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Job demands and driving anger: The roles of emotional exhaustion and work engagement

Feng Li[a,*], Guangxi Wang[a], Yongjuan Li[a], Ronggang Zhou[b,*]

[a] CAS Key Laboratory of Behavioral Science, Institute of Psychology, No.16 LinCui Road, ChaoYang, Beijing, 100101, PR China
[b] School of Economics and Management, Beihang University, No.37 Xueyuan Road, Haidian District, Beijing, 100191, PR China

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ABSTRACT

This study aimed to examine the effects of both hindrance and challenge demands on driving anger within the framework of the job demands-resources (JD-R) model. We collected self-reported data from 411 office workers driving to and from work each day in five cities in China. The results from a structural equation modeling analysis indicated that both hindrance and challenge demands were positively related to emotional exhaustion, which was in turn positively correlated with driving anger. Moreover, work engagement was positively correlated with driving anger. Implications of the present findings regarding both the JD-R model and driving safety research are discussed.

1. Introduction

One effect of the rapid development of the Chinese economy in recent decades is that more Chinese citizens now own private vehicles. As a result, road safety has become a serious concern in China as the number of accidents has risen. A total of 210,812 traffic accidents occurred in China in 2011, causing 62,387 fatalities (Li et al., 2014). Another consequence of accelerated economic development has been the rapid growth of job stress. One survey reported that 77.6% of Chinese senior professional managers experienced high levels of job stress (FortuneChina, 2015). The current study aimed to explore the effects of job stress on driving anger, which is a major factor in road safety (Deffenbacher et al., 2003).

Driving anger has attracted the attention of researchers in recent years following the development of the Driving Anger Scale (DAS; Deffenbacher et al., 1994). In addition, driving anger has been positively correlated with driver aggression in several countries, including the UK (Lajunen et al., 1998), New Zealand (Sullman, 2006), Spain (Sullman et al., 2007), Australia (Hoggan and Dollard, 2007), Japan (McLinton and Dollard, 2010) and China (Li et al., 2014). Research has also focused on the effects of job stress on driving anger and aggression (e.g., Oyeleke et al., 2016; Wickens et al., 2013; Wickens and Wiesenthal, 2005). Previous studies based on the effort-reward imbalance (ERI) model have shown that job stress increased driving anger through the mediating variables of general anger and over-commitment (Hoggan and Dollard, 2007; McLinton and Dollard, 2010). Nonetheless, although the ERI model is a leading job stress model, it is limited with respect to certain specific aspects of the work environment and neglects the role of job motivational processes. Therefore, we aimed to further explore the possible relationship between job stress and driving anger using the job demands-resources (JD-R) theory, another leading job stress model (Bakker et al., 2014).

1.1. Overview of the job demands-resources (JD-R) model

The core proposition of the JD-R model is that all job characteristics can be classified into two general categories: job demands and job resources (Bakker et al., 2014; Bakker and Demerouti, 2007). The term "job demands" refers to "those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs" (Bakker and Demerouti, 2007Bakker and Demerouti, 2007, p.312). By contrast, the term "job resources" is defined as "those physical, psychological, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands at the associated physiological and psychological costs; (c) simulate personal growth and development" (Bakker and Demerouti, 2007Bakker and Demerouti, 2007, p.312). Another premise of the JD-R model is

* Corresponding authors.
E-mail addresses: lifeng@psych.ac.cn (F. Li), carlwangus@163.com (G. Wang), liyj@psych.ac.cn (Y. Li), zhrg@buaa.edu.cn (R. Zhou).

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that job demands and job resources may evoke two fairly independent processes: health impairment processes and motivational processes. Health impairment processes cost effort and consume energy resources, leading to health and energy depletion problems, whereas motivational processes fulfill basic psychological needs and link job resources with organizational outcomes through engagement (Bakker and Demerouti, 2007; Schaufeli and Bakker, 2004). With these two processes, the JD-R model can explain not only a negative psychological state but also its positive counterpart (Schaufeli and Taris, 2014).

Although many studies have offered evidence in support of this framework (for a review, see Bakker et al., 2014), the JD-R model nonetheless fails to distinguish among different types of job demands (Crawford et al., 2010). According to the transactional theory of stress, people evaluate job demands in terms of the positive or negative effects on their lives (Lazarus and Folkman, 1984). From this perspective, Cavanaugh et al. (2000) successfully validated the measurement of two forms of job demands: challenge stressors and hindrance stressors. The former refers to demands that involve the promotion of mastery, personal growth or future gains, whereas the latter refers to demands that involve thwarting personal growth, learning and goal attainment. Several studies have provided evidence in support of these two different types of job demands (Boswell et al., 2004; Lepine et al., 2004; Lepine et al., 2005). Moreover, a 46-sample meta-analysis indicated that hindrance demands were negatively associated with engagement, whereas challenge demands were positively associated with engagement (Crawford et al., 2010). In light of these results, the current study aimed to examine the effects of hindrance and challenge stressors on driving anger through engagement.

