Justice at Work, Job Stress, and Employee Health

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A small but growing literature has documented an association between justice at work and employee health. However, the pathways and mechanisms underlying this association are not well understood. This article proposes a conceptual framework that bridges the organizational justice, occupational stress, and occupational epidemiology literatures. Justice appraisals are proposed to be both important mediators and moderators in the causal flow from exposure to the organizational environment to employee health. The potential role of justice in enhancing employee health is compared to that of the well-established concepts of social support and job control. Directions for future research are suggested, along with strategies for overcoming challenges inherent in this multidisciplinary area of research. Implications for work-site health interventions are discussed.

Keywords: *organizational justice; occupational stress; work organization; employee health*

Employed adults in the United States spend a majority of their waking hours at work. Thus, the quality of one's work life is an important contributor to health and well-being. Employees have always considered justice at work to be an important aspect of an ideal workplace (Levering, 2006). However, it is only within the past 5 years that the influence of justice at work on employee health has gained attention. Although only two published articles examined the relationship between justice at work and employee health before the year 2000 (i.e., Schmitt & Dorfel, 1999; Zohar, 1995), 28 articles were published between 2001 and 2007, including the first epidemiological study linking justice at work and employee health (i.e., Elovainio, Kivimäki, & Helkama, 2001).

Interest in justice in the workplace as a potential contributor to employee health and well-being cuts across various academic disciplines. These disciplines include public health (epidemiology and health behavior), psychology (industrial/organizational and social psychology), business (organizational behavior, management, administration, and human resources), and occupational safety and health. Interest from this range of disciplines raises several challenges for investigating organizational justice and health. First, the relevant research and theory is published across a wide array of journals in disparate literatures. Second, different disciplines tend to focus on different aspects of causal processes. Third, outcomes of interest often differ across disciplines. For example,

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researchers trained in organizational behavior tend to focus on outcomes relevant to organizational functioning whereas health researchers focus on health conditions and risk factors. Although these two types of outcomes are not unrelated (Burton, Conti, Chen, Schultz, & Edington, 1999), emphasis on one or the other has shaped somewhat different approaches to organizational justice research.

Disciplinary differences can create a rich, multilayered understanding of the phenomena under study. However, they also can create confusion, hinder communication, and retard progress in understanding the role of justice at work as a determinant of employee health. To move the field forward, researchers from various disciplines need a common framework through which knowledge can be accumulated and integrated. Such a framework serves many purposes: identifying points of intervention for enhancing organizational justice, reducing health-compromising responses to perceived unfairness, and ultimately promoting employee health. In addition, this framework can enhance our understanding of the social context within which other work-site health programs are offered. As articulated by Sorensen and her colleagues (2003), social context can influence employees' willingness to participate in health promotion programs, their motivation to initiate recommended health-promoting changes, and their commitment to maintaining changes over time.

This article proposes a conceptual framework that bridges the organizational justice, occupational stress, and occupational epidemiology literatures. First, we establish an overarching definition of justice and provide a brief review of organizational justice constructs. Second, a conceptual framework is proposed, along with the challenges that it presents. Last, recommendations for future research and implications for work-site health education practice are provided.

THE NATURE OF JUSTICE IN THE WORKPLACE

Political philosophers have long been debating the nature of justice. In the 1790s, Kant emphasized the regulation of freedom and defined justice as "the restriction of each individual's freedom so that it harmonizes with the freedom of everyone else" (Rosen, 1993, p. 9). In the 1970s, Rawls espoused his liberal egalitarian theory of justice as fairness, emphasizing the distribution of primary social goods such as "rights and liberties, powers and opportunities, income and wealth" (Rawls, 1971, p. 62).[1] These philosophical accounts of justice take a normative approach, developing "categorical imperatives" (Rosen, 1993, p. 8) or principles that must be followed in just society.

In contrast, organizational justice researchers have taken a descriptive approach, focusing on employees' perceptions of justice. Organizational characteristics and supervisor behaviors associated with employees' justice perceptions have been inductively identified (e.g., Bies & Moag, 1986; Harlos & Pinder, 1999), empirically tested (e.g., Lind & Tyler, 1988; Thibaut & Walker, 1975), and then used to operationalize organizational justice concepts. This approach has identified three types of justice in the workplace. Distributive justice describes the distribution of resources (e.g., pay, opportunities, promotion) proportional to one's contribution (Adams, 1965). Procedural justice refers to the fairness of formal procedures in organizations, such as procedures for performance appraisals and layoff notification (Leventhal, 1980; Lind & Tyler, 1988). Fairness in interpersonal treatment during the enactment of organizational procedures is termed interactional justice (Bies & Moag, 1986). Early research was devoted to identifying antecedents of these justice perceptions, whereas later studies focused on consequences of justice perceptions.[2]

Although the descriptive approach to studying organizational justice has been quite fruitful, it does not address the basic nature of employees' perceptions of justice. Thus it leaves the following questions unanswered: Why are certain organizational decisions, decision-making processes, and interpersonal interactions considered unjust? To what extent do employees' perceptions of justice stem from shared basic principles? According to Lerner (1980), "A just world is one in which people 'get what they deserve'" (p. 11). Following the analysis provided by D. T. Miller (2001), injustice is experienced when people perceive that they are being treated in ways that they do not deserve or that they are not being treated in ways that they do deserve.

