SIOP SOCIETY for INDUSTRIAL and ORGANIZATIONAL PSYCHOLOGY
ORGANIZATIONAL FRONTIERS SERIES

ROUTLEDGE

Understanding the High Performance Workplace

The Line Between Motivation and Abuse

Edited by **Neal M. Ashkanasy,**
Rebecca J. Bennett, and **Mark J. Martinko**

First published 2016
by Routledge
711 Third Avenue, New York, NY 10017

and by Routledge
2 Park Square, Milton Park, Oxfordshire OX14 4RN

Routledge is an imprint of the Taylor & Francis Group, an informa business

Library of Congress Cataloging-in-Publication Data
A catalog record for this book has been requested

ISBN: 978-1-138-80105-9 (hbk)
ISBN: 978-1-138-80107-3 (pbk)
ISBN: 978-1-315-75514-4 (ebk)

Typeset in Bembo
by Apex CoVantage, LLC

8

WHEN MORE CAN BECOME LESS

High Performance Work Systems as a Source of Occupational Stress

Paul E. Spector

High performance work systems (HPWS) include a variety of HR practices designed to enhance employee competence and productivity (Posthuma, Campion, Masimova, & Campion, 2013). Such systems are intended to improve employee attitudes and improve performance through the selection, development, and retention of talent (Chuang, Dill, Morgan, & Konrad, 2012), as well as by the restructuring of work, for example, through autonomous work teams (Godard, 2004). Although some studies have found positive effects of high performance practices on employees, others have found unexpected detrimental effects, as well (Godard, 2004). One explanation might be found in a study by Godard (2001) that while some HPWS had positive effects on employee well-being, too much stress on HPWS had detrimental effects. In this chapter I will explore the potential negative impact an HPWS can have on employees when it results in too much performance pressure from supervisors and coworkers. In other words, it passed the tipping point where employees begin to feel that they are being abused and exploited. A model will be developed showing how these systems can create high performance climates in which pressure for performance can be stressful and may lead to unintended negative consequences for employees and organizations.

The Nature of High Performance Work Systems

The term HPWS itself suggests an organizational approach that emphasizes productivity at both the employee and organizational level. What characterizes these systems is an emphasis on optimizing the management of human resources. The idea is to improve organizational functioning through proper staffing (employee selection and development), organization of work (e.g., teams

and decentralization of decision-making), and rewards (Garman, McAlearney, Harrison, Song, & McHugh, 2011). These elements of an HPWS are assumed to increase organizational effectiveness by enhancing employee retention, engagement, and well-being (Garman et al., 2011).

One of the challenges to studying the effects of HPWS is that they involve a large number of complex and diverse practices. Organizations vary in the elements they incorporate into their HPWSs, and individual elements can be implemented in a variety of ways. In their review of the academic and practice literature, Posthuma et al. (2013) identified 61 discrete practices that they placed into nine categories. Included were practices involving employee recruitment/selection and development, as well as practices involving work design, employee relations, communication, performance management, and promotions. Since the precise practices involved can vary across organizations, studies intended to assess the effectiveness and impact of HPWS have not all investigated the same thing, and thus they are not all comparable. It should not be surprising, therefore, that not all studies find the same effects on organizations or on people.

A Model of HPWS Negative Effects on Employees

Figure 8.1 illustrates a model of how adoption of HPWS can have detrimental effects on individual employees. The model itself is an extension of the basic stressor-strain framework in which environmental conditions or stressors, as perceived by employees, lead to strain outcomes. Whereas most stressor-strain models are concerned with the interplay between stressors and individuals, this model focuses on the organizational sources of work stressors as antecedent conditions. Thus this multilevel model combines organization-level and individual-level

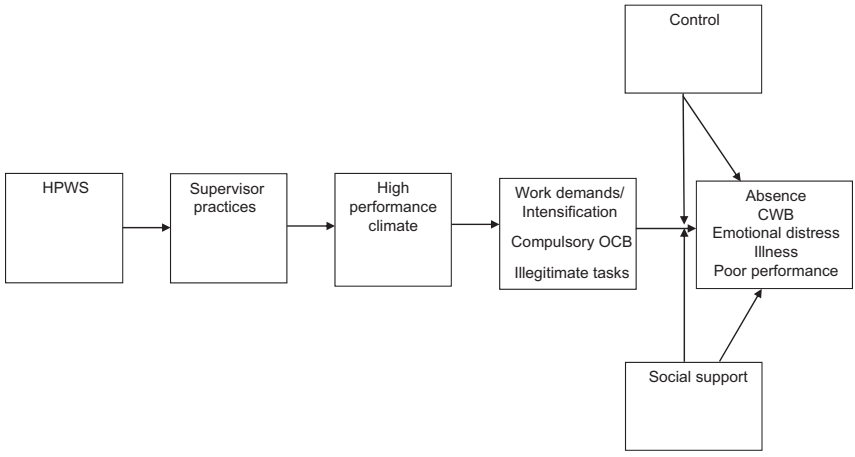

FIGURE 8.1 A model of high performance work systems' negative effects.

factors in tracing how decisions to adopt HPWS can affect supervisor behavior in ways that can be detrimental to employees. As the demands for productivity reflected in HPWS are filtered through individual supervisory behavior, the work environment can become stressful for employees who are expected to maximize their performance. Even when commitment and engagement are gained, such systems can put employees under workload stress, having unintended negative consequences.

Organizations that adopt HPWS are undoubtedly concerned with maximizing the use of human resources in order to enhance organizational effectiveness and, in the private sector, profitability. Such organizations likely have values that are somewhat different from organizations that choose not to adopt such practices, and those values are promulgated throughout the management ranks, and well as the rank and file. The value of employee effectiveness, both in terms of work quality and quantity, is implicit in the adoption of work practices that are classified as high performance. Since HPWS practices often involve investment in human resources that raise labor costs (Cappelli & Neumark, 2001), there would undoubtedly be management pressure for a return on that investment through higher levels of employee productivity. Thus management would expect that individuals who are provided developmental opportunities, and other benefits that enhance their capabilities, should be willing and able to perform at high levels. Some of that pressure might arise merely from the expectations by high level management that their labor force would be productive, and some of it might arise from explicit actions and statements. Top management would telegraph those expectations throughout the organization, producing pressure on managers to ensure that their units are justifying the investment in their human resources. Thus there would be an organizational climate for high performance that is transmitted from upper to lower management. In turn lower-level managers would transmit the climate to their work units, as direct supervisors are generally the main source of climate as experienced by frontline employees (Dragoni, 2005; Kozlowski & Doherty, 1989).

