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Responses to Job Demands: Moderating Role of Worker Cooperatives

Abstract

Purpose - This study examines the mediating role of organizational commitment in the relationship between job demands and job search behavior. The study also explores the moderating role of worker cooperatives in the relationship between job demands and organizational commitment. There is little extant research on the relationships of job demands with employee behaviors, and the roles of worker cooperatives in those relationships.

Design/methodology/approach - Using the multi-level moderated mediation model, this study analyzed surveys conducted in capitalist firms and worker cooperatives in the metropolitan area of Seoul in 2016.

Findings - This study provided evidence that organizational commitment mediated the relationship between job demands and job search behavior in the total sample. The findings revealed that worker cooperatives moderated the relationship between job demands and organizational commitment. In other words, while the negative relationship between job demands and organizational commitment was significant in capitalist firms, it was not maintained in worker cooperatives.

Research limitations/implications - This study provides implications on how job demands are related to job search behavior, and how worker cooperatives may alleviate the adverse effects of job demands on employee attitudes and behaviors. A potential limitation of the present study is that individual-level variables were measured by self-reports.

Originality/value - While previous studies on the JDR model have examined the interaction

between job demands and individual levels of resources, the current study investigated the interaction between job demands and organizational levels of resources.

Keywords: job demands, organizational commitment, job search behavior, worker cooperatives, job demands-resources model

Introduction

A recent development to explain occupational well-being is the job demands-resources (JDR) model proposed by Demerouti et al. (2001). According to Bakker, Van Veldhoven, and Xanthopoulou (2010), this model expanded the demand-control(-support) (DCS) model developed by Karasek (1979) to include physical and emotional demands, as well as workload, in the job demands dimension; and skill variety, learning possibility, and performance feedback, as well as control and social support, in the job resources dimension. In the health impairment hypothesis of the JDR model, excessive demands lead to impaired health problems, such as burnout and strain. In the motivational hypothesis of the model, job resources promote motivation, such as work engagement and organizational commitment (Bakker et al., 2010; Bakker & Demerouti, 2008; Devonish, 2014; Van De Voorde, Veld, & Van Veldhoven, 2016).

Most previous studies on the JDR and DCS models have been limited to the influence that job demands have on mental and physical health, such as exhaustion, stress, and burnout, and to a lesser extent, employee attitudes, such as engagement and job satisfaction. Most studies on the JDR model have employed burnout and engagement as the main outcomes, and little research exists on the effects that job demands and job resources have on employee behaviors (Balducci, Schaufeli, & Fraccaroli, 2011). As some exceptions, Balducci et al. (2011) found that job demands were related to counterproductive work behavior in a sample of public-sector employees. Boswell, Olson-Buchanan, and LePine (2004) indicated that stressors had significant or non-significant relationships with job withdrawal and job search behavior in a sample of a university staff. Smulders and Nijhuis (1999) examined the relationship of job demands with absenteeism, but they found, different from their expectations, a negative relationship between

them. The current study focuses on job search behavior because employees with excessive job demands are likely to have turnover intention and actively search for new job opportunities. Although all employees who search for new jobs do not necessarily turnover voluntarily, this behavior may lead them to exert less effort in their job activities and exhibit lower levels of productivity. Since employees continue to use company time for new job searches, job search behavior may be even more deleterious to the organization than actual turnover.

Yet, there is little extant research on the mechanisms through which job demands affect job search behavior. However, many previous studies have provided implications regarding the possible mechanisms. For example, excessive job demands certainly result in burnout of employees (Crawford, LePine, & Rich, 2010; Kilroy et al., 2016; Schaufeli & Bakker, 2004; Schaufeli, Bakker, & Van Rhenen, 2009), and exhausted employees will reduce their attachment to their organization (Ashill & Rod, 2011; Hakanen, Schaufeli, & Ahola, 2008; Lee & Ashforth, 1996). Less committed employees are likely to have more turnover intention and search for new job opportunities (Blau, 1994; Van Hooft et al., 2004). Thus, this study investigates organizational commitment as a mediator that links job demands to job search behavior.