Various theorists have described the underpinnings of the concept of "deservingness" (Feather, 1991). For our purposes, deservingness reflects two major ideas. First, one can deserve something because all people, regardless of their personal characteristics or actions, deserve it. This type of deservingness is based on the notions of human entitlement and inalienable rights and is expressed through social norms, legal principles (such as the Bill of Rights in the United States), and ethical principles. Second, one can deserve something because it has been earned through one's own actions. This type of deservingness is based on the contingency between an outcome or response and one's own actions. Thus, perceptions of deservingness are likely to be influenced by both widely shared normative principles and idiosyncratic life experiences.

These two bases of deservingness are reflected in the concepts of distributive, procedural, and interactional justice. Distributive justice is based on outcomes contingent on one's own actions. Procedural justice, on the other hand, reflects socially defined rights and entitlements for all employees (e.g., the right to have voice in important policies and procedures). Interactional justice incorporates both types of deservingness by expressing the right of all employees to be treated with respect (Rawls, 1971) and in accordance with one's own contributions and efforts.

CONCEPTUAL FRAMEWORK

Figure 1 presents a conceptual framework for exploring the link between organizational justice and employee health. We discuss this framework in three sections: (a) work organization (i.e., organizational policy, procedures, and norms) and behaviors shaped by work organization, (b) employees' subjective experience of work, and (c) employee responses and health outcomes. In addition to describing the framework pathways, each section identifies we identify some of the conceptual challenges inherent in the framework.

Work Organization Influences Health: Organizational Policies, Procedures, Norms, and Behavior

The term "work organization" encompasses organizational structure, policies, procedures, and norms (NORA Organization of Work Team, 2002). Production methods (e.g., "just-in-time" manufacturing), management structure (e.g., work teams), and human resource policies (e.g., performance-based pay systems) are all work organization factors. Work organization also refers to the work process, which has the most proximal and tangible influence on employees' day-to-day work life. The work process is characterized by the nature of the work itself (e.g., variety of tasks, workload, and work pace) and by how decisions are made and communicated in the work unit.

Work organization can affect employee health and well-being directly, unmediated by psychological processes (Pathway 1). For example, one of the various ways in which

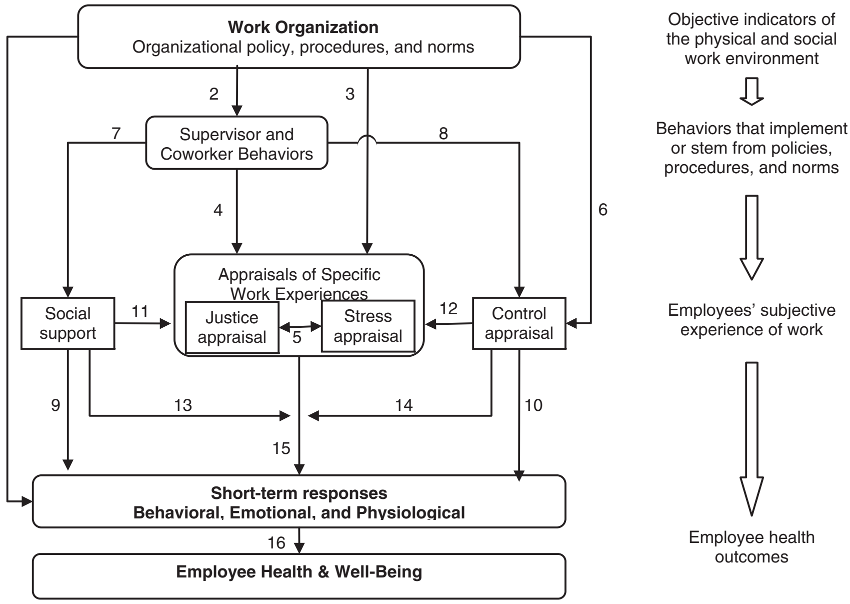

Figure 1. Conceptual framework linking work organization, justice at work, and employee health and well-being.

long work hours (i.e., a form of work organization) may affect employee health is through increased duration of exposure to hazardous substances at work (Mizoue, Reijula, & Andersson, 2001). Regardless of what employees think about the long hours they work, the prolonged exposure to the hazard may cause health problems. Of all the pathways in this framework, Pathway 1 is studied most often by occupational safety and health researchers.

