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Job hindrances, job resources, and safety performance: The mediating role of job engagement[★]



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ABSTRACT

Job engagement has received widespread attention in organizational research but has rarely been empirically investigated in the context of safety. In the present study, we examined the mediating role of job engagement in the relationships between job characteristics and safety performance using self-reported data collected at a coal mining company in China. Most of our study hypotheses were supported. Job engagement partially mediated the relationships between job resources and safety performance dimensions. Theoretical and practical implications and directions for future research are also discussed.

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1. Introduction

Organizations are paying close attention to employee engagement, which has been consistently linked to higher levels of job performance (Rich et al., 2010). Scholars have echoed this widespread interest by incorporating engagement into the positive organizational behavior (POB) movement, which advocates more focused research on positive psychological states, traits, and behaviors of employees (Bakker and Schaufeli, 2008; Luthans and Youssef, 2007). Job engagement has been defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74). Research on engagement has recently been extended to a broad range of employee behaviors, including in-role performance (Rich et al., 2010), extra-role performance (Xanthopoulou et al., 2008), and personal initiative (Hakanen et al., 2008).

Specifically, job engagement mediates the relations between job characteristics and a wide array of employee work behaviors (e.g.,

Rich et al., 2010). Given that job design theory (Hackman and Oldham, 1976) and the socio-technical systems approach converge on the importance of job characteristics on employee performance (Grant et al., 2011; Holman et al., 2002; Rousseau, 1977), job engagement might be an important crux of employee safety behaviors. Indeed, safety scholars have hinted at job engagement in shaping safety behaviors and outcomes (e.g., Nahrgang et al., 2011). In the ergonomics literature, scholars have also called for integration of macro-ergonomics and safety research (Murphy et al., 2014). Specifically, individual attitudes (e.g., job engagement) are influenced by the interplay between work system design and workers' safety perceptions. In other words, job engagement may be considered as a proxy of employees' reactions to the "match" between the technical and the social systems. As such, although job engagement is an attitudinal-motivational construct from organizational behavior research, it has important theoretical bearings on applied ergonomics literature as well. Further, investigating job engagement might advance our understanding of how the interdependence of technical and social components of work system design can influence safety behavior via individual attitudes.

Safety performance, as a separate domain of job performance (Burke et al., 2002), is closely tied to workplace safety and is a critical determinant of safety outcomes (Zohar, 2000). Similar to the distinction between task and contextual performance (Borman and Motowidlo, 1993), safety performance comprises two components, safety compliance and safety participation (Griffin and Neal,

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2000). Parallel to task performance, safety compliance refers to the core safety activities that need to be carried out by individuals to maintain workplace safety, whereas safety participation taps into voluntary behaviors that help to maintain workplace safety, similar to contextual performance (Griffin and Neal, 2000). To extend the job engagement-job performance relationship one step further, engagement may have important implications for safety performance as well. However, the relationship between engagement and safety performance has received inadequate empirical attention in the literature. Some safety research examined engagement in a tangential way. For example, Hansez and Chmiel (2010) used positive occupational states to measure job engagement. Nahrgang et al. (2011) operationalized engagement as safety involvement, participation, and communication in their meta-analytic model. Given that engagement research has already suffered from construct proliferation (Macey and Schneider, 2008), it is crucial to follow the well-established conceptualization of engagement and explore its relationships with important job behaviors. As such, the first goal of the present study is to examine the relationship between job engagement and safety performance following the wellestablished conceptualization of engagement (Schaufeli et al.,

Job characteristics have been recognized as critical antecedents to job engagement and subsequent work behaviors (Crawford et al., 2010; Demerouti et al., 2001; Nahrgang et al., 2011). The present study will examine job characteristics as antecedents to job engagement. Specifically, we draw on the Job Demands-Resources model (JD-R; Crawford et al., 2010; Demerouti et al., 2001; Nahrgang et al., 2011) to examine job engagement as a mediator in the relationship between job characteristics and safety performance. Similar to its predecessor in job design theory (Hackman and Oldham, 1976), the JD-R model examines how various job aspects influence employee behavior through individual motivation and well-being. Although this theory was developed and heavily studied in occupational health psychology, it has much bearing on work design and ergonomics, in that it investigates the psychological effects of technical, environmental, and social job characteristics. According to the JD-R model, job demands are the physical, psychological, social, and/or organizational job aspects that require the input of physical and/or psychological effort and thus have physiological and/or psychological costs. Specifically, hindrance demands thwart personal development and goal attainment whereas challenge demands hold the potential of fostering learning and goal achievement, although they are still associated with psychological and/or physiological costs (Cavanaugh et al., 2000). Job resources refer to the physical, psychological, social, and/or organizational characteristics that can a) facilitate the achievement of work goals, b) address the negative impact of job demands, and/ or c) foster personal learning and development.

