

Evidence for the Inter/Intra-Relationship between the Sense of Fairness at Workplace, Distress, and Health Outcome: A Systematic Review

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Abstract

The concepts of “Unfairness” and “Health” are strongly inter/intra-related and based on a symbolic (dynamic) interaction concerning the Person per se and its environmental contexts. Especially, in the workplace, this relationship tends to be moderated by the presence of a variety of stressors associated with the occupational field and the type of unfairness. Under this light, it seems that effects of unfairness are inclined to affect the physiology of the body and the psychological health of the individual. In other words, the sense of injustice in workplace or elsewhere seems to be part of the physiology of the organism, mainly through its results into situational contexts full of stress and strain, as some of the reviewing studies have mentioned. The purpose of this study was to examine all recent research regarding the relationship between perceived unfairness and psychological health. The analysis showed that perceived unfairness influences the relationship between organizational stressors and strain. The findings suggest that improving fairness at work does matter for disease prevention and mental health promotion policy.

Keywords

(Un)fairness, (In)justice, Occupational Stress, Health, Systematic Review

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1. Introduction

According to the World Health Organization (WHO), “Health” has been defined as “a complete state of physical, mental, and social well-being and not merely the absence of disease or infirmity” (World Health Organization, 1948). Taking into consideration this classical definition, stressful working conditions have been identified as a major, high-risk factor not only for physical, but also for psychological health as well (Ndjaboue et al., 2012). This identification is of crucial importance, especially in the background of contemporary socio-economical circumstances.

For the last decades, employee’s health has attracted the interest of the academic community, due to the close relationship of the Person per se and its occupational environment. However, more recently researchers have extended this declaration, so as to include analyses of social and organizational characteristics of the work environment, such as employees’ perceptions/appraisals of fairness in the organization, denoted as “organizational justice” (Herr et al., 2015; Robbins, 2012).

Employees place a high premium on justice, because it is relevant for instrumental reasons (e.g., fairness ensures that rewards are controllable and predictable), relational reasons (e.g., fairness indicates that recipients are valued and respected), and moral reasons (e.g., fair treatment is a moral imperative that everyone is owed). It is therefore not surprising that the fairness of work outcomes, procedures, and interpersonal treatment is able to predict a variety of employee attitudes (e.g., job satisfaction, organizational commitment) and behaviors (e.g., task performance, citizenship behavior) (Colquitt et al.; Robbins et al., 2012; Yang et al., 2014), not to mention that the allostatic load coming from the negative energy at work has detrimental and direct mental and physiological costs (stress and anxiety disorders, chronic pain and fatigue etc., McEwen & Wingfield, 2003). For example, Tepper (2000) examined data from 362 employees and found that unfair supervisor behavior was positively associated with employee anxiety, depression and emotional exhaustion. Moreover, Grandey et al. (2004) surveyed 198 call centre employees and found that experiencing customer aggression was perceived as threatening and stressful, and was associated with heightened levels of emotional exhaustion, emotional regulation and work absences.

The Perceived Unfairness Model (Jackson et al., 2006) proposed that the effects of perceiving unfairness might accumulate and compromise physical health. Another relevant theoretical framework is that of the Fairness Theory (Folger & Cropanzano, 2001). According to its theoretical axioms and practical implications, fairness is an inner human drive, taking place into exchangeable situational contexts, a drive which motivates individuals to strive for justice, as well as an intense desire to hold someone accountable throughout expressing justice judgements and morality standards. In parallel, fairness is a three-fold transactional state i.e. the perceived occurred harm, the following reactions or consequences, and the organizational effects (that is to say those actions violated a personal or social ethical values).

A typology of fairness as Colquitt (2001) mentioned, is consistent of as many as four types. Distributive justice is an evaluation of the total prices and rewards received by the employee. Procedural justice refers to the fairness of decision-making processes. Interpersonal justice refers to the latitude, the sense of respect as it has been taken by the employee, and last but not least, informational justice refers to the quantity quality of information provided by the organization.

