depression, and relational justice has been linked to a disability pension due to musculoskeletal diseases among Finnish public sector employees [98].

(3) *Seeking Medical Care.* Lack of procedural justice has been associated with refraining from seeking medical care among Japanese employees at one-year follow-up [99].

3.4. Organizational Justice and Physical Health

3.4.1. Organizational Justice and Physical Health: Cross-Sectional Studies

(1) *Musculoskeletal Disorders.* OJ was found to be negatively related to musculoskeletal disorders (mediated by sleep disorders and emotional exhaustion) among French nurses [100]. In addition, Heponiemi et al. [67] found a relationship between OJ and musculoskeletal symptoms in female elderly care staff. Herr et al. [101] found a negative association between OJ and musculoskeletal pain symptoms only among German white-collar workers (the relationship among blue-collar workers was not significant).

(2) *Somatic Symptoms.* Lower levels of procedural and relational justice have been associated with chronic pain among middle-aged Finnish male municipal employees [102]. Procedural justice and interactional justice were associated with somatic complaints among German industrial workers [103].

(3) *Coronary Heart Disease.* Three studies have cross-sectionally studied the associations between OJ and different risk factors for coronary heart disease. Inoue et al. [104] found that procedural justice and interactional justice were associated with triglyceride levels among Japanese male workers. In a previous study, urinary concentrations of 8 OHdG (oxidative DNA damage indicator) were significantly higher among male workers from a manufacturing company that perceived lower levels of interactional justice [105]. Ford [106] found that low distributive justice and interactional justice were associated with higher diastolic and systolic blood pressure among American workers. This association was stronger among women with low levels of coworker support.

(4) *Substance Abuse.* Employees who reported lower levels of workplace justice were found to have a higher risk of alcohol dependence in a Taiwanese sample [107]. Low interactional justice was associated with a doubled risk of smoking in Japanese female managers [80].

3.4.2. Organizational Justice and Physical Health: Longitudinal Studies

(1) *Coronary Heart Disease.* A higher level of OJ was associated with a lower incidence of cardiovascular heart disease among London-based middle-aged office staff [61] and a 45% lower risk of cardiovascular mortality among Finnish factory workers at a 27-year follow-up [108]. The relational justice dimension has also been associated with a lower risk of incident coronary heart disease among British civil servants [109].

(2) *Metabolic Syndrome.* High levels of procedural and relational justice predicted a 25% lower risk of developing metabolic syndrome in a sample of male British civil servants [110].

Finally, Xie et al. [111] found that OJ moderates the relationship between job demands and psychological (emotional exhaustion) and physiological (immunoglobulin A levels) health in a sample of Chinese manufacturing employees; this relationship was moderated by individual levels of traditionalism (OJ is a stronger moderator for a high traditionalist).

3.5. Organizational Justice and Absenteeism/Presenteeism (Cross-Sectional)

(1) *Absenteeism.* Higher OJ has also been linked to lower levels of absenteeism among German pharmaceutical company employees [112]. Gaudet et al. [113] concluded that procedural justice mediated the relationship between

contingent reward leadership (CRL) and emotional exhaustion and emotional exhaustion mediated between procedural and interactional justice dimensions and absenteeism in a sample of Canadian healthcare workers.

(2) *Presenteeism*. The risk of presenteeism due to low back pain among Italian female nurses was found to be higher among those that reported higher procedural justice. The authors suggested as a possible explanation that workers with higher perceived justice could feel more protected against being exposed to excessive physical strain [114].

3.6. *Organizational Justice and Safety at Work (Cross-Sectional)*. Organizational justice has been cross-sectionally associated with increased safety behaviour in South Korean construction workers [115], fewer occupational accidents among Taiwanese construction employees [116], a greater organizational safety climate, compliance with safety policies, and a lower frequency of accidents among Ghanaian industrial workers [117].

3.7. *Organizational Justice and Effects on the Health of Third Parties (Cross-Sectional)*. Perceived unfairness by employees can also affect the health of others. Elovainio et al. [118] found that low relational justice perceived by Finnish school staff was associated with an increased risk of poor academic performance and a higher risk of psychosomatic symptoms and depressive symptoms among students. Furthermore, Rafferty et al. [119] indicated that supervisors' experience of interactional injustice resulted in abusive supervision, leading to higher levels of psychological distress and insomnia in subordinates.

3.8. *Organizational Justice Effects on Health: Workplace Characteristics*

3.8.1. *Type of Occupation (White- and Blue-Collar Workers)*. In a sample of German workers, interactional justice was associated with mental health and general health only among white-collar workers, while procedural justice was associated with mental health in both groups [43]. In another study, OJ was a significant predictor of musculoskeletal pain only among white-collar workers [82]. Herr et al. [83] noted that white-collar workers perceived higher levels of OJ and were more affected by the lack of it (its effect was more harmful). In the same study, procedural justice and interactional justice were related to a reduced heart rate variability (HRV) in white-collar workers [83].