Although the DC and JDR models imply an interaction between job demands and job control or resources (Bakker & Demerouti, 2007; Bakker et al., 2010; Hausser, et al., 2010), numerous previous studies on these models have separately examined the influences of job demands and job control or job resources on employees' well-being and its consequences (e.g., Bakker, Demerouti, & Euwema, 2005; Bakker et al., 2010; Hakanen et al., 2008; Schaufeli & Bakker, 2004; Taris, Schreurs, & Van Iersel-Van Silfhout, 2001). This is probably because they found no interaction effect between them. In fact, Taris (2006) reported, in a reanalysis of prior studies, that only 10% (9 of 90) supported DC interaction effects. In a review of high quality

studies by de Lange et al. (2003), only 21% (4 of 19) demonstrated significant DC(-S) interaction effects. The JDR interaction hypotheses were also supported in only a few studies. For example, Bakker et al. (2007) and Hakanen, Bakker, and Demerouti (2005) indicated that job demands interacted with job resources to improve work engagement. Bakker et al. (2010) found interaction effects on task enjoyment and organizational commitment. The study by Balducci et al. (2011) supported the JDR interaction hypothesis on negative affect. If publication bias is taken into account, more studies should not have found these interaction effects. The limited existing support for interaction effects both in the DC and JDR models may be because previous studies examined the interaction effects between job demands and a single job resource. In other words, if interactions of job demands with a bundle of job resources had been investigated, more studies might have obtained significant results.

This study focuses on worker cooperatives as a type of organization that provides individuals with comprehensive job resources. Since members of worker cooperatives contribute to both labor and capital, different from employees of capitalist firms who contribute only to labor, they are individually provided with substantial autonomy and participate in organizational decision-making through the general meetings of members (Cheney et al., 2014). Since members of worker cooperatives are co-owners, worker cooperatives may grant organizational support to them, and since they are partners, they may provide social support to each other. In other words, because members of worker cooperatives are simultaneously provided with various job resources, they are more likely to be committed to their organizations and engage less frequently in job search behavior than employees of capitalist firms, even if they experience considerable job demands. Thus, this study examines whether worker cooperatives can relieve the adverse relationship of job demands with organizational commitment.

The main objectives of this study, as presented in Figure 1, are to investigate: (1) how job demands are associated with job search behavior; and (2) whether worker cooperatives alleviate the negative relationship between job demands and organizational commitment. Therefore, this study contributes to the extant research on the JDR model and worker cooperatives. First, while most studies on the JDR model have examined the influence of job demands on employee well-being and attitudes, the influence on employee behaviors has rarely been researched. This study examines the mediation mechanism in the relationship between job demands and job search behavior via organizational commitment. Second, while previous studies have focused on job control or resources at the individual level, this study investigates whether a bundle of resources at the organizational level may be helpful in reducing the detrimental influence of excessive job demands. If individuals can simultaneously utilize a variety of resources, as in worker cooperatives, the adverse effects of job demands on their attitudes and behaviors will be minimized. Finally, this study explores the moderating role of worker cooperatives, which is a topic that has not been sufficiently examined in the OB and HRM fields. In particular, South Korea has witnessed the rapid growth of worker cooperatives since the Cooperative Basic Act was enacted in 2012. Thus, South Korea constitutes one of the best nations to research worker cooperatives. This study provides evidence that the relationships verified in previous research in those fields can be altered by worker cooperatives. As such, this study provides implications on how job demands may affect job search behavior and how worker cooperatives can change previously confirmed relationships.

Insert Figure 1 about here.

Theory and Hypotheses

Organizational commitment as a mediator

The JDR model aims at illuminating employees' well-being and related consequences (Schaufeli & Bakker, 2004). The model proposes that job characteristics can be categorized into demands or resources in any type of job, and that they affect well-being through distinct processes (Bakker & Demerouti, 2007). Job demands are psychological stressors resulting from work overload, physical demands, time pressures, role ambiguity, and role conflict. Job demands require persistent physical and psychological effort in the job activities, and lead to physiological and psychological costs (Maslach, Schaufeli, & Leiter, 2001). On the other hand, job resources inspire employees to persistently exert physical and psychological effort in the job, and lead to motivation (Bakker & Demerouti, 2007; Demerouti et al., 2001). Job resources include autonomy, social support, performance feedback, participation in decision-making, task variety, opportunities for development, and positive affect (Bakker et al., 2010; Crawford et al., 2010; Schaufeli & Bakker, 2004). Bakker and his colleagues (Bakker & Demerouti, 2008; Bakker et al., 2008) assert that job demands constitute initiators of a health impairment process, which leads to stress-related problems, such as burnout and strain, and that job resources are initiators of a motivational process, which leads to positive attitudes, such as engagement and organizational commitment.