Another worthwhile facet of Interpersonal Justice in terms of unfairness is the Interactional Justice, which sends the clearest signal of social devaluation and rejection, as it entails social interactions characterized by a lack of respect and propriety (Yang et al. 2013). Greenberg (2004) concluded that interactional unfairness seems to be the most stressful type of unfairness. Based on the principles of the social self-preservation theory, exposure to the interactional unfairness should therefore trigger the release of cortisol, a fact of high importance for the human homeostasis.

The Social self-preservation theory (Dickerson & Kemeny, 2004) elicits the effects of interactional unfairness on cortisol activity and delinquent behavior. These theory standpoints that some people’s social self-preservation system is sensitive to potential threats of their social self. For example, when they feel threatened, this system cascades physiological, psychological, and behavioral responses so as to manage the threat including HPA activation and the release of cortisol (Dickerson & Kemeny, 2004). So cortisol, once released, mobilizes resources, and tunes activity in other physiological systems in order to respond to the short-term demands of threats (acute stress) (Sapolsky, 2004). As Dickerson & Kemeny (2004) proposed in their meta-analysis, suggests acute, assessed social threats lead to the strongest cortisol activity. So, a deep understanding of the health-related out-

comes of unfairness necessitates a thorough examination of physiological mechanisms, such as the release of cortisol by the hypothalamus-pituitary-adrenal—HPA axis (Yang et al., 2013). The HPA Axis acts as a counter regulatory system through its release of the anti-inflammatory hormone cortisol. In contrast with acute stress, chronic stress has been shown to reduce the sensitivity of leukocytes to these anti-inflammatory activities, variously denoted as glucocorticoid resistance, impaired the action of glucocorticoid sensitivity (Cohen et al., 2012; Miller et al., 2002).

Therefore, there is growing evidence that perceived unfairness is a factor that plays an essential role in the physical health of the professional class of workers. Longitudinal studies have empirically linked unfair treatment to myocardial infarctions, definite angina, cardiovascular deaths and many other milder physical symptoms (Elovainio et al., 2002; Ford, 2014; Robbins et al., 2012).

In this quantitative systematic review, we also examined the related terms of organizational justice and reciprocity. To be more specified, Organizational justice could be defined as employees' appraisals of fairness as they are received by the organization. In this concept, organizational justice and psychological contract are similar, yet distinct concepts (Ndjaboue et al., 2012; Robbins et al., 2012). The term includes a procedural component (decision making processes), which refers to the fairness and consistency of decision-making procedures, as well as a relational component, which refers to the fairness and respect with which employees are treated by their supervisors (interactional justice). Organizational Justice captures the social dimensions of the occupational environment, and establishes, often, conceptualizations of work stress (Bedi, 2012; Herr, 2015). Furthermore, as determinant of social stress, has been identified as a predictor of poor health and well-being (Ndjaboue et al., 2012; Robbins et al., 2012) Scholars on organizational justice have demonstrated a strong negative association with cardiovascular diseases (Herr et al., 2015). Moreover, it seems that injustice is suggested to be more harmful to white-collar workers than to blue-collar workers because of a different type of relationship with their superiors and context of the organization, this means that the relationship of white-collar worker tends to be more strongly characterized by obligations and expectations beyond the formal contract (Herr et al., 2015).

Making a reference to the meaning of Reciprocity, the term is defined as a challenging theoretical and practical spectrum ranging from under-benefitted reciprocity (receiving less than deserving) to balanced reciprocity (when the person perceives that there is a balance between) to over-benefitted reciprocity (that is to say receiving more than deserving) (Taris et al., 2002).

As for the consequences of unfairness, we could mention that, negative psychological occupational climate may cause depression and detachment from one's mental processes, and victims are more likely to limit their involvement with the organization (Bedi et al., 2012; Robbins, 2012).

So, Interpersonal aggression tend to be emerged as a dangerous stressor that may trigger a psychological and/or physiological stress response (Glomb & Cortina, 2006) and elicit stress and strain in such a way that employees struggle to make sense of and cope with the stressful event (Bowling & Beehr, 2006). Moreover, workplace aggression has been defined as a form of behavior directed to produce physical, verbal or psychological harm to the employees or the organization itself (Baron & Neuman, 1996). Research on workplace aggression clearly demonstrates its association with a variety of negative individual and organizational consequences including feelings of anxiety, anger, depressed moods job dissatisfaction, turnover, and burnout (Bedi et al., 2012).