Work organization also shapes the behavior of people within organizations (Pathway 2). For example, coworkers whose incentive pay is based on work team productivity (i.e., a form of work organization) may help fellow work team members to accomplish their tasks but may not help employees in other work teams. The literature on safety climate provides another good example of work organization influencing employee behavior. Studies have consistently found that employees in organizations that have a strong safety climate (as evidenced by high safety priority in the face of high productivity demands) are more likely to adhere to safety rules than are employees in organizations with weak safety climates (Zohar, 2003).

Subjective Experience of Work: A Mediating Process

Employees appraise specific features of work organization and of coworker and supervisor behaviors for both stressfulness and justice (Pathways 3 and 4). According to the work of Lazarus and Folkman (1984), individuals make stress appraisals by asking themselves, "Am I in trouble or being benefited, now or in the future, and in what way?" (primary appraisal) and "What, if anything, can be done about it?" (secondary appraisal; p. 31). This two-step approach can be applied to justice appraisals. That is, justice appraisals are composed of two questions: "Am I being treated in ways that I deserve?"

and if not, “Could I have been treated differently?” The primary appraisal of justice stems from the work of Lerner and others, which firmly bases justice on the notion of deservingness (Lerner, 1980). The secondary justice appraisal incorporates issues of accountability, foreseeability of consequences, and opportunities for alternative choices. Perceptions of injustice are intensified when the individual sees that (a) someone can be held accountable for a decision or action, (b) the consequences were reasonably foreseen, and (c) alternative decisions or actions were available (Folger & Cropanzano, 2001; D. T. Miller, 2001).

Occupational stress research has identified characteristics of jobs and occupational roles that are commonly appraised as stressful (Barling, Kelloway, & Frone, 2005); similarly, the organizational justice literature provides organizational policies and procedures that are likely to be appraised as unjust (Colquitt, Greenberg, & Zapata-Phelan, 2005). In both literatures, once these organizational factors have been identified, subsequent studies tend to assume that they are stressful or unjust, respectively. Appraisal measures are not included in the data collection protocols. Instead, self-reported levels of exposure to the identified factors serve as indirect measures of experienced injustice. Although this measurement strategy encourages a focus on objective work organization characteristics, it also ignores individual differences in appraisals, thus weakening the ability to predict outcomes of interest.

Establishing discriminative validity between stress and justice appraisals is challenging for several reasons. Not only are stress and justice appraisals made about the same phenomenon simultaneously but the two types of appraisals are likely to influence one another (Pathway 5). Once a situation has been appraised for stress, the stress appraisal itself may be appraised for justice by asking the question, “Do I deserve this much stress?” For example, if a supervisor provides a very short lead time for completing a task because of an unexpected change in schedule, employees may not perceive the supervisor’s behavior as unfair because the situation was not foreseeable. However, they do experience the short lead time as stressful and may feel that they do not deserve to be under so much time pressure. In this case, the source of injustice is not the short lead time but the stressfulness caused by the short lead time. The supervisor is not held accountable but rather a more distal force in the causal chain (e.g., upper management or market forces) is held accountable.

Similarly, an appraisal of injustice can influence a stress appraisal. For example, female employees, but not male employees, might be expected to clean the break room at the end of the shift. The female employees would not perceive the added task of cleaning as stressful; however, they do perceive the situation to be unjust because male employees are not expected to assist with cleaning up. Being treated unjustly is then appraised as threatening. The stress appraisal is made not on the cleaning itself but on the unfairness of the assignment.

Previous organizational justice research has tended to ignore or to blur the distinction between justice and stress. For example, when examining the unfairness of role stressors (i.e., role conflict, role ambiguity, role overload), Zohar (1995) measured the perceived unfairness of the role stressors but not their perceived stressfulness. Because stress appraisals were not measured, the injustice and stressfulness of role stressors were not distinguishable from each other. It is only through distinguishing between stress and justice that we can investigate the relationship between the two constructs and the unique contribution of each construct to employee health and well-being.

Job control and social support are well-documented determinants of employee health and well-being (e.g., Karasek & Theorell, 1990; Thoits, 1995). They are typically measured as employees' perceptions of their overall experience at work (rather than as appraisals of specific situations or events) and are at least partially determined by work organization (Pathway 6) and supervisor/coworker behavior (Pathways 7 and 8). Figure 1 shows these constructs as having direct effects on employee health (Pathways 9 and 10) as well as providing a context within which specific stress and justice appraisals are made (Pathways 11 and 12). In additional, social support and job control can moderate the relationship between stress appraisals and short-term employee responses (Pathways 13 and 14; Karasek & Theorell, 1990; Thoits, 1995).