In the JDR model, since job demands are initiators that deplete employees' physical and mental resources, they increase burnout of employees (Bakker et al., 2010; Schaufeli & Bakker, 2004). According to a meta-analysis by Crawford et al. (2010), job demands definitively lead to burnout, regardless of whether they are challenge demands or hindrance demands. As coping

responses to physical and mental burnout, employees hold negative attitudes toward the tasks and the organization, and intend to withdraw from the workplace (Peng et al., 2016; Zimmerman et al., 2012). These coping responses may result in reduced organizational commitment and active job search behavior. Many previous studies have found that job demands cause mental health problems, including burnout, which in turn reduces organizational commitment (e.g., Ashill & Rod, 2011; Bakker et al., 2010; Hakanen, Schaufeli, & Ahola, 2008; Lee & Ashforth, 1996; Taris et al., 2001) and leads to job search behavior (Jackson et al., 1986; Zimmerman et al., 2012). A meta-analysis by Bowling et al. (2015) confirmed that job demands are negatively associated with affective organizational commitment and positively associated with turnover intention.

Employees who are highly committed to an organization are willing to remain in the organization (Meyer & Allen, 1991). By contrast, if employees feel less attachment to their organization, they will have more turnover intention (Lee & Ashforth, 1996) and engage more frequently in job search behavior (Blau, 1994; Steers & Mowday, 1981; Van Hooft et al., 2004). In Stumpf and Hartman's (1984) model, low organizational commitment triggers turnover intentions, which in turn precipitates job search behavior. Consistent with this rationale, Vandenberg and Scarpello (1994) found organizational commitment at time 1 to be negatively correlated with job search behavior at time 2. Blau (1994) reported, in a study from a hospital and a pharmaceutical company, that organizational commitment was negatively associated with job search behavior.

These findings, along with the JDR model, indicate that job demands are associated with low organizational commitment, and less committed individuals actively engage in job search behavior. This leads to the following hypothesis:

H 1. Organizational commitment will mediate the relationship between job demands and job search behavior.

Worker cooperatives as a moderator

Job resources can moderate the adverse influence of job demands on employees' well-being and attitudes (Bakker et al., 2010; Hakanen et al., 2008; Schaufeli & Bakker, 2004). For example, job autonomy may ameliorate the negative relationship between job demands and organizational commitment by providing a means to cope with excessive job demands. Similarly, social support and organizational support may alleviate the injurious relationship of job demands with organizational commitment because support from a supervisor, co-workers, or the organization is helpful in coping with job demands.

A few studies on the JDR model have found interaction effects between job demands and job resources on engagement and organizational commitment. For instance, Bakker et al. (2010) found seven significant results among eight interactions of workload with job resources and six significant results among eight interactions of emotional demands with job resources on organizational commitment in a sample of employees working in Dutch organizations. In a sample of Finnish teachers, Bakker et al. (2007) identified interactions between job demands and job resources on work engagement. Hakanen et al. (2005) also observed interaction effects on work engagement in a sample of Finnish dentists.

These studies on JDR interactions on employee attitudes have been limited to interactions of job demands with independent, and individual levels of, job resources. However, the majority of previous studies on the DC and JDR interaction hypotheses have failed to find interaction effects between job demands and independent resources (de Lange et al., 2003; Taris, 2006). On

the other hand, the present study investigates the cross-level interaction between job demands at the individual level and a bundle of job resources at the organizational level. This study focuses on worker cooperatives as a type of organization that provides individuals with embracive job resources, such as autonomy, organizational support, social support, and participation in decision-making.

According to the International Cooperative Alliance, cooperatives possess seven basic principles: voluntary and open membership; democratic member control; member economic participation; autonomy and independence; education, training, and information; co-operation among cooperatives; and concern for community. In particular, worker cooperatives are distinguished from capitalist firms in that their members are provided with sufficient job-related autonomy and participate in decision-making at the organizational level because they provide both capital and labor (Cheney et al., 2014). Since members of worker cooperatives are co-owners, worker cooperatives will provide their members with organizational support, and their members are likely to show comradeship and social support when their co-workers, subordinates, or supervisors are faced with work-related or personal problems. In addition, it is stipulated in articles of worker cooperatives that the general meeting of members, corresponding to the general meeting of stockholders in capitalist firms, constitutes the highest decision-making body. Thus, all of the members can participate in organizational decision-making through the general meeting of members.