Lower-level managers would be aware that their superiors expect high performance from themselves and their units, and thus they would ensure that their employees were aware that the organization had high performance standards. Lower-level supervisors may adopt policies and practices that encourage and support high performance, but in doing so, they run the risk of creating high performance climates that are achievement oriented where not only is success rewarded, but failure is punished, as well. Furthermore, with high performance standards, the criterion for failure is not merely doing the job incorrectly or missing deadlines, but the inability to perform at an extraordinary level. A possible manifestation of such climates is competitiveness among employees who compete for limited rewards, such as promotions.

What employees often experience in the achievement-oriented high performance climate of an HPWS organization is work intensification and high work demands. Those demands can be manifest as heavy workloads, long working hours, and demands for tasks that fall outside the core tasks of individuals. Such

workloads will be perceived as work stressors that can lead to strains. Factors that might mitigate strains include control and supervisor support, but unfortunately, the demands and practices of HPWS often undermine both these potential mitigating factors.

Leadership and Climate

As noted earlier, direct supervisors transmit the organizational climate to their subordinates at the work-unit level through their own behavior and leadership style. The effectiveness of that transmission can be related to the quality of relationship between supervisors and subordinates, such that good relationships will result in a stronger shared climate (Dragoni, 2005; Kozlowski & Doherty, 1989; Scott & Bruce, 1994). Furthermore, authentic leadership behaviors that involve allowing input and being open to criticism allow development of relationships that help transmit climate (Nielsen, Eid, Mearns, & Larsson, 2013) from supervisors to their subordinates.

Transformational and transactional leadership styles can also be a factor in the transmission of climate to subordinates. A series of studies concerning safety climate found that transformational and active transactional leadership styles related positively to climate (see meta-analysis by Clarke, 2013). Transformational leadership styles not only positively affect safety climate perceptions at the unit level, but safety behavior and safety outcomes (injuries), as well (Mullen & Kelloway, 2009). Transformational leadership has also been linked to food safety (Lee, Almanza, Jang, Nelson, & Ghiselli, 2013), justice (Naumann & Bennett, 2000), and service climates (Kopperud, Martinsen, & Humborstad, 2014).

Climate is also transmitted by supervisors more directly in behaviors that specifically address it. In the safety domain, Wu, Lin, and Shiau (2010) showed that supervisor behaviors concerning safety, such as coaching employees in how to work safely and demonstrating concern for employee safety, helped transmit safety climate.

It seems likely that transmission of a high performance climate (see the following section) would occur in much the same way as safety and other climates that have been extensively studied. Supervisors who develop good working relationships with subordinates and who engage in high performance behaviors are likely to transmit climates within their units. A transformational style would be expected to be most effective in building a high performance climate within units. Thus employees who have good relationships with effective supervisors may feel climates most strongly and thus may perceive the highest levels of work demands from high performance climates.

High Performance Climate

Organizations differ in the extent to which they place emphasis on effectiveness and performance, and such differences can manifest as high performance climates. Climates of any kind involve the policies and practices adopted by

the organization, and managers telegraph what behavior is expected through rewards and support (Zohar & Luria, 2004). Thus climates can be experienced as expectations for behavior and the associated outcomes. With high performance climates, employees would perceive demands or pressure for high levels of effectiveness and productivity. In organizations that adopt HPWS, management can create a high performance climate that focuses on individual productivity that is expected to create favorable outcomes for the organization at all costs.

In the realm of team sports, Baric (2011) distinguishes mastery from performance climates. In a mastery climate, coaches emphasize development of skills through hard work and cooperation with others. Such a climate is future oriented in the emphasis on skill development and does not demand maximum performance or winning at any cost. A performance climate, on the other hand, considers winning to be paramount and emphasizes achieving the best outcomes possible. Individual athletes perceive that there is reward for success and punishment for failure, resulting in a competitive atmosphere as individuals jockey to be the best performers. Unintended consequences of a performance climate are aggression and counterproductive behavior toward teammates (Boardley & Kavussanu, 2009; Kavussanu, 2006) and low intrinsic motivation (Kipp & Amorose, 2008).

Organizations that adopt HPWS can certainly adopt a mastery perspective and emphasize employee development and cooperation. Rewards would be offered for those who enhance skills and invest effort into their jobs. A mastery climate would emphasize cooperation and high standards and would lead to expectations that employees develop their skills, which would enable them to enhance performance. This would not be a win-at-all-costs climate, and the focus would not be on squeezing the last drop of performance from every employee, but rather on achieving a balance in which the welfare of each employee is an important consideration alongside the maintenance of high performance. The danger is that organizations adopt HPWS because they wish to maximize productivity, which is translated into practices that reward success and punish failure. If employees must compete for scarce resources, such as promotions, a competitive climate might arise with employees undermining one another (Duffy, Ganster, & Pagon, 2002) to achieve competitive advantage. Although the focus might be on maximizing performance for each individual, cooperation and coordination can be sacrificed, and overall group performance might not be optimal. Ironically, as individuals strive for competitive advantage and see coworkers as rivals, organizational effectiveness would likely suffer. This might explain why organizations that adopt HPWS do not always achieve the level of success that is expected. In such cases the demand for performance can reach the tipping point where employees feel abused.

Work Intensification

As noted earlier, one of the likely byproducts of HPWS is an increase in work demands resulting in work intensification (Kroon, van de Voorde, & van

Veldhoven, 2009; Landsbergis, Cahill, & Schnall, 1999). When organizations identify their practices as high performance, a high performance climate can be created that is transmitted throughout the organization. For the individual employee, such climates are experienced as demands and expectations for high levels of productivity and success. The perception of such demands for productivity can result in perceived stressors, such as role overload (Jensen, Patel, & Messersmith, 2013).

There are a number of ways that supervisors in HPWS organizations can create stressful work intensification. First, there is the level of workload requirements when HPWS organizations make demands for high levels of work quantity while maintaining quality. Organizations that use HPWS recruitment and selection practices would be expected to hire individuals who are highly capable and skilled. Investment in employee development and training should further enhance the capabilities of the workforce. Assuming that highly skilled employees are hired and are provided high levels of developmental resources, it stands to reason that supervisors would expect high levels of performance on the basic tasks of the job in return.

Second, given the investment HPWS organizations make in their employees, supervisors are likely to expect those employees to demonstrate high levels of organizational commitment and engagement. Such employees would be expected to make contributions that go beyond the core tasks of their jobs. This can be manifest as supervisory demands that employees engage in compulsory organizational citizenship behavior (Vigoda-Gadot, 2006), that is, behavior that contributes to organizational functioning beyond core tasks and that supports the organizational context (Borman, 2004).

