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The role of career competencies in the Job Demands — Resources model

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ABSTRACT

This study investigated the role of career competencies as a mediator in the Job Demands — Resources model. Structural equation modeling with data from 305 young employed persons aged 16–30 years showed that career competencies are positively related to job resources and work engagement, but not to job demands and emotional exhaustion. Furthermore, career competencies had a partially mediating effect on the relationship between job resources and work engagement, and job resources had a partially mediating effect on the relationship between career competencies and work engagement. These findings suggest that career competencies may act in a similar way as personal resources in fostering work engagement. Our results underline the importance of combining research on job design and career development, and suggest that career competencies may have a role in stimulating employee wellbeing. Career counselors and HR programs may benefit from this insight by simultaneously increasing job resources and career competencies to increase employee wellbeing.

Current developments on the labor market concerning more change and flexibility put increasing demands on employees to take responsibility for performing their job and managing their career (Segers & Inceoglu, 2012). In doing so, they need to keep up with an increasingly dynamic and changing work environment, remain healthy and motivated, and adjust to having more complex careers (Vuori, Toppinen-Tanner, & Mutanen, 2011). It is therefore crucial that employees acquire relevant resources and competencies to successfully manage their work and career. This may especially be the case for young employees, who are less accustomed to the demands of working life. Young employees often experience poor work socialization, unsatisfactory employment, unfavorable working conditions, and high dropout rates and underemployment (Akkermans, Brenninkmeijer, Blonk, & Koppes, 2009; Akkermans, Brenninkmeijer, Van den Bossche, Blonk, & Schaufeli, in press; Koivisto, Vuori, & Nykiri, 2007). Moreover, young employees have been hit hardest by the economic crisis of the past few years, leading to an alarming 20% unemployment rate in Europe (European Commission, 2012). These indicators underline the importance of gaining *career competencies*. Akkermans, Brenninkmeijer, Huibers, and Blonk (2013) defined career competencies as knowledge, skills, and abilities central to career development, which can be influenced by the individual. The authors emphasized that career competencies are important up-and-above work competencies (i.e., competencies important to perform a specific job), and that they are, to a certain degree, malleable. Because the current labor markets demand ever more self-management of careers, it is important that employees acquire career competencies on top of specific work competencies. That is, career competencies are

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becoming a necessity to successfully navigate a career (Ott, 1999). Indeed, several empirical studies have emphasized the importance of gaining career competencies for career success (e.g., Eby, Butts, & Lockwood, 2003; Kuijpers & Scheerens, 2006).

Career competencies may not only be relevant for individuals' career success, but may contribute to employee wellbeing as well. However, our understanding of the role of career competencies in fostering employee wellbeing is still limited. In this study, we therefore examined the potential role of career competencies in stimulating employee wellbeing. Specifically, we investigated whether career competencies would act in a similar way as personal resources in the Job Demands — Resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) in a sample of young employees.

1. Career competencies

In a recent study, Akkermans et al. (2013) developed a model of career competencies and a measurement instrument to assess these competencies. The model of Akkermans et al. consists of three dimensions: reflective, communicative, and behavioral competencies, and each dimension contained two career competencies. Reflective career competencies encompass *reflection on motivation*, which refers to reflection on values, passions, and motivations with regard to the personal career, and *reflection on qualities*, which relates to reflection on strengths, shortcomings, and skills with regard to one's career. Communicative career competencies include *networking*, which pertains to the awareness of the presence and professional value of one's network, and the ability to expand this network for career-related purposes, and *self-profiling*, which refers to presenting and communicating one's personal knowledge, abilities, and skills to the internal and external labor market. Finally, behavioral career competencies encompass *work exploration*, which relates to actively exploring and searching for work-related and career-related opportunities on the internal and external labor market, and *career control*, which relates to actively influencing learning and work processes related to one's career by setting goals and planning how to reach them. Based on this model, Akkermans et al. (2013) developed the Career Competencies Questionnaire (CCQ), and they demonstrated that the CCQ had good content, factorial, discriminant, and incremental validity. In addition, career competencies were positively related to work-related concepts such as general self-efficacy, perceived performance, and employability.

We argue that career competencies are not only a relevant concept for career success, but also for employee wellbeing. Specifically, mastering reflective, communicative, and behavioral competencies may contribute to personal development and goal achievement. To examine whether career competencies indeed contribute to employee wellbeing, we used the Job Demands — Resources (JD-R) model (Demerouti et al., 2001), which is described below.

2. The Job Demands — Resources model

The JD-R model (Demerouti et al., 2001) is a heuristic model of employee wellbeing that is widely applicable across occupations and industries (Schaufeli & Taris, in press). The basic assumption of the JD-R model is that every work environment is characterized by occupation-specific *job resources* and *job demands*, which can lead to increased wellbeing (e.g., work engagement) or decreased wellbeing (e.g., emotional exhaustion). Job resources are those physical, psychosocial, social, or organizational aspects of the job that are either functional in achieving work goals, reducing job demands, or stimulating personal growth, learning, and development. Job demands are those physical, psychological, social, and organizational aspects of the job that require sustained physical and/or psychological effort or skills and are therefore associated with certain physical and/or psychological costs (Bakker & Demerouti, 2007). Two psychological processes underlie the JD-R model. In the *motivational process*, job resources lead to increased levels of motivation in the form of work engagement (Schaufeli & Bakker, 2004), which is a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli, Salanova, González-Roma, & Bakker, 2002). In the *health impairment process*, job demands lead to strain in the form of emotional exhaustion (Schaufeli & Bakker, 2004), a core component of burnout which refers to feelings of being overextended and exhausted by one's work (Demerouti et al., 2001). The assumptions of the JD-R model have gained widespread empirical support (e.g., Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Hakanen, Bakker, & Schaufeli, 2006).