Consistent with Karasek (1979), the JDR model maintains that the adverse effects of job demands are most salient for individuals with few resources. In contrast, individuals with sufficient resources can more easily overcome the negative influence of job demands. Job autonomy, participation in decision-making, organizational support, and social support granted

to members of worker cooperatives may be helpful in alleviating the adverse relationship of job demands with organizational commitment. In the JDR model perspective, since members of worker cooperatives have more sufficient and varied resources than employees of capitalist firms, their organizational commitment levels will remain higher than employees of capitalist firms, even if they are confronted with excessive job demands.

These arguments, along with the JDR interaction hypothesis, lead to the following hypotheses with regard to the moderating role of worker cooperatives:

H 2. The negative relationship between job demands and organizational commitment will be weaker in worker cooperatives than in capitalist firms. Consequently, the interaction of job demands and worker cooperatives will be positively related to organizational commitment.

H 3. The indirect relationship of job demands with job search behavior via organizational commitment will be weaker in worker cooperatives than in capitalist firms.

Methods

Sample

To investigate the hypotheses of this study, surveys were conducted in worker cooperatives and capitalist firms in the metropolitan area of Seoul in 2016. The surveys consisted of a CEO survey to obtain general information about the firms (e.g., industry and the number of all members); and an all-member survey (including rank-and-file employees, managers, and CEOs) to inquire about their job demands, attitudes, and behaviors. Eighty worker cooperatives were randomly selected from 152 that were registered in the Ministry of Strategy and Finance. Since all worker cooperatives were small- or medium-sized, capitalist firms were also selected

from companies that were small- or medium-sized. From 375,251 that were registered in the Small and Medium Business Administration, 80 capitalist firms were randomly selected.

After explaining that participation was voluntary and their responses would remain confidential, the surveys were collected at each workplace. In 32 worker cooperatives, 128 individuals participated in the surveys, with a return rate of 40% at the organizational level. However, since 16 people among them were working in worker cooperatives, but were not members of worker cooperatives, only surveys from 112 people were used in the following analyses. In 36 capitalist firms, 177 people responded to the survey, with a return rate of 45% at the organizational level. In each firm, 4.2 people on average participated in the all-member survey, ranging from 1 to 10. After excluding three questionnaires with missing items, questionnaires from 286 individuals constituted the final sample.

The average age of the final sample was 43, and 48% were women. Thirty percent of the respondents had less than a high school or a high school diploma, 63% had a bachelor's degree, and 7% had a postgraduate degree. The respondents earned approximately \$22,000 (\$1 = ₩1,122) in the prior year. The sample comprised rank-and-file employees of 54%, low level managers of 16%, middle level managers of 9%, high level managers of 16%, and CEOs of 6%.

Manufacturing firms accounted for 21% of the final sample, professional service firms for 27%, sales firms for 29%, and other service firms for 23%. The average firm employed 36 people ($SD = 64.85$).

Measures

Job demands. Job demands refer to those aspects of the job that require sustained physical and psychological effort, and are therefore associated with physiological and

psychological costs (Schaufeli & Bakker, 2004). In this study, job demands were measured by the degree to which individuals perceive their roles to be overloaded. This construct was assessed with a 3-item instrument that Bolino and Turnely (2005) used based on items from Schaubroeck, Cotton, and Jennings (1989) and Beehr, Walsh, and Taber (1976). A sample item was "The amount of work I am expected to do is too great." Responses to this construct were made on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for this construct was .83.

Organizational commitment. This construct was measured by affective organizational commitment, which refers to "the employee's emotional attachment to, identification with, and involvement in the organization" (Meyer & Allen, 1991: 67). It was assessed by five items including an affective component among items developed by Mowday, Steers, and Porter (1979). A sample item was "I am proud to tell others that I am part of this organization." The participants responded to these items on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for this construct was .92.