Finally, with the excess demands in an HPWS organization, supervisors might feel free to utilize their human resources in more flexible ways in an effort to enhance organizational performance. Rather than limiting work assignments to those defined formally in a job description, supervisors might assign additional tasks, resulting in out-of-role demands that are unusual and uncomfortable. This can result in the assignment of what employees perceive to be illegitimate tasks (Semmer, Tschan, Meier, Facchin, & Jacobshagen, 2010), that is, tasks an employee feels are not part of his or her job and should not have been assigned to him or her, or to anyone at all. Illegitimate tasks can be considered a form of psychological contract breach (Robinson & Rousseau, 1994) when assignments to tasks exceeds employee expectations of what can be reasonably required (Semmer et al., 2010).

Supervisor Practices

Maximizing the benefits and minimizing the detriments of HPWS requires highly skilled supervisors who are able to manage the increased demands that are placed upon subordinates. Such supervisors will help optimize efficiency by coordinating group action, providing necessary resources, and structuring tasks. They

also will offer both instrumental support to assist with tasks when necessary and emotional support to cope with stressful job conditions (for detailed discussion of these forms of support see Beehr & Glazer, 2001). On the other hand, supervisors who fail to do these things can undermine the positive effects of HPWS and may take their subordinates past the tipping point where they feel abused.

It has been noted that poor quality leadership can be an important component in the occupational stress process. Kelloway, Sivanathan, Francis, and Barling (2005) described two forms of poor leadership that can be stressful for employees. First, some leaders are abusive and punitive toward subordinates, maintaining close control and limiting subordinate autonomy (see later section on control). Abusive behaviors and limited control can both act as stressors. Second, leaders who have poor skills and are passive, that is, only take action when absolutely necessary, can make the workplace difficult for subordinates who lack supervisory resources and support. Although such leader behavior might not be directly stressful, it can make dealing with stressors difficult and thus enhance the effects of work demands.

In an HPWS environment, supervisors are under pressure for performance, which can exacerbate abusive tendencies. Such supervisors might feel quite at home using punitive approaches to dealing with less than stellar performance, thus contributing to a high performance climate that can be detrimental to employees and their organizations. For supervisors who are not prone to be abusive or punitive, poor skills can result in insufficient coordination among subordinates. Furthermore, such supervisors might be unable to manage conflicts among group members, which can adversely affect teamwork and, as will be discussed in the section on control, may reduce individual autonomy in a way that can lead to strains.

The Link Between Work Demands and Strains

Workload

The sheer amount of work that an individual is required to do at work can be perceived as a stressor if it exceeds an individual's capability (qualitative workload) or level of tolerance for maintaining the work flow (quantitative workload). The extent to which the objective amount of work is perceived as a stressor, however, can be affected by additional factors in the work environment and by how an individual feels about the job. Such factors involve fairness and the extent to which an individual receives adequate reward for the investment in effort. Both the link between workload and strains and the impact of rewards will be discussed in this section.

Workload itself has been linked to strains. In their meta-analysis, Spector and Jex (1998) found that perceived workload related to psychological strains of anxiety (mean $r = .40$), depression (mean $r = .21$), frustration (mean $r = .46$), job

dissatisfaction (mean $r = .17$), and turnover intentions (mean $r = .24$). Perceptions of workload have also been linked to physical health symptoms in both cross-sectional and longitudinal studies (Nixon, Mazzola, Bauer, Krueger, & Spector, 2011). Specific symptoms related to perceived workload included backache, fatigue, gastrointestinal problems, headache, and sleep disturbance (Nixon et al., 2011).

A useful model to consider the effects of increased demands due to the intensified work of HPWS organizations is the effort-reward imbalance model (Siegrist, 1996). Based on the idea of social exchange, this model suggests that employees evaluate their efforts in terms of rewards received. Rewards include not only tangible things like compensation, but intangible things such as control, esteem, and status, as well. The combination of high effort and low rewards has been linked to a number of strains, including burnout, job dissatisfaction, physical health symptoms (de Jonge, Bosma, Peter, & Siegrist, 2000), coronary heart disease risk factors such as hypertension (Siegrist, 1995; Siegrist & Peter, 1994), and coronary heart disease itself (Siegrist, 1995; van Vegchel, de Jonge, Bosma, & Schaufeli, 2005). Thus HPWS demands without an associated increase in rewards can produce a stressful situation that has detrimental effects on people. It should be realized that attempts to maximize performance with the adoption of HPWS without an associated increase in rewards can have unintended negative consequences.

An implication of the high performance climate of some HPWS organizations is that rewards are given for success and not just effort. Likely many individuals put extensive effort into their jobs that does not result in uniformly high performance or success. Individuals who invest extensive personal effort and resources into tasks that do not result in the level of performance expected by superiors will likely find themselves in an effort-reward imbalance situation. Either they fail to receive rewards for their efforts, or they might even receive punishments, perhaps in the form of verbal disapproval. This is particularly problematic for individuals who are less skilled, perhaps because they are newly hired and have not had the opportunity to fully develop their capabilities. Furthermore, under conditions of high demands, there might be inadequate time to devote to personal development. This can result in a downward spiral for individuals who experience strain due to effort-reward imbalance that interferes with efforts to enhance skills and performance that leads to increasing imbalance and more performance-inhibiting strain. In such cases employees can find themselves feeling abused.

Compulsory Organizational Citizenship Behavior

Organizational citizenship behavior (OCB) is typically conceptualized as tasks that go beyond the core tasks expected in a particular position (Organ, 1997). Originally OCB was considered to consist of largely voluntary efforts by

employees that went above and beyond formal job requirements (Organ, 1988). More recent research has shown that OCB is not always voluntary and that often supervisors require that individuals engage in OCB, that is, it becomes compulsory. Vigoda-Gadot (2006) noted that compulsory OCB, like abusive supervision, is a form of coercive persuasion whereby supervisors take advantage of subordinates who do not have the power to resist. Such demands can exceed the tipping point of abuse, and indeed abusive supervision has been linked to compulsory OCB in an organizational setting (Zhao, Peng, Han, Sheard, & Hudson, 2013).

Compulsory OCB has been found to be quite prevalent. In a field study of teachers, Vigoda-Gadot (2007) found that approximately three-fourths reported having been pressured by supervisors to engage in OCB. Bauer (2014) asked a diverse sample of employees to report the number of OCB demands their supervisors made of them. The mean number of demands was 1.4 over a single week. Furthermore, results of this longitudinal study suggested that not only did OCB demands relate to amount of OCB, presumably because employees complied, but amount of OCB predicted future demands. Bauer speculated that employees who engage in OCB when requested are perceived by supervisors as being helpful individuals, and so those supervisors feel free to make future requests. Thus there might be a compulsory OCB spiral where requests for OCB, if met, lead to more requests for OCB. Thus there can be a rising level of work demands over time that results in increasing stress on employees.