1.2. The relationship of job demands with emotional exhaustion and with work engagement

1.2.1. The relationship of job demands with emotional exhaustion

As a critical component of burnout, emotional exhaustion refers to feelings of being emotionally overextended and drained by one's contact with other people (Maslach and Jackson, 1984). During the stress-strain-coping-self-evaluation process, emotional exhaustion as a form of strain is directly correlated with job characteristics, whereas the other two dimensions of burnout as a type of self-evaluation are affected via exhaustion (Lee and Ashforth, 1996). Previous studies have indicated that emotional exhaustion exhibits a stronger and more consistent relationship with outcome variables than do the other two components of burnout (Demerouti et al., 2001; Halbesleben and Bowler, 2007; Lee and Ashforth, 1996). Therefore, in the present study, we focused on emotional exhaustion as a single dimension of burnout.

Under the JD-R model, job demands induce a health impairment process that exhausts employees' resources, depletes their energy and leads to burnout. Therefore, job demands are thought to be positively related to burnout (Demerouti et al., 2001), and several studies have provided support for this positive relationship across several occupations. For example, Schaufeli and Bakker (2004) found that job demands could positively predict burnout using four independent samples among different occupational groups. Alarcon (2011) confirmed the positive relationship between job demands and burnout through a meta-analysis of 231 studies. Another meta-analysis found a positive relationship between burnout and both challenge and hindrance job demands (Crawford et al., 2010). As emotional exhaustion best captures the "core meaning" of burnout (Maslach, 1993), we expected that both hindrance and challenge demands would be positively related to emotional exhaustion.

Hypothesis 1. *Both hindrance (H1a) and challenge (H1b) demands will be positively related to emotional exhaustion.*

1.2.2. The relationship between job demands and work engagement

Work engagement is defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74) . As noted above, the JD-R model does not propose any relationship between job demands and work engagement, and studies examining a possible relationship between the two factors have demonstrated inconsistent results. Schaufeli and Bakker (2004) found no significant relationship between job demands and work engagement. However, Hakanen et al. (2005) showed that job demands were negatively related to work engagement, and Xanthopoulou et al. (2007) found that work engagement was negatively associated with emotional dissonance but positively correlated with workload. A 46-sample meta-analysis showed that these differences were related to the types of job demands (i.e., hindrance demands versus challenge demands) and suggested that challenge demands (e.g., role demands, workload, time pressure, job complexity, and job responsibilities) were positively related to work engagement, whereas hindrance demands (e.g., situational constraints, hassles, role conflicts, role overload, and role ambiguity) were negatively correlated with work engagement (Crawford et al., 2010). Additionally, the differential effect of job demands on work engagement has been supported in a Chinese sample (Liu and Shi, 2010). Moreover, in a recent review, challenge demands have been conceptualized as "resources" because they have the potential to promote mastery, personal growth, and future gain and are valued positively (Schaufeli and Taris, 2014). Following the proposed motivational process in the JD-R model, challenge demands could thus lead to work engagement. Therefore, we expected that challenge demands would be positively related to work engagement and that hindrance demands would be negatively related to work engagement.

Hypothesis 2a:. *Challenge demands will be positively related to work engagement.*

Hypothesis 2b:. *Hindrance demands will be negatively related to work engagement.*

1.3. The relationship of emotional exhaustion and work engagement with driving anger: the conversation of resources (COR) theory

Anger is defined as "an emotional state that consists of feelings that vary in intensity, from mild irritation or annoyance to intense fury and rage" (Spielberger et al., 1983, p. 162). The notion of driving anger involves the context of driving a vehicle. Drivers with high levels of driving anger are significantly more likely to engage in negative driving behaviors and experience negative outcomes, such as traffic violations, aggressive driving, near-miss accidents and actual accidents (Deffenbacher et al., 2003; Hartley and El Hassani, 1994; Legree et al., 2003; Norris et al., 2000).

COR theory has often been used in the stress and burnout literature (Halbesleben, 2006) and has also been applied to explain work engagement (Halbesleben, Harvey, & Bolino, 2009). Moreover, the COR model could explain both the process leading to burnout and the consequences of burnout (Halbesleben and Bowler, 2007). The basic tenet of COR theory is that people have a motivation to obtain, retain, protect, and foster their resources, defined as those objects, personal characteristics, conditions, or energies valued by people or serving as a means for attainment of these objects, personal characteristics, conditions, or energies (Hobfoll, 1989, 2001). Psychological stress arises when people are threatened with resource loss, when they lose resources, or when they fail to gain sufficient