Job search behavior. Job search behavior is a specific action that an individual undertakes to seek new employment (Zimmerman et al., 2012). To measure this construct, four items were selected from the scale developed by Kopelman, Rovenpor, and Millsap (1992) on the basis of high loadings. In Kopelman et al. (1992), these items asked whether individuals have engaged in job search behavior during the last year by yes/no responses, and then the answers were added to constitute the job search behavior index. The current study followed the same procedure, except for using "recently" instead of "the last year". A sample item was "Recently, have you contacted an employment agency or executive search firm to obtain a job with another organization?" Since these items were measured by yes/no responses, their reliability was tested

by the Kuder-Richardson 20 (KR-20). The KR-20 is a measure of internal consistency reliability for dichotomous items and a special case of Cronbach's alpha (Cortina, 1993). The reliability of these items was .73.

Worker cooperative. In this study, worker cooperatives were hypothesized as a moderator at the organizational level in the relationship between job demands and organizational commitment. Capitalist firms were coded 0, and worker cooperatives were coded 1. However, employees in worker cooperatives, i.e., non-members, were excluded in the following analyses.

Control variables. This study controlled for several variables that were likely to affect the dependent variables (i.e., organizational commitment and job search behavior). At the individual level, the control variables consisted of age, gender, education, wage, and rank. Age was used as a continuous variable. Men were coded 0, and women were coded 1. Education was divided into four categories: less than high school, high school diploma, bachelor's degree, and postgraduate degree. Wage was coded into five categories, ranging from under approximately \$17,000 to more than \$71,000. Rank was also coded into five categories: rank-and-file, low level manager, middle level manager, high level manager, and CEO. At the organizational level, the control variables were composed of industry and size. The organizations were classified into four industries: manufacturing, professional services, sales, and other services. Size was measured with the number of all members of each firm.

Analytic strategy

A confirmatory factor analysis was performed to evaluate the construct validity of job demands, organizational commitment, and job search behavior using LISREL 8.7 (Joreskog & Sorbom, 2004). The goodness-of-fit-indices for the 3-factor model indicated a good fit with the

data ($\chi^2/df = 2.63$, $SRMR = .06$, $RMSEA = .08$, $GFI = .93$, $CFI = .95$, $NFI = .92$). Moreover, the 3-factor model fit the data best among all possible models. For example, the 3-factor model provided a better fit for the data than the 2-factor model, in which the items for organizational commitment and job search behavior were loaded on one factor ($\Delta\chi^2_{(2)} = 265$, $p < .01$). The 1-factor and the 2-factor models had unacceptable goodness-of-fit-indices. In addition, according to a formula provided by Fornell and Larcker (1981), average variance extracted (AVE) was calculated. The AVE values were .64 for job demands, .71 for organizational commitment, and .53 for job search behavior, which are larger than the .50 that they recommended as a threshold. These results confirmed that these constructs were valid, and that the probability of common method bias was low (Bagozzi & Yi, 1990; Iverson & Maguire, 2000).

Because individuals are nested within organizations, the appropriateness of multi-level analyses was tested by null models. These models allow us to partition the total variance in the organizational commitment and job search behavior into within- and between-firm components. The intraclass correlation coefficients, ICC(1), indicated that 35% of variances of organizational commitment and 12% of variances of job search behavior resided between firms. Since these variances between firms were significant and non-trivial, multi-level analyses were justified. Multi-level analyses enable simultaneous estimation of equations for both individual and firm effects (Raudenbush & Bryk, 2002).

The hypotheses of this study were tested by a moderated mediation model, as proposed by Preacher, Rucker, and Hayes (2007). Four conditions should be satisfied to confirm the hypotheses of this study: (1) job demands should be associated with organizational commitment; (2) organizational commitment should be related to job search behavior, after controlling for job demands; (3) the relationship between job demands and organizational commitment should

depend on the type of firm (worker cooperatives vs. capitalist firms); and (4) the indirect relationship between job demands and job search behavior via organizational commitment should depend on the type of firm. The indirect relationships were tested by a bootstrapping approach using Stata 13.1.

Results

The descriptive statistics and the correlations between the variables were displayed in Table 1. Different from expectations, job demands was not significantly correlated with organizational commitment and job search behavior ($r = -.05, p > .05$; $r = .06, p > .05$, respectively). However, organizational commitment had a significant correlation with job search behavior ($r = -.27, p < .01$). In addition, worker cooperatives were significantly correlated with job demands ($r = .19, p < .01$) and organizational commitment ($r = .33, p < .01$), but not with job search behavior ($r = -.09, p > .05$).

Insert Table 1 about here.