Compulsory OCB can serve as a stressor in three ways. First, it adds to an employee's workload if the OCB tasks are added to the current workload instead of substituting. For jobs in which an employee's tasks do not accumulate over time (e.g., a server whose table would be serviced by someone else in his or her absence), OCB would be a substitute. In cases where the work waits for the employee's return rather than being done by someone else, the OCB adds to the workload. This could be quantitative workload where the OCB represents more work to be done or qualitative workload where the OCB represents work that is more difficult, especially if the employee received little or no relevant training.

Second, compulsory OCB can be seen as unjust. This is particularly likely if OCB is added to the workload and not just substituting, or if it involves higher-level tasks that require additional skills that are not being compensated. With the server example, if an individual is asked to perform OCB instead of waiting on a table, there might be a loss of income from a missed tip. Depending on the nature of the OCB and the situation, compulsory OCB can increase the effort-reward imbalance if it is not compensated in some way. In other words, supervisors need to consider the reward side of the effort-reward system when asking employees to do extra tasks. This does not have to involve tangible rewards, but can consist of appreciation and recognition for employees who perform OCB.

Finally, compulsory OCB can be a form of illegitimate task—a task that an individual feels he or she should not be expected to perform. We will discuss the nature of illegitimate tasks next.

There has been limited research conducted on compulsory OCB beyond establishing that it is a common occurrence in organizations. In one of the few studies on potential effects, Vigoda-Gadot (2007) found that compulsory OCB was related to a number of strains, including burnout, job dissatisfaction, psychological strain, and turnover intentions. Furthermore, it was associated with low levels of innovation and in-role job performance, suggesting that there can be a tradeoff. Individuals whose time is shifted to compulsory OCB will have less time and energy to engage in their core job tasks. Furthermore, Bauer (2014) showed that compulsory OCB can result in negative behaviors by employees in that it related positively to counterproductive work behavior (CWB), that is, behavior that harms organizations and people in organizations (Spector & Fox, 2005). Individuals asked to perform OCB were likely to also perform CWB. This finding fits within a stressor-strain model of CWB (Spector & Fox, 2005), in which compulsory OCB acts as a stressor that leads to the behavioral strain of CWB.

Illegitimate Tasks

Illegitimate tasks are tasks an employee is asked to do that the employee feels should not be asked of him or her. A task might be perceived as illegitimate because it goes beyond what is reasonably the content of a given position and should be assigned to someone else, because the task is made unnecessarily difficult, or because the task should not be done at all (Semmer et al., 2010). In HPWS organizations where supervisors are under pressure for productivity, it is likely that they will assign tasks to individuals who would not necessarily be responsible for them in order to maintain a high level of productivity. In organizations with less performance pressure, supervisors might feel it is acceptable to allow suboptimal productivity. With the pressure of maintaining high performance, it is likely for tasks that are not getting done quickly to be assigned to employees who have the time available, even if those tasks do not fall into their job description or fall well below their skill level. Thus a highly skilled employee (e.g., computer programmer) might be asked to perform menial tasks (e.g., cleaning the workplace). When tasks are of a lower level, or are outside the scope of a particular position, the individual might perceive them as being an insult and thus illegitimate. Likewise, HPWS organizations are likely to demand high performance, even in the absence of adequate resources, and indeed illegitimate tasks have been linked to inadequacy of resources (Bjork, Bejerot, Jacobshagen, & Harenstam, 2013).

Illegitimate tasks are considered an occupational stressor because they threaten the self-esteem of the employee, that is, they are an offense to the self (Semmer

et al., 2010). Stocker, Jacobshagen, Semmer, and Annen (2010) argued that being asked to perform illegitimate tasks makes employees feel unappreciated and resentful and that those feelings can lead to lowered job satisfaction. As with other stressors, illegitimate tasks relate to psychological strains, such as anger and fatigue (Eatough Cooley, 2014), as well as physical strains resulting in overproduction of cortisol (Kottwitz et al., 2013). As with compulsory OCB, individuals asked to perform illegitimate tasks are also more likely to engage in counterproductive work behavior directed at coworkers and supervisors (Semmer et al., 2010). Continual supervisory demands for OCB can accumulate and reach the abuse tipping point.

Compulsory OCB can overlap with illegitimate tasks when employees feel that performance requests are unreasonable, that is, the OCB is something that should not be part of their jobs. Thus the request for OCB could be viewed by an employee as an offense reflecting disrespect and low regard by the supervisor. Of course, some OCB requests might not be seen as illegitimate, as an employee might feel that the task is necessary and that it is not unreasonable for him or her to perform it. In cases where the OCB is done in addition to core tasks, it would represent an increase in workload but would not be viewed as a demeaning offense to the self.

Mitigating Factors

There are at least two workplace factors that can help mitigate the detrimental effects that the increased work pressure of HPWS can produce: control and supervisor support. Both these factors have been prominent in the general occupational stress domain, and both have been suggested to act as buffers of the stressor-to-strain relationship. They have even been suggested to enhance one another so that high control and support together can help overcome the negative effects of stressors. It might be especially important in HPWS organizations to ensure that employees are given sufficient control and support.

Control

Organizations by their nature involve the coordinated activities of their members in order to achieve specified goals. Control systems, both formal and informal, offer the means through which tasks are organized in an efficient way to accomplish objectives. It is necessary, therefore, for employees to cede at least some control over their work activities to legitimate authorities (supervisors). However, there is considerable latitude in the extent to which those supervisors share control with subordinates, particularly over how, when, and where tasks are accomplished, as well as the nature of those tasks. To some extent the nature of the job and tasks dictates how much latitude individual employees can have (e.g., assembly line work offers little autonomy over place and time), but supervisors often have the ability to maximize or minimize the control allowed within

the parameters of job requirements. As noted earlier, skilled supervisors know how to balance individual autonomy with organizational control needs.

In an HPWS organization where supervisors feel performance pressure, there can be a reluctance to share control with subordinates. If performance efficiency is supposed to be maximized, supervisors might be more concerned that the most effective protocols are followed than with allowing subordinates to have autonomy over their tasks. This can be a particular issue in organizations where there is some insufficiency of resources and supervisors are placed under pressure to maintain high levels of productivity, for example, after force reductions. The combination of high performance demands and low employee control can maximize the detrimental effects of HPWS.

The idea that control itself is a vital element of the stress process is well supported by decades of research both inside and outside the work domain. Heckhausen and Schulz (1995) noted that humans are motivated to seek situations where their behavior can reliably lead to predictable outcomes. The loss of control or even the threat of loss is stressful. Similarly self-determination theory posits that having control is a basic human need, along with needs for competence and relatedness (Deci & Ryan, 2009). At a global level, the extent to which the need for autonomy is fulfilled in life is related to psychological health and well-being (Deci & Ryan, 2008; Ng et al., 2012). One domain in which needs including autonomy can be met is the workplace, with supervisors being an agent to encourage or discourage autonomy and broader self-determination (Deci, Connell, & Ryan, 1989).

