

Job Demands-Resources and their Associations with Early Retirement Intentions through
Recovery Need and Work Enjoyment

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ABSTRACT

The job demands-resources (JD-R) model was used to examine the relationship between job characteristics and early retirement intention. We hypothesized that two parallel processes would shape early retirement intention, namely a health impairment process (i.e., job demands → recovery need → early retirement intention) and a motivational process (i.e., job resources → work enjoyment → early retirement intention). These hypotheses were examined using survey data collected from a heterogeneous sample of 1812 older workers (age > 45). The results of structural equation modeling analyses showed that job demands and job resources were both associated with work enjoyment, which, in turn, was associated with early retirement intention. In addition, a direct link was established between job demands and early retirement intention. Recovery need did not add to the prediction of early retirement intention. These results suggest that – for early retirement intention – the motivational process is more prominent than the health impairment process.

KEY WORDS: Older Workers, Ageing, Work Stress, Work Motivation, Career Development

INTRODUCTION

In most developed countries, the official age of retirement is 65. However, the actual retirement age is well below (Organization for Economic Cooperation and Development [OECD], 2006). This has led to a growing contingent of early pensioners, which presents a threat not only to existing health and pension systems, but also to organizational functioning: early retirement may result in loss of valuable, organization-specific knowledge that is costly and time-consuming to replace (Beehr, Glazer, Nielson, Farmer, 2000). This has inspired a substantive amount of research concerning the factors associated with employees' intentions and, ultimately, their decision to retire early (e.g., Adams, 1999; Beehr, et al., 2000; Higgs, Mein, Ferrie, Hyde, & Nazroo, 2003; Schultz, Morton, Weckerle, 1998). Most research in this respect has concerned individual difference factors, including demographics, self-rated health, financial status, and attitudes toward retirement. In contrast, fewer studies have concerned associations between job-related factors and early retirement intentions, which is conspicuous given the abundant evidence that the work situation accounts for much variation in withdrawal from work (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Bakker, Demerouti, & Schaufeli, 2003). Moreover, research examining the psychological *processes* through which these job-related factors associate with early retirement intentions is virtually nonexistent. To address this gap in the literature, researchers have recently called for studies examining the mechanisms underlying age-related phenomena, such as early retirement intentions (Cadiz, Truxillo, & Sinclair, 2009).

Thus, the present study's aim is to respond to this call by examining whether and how job-related factors associate with early retirement. Using the job demands-resources (JD-R) model (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), we tested the hypotheses that job demands (i.e., workload and problems with change at work) relate positively to early retirement intentions via a process of health impairment (i.e., recovery need), and that job resources (i.e., job control and social support) relate negatively to early retirement intentions via a motivational process (i.e., work enjoyment). These hypotheses were tested in a sample of 1812 Belgian workers age 45 and older. The situation in Belgium for the period 2002-2007 is that men retire, on average, at the age of 59.6, and women at 58.3 (OECD, 2009); hence, Belgium presents an exemplary case to study issues related to early retirement.

Early retirement

One of the key questions in retirement research is why people retire and why they retire early.

Feldman (1994) defines retirement as “the exit from an organizational position or career path of considerable duration, taken by individuals after middle age, and taken with the intention of reduced psychological commitment to work thereafter” (p. 287). Reduced psychological commitment may take the form of bridging jobs from work to retirement or permanent withdrawal. *Early* retirement then refers to the withdrawal from the labor force before the country’s official retirement age, or the age at which the individual is entitled to a full old-age pension (Schils, 2008). Early retirement intention refers to the worker’s perception concerning the desired or intended time span before retirement. As noted by Beehr and Bennett (2007), early retirement intention is plausibly one of the best predictors of the actual age of the individual at the time of exit from a long-term career. We focus upon early retirement intention, rather than age at the time of retirement: our basic argument is that we aim to hint at possible ways to prevent undesirable early retirement. The implication is that we target on workers who deliberately choose or plan to retire early and not on workers who are forced to retire early owing to, for example, organizational restructuring. Unlike age at time of retirement, early retirement intention captures this distinction.

