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Behaving safely under pressure: The effects of job demands, resources, and safety climate on employee physical and psychosocial safety behavior

Babette Bronkhorst *

Faculty of Social Sciences, Department of Public Administration, Erasmus University Rotterdam, Burgemeester Oudlaan 50, PO Box 1738 3000 DR, Rotterdam, The Netherlands

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ABSTRACT

Introduction: Previous research has shown that employees who experience high job demands are more inclined to show unsafe behaviors in the workplace. In this paper, we examine why some employees behave safely when faced with these demands while others do not. We add to the literature by incorporating both physical and psychosocial safety climate in the job demands and resources (JD-R) model and extending it to include physical and psychosocial variants of safety behavior. *Method*: Using a sample of 6230 health care employees nested within 52 organizations, we examined the relationship between job demands and (a) resources, (b) safety climate, and (c) safety behavior. We conducted multilevel analyses to test our hypotheses. *Results*: Job demands (i.e., work pressure), job resources (i.e., job autonomy, supervisor support, and co-worker support) and safety climate (both physical and psychosocial safety climate) are directly associated with, respectively, lower and higher physical and psychosocial safety behavior. We also found some evidence that safety climate buffers the negative impact of job demands (i.e., work–family conflict and job insecurity) on safety behavior and strengthens the positive impact of job resources (i.e., co-worker support) on safety behavior. *Conclusions*: Regardless of whether the focus is physical or psychological safety, our results show that strengthening the safety climate within an organization can increase employees' safety behavior. *Practical implication*: An organization's safety climate is an optimal target of intervention to prevent and ameliorate negative physical and psychological health and safety outcomes, especially in times of uncertainty and change.

1. Introduction

The health care sector has recently been subject to a lot of changes. Governmental measures, system reforms, and budget cuts have had a huge impact on the day-to-day work of health care employees. Exposure to job demands such as work pressure, job insecurity, and work–family conflict have increased considerably (Eurofound, 2014). Although not necessarily negative, these demands can invoke unsafe behaviors (Hansez & Chmiel, 2012), which in turn pose a serious threat to both employee and patient health (Christian, Bradley, Wallace, & Burke, 2009). According to the European Federation of Nurses' Associations (2012), over a third of the nurses across Europe report concerns about quality of care and patient safety due to budget cuts and rising unemployment for nurses. This makes it relevant to investigate why some individuals behave safely under pressure, whereas others do not. In this paper, we use a large sample of 6230 health care employees to examine the relationship between job demands, job resources, safety climate, and safety behavior.

Our paper adds to the literature in the following two ways. First, we extend the job demands and resources (JD-R) model (Bakker & Demerouti, 2007) to assess its relation to employee safety behavior. Although several authors have investigated the JD-R model in the context of safety (as shown by the meta-analysis of Nahrgang, Morgeson, & Hofmann, 2011), to our knowledge, none of them have linked job demands and resources to both physical and psychosocial safety behavior. The link with psychosocial safety behavior is particularly innovative in our study, since no other study has investigated this type of safety behavior. To explain differences in this specific type of safety behavior, we also include the recently developed concept of psychosocial safety climate (Dollard & Bakker, 2010) in our research. Second, our extension of the JD-R model covers multiple levels as we include the effect of organizational level safety climate on individual level safety behavior. In an overview of the JD-R model, Demerouti and Bakker (2011) encourage researchers to integrate multiple levels in their research to better understand phenomena unfold within organizations and help guide the development of more effective interventions. From both a theoretical and practical point of view, we aim to provide new insights in how to promote physical and psychosocial safety behavior among health care employees in times of uncertainty and change.

* Tel.: +31 611 258300.
E-mail address: bronkhorst@fsw.eur.nl.

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2. Theoretical framework

2.1. Physical and psychosocial safety climate and behavior

Safety climate refers to employees' shared perception of their organization's policies, procedures, and practices as they relate to the value and importance of safety within the organization (Griffin & Neal, 2000; Zohar, 2011). In the original paper on safety climate, Zohar (1980) points to the informative function of the concept regarding the relative importance or priority of safety versus productivity at the workplace. The majority of the safety climate literature focuses on its relation to health and safety behaviors that maintain *physical* health and safety in the workplace. In the health care industry, these physical safety behaviors could include using lifting equipment or adhering to regulations for pushing and pulling.

Following a recent literature stream on safety climate (e.g., Dollard & Bakker, 2010; Law, Dollard, Tuckey, & Dormann, 2011; Idris, Dollard, Coward, & Dormann, 2012; Dollard, Tuckey, & Dormann, 2012; Garrick et al., 2014), we chose to not only examine physical safety climate and behavior but also to include psychosocial safety in our research.