So far this chapter has discussed control as an environmental condition created by the organization or a supervisor. From a stress perspective, however, it is an individual's perception of control, that is, the extent to which he or she believes latitude to make choices has been given, that is most important (Spector, 1998). Given the same organizational and supervisory policies and practices, individuals will vary in the extent to which they perceive control. This can occur because some individuals do not believe that the supervisor actually allows the control that has been given, and other individuals will assume they have discretion over things that they do not.

After reviewing the control literature, Thompson (1981) concluded that control affords an individual the ability to avoid or minimize aversive events. Perceiving control in a potentially threatening situation can increase an individual's tolerance for painful or uncomfortable events, resulting in a lowered strain response. She notes as an explanation Miller's (1979) minimax principle that suggests having control over an aversive event gives an individual the confidence that he or she can minimize the maximum harm. By being able to attribute control over the situation to internal and stable factors, one experiences less strain in response to an aversive event or stressor.

In the work domain, the perception of control relates to a variety of strains. Meta-analyses have found that autonomy over an individual's own job tasks and other forms of control relate to strains of emotional distress and job dissatisfaction

(Spector, 1986), as well as physical health symptoms, particularly backache, digestive disorders, headaches, and sleep disturbance (Nixon et al., 2011). Although most studies of workplace control utilized cross-sectional self-report designs, several were longitudinal. de Lange, Taris, Kompier, Houtman, and Bongers (2003) reviewed the results of longitudinal studies, concluding that there was evidence that lack of control was an important factor in strains. Nixon et al. found that, if anything, results were stronger in longitudinal than cross-sectional studies, suggesting that perhaps the effects of low control accumulate over time, a phenomenon noted in the occupational stress domain across a variety of stressors (Ford et al., 2014).

The combined effect of demands and control is described by the demand-control model (Karasek, 1979), one of the most dominant models in the occupational stress domain. According to this model, high levels of demand (e.g., workload) lead to strains, especially under conditions of limited control of the working environment. To put it another way, the detrimental effect of work demands on strains would be buffered by high levels of control. That is, individuals are better able to cope with high demands if they are allowed control over those demands. Thus this model suggests that not only does lack of control serve as a stressor (an additive effect), but control serves as a moderator of the effects of other stressors (interactive effect).

As noted, the additive effects of control have been well established in that control has been shown to correlate with strains (Nixon et al., 2011; Spector, 1986). However, the multiplicative effect has proven to be elusive in that many tests have been nonsignificant (de Lange et al., 2003; Terry & Jimmieson, 1999). A number of potential explanations have been advanced for the frequently found nonsignificant interactive results. Terry and Jimmieson (1999) noted that the model might be too general and that the nature of the stressors and strains, as well as additional contextual factors, might be important to consider. Along these lines, it has been suggested that the specific form of control must match the stressors in order for buffering to occur (de Jonge, Dollard, Dormann, Le Blanc, & Houtman, 2000). Finally, Spector (2009) summarized several factors that might have contributed to nonsignificant results. Of particular concern here is the issue of the appropriate level of analysis. Studies varied in whether the control and demands were assessed at the individual employee level or the job level. This has implications for our discussion of HPWS, as some of the factors operate at the individual level (interactions with the supervisor), whereas others operate at the workgroup or organization level (high performance climate). At the current time it is not clear whether the control-demand interaction is more likely to occur at the individual, job, or organization level.

Control and HPWS

One feature of HPWS is the extent to which employees are empowered, both individually and collectively. At the individual level, autonomy can be part of

efforts to enrich jobs, and participatory approaches can solicit input from employees through practices such as quality circles (Godard, 2004). Both forms of control have been linked to lowered strains (Spector, 1986), and thus they might counteract, at least to some extent, the increased performance pressure brought on by HPWS. It would be particularly useful if employees were given control over their workloads, for example, by allowing discretion over task scheduling and working hours. Even if control doesn't act as a buffer per se by completely negating the detrimental effects of work pressure, it could serve an additive role that might at least reduce strain to a more manageable level.

At the collective level, one of the common HPWS practices is the organization of work by autonomous teams. The autonomous work team is an alternative to the traditional assembly line arrangement. Rather that designing the work flow into a series of relatively simple tasks assigned to different individuals, an entire team is given collective responsibility for accomplishing the entire work objective together, such as assembling an entire product. The team is given the authority to manage its members, such that control rests with the team rather than the individual.

Although autonomous work teams are often considered to be an effective means of empowering the individual, they can instead produce a system whereby control is merely transferred from the management hierarchy to the peer group, or what Barker (1993) refers to as tightening of the iron cage. Barker's ethnographic account of an organization that adopted autonomous teams suggests that teams exerted tighter control over the individual than did supervisors. Team members established strong norms and rules of behavior that were enforced more stringently than those of managers. The result was an increase in collective control at the cost of individual control. That these two forms of control can be inversely related was confirmed in a quantitative study of social service workers (Langfred, 2000), although there was no relationship in a military sample. Furthermore, the loss of individual control is particularly likely when there is conflict among team members and high task interdependence (Langfred, 2007), suggesting that there are contextual factors that might be important.

If autonomous work teams reduce an individual's personal control below that found with more traditional work arrangements, it is possible that employees would find such arrangements to be stressful. This would seem to be particularly likely when the team is under high performance pressure that results in members adopting rigid production norms that reduce individual control. Given that team autonomy might only result in high team performance when tasks are highly interdependent, it should be recognized that this form of work arrangement might not be appropriate in all situations. It should also be recognized that conflict among team members needs to be carefully managed, as high conflict can exacerbate the loss of individual control and can be a significant stressor that is itself linked to strains (Hershcovis, 2011; Nixon et al., 2011). In some circumstances it can be fellow team members rather than supervisors who exceed the abuse tipping point.

Social Support

Social support has been noted as a critical element in the occupational stress process in that it has the potential to reduce strain (Beehr & Glazer, 2001). As with control, social support has been hypothesized to have both additive (directly related to strain) and moderator (buffer of the negative effects of stressors) effects (Viswesvaran, Sanchez, & Fisher, 1999). The additive effects of social support have been well supported and have been summarized in a meta-analysis (Viswesvaran et al., 1999). The moderator effect has been more elusive, with some studies finding support for a buffering effect, but others finding reverse buffering, that is, the stressor-strain relationship was greater for individuals who had high levels of social support (Beehr & Glazer, 2005).