A number of factors influencing early retirement intentions have been found, including finances, spouse’s work status, pensions or social security income, and health (Beehr & Bennett, 2007). In the present study, however, we focus on the role of job-related factors in the early retirement decision-making process for two distinct reasons. First, as outlined earlier, our focus is upon aspects that are malleable; that is, relatively easy to change and to remedy. Many of the frequently studied predictors of early retirement are fairly stable. They are tied to the individual and therefore difficult for organizations to manage or change. For instance, knowing that employees’ decisions on when to retire are affected by their spouse’s work status does not help organizations in any way to retain older workers. In contrast, job-related factors are by-and-large under the control of the organization, and therefore, from a management perspective, more interesting to focus on.

Second, job-related factors have received less research attention compared to non-work-related and individual factors (Beehr et al., 2000). In addition, and perhaps most importantly, most of the research on job-related predictors of early retirement intention has been conducted in a piecemeal fashion, without any cohesive theoretical framework. A search of the literature shows that early retirement intention has been associated with a variety of job-related factors, including skill discretion, autonomy, workload, opportunities for development, task clarity, a pleasant work climate, supervisory fairness, and technological, managerial and cultural changes in the workplace (e.g., Andrews, Manthorphe, & Watson, 2005; Blekesaune & Solem, 2005; Boumans, de Jong, &

Vanderlinden, 2008; Lund & Villadsen, 2005; Sutinen, Kivimäki, Elovainio, & Forma, 2005). Few studies, however, have started from a strong theoretical basis or testable hypotheses and they failed to explain the relationship between job-related factors and early retirement intention. A noteworthy exception is the study by Elovainio et al. (2005), who used the well-known Job Demand-Control (JDC) model (Karasek, 1979) to predict early retirement intention. The authors found that workers' early retirement intention were related to psychological stress and control over the workplace, and that control mitigated the negative effect of psychological stresses on early retirement intention.

Extending this line of research, this study uses the Job Demands-Resources (JD-R) model (Demerouti et al., 2001) to predict early retirement intention. In line with the JD-R model, we argue that job-related factors may lead to early retirement intention through two relatively independent psychological processes: a *health impairment* process and a *motivational* process. Before discussing both processes and how they might be associated with early retirement, we first describe the main components of the JD-R model (see Bakker & Demerouti, 2007, for an extensive narrative).

The Job-Demands Resources model

Job demands and resources

The JD-R model (Bakker, Demerouti, De Boer et al., 2003; Demerouti et al., 2001) is an overarching model that can be applied to various occupational settings, irrespective of the particular demands and resources involved. The JD-R model assumes that every job has its own specific characteristics. These specific characteristics can be classified in two broad categories: job demands and job resources. Job demands refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical or psychological (cognitive and emotional) effort or skills, and are therefore associated with certain physiological or psychological costs. Examples are high work pressure, an unfavorable physical environment, emotionally demanding interactions with clients (Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003), and issues related to job insecurity and change (Bakker, Demerouti, & Schaufeli, 2003; Voydanoff, 2004). Of particular relevance to this study are workload and change-related problems: these have been identified as one of the major job-related factors related to early retirement (Andrews et al., 2003; Luce, van Zwanenberg, Firth-Cozens, & Tinwell, 2002).

Job resources refer to those physical, psychological, social, or organizational aspects of the job that (a) are functional in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; or (c) stimulate personal growth, learning, and development. Resources

may be located at the level of the organization at large (e.g., salary, career opportunities); interpersonal and social relations (e.g., supervisor and coworker support, team climate); the organization of work (e.g., role clarity, participation in decision making); or at the level of the task (e.g., skill variety, task identity, task significance, autonomy, or performance feedback) (Bakker, Demerouti, Taris et al., 2003). We selected job control and social support based on their assumed relevance to early retirement decisions (Elovainio et al., 2005; Feldman, 1994).

The JD-R model suggests that job demands and job resources are related to strain through a health impairment process, and to motivation through a motivational process. Both strain and motivation, in turn, relate to withdrawal behaviors, including perhaps also early retirement intention. We outline the different processes below.