3.8.2. *Type of Contract*. High levels of OJ mitigated stress symptoms related to working the night shift only and three shifts, as well as the patient-related stress associated with fixed-term work [67]. Heponiemi et al. [19] found differences depending on the type of employment in the relationship between OJ and work-family conflict, as this type of conflict was more common among fixed-term employees with low levels of OJ.

3.8.3. *Job Insecurity, Demands, Social Support, and Uncertainty*. Higher perceptions of job insecurity were associated with lower levels of procedural justice and therefore with higher depressive symptoms and sleep difficulties [49]. OJ has stronger effects when employees perceive high job demands, low job control, or low social support. Perceived job characteristics appeared to buffer the negative effects of low OJ on work attitudes and well-being [60]. Finally, OJ becomes particularly important in times of uncertainty (characterized by lack of control and negative changes), moderating the impact of these situations on health [90]. In addition, Kausto et al. [78] found that the effect of injustice is stronger for those experiencing job insecurity.

3.8.4. *Financial Situation in the Workplace*. In the study conducted by Peutere et al. [96], during a stable financial situation, higher relational justice predicted a lower rate of sickness absence, but during an unstable financial situation higher relational justice predicted a higher rate of sickness absence.

3.9. *Organizational Justice Effects on Health: Individual Characteristics*

(1) *Personality Traits or Characteristics*. High neuroticism [89], external locus of control [46], higher self-esteem [119], and traditionality [111] are individual traits or values that seemed to modulate the way people are affected by levels of fairness. Moreover, in Elovainio et al. [55], the association between procedural justice and self-certified sickness absence was dependent on hostility levels, and the association between relational justice and medically certified sickness absence was moderated by neuroticism.

(2) *Gender Differences*. Hjarsbech et al. [91] found that high and intermediate levels of OJ predicted a lower risk of long-term sickness absence only in men. Men who perceived high OJ had a lower risk (25% lower) of developing metabolic syndrome (cardiovascular risk factor), while little association was found in women [110]. Furthermore, the urinary concentrations of 8-OHdG (a risk factor for cardiovascular heart disease) were higher among the group with lower interactional justice only among men [105]. OJ was associated with chronic pain only among men [102]. Moreover, health behaviour (sickness absence) was related to levels of OJ and moderated by personality (hostility and neuroticism) only in men [55].

Job insecurity worked as a moderator between interactional justice and well-being only among women [78]. Low relational justice was significantly associated with minor psychiatric disorders only among women [120]. Coworker support decreased the association between unfairness and diastolic and systolic pressure only among women [106]. Low interactional justice was associated with double the risk of smoking in Japanese female managers [80].

(3) *Age Differences*. In a study conducted by Tenhiälä et al. [94], age moderated the relationship between procedural justice and long sickness absences, finding that when older employees experienced higher levels of procedural justice, they were 12 percent less likely to be absent from work due to medically certified illnesses. Yaldiz et al. [84] found that age moderated the relationship between procedural justice and perceived stress. This association was statistically significant only among the oldest, suggesting that lack of procedural justice would be more detrimental for them.

Moreover, it should be noted that some health outcomes are affected by normal ageing. For example, Heponiemi et al. [67] saw that higher age was associated with lower levels of stress symptoms and higher levels of musculoskeletal symptoms, and Leineweber et al. [58] found that that age was negatively associated with self-rated health.

4. Discussion

This review has explored the available evidence about the associations between organizational justice and different health outcomes. Our sample was composed of 103 studies, in which the most frequent outcomes were those related to mental health and stress-related outcomes.

Within the “mental health” category, the results show that lower levels of justice result in a higher frequency of depressive symptoms and sleep problems over time. However, some longitudinal studies have found immediate associations, but not lagged ones at two-year follow-up [49, 50]. This could be indicating that injustice affects employees’ mood mainly in the short term, but that there could be prolonged effects if the levels of injustice are also prolonged, leading to continuous exposure.

Moreover, sleep problems seem to be a potential mediator between OJ and other health outcomes, such as minor psychiatric morbidity [55] or musculoskeletal disorders [100]. In line with this, the job stress recovery framework suggests that sleep disorders impair proper recovery, leading to other health problems [121].

On the other hand, exposure to low organizational justice at work has been linked to higher levels of burnout, job stress, emotional exhaustion, and psychological distress in this sample. As with sleep problems, stress may work as a mediator between OJ and other health outcomes and as a protective factor buffering the effects of other stressors on health, such as the performance of innovative behaviour [21], negative leadership styles [68], job insecurity [78], or job control [69].

From the studies on sickness absence, it could be concluded that low OJ predicts both short- and long-term sickness absences. In addition, high levels of OJ may help employees feel more supported when they need to report illnesses [88] or seek medical care [99].

Low OJ has also been associated with coronary heart disease, musculoskeletal disorders, somatic symptoms, and substance abuse. It should be noted that most of the studies included in this category were cross-sectional, and therefore, a causal relationship or even the direction of the associations cannot be yet inferred.