Beehr and Glazer (2005) discussed different forms of social support that might function in different ways. Structural support is merely the existence of individuals in a person's social network who are able to provide assistance. This form of support is more potential than actual, as it deals with the availability of support rather than its utilization. An individual who has no need for support can still benefit from the existence of individuals who are able to provide it if needed, as it can be reassuring to know that assistance is available. Functional support concerns the actual behavior of others who can assist an individual in dealing with either the strain response to stressors or with the stressors themselves. Emotional support addresses strains, and it is the caring and concern that one individual shows to another. It can help reduce negative and enhance positive emotions and feelings in dealing with stressors. Instrumental support focuses on stressors and consists of direct assistance one individual provides to another, for example, by helping someone with a heavy workload.

Structural, emotional, and instrumental support can all be helpful for an individual in dealing with the workload stressors of the HPWS workplace. Structural support provides the potential for help if job demands become excessive. If an employee perceives that such support is available, it can help alleviate negative emotional responses, especially anxiety, because it reduces worry about whether or not the demands can be met. As with the minimax principle with control (Miller, 1979), structural support gives the individual confidence that he or she can minimize the maximum level of the stressor. In a way structural support can be considered a form of socioinstrumental control (Spector, Sanchez, Siu, Salgado, & Ma, 2004), that is, achieving control of the environment through a network of social relationships. An individual who believes he or she has high structural control will likely perceive the ability to control the environment by calling upon individuals in their social network.

Emotional support works directly on emotional strain responses to stressors. This form of support has as its aim reducing negative emotional responses to stressors rather than reducing the stressor itself. Instrumental support works directly on stressors by providing assistance to an individual in dealing with a stressful situation, such as high work demands. Both forms of functional support

can serve a buffering role, although at different stages of the stress process. Emotional support can buffer the strain response to the stressor, that is, when support is available, there will be an attenuated stressor-strain relationship. Instrumental support can buffer the relationship between the environmental stressor and the perceived stressor. By assisting an individual in dealing with the stressor, for example, by assisting someone with a heavy workload, the relationship between the environmental stressor and perceived stressor will be attenuated. The reduction in perceived stressor level would be expected to lower the level of strain. Thus social support can help employees avoid the abuse tipping point.

Although social support can come from many sources, supervisors are probably the most important. Through supportive behavior, a supervisor telegraphs to subordinates that they are important and valued. Failure to provide support can be interpreted negatively and may make subordinates apprehensive that the supervisor feels their performance is inadequate or their jobs are insecure. As Kelloway et al. (2005) noted, failure to provide social support is a sign of poor leadership.

Combination of Control and Support

We have established that both control and social support have additive effects, so that employees who have both should experience lower strains than employees who have one or neither. An extension of the control-demand model, termed the control-demand-support model, suggests a multiplicative three-way moderator effect, whereby control and support have joint buffering effects (Karasek & Theorell, 1990). This suggests that although the effects of stressors on strains will be attenuated under either high control or high social support, the existence of both combined will offer an additional benefit over either one alone. Jobs that offer neither control nor support would be expected to be particularly stressful if they have high demands.

Empirical support for the control-demand-support model, as with the control-demand model, is mixed. Some studies find a significant three-way moderator effect in the predicted form, but many do not (de Lange et al., 2003). One possibility might be that the source of the social support matters. Sargent and Terry (2000) found the joint buffering effect when the source of support was the supervisor, but not coworkers. Furthermore, there are a number of methodological issues with studies that tested this model, many shared with studies of the control-demand model (de Jonge & Kompier, 1997). At the current time it seems that under some conditions control and support can serve as buffers, but it is unclear exactly what the nature of those conditions might be.

Minimizing Problems With HPWS Practices

High performance work practices are assumed to be an effective means of maximizing organizational effectiveness through the optimal use of human resources.

Many of these practices are evidence based and empirically validated, such as goal setting. Although it might seem that the use of such practices would necessarily increase employee performance, and produce greater organizational effectiveness and, in the private sector, profitability, such is not always the case. Practices that in theory should work do not always yield expected results. As discussed in this chapter, not only do they not result in the performance gains expected, but they can produce unintended negative consequences, such as increased counterproductive work behavior and strain.

An important element that is often overlooked when implementing organizational practices is the impact on employee stress and well-being. Practices that increase demands on employees for effort and results should be viewed from a stress perspective in order to fully appreciate the possible outcome. An unintended consequence of HPWS is an increased pressure for productivity on supervisors that can result in work intensification and increased stressors on employees. Exposure to those stressors can result in lowered well-being of employees and a possible reduction in job performance and task efficiency (Jex & Crossley, 2005). Physical strains can result in absence due to illness and inefficiency in performance when employees work with discomfort or pain. Psychological strains that involve emotional distress can be a distraction and might lead employees to spend their time ruminating rather than working, whereas job dissatisfaction and other negative attitudes can lead to a loss of commitment. Finally, behavior strains include counterproductive work behavior (Spector & Fox, 2005) that can adversely affect employees and organizations.

An effective HPWS will take into account the human costs of high performance demands. The extra efforts demanded should be balanced with adequate rewards, both tangible (e.g., pay) and intangible (e.g., recognition). Furthermore, a mastery climate should be preferred over a high performance climate. This does not mean that performance is ignored, but rather that there should be a balance between the demands for performance and the limits of human endurance. Management should take care to not create a "win at all costs" competitive environment in which some employees are rewarded as stars and others are either neglected or punished because their performance is not extraordinary. In the long run such an environment will likely result in high performance for a select few, but at the cost of decreased team cooperation and coordination and lowered overall unit effectiveness.

A well-run HPWS needs effective leaders who are able to manage the high intensity environment that demands high performance. Such leaders need interpersonal skills that allow for effective social support, as well as the ability to coordinate individuals and mediate conflicts that might arise among subordinates. Technical skills are needed to manage workloads effectively, including avoiding assigning tasks that are viewed as illegitimate, coordinating activities among subordinates, empowering them where possible, and providing instrumental support when someone is struggling with a workload. Providing both

individual control and social support is necessary to minimize the negative effects of stressful working conditions.

HPWS can be an effective tool for the effective use of human resources, but it should not be used blindly with the expectation that it will automatically result in positive outcomes. The context in which these practices are applied, the need for supportive supervision, and the unintended consequences they can produce should be kept in mind. These practices can be effective if used properly. This requires that managers continually monitor the effects they are having on employees and be willing to make adjustments. In the end, applying practices that would seem to be ideal from the perspective of performance might be sub-optimal from the perspective of the individual who feels abused and thus may result in less than optimal employee effectiveness. In other words, it should be kept in mind that sometimes more can be less.

References

Baric, R. (2011). Psychological pressure and athletes' perception of motivational climate in team sports. *Review of Psychology*, *18*, 45–49.

Barker, J. R. (1993). Tightening the iron cage: Concertive control in self-managing teams. *Administrative Science Quarterly*, *38*, 408–437.

Bauer, J. A. (2014). An investigation of OCB demands and workplace behaviors. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *74*(11-B(E)), No Pagination Specified.