Psychosocial safety climate highlights the value and importance of *psychosocial* health and safety within the organization (Dollard & Bakker, 2010). Psychosocial safety relates to freedom from psychological and social risk or harm, such as aggression and violence, bullying, or high work pressure. Previous research has proved its conceptual distinctiveness from related concepts such as (physical) safety climate and perceived organizational support (Idris et al., 2012). Despite its long and important history in relation to worker physical health, the safety climate construct has not been used extensively to assess or promote psychosocial safety (Dollard & Karasek, 2010). Furthermore, there are only few studies to date that include both physical and psychosocial safety climate (e.g., Idris et al., 2012) and there is no research that investigates psychosocial safety behavior. In line with the concept of physical safety behavior (Griffin & Neal, 2000), psychosocial safety behavior refers to activities that are carried out by employees to maintain their own workplace psychological safety or help to develop an environment that support psychosocial safety. This could include starting an incident reporting procedure, visiting a counselor or support group, and organizing or planning work in a different way to reduce work stress. In the following sections, we will elaborate on the proposed relationships between demands and resources, safety climate, and safety behavior for both the physical and psychosocial domain.

2.2. Job demands, job resources, and safety behavior

In their model of safety behavior, Griffin and Neal (2000) and Neal & Griffin (2006) make a distinction between two types of individual behavior: safety compliance and safety participation. Safety compliance describes the core activities that need to be carried out by employees to maintain workplace safety (e.g., using patient lifting devises or adhering to incident reporting procedures). Safety participation refers to behaviors that do not directly contribute to an individual's personal safety, but which do help to develop an environment that supports safety (e.g., addressing physically dangerous behavior or offering a listening ear to co-workers). Job demands and resources influence the occurrence of these safety behaviors through two processes.

First, the JD-R model states that a health-impairment process takes place wherein job demands lead to the exhaustion of mental and physical resources (Bakker & Demerouti, 2007). In these situations, employees use performance-protection strategies to maintain performance (Hockey, 1997). They look for less effortful ways to deal with goals they accord lower priority, such as those related to safety (Hansez & Chmiel, 2012). Employees subject to high work pressure will be less inclined to use safety equipment (physical safety) or start an incident reporting procedure for aggression or violence (psychological safety). Mullen (2004) found that performance pressure was an important factor that influences safety behavior at work, because pressured individuals tend to value performance over safety. Other previous research supports the negative relationship between job demands and safety behavior as well (Hansez & Chmiel, 2012; Nahrgang et al., 2010). Thus, we argue that job demands will lead to less physical and psychosocial safety behavior among employees.

H1a. *Job demands are negatively related to physical safety behavior.*

H1b. *Job demands are negatively related to psychosocial safety behavior.*

The second process is a motivational process whereby job resources are instrumental in achieving work goals. Job resources offer energy that fosters the willingness to dedicate one's effort and abilities to work tasks (Bakker & Demerouti, 2007). This means that in the context of safety, job resources give employees the power to focus their efforts toward working safely and maintaining safety in the workplace. Employees with high job resources will be motivated to regularly check if they do not exceed the physical workload limits (physical safety) or adjust their work schedule when they feel stressed (psychological safety). We therefore hypothesize the following:

H2a. *Job resources are positively related to physical safety behavior.*

H2b. *Job resources are positively related to psychosocial safety behavior.*

2.3. Safety climate and safety behavior

One of the key features of safety climate is that it informs employees about the real priority of safety (Zohar, 2014). The relative importance of safety versus other organizational goals (most often productivity) shows the extent to which safety compliant or enhancing behavior is supported and rewarded at the workplace (Zohar, 2000). A positive safety climate will therefore increase the frequency of safety behavior among employees exposed to physical or psychosocial strain. In a health care context, this could occur when top management shows safety is a priority within the organization by investing in new height adjustable desks for polyclinic workers. Investment in employee health and safety foster shared perceptions of an organization's priorities with respect to employee well-being (Mearns, Hope, Ford, & Tetrick, 2010). Employees will then act according to the perceived priority within the organization by behaving safely (e.g., regularly adjusting their seats and desks to the appropriate height). Extensive empirical evidence exists on the relationship between physical safety climate and physical safety. Recent meta-analyses demonstrate that safety climate is related to safety behavior, either direct (Clarke, 2010; Nahrgang et al., 2011) or indirect through safety knowledge and safety motivation (Christian et al., 2009). The relationship between *psychosocial* safety climate and *psychosocial* safety behavior is, however, still unclear. We expect that, similar to physical safety climate, psychosocial safety climate will inform employees on the priority of psychological safety at the workplace. As a result, employees will develop compatibly adjusted behavior. This leads to the following two hypotheses:

H3a. *Physical safety climate is positively related to physical safety behavior.*

H3b. *Psychosocial safety climate is positively related to psychosocial safety behavior.*

2.4. Safety climate as moderator in the JD-R model

Additionally, we expect that safety climate will moderate the relationship between job demands and safety behavior. We expect this for

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