The health impairment process and early retirement

The health impairment process can be summarized as follows: high job demands impose a great deal of strain on employees which may lead to energy depletion and short term fatigue, and in the long run, to serious health problems (Caplan, Cobb, French, Harrison, & Pinneau, 1975; Lee & Ashforth, 1996). The relationship between job demands and various indicators of strain has been demonstrated abundantly (Caplan et al., 1976; Demerouti et al, 2001). We see need for recovery as yet another and fairly new indicator of strain in the JD-R model (Sonnentag, 2001, 2003; Sonnentag & Zijlstra, 2006). Recovery need relates to the individuals' experienced sense of urgency to take a break from a demanding work environment in order to replenish their resources (Sonnentag & Zijlstra, 2006). Accordingly, several studies have shown that individuals who have been exposed to highly demanding work situations experience a higher need for recovery than individuals who have not been exposed to these situations (e.g., de Croon, Sluiter, Blonk, Broersen, & Frings-Dresen, 2004; Sluiter, van der Beek, & Frings-Dresen, 1999; Sonnentag & Zijlstra, 2006).

Taking this one step further, the JD-R model furthermore assumes that strain, also in the form of recovery need, may lead workers to withdraw from work. For example, high levels of recovery need have been associated with work withdrawal, even to the extent of permanently leaving the organization (de Croon et al., 2004). Withdrawal may also take the form of early retirement intention: health problems may interfere with a person's ability to perform effectively at work, at which point retirement becomes a welcome – if not the only – escape route. Also this relationship between strain and health problems and aspects related to early retirement has been demonstrated in earlier studies. Studies generally show that employees with better health retire at an older age than

those in poorer health (Hansson, DeKoekkoek, Neece, & Patterson, 1997; Lund & Borg, 1999). Along the same line, several studies have found that employee health is negatively associated with early retirement intention (Boumans et al., 2008; Henkens & Tazelaar, 1997; Heponiemi et al., 2008).

To summarize, need for recovery can be considered a short-term indicator of the health impairment process that follows from high job demands imposed on individuals. Given that individuals experiencing a high need for recovery desire to be relieved from job demands in order to replenish their resources, it can be assumed that workers reporting a high recovery need are more inclined to withdraw from work through early retirement than those with a low need for recovery. Hence, we hypothesize that recovery need will mediate the relationship between job demands and early retirement intention (*Hypothesis 1*).

The motivational process and early retirement

According to the JD-R model, job resources have motivational potential that leads to positive outcomes. Several studies in the realm of the JD-R model have shown that job resources associate positively with motivation-related concepts such as job satisfaction, work engagement, and work-related flow (Bakker, Demerouti, & Euwema, 2005; Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Bakker, 2008; Hakanen, Bakker, & Schaufeli, 2006; Schaufeli & Bakker, 2004). In this study, we use work enjoyment as an indicator of motivation. In line with Spence and Robbins' (1992) original use of the term, we define work enjoyment as the extent to which people experience their work as pleasant and gratifying.

In a next step, motivation is assumed to relate negatively to withdrawal from work. Abundant research, in various contexts, has shown that people are less likely to withdraw (more likely to persevere) when they enjoy what they are doing (Ryan & Deci, 2000). For instance, employees working because of the inherent satisfaction and pleasure they experience are less likely to turnover (Richer, Blanchard, & Vallerand, 2002) and to be absent from work (Steers & Rhodes, 1978). Similar findings have been reported for early retirement intention: employees who are satisfied with their job are less inclined to retire early (Hanisch & Hulin, 1991; Higgs et al., 2003; Mein et al., 2000; Reitzes, Mutran, & Fernandez, 1998).

To summarize, we expect a positive association between job resources and work enjoyment, and negative associations of job resources and work enjoyment with early retirement intention. Hence,

we hypothesize that work enjoyment will mediate the relationship between job resources and early retirement intention (*Hypothesis 2*). The hypothesized model is displayed in Figure 1.

--- Figure 1 About Here ---

RESEARCH DESIGN

Research approach

A cross-sectional survey was used to achieve the objectives of this research.

Participants

A stratified sample of 5182 workers older than 45 was drawn from a large online panel ($N > 100,000$) representative of the Belgian active working population with regard to age, branch, occupational position, and region. Representativeness was guaranteed through the use of various techniques (e.g., diversification of the recruitment methods, comparing the online panel with regard to the population, the method of proportionally interlaced layered sample survey taking, and the introduction of various control mechanisms). The threshold of 45 years was chosen in accordance with previous studies on early retirement intention in which an equivalent (or even younger) cut-off age was chosen (Boumans et al., 2008; Elovainio et al., 2003; Elovainio et al., 2005). Panel members ($N = 5182$) received an e-mail in which the purpose of the project was described, and in which they were requested to participate. Confidentiality and anonymity of their answers were emphasized and assured. For those who wished to participate, a link to an electronic questionnaire was included in the e-mail. 1812 respondents completed and returned the questionnaire. Taking into account that 10% of the email addresses bounced back, the overall response rate was 38.8%. This response rate was satisfactory (Baruch & Holtom, 2008).