On the other hand, the results showed that the effect of OJ on health is moderated by other contextual factors. In general terms, white-collar workers seem to be more affected by levels of organizational justice than blue-collar ones [43, 82, 83]. These results might be explained by the type of social exchange that each type of worker establishes with their supervisors and the organization. It has been suggested that social exchange is stronger among white-collar workers, while blue-collar workers establish an exchange with the organization that is primarily economic [43].

OJ appears to become particularly important when the situation at work is not optimal or when justice levels are unstable. OJ has stronger effects when employees perceive high job demands, have low job control or low social support [60], when they are in situations of job insecurity [49, 78], and in times of uncertainty [90]. When it comes to justice variability levels, as Koskenvuori et al. [25] have shown, an unfavorable change in OJ could be more detrimental than stable low levels of justice. In an experimental study conducted by Matta et al. [26], similar conclusions were found, as being treated unfairly on a consistent basis was less stressful (in terms of heart rate and heart rate variability) than being fairly, but variably so.

One possible explanation for these results is that justice helps to deal with stressors because it works as an indicator of the trustworthiness of the organization and helps in dealing with uncertainty [14]. Therefore, justice works as a heuristic in situations of uncertainty that helps in terms of knowing what to expect from the organization. The uncertainty model could also help to explain the impact of changes in OJ [25, 26], because justice variability could be considered a source of uncertainty itself.

On the other hand, it should be considered that some of the results found in this review may be also explained by the ERI and JDC models, due to their similarities with the OJ model. For example, low levels of OJ have been suggested as an indicator of high job demands [43], procedural justice could be considered a measure of job control [32], and the distributive justice dimension has been seen as an analog of the ERI model [64]. However, the OJ model aims to capture the relational and administrative dimensions of the workplace environment [28], which is a relevant difference from other theoretical models and a key point to understanding the diverse impact that injustice can have among occupations or cultures.

Furthermore, some individual characteristics could be important for understanding how people are affected by unfairness. Personality traits, such as neuroticism and hostility [55, 89], may influence how people are affected by the lack of OJ. In Rafferty et al. [119], employees with a more positive view of themselves (higher self-esteem) were more negatively influenced by a supervisor’s abusive behaviour. Besides, personal values, such as justice sensitivity [43] or traditionalism [111], might moderate an employee’s reactions to stressors.

Moreover, several studies have found significant differences between sex and age groups. These differences may be explained by the different treatments received. For example, female employees are often treated structurally

unfairly in the distribution of salary (the gender pay gap), exposing them to lower levels of justice [62]. However, it has also been suggested that working conditions often affect men somewhat more negatively [110], although the concrete causes and consequences of these differences are still not well defined.

4.1. Frequent Limitations and Future Research. Among this sample of studies, OJ was always assessed using quantitative self-report measures. It might be useful to complement these data with other types of indicators, such as documentation about procedures and rules in the organization and qualitative measures (e.g., semi-structured interviews). Qualitative data would help in enhancing understanding of why justice matters to people and how they are affected by the lack of it.

Some longitudinal studies did not find lagged effects of justice but only immediate ones [49, 50]. As it seems that the effect of justice on health is particularly strong in the short term, longitudinal studies with shorter follow-ups would be useful for studying how prolonged in time the effect of injustice at work on health could be, and how it develops. In addition, levels of organizational justice should be measured over time as well, as the variability in those levels might be a determinant, as some previous studies have shown [26, 56].

Furthermore, it would be worth considering whether high levels of OJ could lead to undesirable effects under certain circumstances, such as an employee feeling too committed to their employers and carrying on working despite discomfort (e.g., [114]). This is a potential secondary effect that, as far as we know, has not been suggested or explored before.

Finally, most of the studies included in this review were from high-income European countries and Japan, and white-collar workers were overrepresented. This restricts the generalizability of the results as far as non-Western countries are concerned. As some studies have already indicated, there are cultural differences when examining the effects of organizational justice (e.g., [45, 111]), so it would be interesting to explore these differences in greater depth using samples from different cultural and economic backgrounds [121, 122].

5. Conclusion

Organizational justice is a well-established psychosocial work factor that represents how equity in the distribution of resources and the quality of the social relationships in the workplace affect employees' health. The evidence available today makes it possible to affirm that levels of perceived organizational justice have a causal effect on employees' mental health and stress levels. Short and long spells of sickness absence have also proved to be more frequent among those experiencing unfairness in their workplace. However, questions remain as to the relationship between OJ and physical health, absenteeism, or safety behaviours, or how the effects of OJ are modulated by other work factors or individual traits. It would be constructive to have future

studies focus on these less-researched topics and on how this impact develops to be able to prevent its deleterious consequences by increasing levels of organizational justice more efficiently.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

This work was supported by the Academy of Finland (39390), Open access funded by Helsinki University Library.

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