This study asserted above that worker cooperatives can moderate the relationship between job demands and organizational commitment because their members are provided with a variety of resources, such as autonomy, organizational support, and social support. To check whether this is true, a series of paired t-tests were performed to compare their means in worker cooperatives with those in capitalist firms. Autonomy was measured with a 4-item instrument developed by Karasek (1979), perceived organizational support was measured with a 5-item instrument that Park and Kim (2013) used based on items developed by Eisenberger et al. (1986), and perceived social support was measured with a 4-item instrument developed by Caplan et al.

(1975). As expected, cooperative members perceived that they were provided with more autonomy, organizational support, and social support than employees of capitalist firms ($t = 3.77$, $p < .01$; $t = 4.90$, $p < .01$; $t = 2.30$, $p < .05$, respectively).

Table 2 shows the results to examine the moderated mediation hypotheses. In Model 1, job demands exhibited a significant and negative relationship with organizational commitment ($b = -.13$, $p < .05$). Model 2 examines the relationship between organizational commitment and job search behavior, after controlling for job demands. In this model, organizational commitment was significantly and negatively related to job search behavior ($b = -.28$, $p < .01$). To test the significance of the indirect relationship between job demands and job search behavior through organizational commitment, the bootstrapping method was used with replacements to generate 1,000 subsamples of the entire dataset. The indirect relationship was significant ($b = .03$, $p < .05$). Thus, it was confirmed that organizational commitment did mediate the relationship between job demands and job search behavior, which supports Hypothesis 1.

Insert Table 2 about here.

Model 3 investigates the moderating role of worker cooperatives in the relationship between job demands and organizational commitment. In the model, the cross-level interaction between job demands and worker cooperatives exhibited a positive relationship with organizational commitment ($b = .26$, $p < .05$). In other words, the negative relationship between job demands and organizational commitment was weaker in worker cooperatives than in capitalist firms. This result supports Hypothesis 2.

Figure 2 presents the moderating role of worker cooperatives in the relationship between job demands and organizational commitment. According to the procedures proposed by Aiken and West (1991), simple slopes were tested at a low value ($mean - 1 SD$) and a high value ($mean$

+ 1 *SD*) of job demands.

Insert Figure 2 about here.

The figure shows that the relationship between job demands and organizational commitment varied depending on organizational type. Job demands had a significant, negative relationship with organizational commitment in capitalist firms ($b = -.25, p < .01$), but did not in worker cooperatives ($b = .08, p > .05$). In other words, the JDR model, which anticipates a negative relationship between job demands and organizational commitment, was supported in capitalist firms, but not in worker cooperatives.

To determine whether the indirect relationships between job demands and job search behavior via organizational commitment are significant in each type of organization, bootstrapping methods were employed with generating 1,000 subsamples of capitalist firms and then of worker cooperatives (Preacher et al., 2007). The results to examine the conditional indirect relationships are presented in Table 3.

Insert Table 3 about here.

While the indirect relationship between job demands and job search behavior was positive and significant in capitalist firms ($b = .07, p < .05$), that relationship was not significant in worker cooperatives ($b = -.00, p > .05$). These results indicate that organizational commitment mediated the relationship between job demands and job search behavior only in capitalist firms. Thus, the indirect relationship between job demands and job search behavior through organizational commitment was weaker in worker cooperatives than in capitalist firms, which supports Hypothesis 3.

Discussion

Implications

This study found that job demands were negatively associated with organizational commitment, which in turn was negatively related to job search behavior. Organizational commitment mediated the relationship between job demands and job search behavior in the total sample. The findings of this study revealed that worker cooperatives moderated the relationship between job demands and organizational commitment. These findings indicate that worker cooperatives alleviated the deleterious relationships of job demands with organizational commitment and job search behavior. It seems that worker cooperatives play a moderating role, as this study assumes, because their members are provided with a variety of resources, such as autonomy, organizational support, decision-making participation, and social support.

This study offers a number of implications for research about the JDR model and worker cooperatives. First, most - if not all- previous studies in the OB and HRM fields have examined the influences of job demands and job resources on employee well-being and attitudes only in capitalist firms. On the other hand, this study provides evidence that the detrimental influence of job demands may be relieved or even disappear in worker cooperatives. In other words, while the negative relationship between job demands and organizational commitment was confirmed in capitalist firms as the JDR model proposes, this relationship was not preserved in worker cooperatives. Thus, the findings of this study imply that the relationships confirmed in previous studies of the OB and HRM fields may be altered by worker cooperatives.