On Burnout, literature converges to define it as a state of physical, emotional and mental exhaustion caused by chronic job stressors (Pines & Aronson, 1988; Schaufeli & Enzmann, 1998). Early research had been focused on caregiving and other helping professions (Maslach, 1982; Leiter & Maslach, 1988), but during the last decades, there has been increased interest and evidence based affirmation, that burnout is a pervasive phenomenon, that occurs in almost every professional field (Bakker, Demerouti, & Schaufeli, 2002). The three "dimensions" of burnout are: emotional exhaustion (depletion of emotional resources), depersonalization (cynicism) and diminished personal accomplishment (reduced personal efficacy) (Maslach, 1982; Leiter & Maslach, 1988; Schaufeli & Bakker, 2004). Empirical data clearly emphasize its association with a variety of individual and environmental or organizational predictors (Brewer & Clippard, 2002; Leiter & Maslach, 1988; Maslach et al., 2001; Schaufeli & Enzmann, 1998). In contrast to the state of burnout, a "core of engagement" as the positive antithesis of it, has been highly supported with vigour (that is to say a high level of energy and resilience at work) and commitment (to say a sense of meaning of life, enthusiasm, inspiration, pride and challenge) as the antithetical dimensions to exhaustion and depersonalization and cynicism (Moliner et al., 2012; Schaufeli et al., 2002).

All in all, psychiatric Morbidity have been assessed with HPQ (Health Problems Questionnaire) evaluating

the 12-month prevalence of seven DSM-IV mental disorders and two DSM-III-R substance disorders: major depression, generalized anxiety disorder (GAD), specific phobia, social phobia, agoraphobia without panic, panic attack, obsessive-compulsive disorder, alcohol dependence, and drug dependence. In the context of this cross-sectional study, it has been found that psychiatric morbidity was higher among healthcare professionals with higher perceived injustice. The association between justice and psychiatric morbidity does not appear to be explained by psychosocial work characteristics, with the exception of job control, which made a modest contribution. In a study among Finnish hospital personnel (mostly women), an association between relational justice and psychiatric morbidity after having adjusted for job control and social support has been proven (Elovainio et al. 2002). Similarly, another recent study, conducted on a cohort of British white-collar civil servants with a large proportion of men, demonstrated that justice into the occupational region, was an independent predictor of psychiatric morbidity and that the association weakened only slightly when adjusting for the effort-reward ratio (Gigantesco, 2011).

2. Method

Data were collected using Pubmed database and literature was searched with a following algorithm: (“psychological stress” OR distress) AND (fairness OR unfairness). The studies were first selected on the basis of their title and abstract. This was the first selective criterion. For practical reasons, articles had to be available only in English language. The studies selected for this review were those: (1) published between 2010 and 2015 (2) in a peer review journal, and (3) measured “Fairness” as an exposure factor at workplace. The studies that have been included here have to present detailed and main results. Therefore, abstracts and short report studies were not considered.

The data base search identified 88 articles. 37 articles were excluded because they were published before January 2010. We didn’t include articles that do not provide initial data, such as meta-analyses and systematic reviews and articles assessed as irrelevant to our subject, after reading either the abstract or the whole manuscript. Finally, 9 articles were remained to be reviewed.

3. Results

The results of the aforementioned studies (Quantitative and Qualitative type of studies) are depicted and overviewed on **Table 1**:

Table 1. Quantitative and Qualitative-type Reviewed studies.