Job Control and Justice. Within occupational stress research, job control is a central concept. In the demand–control model of job stress (Karasek & Theorell, 1990), job control is conceptualized as a combination of decision authority and skill discretion. High levels of decision authority allow an employee to have influence on what should be done and how it should be done. High skill discretion refers to employees' ability to decide how their knowledge is applied to their jobs. Being able to exert control over one's work buffers the potential adverse effects of high job demands (Karasek & Theorell, 1990).

Thibaut and Walker's (1975) model of procedural justice considers control to be an essential element of justice; that is, having a voice in a procedure enhances justice because it provides the possibility of having control of the outcome (i.e., instrumental model). According to this model, not being allowed to have a voice is unfair because it denies the opportunity to have control of the outcome of the procedure. This relationship has gained some empirical support from Elovainio and his colleagues (Elovainio, Kivimäki, Steen, & Vahtera, 2004). They found in a longitudinal study that a high level of job control increased employees' appraisals of justice, which in turn positively affected employee health.

However, the nature of the relationship between job control and justice appraisals has not been systematically studied. Although control is a central precept of Thibaut and Walker's (1975) conceptualization of procedural justice, it is not central to other organizational justice concepts (Shapiro & Brett, 2005). Research is needed to identify the extent to which job control influences justice appraisals as well as the different contexts in which the influence of job control on justice appraisals may vary.

Social Support and Justice. The relationship between social support and justice is greatly complicated by the fair amount of overlap in the conceptualization and operationalization of social support at work and interactional justice. Kivimäki et al. (2004) used this overlap to justify borrowing items from a social support measure to assess interactional justice.

Interactional justice is typically measured by asking an employee if the authority figure who enacted the organizational procedure in question showed consideration, gave timely feedback, provided explanations, and communicated candidly and respectfully (Colquitt, 2001). Social support is defined as interpersonal transactions or social exchanges that are intended to be helpful by the sender and consciously provided in a context of caring, trust, and respect (Heaney & Israel, 2003). Four types of social support have been identified by House (1981): emotional support (i.e., providing love, caring, and empathy), instrumental support (i.e., providing goods, money, and services that directly help the recipient), informational support (i.e., providing information about resources that may help the recipient), and appraisal support (i.e., providing information

Table 1. Behaviors Indicating Social Support, Social Undermining, and Interactional Justice

Social Support (Heaney & Israel, 2003)	Interactional Justice (adapted from Greenberg, 2006)
Emotional support	Interpersonal justice
Listening to concerns	Treating employees with politeness, dignity, and respect
Expressing respect and esteem	Demonstrating emotional support
Showing empathy and trust	
Appraisal support	
Providing feedback	
Providing reference for social comparisons	
Informational support	Informational justice
Giving information that can be used to solve problems	Providing thorough, accurate, and complete explanations
Providing advice and suggestions	Spending the time needed to explain decisions
Instrumental support	Communicating details in a timely manner and tailoring them to individuals
Providing material aid and/or direct service	Being accessible
Social Undermining (Vinokur & van Ryn, 1993)	**Interactional Injustice (Bies, 2001)**
Negative affect	Making wrongful accusations and bad-mouthing
Showing anger and dislike	Deceiving/lying/breaking promises
Insensitivity/ridicule	Invading privacy/disclosing confidence and secrets
Criticism	Publicly criticizing and berating a person
Criticizing attributes, actions, and efforts	Publicly embarrassing or humiliating a person
Social hindrance	Using pejorative labels (e.g., troublemaker) to stigmatize a subordinate
Making unreasonable instrumental goals	
"Silent treatment" (withholding information)	

about self-evaluation). These behaviors are similar to the behaviors that define interactional justice. Social undermining, or the provision of negative social interaction (Vinokur & van Ryn, 1993), is related to the behaviors that indicate interactional injustice. Table 1 compares supervisor behaviors that indicate interactional justice, social support, and social undermining.

Because the constellation of behaviors that define social support generally convey respect and positive regard, it is likely that supportive behaviors will indeed be appraised as just (D. T. Miller, 2001). Social support itself may be appraised for justice; employees may feel that they deserve certain types and amounts of support from their supervisors. Harlos and Pinder (1999) found that employees reported that it was unfair when supervisors failed to provide social support (e.g., provide information/clarification, assistance, feedback, or protection). In addition, if work is experienced in the context of supportive relationships, justice appraisals of specific organizational procedures or events may be positively influenced (Greenberg, 2006).

Investigation is needed to determine the extent of overlap between interactional justice on one hand and social support and social undermining on the other. In this process, the extent to which behaviors might be perceived as supportive but not fair (or vice versa) should be explored. Should interactional justice be found to be synonymous with social support, there is no need to reiterate the social support literature under a different name.