Beehr, T. A., & Glazer, S. (2001). A cultural perspective of social support in relation to occupational stress. In P. L. Perrewé & D. C. Ganster (Eds.), *Research in occupational stress and well being* (Vol. 1, pp. 97–142). New York: JAI Press.

Beehr, T. A., & Glazer, S. (2005). Organizational role stress. In J. Barling, E. K. Kelloway, & M. R. Frone (Eds.), *Handbook of work stress* (pp. 7–33). Thousand Oaks, CA: Sage.

Bjork, L., Bejerot, E., Jacobshagen, N., & Harenstam, A. (2013). I shouldn't have to do this: Illegitimate tasks as a stressor in relation to organizational control and resource deficits. *Work & Stress*, *27*, 262–277.

Boardley, I. D., & Kavussanu, M. (2009). The influence of social variables and moral disengagement on prosocial and antisocial behaviours in field hockey and netball. *Journal of Sports Sciences*, *27*, 843–854.

Borman, W. C. (2004). The concept of organizational citizenship. *Current Directions in Psychological Science*, *13*, 238–241.

Cappelli, P., & Neumark, D. (2001). Do "high-performance" work practices improve establishment-level outcomes? *Industrial and Labor Relations Review*, *54*, 737–775.

Chuang, E., Dill, J., Morgan, J. C., & Konrad, T. R. (2012). A configurational approach to the relationship between high-performance work practices and frontline health care worker outcomes. *Health Services Research*, *47*, 1460–1481.

Clarke, S. (2013). Safety leadership: A meta-analytic review of transformational and transactional leadership styles as antecedents of safety behaviours. *Journal of Occupational and Organizational Psychology*, *86*, 22–49.

Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of Applied Psychology*, *74*, 580–590.

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie canadienne*, *49*, 182–185.

Deci, E. L., & Ryan, R. M. (2009). Self-determination theory: A consideration of human motivational universals. In *The Cambridge handbook of personality psychology* (pp. 441–456). New York: Cambridge University Press.

de Jonge, J., Bosma, H., Peter, R., & Siegrist, J. (2000). Job strain, effort-reward imbalance and employee well-being: A large-scale cross-sectional study. *Social Science & Medicine*, *50*, 1317–1327.

de Jonge, J., Dollard, M. F., Dormann, C., Le Blanc, P. M., & Houtman, I. L. (2000). The Demand-Control Model: Specific demands, specific control, and well-defined groups. *International Journal of Stress Management*, *7*, 269–287.

de Jonge, J., & Kompier, M. A. (1997). A critical examination of the demand-control-support model from a work psychological perspective. *International Journal of Stress Management*, *4*, 235–258.

de Lange, A. H., Taris, T. W., Kompier, M. A., Houtman, I. L., & Bongers, P. M. (2003). "The very best of the millennium": Longitudinal research and the demand-control-(support) model. *Journal of Occupational Health Psychology*, *8*, 282–305.

Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: The role of leadership and multilevel climate perceptions. *Journal of Applied Psychology*, *90*, 1084–1095.

Duffy, M. K., Ganster, D., & Pagon, M. (2002). Social undermining in the workplace. *Academy of Management Journal*, *45*, 331–351.

Eatough Cooley, E. M. (2014). Illegitimate tasks and employee well-being: A daily diary study. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *74*(8-B(E)), No Pagination Specified.

Ford, M. T., Matthews, R. A., Wooldridge, J. D., Mishra, V., Kakar, U. M., & Strahan, S. R. (2014). How do occupational stressor-strain effects vary with time? A review and meta-analysis of the relevance of time lags in longitudinal studies. *Work & Stress*, *28*, 9–30.

Garman, A. N., McAlearney, A. S., Harrison, M. I., Song, P. H., & McHugh, M. (2011). High-performance work systems in health care management, Part 1: Development of an evidence-informed model. *Health Care Management Review July/September*, *36*, 201–213.

Godard, J. (2001). High performance and the transformation of work? The implications of alternative work practices for the experience and outcomes of work. *Industrial and Labor Relations Review*, *54*, 776–805.

Godard, J. (2004). A critical assessment of the high-performance paradigm. *British Journal of Industrial Relations*, *42*, 349–378.

Heckhausen, J., & Schulz, R. (1995). A life-span theory of control. *Psychological Review*, *102*, 284–304.

Hershcovis, M. S. (2011). "Incivility, social undermining, bullying . . . oh my!": A call to reconcile constructs within workplace aggression research. *Journal of Organizational Behavior*, *32*, 499–519.

Jensen, J. M., Patel, P. C., & Messersmith, J. G. (2013). High-performance work systems and job control: Consequences for anxiety, role overload, and turnover intentions. *Journal of Management*, *39*, 1699–1724.

Jex, S. M., & Crossley, C. D. (2005). Organizational consequences. In J. Barling, E. K. Kelloway, & M. R. Frone (Eds.), *Handbook of work stress* (pp. 575–599). Thousand Oaks, CA: Sage.

Karasek, R. A., Jr. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, *24*, 285–308.

Karasek, R. A., Jr., & Theorell, T. (1990). *Healthy work: Stress, productivity and the reconstruction of work life*. New York: Basic Books.

Kavussanu, M. (2006). Motivational predictors of prosocial and antisocial behaviour in football. *Journal of Sports Sciences*, *24*, 575–588.

Kelloway, E. K., Sivanathan, N., Francis, L., & Barling, J. (2005). Poor leadership. In J. Barling, E. K. Kelloway, & M. R. Frone (Eds.), *Handbook of work stress* (pp. 89–112). Thousand Oaks, CA: Sage.

Kipp, L., & Amorose, A. J. (2008). Perceived motivational climate and self-determined motivation in female high school athletes. *Journal of Sport Behavior*, *31*(2), 108–129.

Kopperud, K. H., Martinsen, O., & Humborstad, S. I. (2014). Engaging leaders in the eyes of the beholder: On the relationship between transformational leadership, work engagement, service climate, and self-other agreement. *Journal of Leadership & Organizational Studies*, *21*, 29–42.

Kottwitz, M. U., Meier, L. L., Jacobshagen, N., Kalin, W., Elfering, A., Hennig, J., & Semmer, N. K. (2013). Illegitimate tasks associated with higher cortisol levels among male employees when subjective health is relatively low: An intra-individual analysis. *Scandinavian Journal of Work, Environment & Health*, *39*, 310–318.

Kozlowski, S. W., & Doherty, M. L. (1989). Integration of climate and leadership: Examination of a neglected issue. *Journal of Applied Psychology*, *74*, 546–553.

Kroon, B., van de Voorde, K., & van Veldhoven, M. (2009). Cross-level effects of high-performance work practices on burnout: Two counteracting mediating mechanisms compared. *Personnel Review*, *38*, 509–525.