Accumulating evidence suggests that these three types of job characteristics (i.e., hindrance demands, challenge demands, job resources) have distinctive implications for job engagement (Crawford et al., 2010). Within the context of workplace safety, job hindrances were shown to be an important antecedent to safety outcomes (Nahrgang et al., 2011) whereas the energizing role of job challenges did not receive empirical support (Yuan et al., 2014). Based on these considerations, we focus on job hindrances and job resources as antecedents to job engagement in the present study. Specifically, we include two types of job hindrances, job insecurity and role overload, and two types of job resources, coworker support and management commitment to safety. Since our study sample was from the coal mining industry, job insecurity and role overload are particularly salient to blue-collar employees working in this industry. Coworker support and management commitment to safety are also relevant since the importance of safety is usually emphasized via management commitment and supportive behaviors among colleagues.

Taken altogether, the overall goal of the present study is to examine the mediating role of engagement in the relationships between job characteristics and safety performance. In doing so, we aim to extend job engagement into workplace safety research. We examine job characteristics that are particularly salient to coal miners in an effort to inform potential managerial interventions. By looking at job characteristics and engagement, we attempt to highlight the importance of the motivational state of individuals in channeling the effect of job design features on safety behaviors. In the following sections, we will delineate the relationships between study variables drawing on the JD-R model. First we will propose the relationships between the two types of job characteristics (job hindrances and job resources) and job engagement. We will then develop our study hypotheses regarding the relationship between engagement and safety performance, followed by the mediating role of engagement in the relationships between job characteristics and safety performance.

1.1. Job hindrances and job engagement

Depending on the nature of job characteristics in question, they can be associated with different employee outcomes (Crawford et al., 2010; Demerouti et al., 2001). According to the JD-R model, job hindrances tend to thwart personal growth and goal attainment and trigger negative cognitions and emotions (Crawford et al., 2010). Negative cognitions and emotions are associated with decreased levels of job engagement (Bledow et al., 2011) in that being fully engaged in one's work requires harnessing of oneself into role performance both cognitively and emotionally (Kahn, 1990). Therefore, we propose that individuals faced with job hindrances tend to adopt passive, emotion-focused coping styles characterized by lower levels of job engagement (Crawford et al., 2010).

Specifically, job insecurity implies a high degree of uncertainty about one's employment status and can trigger negative outcomes including lowered well-being and negative emotions (Sverke et al., 2002). Existing studies support the negative relationship between job insecurity and job engagement (Bosman et al., 2005; De Cuyper and De Witte, 2005; Mauno et al., 2007). Role overload, the strongest individual-level predictor of injury (Hofmann and Stetzer, 1996; Zohar, 2000), is another job hindrance that implies a conflict between safety and other performance aspects (Zohar, 2002). Hence, role overload may be associated with psychological and physiological costs that detract from job engagement.

Hypothesis 1a. Job insecurity will be negatively related to job engagement.

Hypothesis 1b. Role overload will be negatively related to job engagement.

1.2. Job resources and job engagement

According to the JD-R model, job resources can be either intrinsically motivating by fostering personal learning and growth, or extrinsically motivating by facilitating goal attainment (Demerouti et al., 2001; Schaufeli and Bakker, 2004). Given that engagement is an affective-motivational construct (Salanova et al., 2005; Schaufeli et al., 2002), job resources might thus be an important driver of job engagement due to its intrinsically and/or extrinsically motivational nature (Crawford et al., 2010; Demerouti et al., 2001). In other words, job resources will initiate a motivational process through which individual faced with job resources tend to have elevated levels of job engagement.

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