Employee Health Outcomes: Short-Term Responses and Long-Term Consequences

Employees' subjective experience of work leads to short-term responses (Pathway 15) that may be behavioral (i.e., smoking, drug use), emotional (i.e., sadness, anger), and physiological (i.e., blood pressure, immune function). If these responses are sustained for a prolonged period, they may result in long-term health problems (Pathway 16).

Behavioral Responses. Employees' behavioral responses to perceived injustice are a major focus of the organizational justice literature. Commonly studied behavioral responses are related to organizational effectiveness, such as job performance and absenteeism (Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Behavioral responses that are likely to affect health include smoking, drinking, drug use, and failure to adhere to safety procedures. There is evidence linking stress and these behaviors (Payne, Jones, & Harris, 2002), but they have not been explicitly examined in relation to justice appraisals.

However, a few studies provide indirect evidence for a link between justice appraisals and employee health behaviors. In a large sample of Finnish employees, Kouvonen et al. (2006) found that a perceived imbalance between efforts and rewards in one's job was associated with smoking and physical inactivity. This finding suggests that perceived injustice may be associated with these health behaviors because effort–reward imbalance is closely related to a sense of injustice (Siegrist & Marmot, 2004). Experiencing harassment or abuse in the workplace has been related to drinking behaviors (Richman, Shinsako, Rospenda, Flaherty, & Freels, 2002). Many of the harassing behaviors studied by Richman et al. are likely to be appraised by employees as undeserved and unjust.

Emotional Responses. Anger often is associated with perceptions of injustice (Harlos & Pinder, 1999). Mullen and Skitka (2006) demonstrated that when people's moral standards were violated, they reacted with anger. Similarly, Barclay, Skarlicki, and Pugh (2005) found that among recently laid-off people, appraisals of low levels of procedural and interactional justice were associated with high levels of anger, regardless of the outcome favorability (i.e., a severance package, assistance to find new employment). Appraisals of injustice also have been associated with other emotional responses, such as depression and anxiety (e.g., Kivimäki, Elovainio, Vahtera, Virtanen, & Stansfeld, 2003; Ylipaavalniemi et al., 2005).

Physiological Responses. Since Selye's (1956) seminal work, we have known that stressors, defined as environmental stimuli perceived as threatening, trigger increased catecholamine and corticosteroid secretion. In the past two decades, our understanding of the association between this neuroendocrine response and health has increased exponentially. Although increased catecholamine and corticosteroid secretion is an organism's normal response to perceived danger, repeated activation and a prolonged stress response take their toll.

Physiological responses to organizational injustice have not been explicitly studied; however, various literatures related to the experience of injustice provide guidance. For example, research on physiological responses to racial discrimination, a form of injustice, has found that high blood pressure is associated with the experience of racial discrimination both in laboratory experiments and field studies (for a review, see Hurrell, Hall, & Taliaferro, 2003). Anger, an emotion often associated with the experience of injustice, triggers a series of physiological changes (e.g., elevated catecholamine, heart rate, and blood pressure; decreased plasma volume; and coronary constriction) that could result in myocardial infarction and even sudden death (for a review, see Kop, 1999). Research on physiological responses to job stress may help guide future studies on physiological responses to injustice in the workplace.

Health Outcomes. Short-term responses to subjective work experiences may lead to long-term health problems (Pathway 16). Anger and depression, which are both associated with the experience of injustice, are among the well-established risk factors for cardiovascular disease (CVD; Everson-Rose & Lewis, 2005). In the Whitehall II study, Kivimäki et al. (2005) found that employees' perceptions of injustice at work predicted subsequent CVD incidence.

Other health outcomes may be affected by injustice as well. Evidence has accumulated to support the link between prolonged exposure to stressors and decreased immune function (Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002). Compromised immune function can be associated with infectious disease, cancer, slow wound healing, autoimmune diseases, and HIV (Kiecolt-Glaser et al., 2002). It is plausible that injustice appraisals may lead to decreased immune function and contribute to these health problems.

Caveats

Although the framework describes a linear progression from work organization toward employee health and well-being, it is more likely to be an iterative, dynamic process with various feedback loops. Employee health status is likely to influencesubsequent appraisal of work organization factors. Similarly, short-term responses to appraisals of work are likely to influence the subsequent availability of coping resources. For example, if an employee turns to binge drinking in dealing with unjust or stressful work conditions, she may alienate her colleagues who have been important sources of social support.

For the sake of simplicity of presentation, this framework does not explicitly include individual characteristics such as demographics, personality, previous experience, and genetic predispositions. Individual characteristics can influence all of the pathways in this framework. For example, a number of studies have examined gender differences in employees' perceptions of and responses to various work organization factors (K. Miller et al., 2000). Last, the framework has been described in terms of an employee's assessment of the extent to which he himself is being treated unjustly. Employees also can appraise the extent to which others are being treated unjustly. Such appraisals may have a very similar role to that of justice appraisals with a personal referent and can be studied in the context of this framework.