Reference	Study Design	Independent variable	Dependent variables	Control variables/issue of study	Number of participants included in analyses	Results
Rodwell & Gulyas, (2013)	Cross-sectional	Organizational justice: 20-item scale (Colquitt, 2001) = 4 types of justice (procedural, distributive, fairness, interpersonal, informational)	Job satisfaction Organizational commitment Career commitment Psychological distress	Psychological contract fulfillment, Psychological contract obligations, Psychological contract breach Negative affect	253	Procedural justice was negatively related to distress Informational justice was positively related to distress Interpersonal justice was positively related to job satisfaction
Bedi, Courcy, Paquet, & Harvey, (2012)	Cross-sectional	Inter-personal aggression: 23-items scale developed for this study	Burn-out: Maslach Burnout Inventory Psychological climate	Gender Position tenure Organizational tenure Psychological climate	1893	Interpersonal aggression and psychological climate predict employee’s burnout Psychological climate partially mediates the relationship between interpersonal aggression and two of the three burnout dimensions: emotional exhaustion and depersonalization

Continued

Moliner et al. (2012)	Cross-sectional	Perceived reciprocity: "I give much more to my supervisor than I receive in return" "I give more to my supervisor than I receive in return" "We both provide the same amount to one another" "My supervisor gives me more than I provide in return" "My supervisor gives me much more than I provide in return"	Burn-out Work engagement	Gender Membership	1039	The lowest levels of burnout and the highest levels of engagement of non-professionals are observed in situation of over-benefitted reciprocity in their relations with supervisor
Fiabane et al. (2012)	Cross-sectional	Fairness:6-items of Areas of Worklife scale (AWS)	Occupational stress: Occupational Stress Indicator(OSI) Job satisfaction: 22-items of OSI	Workload Values Community	168	The main sources of stress were unfairness, conflict between personal and organizational values, lack of reward and workload The most important predictor of job satisfaction were fairness and workload
Gigantesco, 2010	Cross-sectional	Justice: 4-items from "Working conditions in healthcare providers questionnaire" (WCQ), Gigantesco 2004	Psychiatric Morbidity: Health Problems Questionnaire (HPQ), Gigantesco & Morosini 2008	Age Gender Physical illness Professional role	514	Higher levels of justice were associated with a decreased risk of psychiatric morbidity
Yang et al. (2013)	Randomized Clinical Trial	Interactional unfairness	Salivary cortisol levels Deviant behavior	Baseline cortisol Steroids Contraceptives Dissatisfaction Interdependent identity	68	Interactional unfairness had a significant, positive effect on cortisol level. Cortisol had a significant, positive relation with deviant behavior. Cortisol levels mediate the effect of interactional unfairness on deviant behavior. The indirect effect of interactional unfairness on deviant behavior via cortisol levels remains significant after controlling for dissatisfaction and interdependent identity.
Herr et al. (2015)	Cross-sectional	Organizational justice: G-OJQ (German Organizational Justice Questionnaire) = validated 11-item questionnaire comprising two subscales, that is., "procedural justice" and "interactional justice"	Lymphocytes (% WBC) Neutrophils (% WBC) Neutrophil/Lymphocyte ratio Cortisol release (AUC)	Age Education Job level Job type Alcohol consumption Smoking status Exercise BMI Chronic medical condition Depressive symptoms Effort-reward imbalance	541	A dose-response relationship between organizational justice and glucocorticoid sensitivity was found. Cortisol and hematologic parameters showed significant association among individuals reporting high or medium organizational justice (but not among those reporting low organizational justice). These regression slopes differed significantly between organizational justice groups.

Continued

Ford (2014)	Cross-sectional	Perceived unfairness at work: Four items = <i>How often do you think you are unfairly given the jobs that no one else wanted to do? How often are you watched more closely than other workers? How often do you feel that you are ignored or not taken seriously by your boss? And How often has a co-worker with less experience and qualification gotten promoted before you?</i>	Systolic blood pressure Diastolic blood pressure	Gender Age Time lag between the questionnaire and the biomarkers data collections Relative with high blood pressure Blood pressure medication BMI Smoking Regular exercise Self-esteem	517	Perceived unfairness at work was associated with higher resting diastolic and systolic blood pressure. Perceived unfairness was most strongly related to diastolic and systolic blood pressure among women with low levels of coworker support. Self-esteem did not moderate the association between perceived unfairness and blood pressure
Reference	Study design	Issue of the study	Data collection	Number of participants	Findings	
Hall, Brinchman, & Aagaard (2012)	Qualitative Study	Good and challenging experiences of mothers and nurses in a neonatal care setting	Semi-structured interviews	12 (7 female nurses, 5 mothers)	Small daily clinical matters become big issues and could provoke moral distress. Nurses integrate ethics of justice and ethics of care, while mothers are concerned about health and well-being of their specific infant only	