Thirty-eight percent of the respondents were female. The respondents' mean age was 48 years ($SD = 3.6$), and their mean organizational tenure was 18 years ($SD = 9.9$). 82% had a full-time job. Almost 90% had a permanent job, while 3% had a temporary job, and about 7% had another type of contract. 70% of the respondents had a daytime contract, 13% worked in shifts, 11% had irregular working hours, and approximately 2% worked during nights. The remainder of the respondents had other types of working schedules. About two-thirds worked in services, health sector or in public services. About 23% worked in the industry or the construction sector, and 1% worked in the primary sector. Accordingly, the large majority of the respondents were white-collar workers ($N =$

1446; 80%).

Measurement battery

Job resources. Two job resources were included in the questionnaire – job control and social support. Both job resources were measured with scales taken from the Short Inventory to Monitor Psychosocial Hazards (SIMPH, Notelaers, De Witte, Van Veldhoven, & Vermunt, 2007). The SIMPH is a recently developed and validated short version of the VBBA (Dutch Questionnaire on Experience and Evaluation of Work, Van Veldhoven & Meijman, 1994; Van Veldhoven, Meijman, Broersen, & Fortuin, 1997). *Job control* was measured with a three-item scale. Respondents had to rate the extent to which they were able to influence decisions about their job. An example item is: “I can decide myself how I perform my work”. Items were scored on a 4-point Likert scale, ranging from never (1) to always (4). Reliability (Cronbach’s alpha) was .85. *Social support* was measured with four items. Respondents had to rate the level of support they received from their colleagues and superior. An example item is: “If necessary, I can ask my colleagues for help”. Items were scored on a 4-point Likert scale which ranged from never (1) to always (4). Reliability (Cronbach’s alpha) was .78.

Job demands. Two job demands were included in the questionnaire – workload and problems with change at work. *Workload* was measured with three items from the SIMPH (Notelaers et al., 2007), referring to quantitative, demanding aspects of the job. An example item is: “I have to work extra hard in order to complete a task”. Items were scored on a 4-point Likert scale which ranged from never (1) to always (4). Reliability (Cronbach’s alpha) was .83. *Problems with change at work* were assessed with a three-item scale based on Van Veldhoven and Meijman (1994). Respondents had to rate the extent to which they were having difficulties with work-related changes. An example item is: “Changes in my tasks pose difficulties to me”. Items were scored on a 4-point Likert scale which ranged from never (1) to always (4). Reliability (Cronbach’s alpha) was .81.

Work enjoyment was measured with a five-item scale taken from the SIMPH (Notelaers et al., 2007). The items tap the extent to which respondents find pleasure in working. An example item is: “I really enjoy my work”. Items were rated with a dichotomous answering category (no = 0; yes = 1). The items were summed to form an index ranging from 0 to 5, with high scores reflecting more work enjoyment. For a scale composed of dichotomous items, the most appropriate index of internal consistency is the Kuder-Richardson formula 20 (KR-20, Nunnally & Bernstein, 1994). In the present sample, this equivalent to Cronbach’s alpha was .85.

Recovery need was measured by means of three items taken from the SIMPH (Notelaers et al., 2007) about the severity and duration of symptoms which indicate that the respondent is not fully recovered from the effects of sustained effort during the working day. An example item is: “Generally, I need more than an hour before I feel completely recuperated after work”. Items were rated with a dichotomous answering category (no = 0; yes = 1). The items were summed to form an index ranging from 0 to 3, with high scores reflecting more recovery need. Reliability (KR-20) is .74.

Early retirement intention was measured with four items similar to those used by van Dam, van der Vorst, and Van der Heijden (2009) and were scored on a five-point Likert scale which ranged from strongly disagree (1) to strongly agree (5). An example item is “I intent to quit working before I am 65”. Reliability (Cronbach’s alpha) was .90.