Global Sense of Justice

The discussion thus far has focused on employee appraisals of specific work organization factors and behaviors. Typically, organizational justice research has addressed the justice of "specific organizational decisions and resource allocations" (Bies, 2005, p. 101). For occupational health researchers, however, understanding employees' quotidian experience of justice may be more relevant than justice appraisals of specific situations. This same issue has been exemplified in occupational stress research, which has shifted its focus from the impact of major life events to that of stable, repetitive, and low-intensity problems that

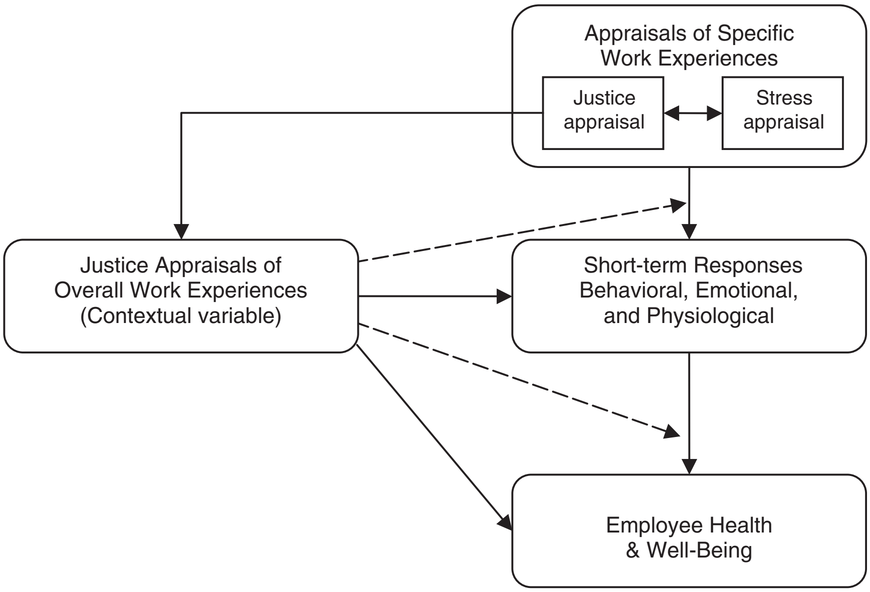

Figure 2. Appraisals of global work experiences.

people encounter on an ongoing basis (Lepore, 1997). There is accumulated evidence that this latter type of stressor has a significant impact on health and well-being (Cohen, Kessler, & Gordon, 1997). In examining the impact of organizational justice on mental health, Tepper (2001) asserted that general perceptions of justice at work play an important role.

Justice appraisals of overall work experiences are likely formed through repeated appraisals of various work organization factors and behaviors that employees encounter daily. This is consistent with the social entity paradigm proposed by Cropanzano, Byrne, Bobocel, and Rupp (2001), which asserts that employees form justice appraisals of a social entity (e.g., "my supervisor is a fair person," "my company is a fair place to work") based on justice appraisals of specific events and characteristics.

Figure 2 illustrates the potential role of justice appraisals of one's overall work experience. Justice appraisals of overall work experiences are likely to be determined by previously made justice appraisals of specific situations or events. Once formed, the global sense of justice in the workplace may affect short-term responses as well as employee health and well-being.

Similar to social support and job control, justice appraisals of one's overall work experience may play a moderating role between appraisals of specific work experiences and employee responses. Unpredictable work schedules, for example, are likely to be perceived as stressful and uncontrollable. However, if this happens in a generally just work environment, employees may see it as a temporary problem and negative employee responses may be minimal. On the other hand, if a general sense of justice in the workplace is low, employees may see the unpredictable work schedules as one indicator of a chronic problem of injustice in the workplace. In this case, short-term responses (e.g., anger) may be more intense and problematic. Justice appraisals of overall work experiences also might moderate the link between short-term responses and health outcomes. If employees have a general sense of justice in the workplace, their short-term responses to specific stress and justice appraisals may not be sustained for a prolonged period, thus limiting the development of resulting health problems.

As indicated in Figure 1, justice appraisals of specific situations mediate the link between work organization and employee health. Justice appraisals of overall work experiences, on the other hand, may moderate the link (see Figure 2). Because specific and global appraisals of justice are likely to function differently in relation to work organization and employee health, they should both receive further attention.