Second, while most previous studies on the JDR model have focused on employees' mental or physical well-being and attitudes (Balducci et al., 2011), this study provided evidence

that job demands may affect job search behavior through organizational commitment in capitalist firms. Thus, further research is needed to explore more various effects of job demands on employee behaviors.

Third, although the JDR model alludes to interactions between job demands and job resources, i.e., the buffering hypothesis (Bakker et al., 2010), the majority of previous studies have separately examined the influences of job demands and job resources. This is probably because they did not find interaction effects between them. However, if various resources are simultaneously granted to individuals, as in worker cooperatives, the detrimental influence of job demands may be considerably reduced. Thus, future research needs to investigate the interaction effects between job demands and a bundle of resources, instead of a single resource.

Finally, previous studies based on the buffering hypothesis of the JDR model have investigated whether individual levels of resources can alleviate the adverse influence of job demands. On the other hand, the current study implies that organizational levels of resources may attenuate the harmful influence of job demands. Therefore, future research may examine whether other types of organizational resources can relieve the detrimental effects of job demands.

This study also provides several practical implications. First, this study found that the detrimental relationships of job demands with organizational commitment and job search behavior were ameliorated in worker cooperatives, as compared with capitalist firms. Thus, it is expected that interest in worker cooperatives will increase from practitioners, the unemployed, and society. Such interest may induce many capitalist firms, especially under threat of bankruptcy, to transform into worker cooperatives to utilize these advantages. In addition, since rapidly growing unemployment rates have become a serious problem for many individuals and

the larger society, the unemployed themselves might establish worker cooperatives, and the government might support worker cooperatives both administratively and financially.

Second, the relationship of job demands with organizational commitment has different implications for capitalist firms and worker cooperatives. For capitalist firms, the significant, negative relationship between them suggests that capitalist firms should reduce workloads in order not to deplete the level of organizational commitment of their employees. For worker cooperatives, on the other hand, the non-significant relationship between them suggests that they do not have to pay much attention to workloads because job demands do not reduce the organizational commitment of their members. Furthermore, if the members themselves decided to accept more job demands, which is a topic that requires further research, the top management of worker cooperatives does not have to concern itself with the deleterious attitudes and behaviors that can result from job demands.

Finally, the negative relationship between organizational commitment and job search behavior suggests the necessity to improve organizational commitment, regardless of the organizational type. Although this relationship was weaker in worker cooperatives than in capitalist firms, members who were less committed to worker cooperatives searched more actively for new job opportunities. Thus, worker cooperatives need to reduce role conflict and role ambiguity, and prompt their members to perceive organizational justice (Allen & Meyer, 1996; Mathieu & Zajac, 1990; Meyer et al., 2002). To enhance organizational commitment, capitalist firms need to provide their employees with more resources, such as autonomy, organizational support, and decision-making participation practices, and more opportunities to participate in ownership, for example, through employee stock ownership plans, as in worker cooperatives.

Limitations and future research

One potential limitation of this study is associated with its cross-sectional nature, which makes it difficult to affirm the causal direction among job demands, organizational commitment, and job search behavior. However, the relationship between job demands and organizational commitment is based on sound theoretical background, i.e., the JDR model, and the relationship between organizational commitment and job search behavior is supported by a longitudinal study by Vandenberg and Scarpello (1994), which found organizational commitment at time 1 to be negatively correlated with job search behavior at time 2.

A second limitation of the present study is that individual-level variables were measured by self-reports, which might have inflated or deflated the relationships among the variables. However, job search behavior was measured not by perception, but by the number of job search behaviors in which the respondents engaged. From their nature, furthermore, the three individual-level variables (job demand, organizational commitment, and job search behavior) measure different aspects, i.e., working condition, attitude, and behavior, respectively. In addition, given the evidence of construct validity of the three variables, common method bias does not seem to constitute a serious problem in this study (Bagozzi & Yi, 1990; Iverson & Maguire, 2000).

Third, this study did not control for all of the variables that may influence organizational commitment and job search behavior, such as contract type and tenure at the individual level and human resource management practices at the organizational level. Future research needs to include these omitted variables to obtain more valid results.

Finally, although the questionnaires were collected from various occupations, ranks, and

industries, only 286 people of 68 small- and medium-sized firms in the metropolitan area of Seoul were analyzed in this study. Thus, it is difficult to generalize the findings of this study. Further research needs to be performed with samples from more organizations and from different countries.