Plan of Analysis

Structural equation modeling (SEM) applying the maximum-likelihood method in LISREL 8.54 (Jöreskog & Sörbom, 2002) was used to test the hypotheses. Model fit was evaluated using several goodness-of fit indices: the Root Means Square Error of Approximation (RSMEA), the Comparative Fit Index (CFI), the Standardized Root Means Square Residuals (SRMR) and the Non-Normed Fit Index (NNFI). RMSEA below .05 in combination with SRMR values below .09 indicate excellent fit, whereas values below .08 and .10 respectively indicate good fit (Hu & Bentler, 1999). CFI and NNFI values larger than .90 indicate good fit, whereas values larger than .95 indicate excellent fit (Bentler, 1990; Hoyle, 1995). The chi-square difference test was used to compare nested models. Before testing the hypotheses, the measurement model was evaluated using confirmatory factor analysis (CFA).

RESULTS

Preliminary analyses

Table 1 presents the descriptive statistics of the measured variables. All the significant relationships between the variables were in the expected direction. Both job demands showed weak to moderate negative correlations with the two job resources. Early retirement intention showed weak to moderate positive correlations with job demands and recovery need, and weak to moderate negative correlations with job resources and work enjoyment. Recovery need was moderately positively

correlated with job demands and weakly negatively correlated with job resources. The reversed pattern was observed for work enjoyment. That is, work enjoyment was weakly negatively associated with job demands and moderately positively with job resources. Preliminary analyses revealed that demographic variables were not substantially related to the model components, and that inclusion of these variables in the structural equation model did not significantly affect the results. They were therefore omitted from further analyses.

--- Table 1 About Here ---

Measurement model

To test for the divergent validity of the latent factors, we estimated a full measurement model comprising the independent variables (i.e., job demands and job resources), the mediating variables (i.e., recovery need and work enjoyment) and the dependent variable (i.e., early retirement intention). Job demands and job resources were represented by their respective job characteristics. The latent constructs of recovery need and work enjoyment were indexed by three and five items respectively. Finally, the latent construct of early retirement intention was defined by its four items. Estimation of the measurement model with 16 observed variables and five latent variables yielded good fit to the data, $\chi^2(94) = 501.26, p < .001$; RMSEA = .05; SRMR = .04; CFI = .98, and NNFI = .97. All observed variables had significant ($p < .001$) loadings (ranging from .49 to .86) on their latent factor (mean $\lambda = .72$). A reliable measurement model was thus obtained.

Structural model

Next, the hypothesized JD-R model (M1) was tested. This model related job demands and job resources to recovery need and work enjoyment respectively, which in turn were associated with early retirement intention. Job demands and job resources were allowed to correlate. As is shown in Table 2, M1 showed good to excellent fit to the data. The path-coefficients from job demands to recovery need ($\gamma = .77, p < .001$), and from recovery need to early retirement intention ($\gamma = .18, p < .001$) were positive and significant, indicating that the higher the job demands reported by the employees, the higher their need for recovery, and the stronger their intention to retire early (cf. *Hypothesis 1*). In addition, the path-coefficient from job resources to work enjoyment was positive and significant ($\gamma = .60, p < .001$), whereas the coefficient of the path from work enjoyment to early retirement intention was negative and significant ($\gamma = -.32, p < .001$). This means that more job resources coincided with more work enjoyment, which in turn was associated with a decreased intent to retire early (cf. *Hypothesis 2*).

--- Table 2 About Here ---

In order to test the alternative hypothesis that job demands are also related to work enjoyment, and job resources to recovery need, we included both diagonal paths in the model (cross-link model – M2). Compared to the previous model, adding both paths resulted in a significant improvement of the model fit, $\Delta\chi^2(2) = 29.87, p < .001$. However, only job demands showed a significant and negative relationship with work enjoyment ($\gamma = -.19, p < .001$). Importantly, the model in which the paths from job demands to recovery need and to work enjoyment were constrained to be equal was significant worse than M2, $\Delta\chi^2(1) = 258.02, p < .001$.

The second alternative model included additional direct relationships between job demands and early retirement intention and between job resources and early retirement intention (partial mediation model – M3). Compared to M1, adding both direct paths resulted in a significant improvement of the model fit, $\Delta\chi^2(2) = 19.61, p < .001$. The path coefficient from job demands to early retirement intention was positive and significant ($\gamma = .32, p < .001$), indicating a direct relationship. The path coefficients from job resources and recovery need to early retirement intention ($\gamma = -.03$ and $\gamma = -.08$) were both non-significant. That is, when the path between job demands and early retirement intention was included in the model, the association between recovery need and early retirement intention became non-significant.