Summary

The conceptual framework (see Figure 1) shares its intellectual roots with the comprehensive model of work and health presented by Israel, Baker, Goldenhar, Heaney, and Schurman (1996) but expands on it by explicitly incorporating justice at work. Similar to the Israel et al. model, this framework is informed by the transactional model of stress (Lazarus & Folkman, 1984) and the work of organizational psychologists at the University of Michigan in the 1970s and 1980s (Kahn, 1981; Kahn & Byosiere, 1992) in that the organizational environment is posited to influence employee health, at least in part, through employees' appraisals of the environment. By integrating organizational justice into a comprehensive framework of work and health, the framework presented here illuminates points of intervention as well as needs for future research.

Although the global sense of justice (see Figure 2) is a relatively new development and is less often discussed in the organizational justice literature, it will be an important concept in the context of workplace intervention because of its potential modifying effects. Similar to how a safety climate enhances the effectiveness of specific work-site safety initiatives (Zohar, 2003), a global sense of justice at work may enhance the effectiveness of work-site stress reduction programs and other work-site health programs.

DIRECTIONS FOR FUTURE RESEARCH

The proposed framework provides guidance for future research focusing on justice, work, and health. Four major research directions are suggested:

1. Developing Measures of Justice. For several decades, organizational justice researchers have developed and refined justice measures (for a review, see Colquitt & Shaw, 2005). However, the framework we have presented calls attention to new measurement issues: (a) How should justice appraisals be measured? and (b) What is the best strategy for measuring justice appraisals of overall work experiences?

Measures of stress appraisals may offer some guidance for developing measures of justice appraisals. Rather than asking how stressful a situation is, stress appraisals are measured by asking employees the extent to which a situation poses a threat, either to one's self-image, to one's occupational status, or to others' views of oneself. This is followed by questions about the extent to which employees perceive themselves to have the opportunity and resources to modify the situation. This measurement approach produces a more focused interpretation of the stress concept and thereby reduces potential measurement error. The same could be true of justice appraisals. If they are measured by operationalizing the concept of deservingness and the extent to which employees perceive that they could have been treated differently, then justice appraisals may include less measurement error than a direct assessment of justice (i.e., "How fair is . . . ?").

Only after reliable and valid measures for justice appraisals are developed can many of the hypothesized links in Figure 1 be investigated.

Justice appraisals of overall work experiences can be measured in two different ways. One strategy is to measure specific justice appraisals of various facets of the work experience and then sum them. Another approach is to measure a global perception of the extent to which employees are treated fairly at work. Previous research on facet and global measures of job satisfaction (e.g., Spector, 1997) may provide guidance for comparing and contrasting these two types of measures.

2. Validating Pathways in the Framework and Developing New Hypotheses. The conceptual framework in Figure 1 helps identify testable models and sets of hypotheses. Although there is indirect evidence to support several of the pathways, current research provides little direct evidence. Future research efforts can address the pathways that have been least investigated to date. Although all of the pathways in the conceptual framework may be important in the relationship between justice at work and health, some may be more important than others. In addition, the importance of various pathways may vary for employees in different jobs or industries.

One key research focus will be to identify the role of justice appraisals. As mentioned previously, certain unjust organizational practices expose employees to adverse work conditions that can affect employee health and well-being regardless of employees' perceptions of them. Discriminatory policies and practices, withholding important information from employees, and deception are examples of such work organization factors. However, the recognition of these practices and their appraisal as unjust may intensify or increase negative effects on health. By measuring justice appraisals, we will be able to quantify the direct and indirect (i.e., cognitively mediated) impact of violating the rights or entitlements of employees.

3. Broadening Our Understanding of the Health Impacts of Injustice. Because the research literature examining the relationship between justice at work and employee health is still small, only limited health outcomes have been examined: self-rated health status (e.g., Elovainio, Kivimäki, & Vahtera, 2002; Kivimäki et al., 2004), coronary heart disease (Kivimäki et al., 2005), depression and anxiety (Janssen, 2004; Tepper, 2001), emotional exhaustion (Tepper, 2001), and psychological well-being (e.g., Kivimäki, Elovainio, Vahtera, & Ferrie, 2003). There has been an emphasis on mental health and well-being. Outcomes that are associated with occupational stress, such as musculoskeletal disorders, alcohol and other drug dependency, various health behaviors (e.g., smoking, exercise, diet), and compliance with occupational safety procedures should be examined for their relationship with justice at work.

4. Examining Justice at Work as a Determinant of Health Disparities. The proposed framework does not explicitly incorporate sociodemographic determinants of justice. However, as our understanding of justice at work increases, we will be able to identify certain subgroups of employees who are disproportionately exposed to work policies and practices that give rise to a sense of injustice. These subgroups of employees may be defined by age, race, ethnicity, educational attainment, or other characteristics related to social class. Occupational health and safety case studies have documented differential exposure to work-related hazards among racial and ethnic minorities (for a review, see Murray, 2003). This differential exposure has been argued to contribute to racial and ethnic disparities in health (Murray, 2003; A. K. Taylor & Murray, 2006).