Landsbergis, P. A., Cahill, J., & Schnall, P. (1999). The impact of lean production and related new systems of work organization on worker health. *Journal of Occupational Health Psychology*, *4*, 108–130.

Langfred, C. W. (2000). The paradox of self-management: Individual and group autonomy in work groups. *Journal of Organizational Behavior*, *21*, 563–585.

Langfred, C. W. (2007). The downside of self-management: A longitudinal study of the effects of conflict on trust, autonomy, and task interdependence in self-managing teams. *Academy of Management Journal*, *50*, 885–900.

Lee, J.-E., Almanza, B. A., Jang, S., Nelson, D. C., & Ghiselli, R. F. (2013). Does transformational leadership style influence employees' attitudes toward food safety practices? *International Journal of Hospitality Management*, *33*, 282–293.

Miller, S. M. (1979). Controllability and human stress: Method, evidence and theory. *Behaviour Research and Therapy*, *17*(4), 287–304.

Mullen, J. E., & Kelloway, E. K. (2009). Safety leadership: A longitudinal study of the effects of transformational leadership on safety outcomes. *Journal of Occupational and Organizational Psychology*, *82*, 253–272.

Naumann, S. E., & Bennett, N. (2000). A case for procedural justice climate: Development and test of a multilevel model. *Academy of Management Journal*, *43*, 881–889.

Ng, J. Y., Ntoumanis, N., Thogersen-Ntoumani, C., Deci, E. L., Ryan, R. M., Duda, J. L., & Williams, G. C. (2012). Self-determination theory applied to health contexts: A meta-analysis. *Perspectives on Psychological Science*, *7*, 325–340.

Nielsen, M. B., Eid, J., Mearns, K., & Larsson, G. (2013). Authentic leadership and its relationship with risk perception and safety climate. *Leadership & Organization Development Journal*, *34*, 308–325.

Nixon, A. E., Mazzola, J. J., Bauer, J., Krueger, J. R., & Spector, P. E. (2011). Can work make you sick? A meta-analysis of the relationships between job stressors and physical symptoms. *Work & Stress*, *25*, 1–22.

Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome.* Lexington, MA, UK: Lexington Books/D C Heath and Com.

Organ, D. W. (1997). Organizational citizenship behavior: It's construct clean-up time. *Human Performance*, *10*, 85–97.

Posthuma, R. A., Campion, M. C., Masimova, M., & Campion, M. A. (2013). A high performance work practices taxonomy: Integrating the literature and directing future research. *Journal of Management*, *39*, 1184–1220.

Robinson, S. L., & Rousseau, D. M. (1994). Violating the psychological contract: Not the exception but the norm. *Journal of Organizational Behavior*, *15*(3), 245–259.

Sargent, L. D., & Terry, D. J. (2000). The moderating role of social support in Karasek's job strain model. *Work & Stress*, *14*, 245–261.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, *37*, 580–607.

Semmer, N. K., Tschan, F., Meier, L. L., Facchin, S., & Jacobshagen, N. (2010). Illegitimate tasks and counterproductive work behavior. *Applied Psychology: An International Review*, *59*, 70–96.

Siegrist, J. (1995). Emotions and health in occupational life: New scientific findings and policy implications. *Patient Education and Counseling*, *25*, 227–236.

Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology*, *1*, 27–41.

Siegrist, J., & Peter, R. (1994). Job stressors and coping characteristics in work-related disease: Issues of validity. *Work & Stress*, *8*, 130–140.

Spector, P. E. (1986). Perceived control by employees: A meta-analysis of studies concerning autonomy and participation at work. *Human Relations*, *39*, 1005–1016.

Spector, P. E. (1998). A control model of the job stress process. In C. L. Cooper (Ed.), *Theories of organizational stress* (pp. 153–169). London: Oxford University Press.

Spector, P. E. (2009). The role of job control in employee health and well-being. In C. L. Cooper, J. C. Quick, & M. J. Schabracq (Eds.), *International handbook of work and health psychology* (3rd ed., pp. 173–195). West Sussex, UK: Wiley-Blackwell.

Spector, P. E., & Fox, S. (2005). The stressor-emotion model of counterproductive work behavior. In S. Fox & P. E. Spector (Eds.), *Counterproductive work behavior: Investigations of actors and targets* (pp. 151–174). Washington, DC, US: American Psychological Association.

Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain: Interpersonal conflict at work scale, organizational constraints scale, quantitative workload inventory, and physical symptoms inventory. *Journal of Occupational Health Psychology*, *3*, 356–367.

Spector, P. E., Sanchez, J. I., Siu, O. L., Salgado, J., & Ma, J. (2004). Eastern versus Western control beliefs at work: An investigation of secondary control, socioinstrumental control, and work locus of control in China and the US. *Applied Psychology: An International Review*, *53*, 38–60.

Stocker, D., Jacobshagen, N., Semmer, N. K., & Annen, H. (2010). Appreciation at work in the Swiss armed forces. *Swiss Journal of Psychology / Schweizerische Zeitschrift fur Psychologie / Revue Suisse de Psychologie*, *69*, 117–124.

Terry, D. J., & Jimmieson, N. L. (1999). Work control and employee well-being: A decade review. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology, 1999* (pp. 95–148). West Sussex, UK: John Wiley.

Thompson, S. C. (1981). Will it hurt less if I can control it? A complex answer to a simple question. *Psychological Bulletin*, *90*, 89–101.

van Vegchel, N., de Jonge, J., Bosma, H., & Schaufeli, W. (2005). Reviewing the effort-reward imbalance model: Drawing up the balance of 45 empirical studies. *Social Science & Medicine*, *60*, 1117–1131.

Vigoda-Gadot, E. (2006). Compulsory citizenship behavior: Theorizing some dark sides of the good soldier syndrome in organizations. *Journal for the Theory of Social Behaviour*, *36*, 77–93.

Vigoda-Gadot, E. (2007). Redrawing the boundaries of OCB? An empirical examination of compulsory extra-role behavior in the workplace. *Journal of Business and Psychology*, *21*, 377–405.

Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior*, *54*, 314–334.

Wu, T.-C., Lin, C.-H., & Shiau, S.-Y. (2010). Predicting safety culture: The roles of employer, operations manager and safety professional. *Journal of Safety Research*, *41*, 423–431.

Zhao, H., Peng, Z., Han, Y., Sheard, G., & Hudson, A. (2013). Psychological mechanism linking abusive supervision and compulsory citizenship behavior: A moderated mediation study. *The Journal of Psychology: Interdisciplinary and Applied*, *147*, 177–195.

Zohar, D., & Luria, G. (2004). Climate as a social-cognitive construction of supervisory safety practices: Scripts as proxy of behavior patterns. *Journal of Applied Psychology*, *89*, 322–333.