Based on the series of SEM analyses, it seems that the proposed JD-R model fitted well to the data, even though we found some additional paths that were not predicted. Specifically, in addition to the hypothesized relationships, job demands predicted early retirement intention directly as well as indirectly through work enjoyment. Therefore, a third alternative model was tested that included both additional paths (partial mediation, partial cross-link model – M4). Compared to M1, adding both paths resulted in a significant improvement of the model fit, $\Delta\chi^2(2) = 48.02, p < .001$. All paths were significant ($p < .001$), except for the path from recovery need to early retirement intention.

M4 was then trimmed by removing the non-significant path between recovery need and early retirement intention, which did not alter the model fit, $\Delta\chi^2(1) = 3.73, ns$. The final model (M5), which explained 19% of the variance in early retirement intention, is displayed graphically in Figure 2.

--- Figure 2 About Here ---

Finally, to examine whether the observed relationships are invariant across sub-samples of 'older' workers, we conducted a multiple-group analysis estimating the same model as in Figure 2, for workers younger than 50 and workers of 50 and older. This threshold was chosen as in Belgium the age of 50 is the earliest possible retirement age (Jousten, Lefèbvre, Perelman, & Pestieau, 2008). The analysis showed no significant differences between the two age groups, suggesting that workers older than 45 constitute a homogeneous group.

DISCUSSION

The aim of this study was to investigate employees' intentions to retire early in the light of job-related factors derived from the JD-R model (Bakker & Demerouti, 2007; Demerouti et al., 2001; Schaufeli & Bakker, 2004). That is to say, we used early retirement intentions as the ultimate outcome of the health-impairment process and the motivational process that are central to the JD-R model.

The motivational process is conditional upon a relationship between job resources and indicators of motivation, typically work engagement; a relationship that was replicated also in this study for work enjoyment. Taking this one step further, motivation is then assumed to relate negatively to withdrawal behavior; for example, turnover intentions in the study by Schaufeli and Bakker (2004), or absence duration and frequency in the study by Bakker et al. (2004). We showed that withdrawal may also refer to early retirement intentions. This hints at mediation, so that work enjoyment carries the relationship between job resources and early retirement intentions, which was demonstrated in this study (Hypothesis 2).

The health impairment process assumes a relationship between job demands and strain. Examples of strain indicators are burnout or job dissatisfaction, or, in this study, recovery need. Strain, in turn, associates positively with withdrawal. Evidence comes from the studies by Geurts, Schaufeli, and de Jonge (1998) and de Croon et al. (2004). However, we did not find such a relationship between strain and early retirement intentions, implying also that recovery need did not mediate the relationship between job demands and early retirement intention. One explanation could be that recovery need is only a first stage to health impairment with few long-term effects. Instead, recovery need may concern short-term effects of a working day (Sluiter, de Croon, Meijman, &

Frings-Dresen, 2003) that do not translate into long-term effects. Hence, a high need for recovery might not be alarming enough for older workers to set in motion the exit process. In this respect, other age-related physical and cognitive changes, including vision and hearing loss, increase in blood pressure, musculoskeletal problems, and memory decline, might pose a more serious threat to employees' functioning, and therefore, might be more strongly associated with early retirement (Lund & Borg, 1999).

In addition, we also established a cross-link from job demands to work enjoyment, so that job demands related negatively to work enjoyment, and a direct positive link from job demands to early retirement intention. An important route for future research is to further investigate these relationships, particularly from a theoretical point of view. Perhaps job demands are perceived differently according to age, so that job demands have a stronger negative effect on work affect and attitudes/intentions among older workers. For instance, young workers may see the same combination of high resources and high job demands as more challenging, and hence more positive, as compared to older workers.

Altogether, our results largely aligned with the predictions made in the JD-R model. The variance explained in early retirement intention was attributed to: (1) a direct path from job demands to early retirement intention; (2) an indirect path from job resources → work enjoyment → early retirement intention; and (3) an indirect path from job demands → work enjoyment → early retirement intention. Hence, the current results indicate that – for early retirement intention – the motivational process is more prominent than the health impairment process.