To begin with, 3 studies evaluated physiologic changes induced by perceived (un)fairness at the workplace. To be more specific, interactional unfairness was found to have a significant, positive effect on salivary cortisol levels (Yang et al., 2013), while there is also a dose-response association between organizational justice and glucocorticoid sensitivity (Herr et al., 2015). Furthermore, perceived unfairness at work was associated with higher resting diastolic and systolic blood pressure. This relation was sexual differentiated. It was even stronger only among the women (Ford, 2014).

The next 5 articles investigated the relationship between justice or fairness and psychological aspects of occupational environment. According to one of these studies, procedural justice was negatively related to distress and on the other hand, informational justice was positively associated to distress. As far as the Interpersonal justice, it was positively related to the meaning of job satisfaction (Rodwell & Gulyas, 2013), which is almost consistent with the finding of Fiabane et al. (2012) who suggest that fairness and workload were the most important predictor of job satisfaction.

Another study proposes that interpersonal aggression and psychological climate could predict employee's burnout and at the same time, psychological climate partially mediates the relationship between interpersonal aggression and two of the three burnout dimensions: emotional exhaustion and depersonalization (Bedi et al., 2012). Moreover, it is worthwhile to make a reference to an interesting finding, focused on non-professionals, that is to say the lowest levels of burnout and the highest levels of engagement are observed in situational contexts of over-benefitted reciprocity as this reciprocity expressed on their relations with their supervisor on

workplace (Moliner et al., 2012).

Finally, two studies gave emphasis on the health professionals. The first one concluded that higher levels of justice act as a potential protective factor against psychiatric morbidity (Gigantesco, 2010). The other one, using qualitative measures, found that small daily clinical matters become big issues and could provoke moral distress for both mothers of infants and nurses. The main difference between the two groups was that nurses integrated ethics of justice and care, while mothers were concerned only about the health and the well-being of their infant (Hall et al., 2012).

4. Discussion

The issue of adverse mental health outcomes of work conditions is of increasing importance. Workplace justice may be an appropriate intervention to reduce disparities in health outcomes (Gigantesco, 2011). Employee burnout is expensive, costing organizations not only money but also in lost productivity, lost work days and employee disability claims as well (Spector et al., 2007). So, managers need to be aware of and respond effectively to dysfunctional behaviors (such as situations of unfairness even during the recruitments) and their effects on employee mental health. Employees' subjective experience of injustice may lead to psychological (anxiety, stress disorders, cynicism, etc.) and physiological (e.g., blood pressure) responses that are likely to affect long term health. Anger and depression, which can be also associated with the experience of injustice, are among the well-established risk factors for cardiovascular disease. In fact, empirical data from self-reported measures of fairness or justice have been demonstrated to predict cardiovascular morbidity and mortality. To improve interpersonal relationships between superiors and employees could provide favorable changes and health risk decrease. For example, it is possible to train the professional staff into interpersonal skills, using a psycho-educational approach, in order to reduce mental ill-health in the workplace field. In the context of this point of view, the existence of high levels of justice was associated with a decreased risk of psychiatric morbidity (Gigantesco, 2011; Robbins, 2012).

Under this light, interpersonal aggression and psychological climate could be able to predict employee's burnout and the relevant psychological climate may partially mediates the relationship between interpersonal aggression and two of the three burnout dimensions: emotional exhaustion and depersonalization (Bedi et al., 2012). This finding seems to be worthwhile for the future research.

Experiencing unfairness is a stressful occurrence per se, especially during interpersonal interactions. Especially, interactional unfairness had a significant, positive effect on cortisol level which mediates the effect of interactional unfairness on deviant behavior. In the present systematic review, findings are ensured that the indirect effect of interactional unfairness on deviant behavior via cortisol levels remains significant after controlling for dissatisfaction and interdependent identity. A final theoretical implication of our findings is that some of the effects of unfairness are automatic (i.e., they occur outside personal awareness and out of our control) (Yang et al., 2013).