The changing U.S. workforce makes justice at work more salient than ever before. Immigrants constitute a growing proportion of the workforce, particularly in certain industries and occupations (Mosisa, 2002). Recent immigrants tend to work in the less desirable jobs at the bottom of the occupational status hierarchy (Mosisa, 2002). At the same time, the inequality between employees at the bottom and the top of the social hierarchy is increasing (Autor, Katz, & Kearney, 2005). By limiting occupational opportunities for immigrants, society is likely to contribute to health disparities. Also, when immigrants work among nonimmigrants, they may experience discrimination and harassment at work. As discussed earlier, the experience of discrimination and harassment, forms of injustice at work, have been linked to ill health. Thus, investigating differential exposure to injustice among employee subgroups is important for focusing intervention efforts on the most vulnerable groups and ultimately reducing health disparities.

IMPLICATIONS FOR PRACTICE

The framework suggests multiple points of intervention. First, enhancing employees' justice appraisals of their overall work experiences may buffer employees from harmful effects of immutable work organization factors. One approach to enhancing these overall justice appraisals is to identify the specific justice appraisals that contribute most strongly and then to make relevant changes. Because different workplaces are likely to have different organizational factors and supervisory behaviors that strongly influence employees' overall justice appraisals, it is crucial to identify the most relevant factors for each organizational setting. This tailored approach has been shown to enhance the effectiveness of other occupational health interventions (LaMontagne et al., 2004). Well-designed intervention effectiveness research can provide an empirical basis for assessing the impact of various intervention strategies (Goldenhar, LaMontagne, Katz, Heaney, & Landsbergis, 2001).

Unjust behaviors of supervisors and coworkers, another point of intervention, can be modified through training (Skarlicki & Latham, 2005) and incentives. For example, Greenberg (2006) demonstrated that after a 4-hour training for nurse supervisors on interactional justice, employees rated their supervisors as showing characteristics associated with interactional justice (e.g., treating others with politeness, dignity, and respect; providing accurate information in a timely manner) to a higher extent than supervisors who were not trained. However, practitioners must be cautious when implementing supervisory training programs. Greenberg (1990) discusses the pitfalls of looking fair but not being fair ("hollow justice" in Greenberg's term). When employees suspect supervisors of using gestures of fairness for self-promotion or of having manipulative motives, then the training effort may backfire. Addressing the context that brings about unjust behavior, along with addressing interpersonal behavior change, will minimize the risk of hollow justice.

Providing information or clarifying organizational values and culture may change employees' perceptions of injustice. This approach is likely to have long-lasting effects only when coupled with fair management policies and procedures. In fact, the most effective targets for change (i.e., high-impact leverage points) in organizational justice interventions will tend to be "other-directed" (Stokols, 1996, p. 290) rather than directed at the focal employee. Changing decision makers' behaviors to effect organizational policy change is likely to have the largest impact. Although published accounts of justice policy interventions are scarce, one quasi-experimental study in a government agency reported promising findings. Taylor and colleagues (M. S. Taylor, Tracy, Renard, Harrison, & Carroll, 1995) worked with both management and employees to change the performance evaluation system so that it had three components of fair treatment: adequate notice, a fair hearing, and judgment based on evidence. Compared to those who were evaluated with the old system, employees who were evaluated under the new system gave higher ratings for fairness and accuracy of the evaluation process, were more satisfied with the evaluation process and results, and had a lower intention to leave. This study, however, did not examine health outcomes.

Because many organizational policies and procedures are outside the traditional purview of work-site health programs, practitioners need to educate both employers and employees about the effects of unjust managerial practices on employee health and well-being. The importance of considering employee health consequences needs to be underscored when planning any organizational change. Aligning an organization's goals with employee health and well-being goals may, in and of itself, create a fair organization (Harlos & Pinder, 1999). Thus, work-site health practitioners will need to step out of their comfort zones and advocate for broader participation in organizational decision making.

Although organizational justice interventions will stretch the usual boundaries of work-site health programs, work-site health educators are in some ways well equipped for guiding these interventions. Health educators are quite skilled in encouraging the substitution of health-enhancing responses for deleterious responses to environmental challenges (Glanz, Rimer, & Lewis, 2003). Thus, they have the skills to guide employees and employers toward cultivating new responses to identified injustices. Motivating individual and collective activism in both management and labor is likely to have an impact on the level of overall justice in the workplace. Careful investigation of the organizational and psychological processes that unfold in response to injustice at work may help identify the conditions under which employers and employees can be motivated to take action to correct injustices.

Notes

1. Following the tradition of Rawls (1971), we draw no distinction between justice and fairness.
2. The readers are referred to the *Handbook of Organizational Justice* (Greenberg & Colquitt, 2005) for the history and current trends in organizational justice research.

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