Limitations and suggestions for further research

The cross-sectional design was perhaps the most important limitation in this study; the implication is that we cannot draw causal inferences. Note, however, that our predictions are in line with theoretical arguments, and that causal relationships from job demands to strain, and from job resources to motivation have been demonstrated in previous studies (e.g., de Jonge et al., 2001; Mauno, Kinnunen, & Ruokolainen, 2007). Nevertheless, future research on early retirement decision making may profit from using longitudinal designs and diary studies.

A second limitation could be that our data were based on self-reports, which may present some risks associated with common method variance. In this respect, we followed many of the recommendations for questionnaire design proposed by Podsakoff, MacKenzie, Lee, and Podsakoff

(2003), and we furthermore showed through confirmatory factor analysis that the items loaded on their respective factors, as intended. In addition, a five-factor model in which each item loaded on its respective factor showed a better fit to the data than a single factor model, $\Delta\chi^2(10) = 6133.67, p < .001$.

Finally, we recruited workers from Belgium; a country where early retirement is relatively common. According to Eurostat, in 2001, Belgium was in the leading group of European countries with respect to early retirement. This is partly due to the generosity of the social security and pension systems in place in Belgium (Jousten et al., 2008). This particular setting may have influenced the results. Hence, future studies could explore the generalizability of our results to other cultures and countries.

Practical implications

This study has important practical implications because it indicates that creating and sustaining a healthy workforce by no means guarantees that older employees will continue working until their official retirement age. Good health may be a necessary condition for retaining older workers, but it certainly does not appear to be a sufficient one. Just as their younger colleagues, older employees want to enjoy their work, and their level of enjoyment seems to play a major role in shaping their early retirement intentions. Hence, to retain older workers, companies should promote work conditions and practices that keep older workers happy and motivated. The practices could involve job re-design interventions by implementing extended job control and discretion over how older workers schedule and perform their job tasks; or assistance of older workers in maintaining and extending social networks. The latter may be particularly important as older employees often lack opportunities to form special, intimate peer relationships at work that provide high psychosocial support (Maurer, 2007). In this regard, mentoring may be especially valuable for inclusion of older workers. It offers a new challenge to older workers and protects them from becoming isolated.

Conclusion

In this study, job demands and job resources were both associated with work enjoyment, which, in turn, was associated with older workers' intention to retire early. In addition, a direct link was established between job demands and early retirement intention. Recovery need did not add to the prediction of early retirement intention. These results suggest that, in order to retain older employees, it is not just sufficient to create a healthy workforce. Rather, organizations should continuously strive for measures that increase older workers' happiness and work pleasure.

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Table 1

Means, Standard Deviations and Correlations among the Study Variables

	<i>M</i>	<i>SD</i>	Range	1	2	3	4	5	6
1. Workload	2.45	.67	1-4						
2. Problems with change	1.67	.53	1-4	.29**					
3. Job control	2.56	.73	1-4	-.11**	-.19**				
4. Social support	2.79	.69	1-4	-.20**	-.19**	.55**			
5. Recovery need	0.93	1.11	0-3	.41**	.27**	-.20**	-.24**		
6. Work enjoyment	4.01	1.54	0-5	-.14**	-.27**	.42**	.39**	-.28**	
7. Early retirement intention	2.24	1.14	1-5	.16**	.23**	-.23**	-.17**	.20**	-.31**

** $p < .01$

Table 2

Goodness-of-fit indices of the hypothesized model and the alternative models (N = 1812)

<i>Model</i>	χ^2	<i>df</i>	RMSEA	SRMR	CFI	NNFI	<i>Model comparisons</i>	$\Delta\chi^2$	Δdf
M1. JD-R model	552.04	99	.050	.054	.98	.97			
M2. Cross-link model	522.26	97	.049	.047	.98	.97	M1 – M2	29.78	2
M3. Partial mediation model	532.43	97	.050	.052	.98	.97	M1 – M3	19.61	2
M4. Partial mediation, partial cross-link model	504.02	97	.048	.044	.98	.97	M1 – M4	48.02	2
M5. Final model	507.75	98	.048	0.44	.98	.97	M4 – M5	3.73	1

Figure Caption

Figure 1. The job demands-resources model applied to early retirement intention.

Figure 2. The final model (standardized path coefficients)