To date, since there is little research on the relationships of job demands with employee behaviors, and on the interactions between job demands and organizational contexts, further research should explore more various mediators and moderators in those relationships. This study indicated that organizational commitment may mediate the relationship between job demands and job search behavior, but future research may investigate other mediators that link job demands to job search behavior or actual turnover. For example, excessive job demands cause job dissatisfaction, which in turn leads to job search behavior (Van Hooft et al., 2004; Zimmerman et al., 2012). The current study provided evidence that the adverse influence of job demands may be alleviated in worker cooperatives due to various job resources that are granted to their members. Since members of worker cooperatives may have different attitudes and behave differently from employees in capital firms, future research needs to explore whether worker cooperatives can strengthen or attenuate the relationships that have been confirmed in the OB and HRM fields.

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Table 1. Descriptive statistics and correlations.

	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Demand	3.27	.80													
2. Age	42.53	11.53	.07												
3. Gender	.48	.50	-.14*												
4. Education	2.71	.71	.14*	-.32**	.03										
5. Wage	1.84	.82	.03	.07	-.34**	.20**									
6. Rank	2.05	1.34	.23**	.38**	-.27**	.16**	.30**								
7. Manufacturing	.21	.41	.09	.01	-.02	-.01	.23**	-.04							
8. Prof. service	.27	.44	.03	-.10	.04	.21**	-.02	.02	-.31**						
9. Sales	.29	.46	.00	.17**	.03	-.18**	-.23**	.13*	-.33**	-.39**					
10. Other service	.23	.42	-.13*	-.09	-.05	-.01	.05	-.12*	-.28**	-.33**	-.35**				
11. Size	35.68	64.85	.03	-.06	-.09	.04	.21**	-.16**	.04	-.18**	-.20**	.37**			
12. Worker cooperative	.39	.49	.19**	.17**	-.08	.05	-.23**	.24**	-.38**	.00	.29**	.06	.19**		
13. Commitment	3.59	.76	-.05	.05	-.17**	.09	.05	.30**	-.12*	.07	.10	-.07	.16**	.33**	
14. Job search behavior	1.44	.90	.06	-.04	.07	.01	-.04	-.10	-.09	.03	.03	.02	-.13*	-.09	-.27**

Note. $N = 286$

* $p < .05$, ** $p < .01$

Table 2. Results to examine the moderated mediation model.

	<u>Commitment</u>	<u>Job search</u>	<u>Commitment</u>
	Model 1	Model 2	Model 3
Level 1			
Constant	3.44 (.33)**	2.26 (.50)**	3.82 (.35)**
Age	-.00 (.00)	-.00 (.01)	-.00 (.00)
Gender	-.12 (.09)	.03 (.12)	-.13 (.09)
Education	.01 (.07)	.05 (.09)	.00 (.06)
Wage	-.02 (.06)	.04 (.08)	-.01 (.06)
Rank	.17 (.04)**	-.05 (.05)	.16 (.04)**
Job demand	-.13 (.05)*	.09 (.07)	-.23 (.07)**
Commitment		-.28 (.08)**	
Level 2			
Manufacturing	.31 (.17)†	-.33 (.18)†	.31 (.16)*
Prof. service	.37 (.16)*	-.05 (.17)	.37 (.15)*
Sales	.28 (.15)†	-.00 (.17)	.28 (.14)†
Size	.00 (.00)*	-.00 (.00)	.00 (.00)*
Worker cooperative	.37 (.13)**	-.08 (.15)	-.49 (.37)
Cross-level interaction			
Job demand x Worker cooperative			.26 (.11)*
Wald χ^2	60.02**	31.49**	71.20**
-2 Log Likelihood	559.26	719.78	553.48

Note. $N = 286$

† $p < .10$, * $p < .05$, ** $p < .01$

Table 3. Results to test the conditional indirect relationship.

Dependent variable	Moderator	<u>Conditional indirect relationship</u>		
		Coefficient (s.e.)	95% confidence interval	
Job search behavior	Capitalist firm	.07 (.03)*	.0519	.1160
	Worker cooperative	-.00 (.04)	-.0850	.0804

Figure 1. A hypothesis model.



Figure 2. Moderating role of worker cooperatives on organizational commitment.