Our findings also indicated that the lowest levels of burnout and the highest levels of engagement of non-professionals are observed in situations of over benefitted reciprocity in their relations with supervisors—when the nonprofessional worker perceives that he receives more than he deserves. Therefore, our results warn against a premature and generalized acceptance of the fairness hypothesis which can be questioned, at least for non-professional workers. The lowest levels of burnout and the highest levels of engagement of non-professionals target-group are observed in situation of over-benefitted reciprocity in their relations with the supervisor (Moliner et al., 2012).

In addition, Organizational justice is considered to reflect key social aspects of the work environment, and the present results are therefore in line with evidence that glucocorticoid resistance is specifically sensitive to social stress. A dose-response relationship between organizational justice and glucocorticoid sensitivity was found. Cortisol and hematologic parameters showed a significant association among individuals reporting high or medium organizational justice (but not among those reporting low levels of organizational justice). These regression slopes are inclined to be differed significantly between the organizational justice orientated groups (Herr et al., 2015).

The general pattern of results supports the idea that maintaining fairness in procedures is important for employee job satisfaction, commitment and mental well-being. In our findings procedural justice was negatively related to distress. Informational justice was positively related to distress and to job satisfaction (Rodwell &

Gulyas, 2013). Distributive justice most strongly associated with mental health problems, followed by breach and procedural justice, with interactional injustice being most weakly associated (Robbins et al., 2012). Moreover, Procedural justice was confirmed to be negatively related to negative emotions (Cohen-Charash & Spector 2001). Interpersonal justice was also positively related to job satisfaction, suggesting that respectful treatment of employees is important to maintain good job satisfaction at work. The unexpected result that informational justice positively relates to career commitment may be due to too much information sharing employers that increase their appraisals of situation (Rodwell & Gulyas, 2013).

5. Conclusion

Taking everything into consideration, these findings suggest that improving fairness at work does matter for disease prevention and mental health promotion policy (Gigantesco, 2011). Unfair treatment at work could be an important and powerful source of psychological strain, and research is now starting to identify it as an important predictor of physical strain. Results from this analysis of data from participants in the MIDUS Biomarkers project point to perceived unfairness as a possible risk factor in high blood pressure. In addition, unfairness was associated with physiological changes, for instance, the high blood pressure among women with low levels of social support. Nonetheless, blood pressure is a potential mechanism in the link between unfairness and health that warrants further consideration from occupational health researchers and practitioners (Ford, 2014).

Although there are interventions that help employees cope with the cognitive and affective consequences of unfairness, they do not directly assess physiological repercussions. What is then needed, are stress-based interventions that will help employees cope with the depleted resources owing to unfairness. Stress management programs and those that enhance self-efficacy, may help employees accrue additional resources and counteract the effects of depletion (Yang et al., 2013).

As far as the results relating to obligations are concerned, fulfillment and breach, they suggest that nurse managers should be careful when making promises to employees and setting up expectations, starting with recruitment and extending into future work-related exchanges and social interactions. Managers should not make unrealistic promises to employees that they may not reasonably be able to fulfill. Although they may immediately motivate employees, not following through, and lead to negative outcomes due to perceived psychological breach or lack of fulfillment (i.e. decreased job satisfaction and organizational commitment, and increased the distress (Rodwell & Gulyas, 2013)).

6. Limitations and Directions for Future Research

Firstly, we used only Pubmed database as source for searching so as to collect the academic material for the present Systematic Review. Another limitation is related to the type of studies, that is to say the high majority of them were cross-sectional studies.

Future studies should use qualitative as well as quantitative instruments (e.g., questionnaires, interviews, self-report inventories, target groups or observation) and to measure additional mediators and sources of aggression to better understand the complex ways in which individuals respond to aggression at work, confirming the results obtained in this review. Further, longitudinal studies are needed to explore the long-term effects of work-related risk factors on physiological and psychological health focused on the risky circumstances of unfairness and how healthy employees who perceived that they were treated unfairly have poor mental health. Future research is also needed to replicate, extend and clarify the reasons for experiences and within-person changes in perceived fairness and blood pressure as well as links among fairness and the onset of hypertension.

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