Our study was performed among young employees aged 16–30 years. Two earlier studies among young workers (Akkermans et al., 2009; in press) showed that autonomy and social support from colleagues may be especially important job resources, whereas work pressure, emotional workload, and physical workload were relevant job demands. Because career competencies are closely linked to personal development, we also included opportunities for development as a job resource in this study. The job characteristics in our study are all commonly used in research using the JD-R model, and have been shown to be related to employee wellbeing (Bakker & Demerouti, 2007). Furthermore, we used work engagement as an indicator of motivation and emotional exhaustion as an indicator of strain.

3. Career competencies and personal resources

In order to examine the role of career competencies in the JD-R model, we need to consider how individual factors may influence employee wellbeing. Research indicates that the concept of *personal resources* may be relevant for work-related wellbeing (Hobfoll, 1989; Judge, Locke, & Durham, 1997). Personal resources are positive self-evaluations linked to resilience, which refer to individuals' sense of their ability to control and impact upon their environment successfully (Hobfoll, Johnson, Ennis, & Jackson, 2003). Personal resources are functional in achieving goals, and in stimulating personal growth and development (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). According to Conservation of Resources (COR) theory (Hobfoll, 1989), people seek to obtain and protect resources, and they strive to accumulate them. This process can lead to improved wellbeing (Hobfoll, 2002).

Following the conceptualization of personal resources, career competencies may work in a similar way. Career competencies are also related to evaluating one's ability to control and impact upon their environment successfully, and they can be functional in achieving goals, and stimulating personal growth and development. Individuals who develop their career competencies will gain a better sense of what they value and what they are good at. Moreover, they will know how to relate to significant others and how to proactively take action in exploring opportunities and setting goals. It is therefore likely that mastering career competencies would lead to an enhanced evaluation of one's ability to control and impact upon one's work and career. In line with this reasoning, Akkermans et al. (2013) found a positive relationship between career competencies and self-efficacy, a concept generally considered to be a personal resource (e.g., Avey, Luthans, & Jensen, 2009; Luthans, Avey, Avolio, Norman, & Combs, 2006). Finally, Xanthopoulou, Bakker, Demerouti, and Schaufeli (2007) noted that personal resources are, to some extent, malleable and open to development. This characterization is similar to that of Akkermans et al. (2013) who underlined that career competencies can be actively developed by individuals. Based on this argumentation, career competencies may be expected to act in a similar way as personal resources in stimulating employee wellbeing.

4. The current study

In this study, we investigated whether career competencies may play a role in motivational and health impairment processes. In our examination we took a number of steps. First, we examined whether career competencies are associated with job resources and work engagement. Previous research has shown that personal resources are positively related to job resources (Xanthopoulou et al., 2007, 2009). If career competencies and personal resources indeed work in a comparable way, we would expect to find similar positive relationships. For example, experiencing opportunities for development may lead individuals to actively search for ways to become further educated and to formulate an action plan with goals for personal development. Similarly, experiencing social support at work may go hand in hand with building a network and communicating about one's strengths and ambitions. Previous research has also shown that personal resources are positively related to work engagement (Xanthopoulou et al., 2007, 2009). It is likely that this would also be the case for career competencies. For example, individuals who know what their values and strengths are, and who are better at making action plans and setting goals, may be better able to develop themselves and consequently experience more engagement. Also, actively communicating with significant others at work about career-related opportunities may create a positive and energetic work environment that would make employees more engaged in their job. Based on these arguments, we formulated our first two hypotheses:

Hypothesis 1a. Career competencies are positively related to job resources.

Hypothesis 1b. Career competencies are positively related to work engagement.

Second, we investigated the process through which career competencies would be related to work engagement. Previous studies have shown that personal resources may act as a mediator in the motivational process (e.g., Llorens, Schaufeli, Bakker, & Salanova, 2007; Luthans et al., 2006; Xanthopoulou et al., 2007). That is, job resources can activate personal resources, which can subsequently lead to higher levels of work engagement. For example, Xanthopoulou et al. (2007) found that personal resources (i.e., self-efficacy, organizational-based self-esteem, and optimism) mediated the relationship between job resources and work engagement. Similar results were found by Llorens et al. (2007), and by Xanthopoulou et al. (2009). Taken together, these findings indicate that personal resources partially mediate the positive relationship between job resources and work engagement. As we have argued that personal resources and career competencies share conceptual similarities, we hypothesize that career competencies may also, at least in part, mediate the relationship between job resources and work engagement. For example, experiencing opportunities for development may lead individuals to actively search for ways to become further educated and to formulate action plans with goals for personal development. This could provide them with an opportunity to learn new skills and enjoy their work more, and may in this way contribute to work engagement. This leads to our next hypothesis:

Hypothesis 2a. Career competencies act as a mediator in the relationship between job resources and work engagement.

Xanthopoulou et al. (2009) argued that the process described above may also work the other way around. That is, employees may use their personal resources to actively craft a better work environment and to perceive that environment as having more job resources. That, in turn, may foster work engagement. Job resources and personal resources may therefore be mutually enhancing in stimulating work engagement (Xanthopoulou et al., 2009). Studies performed by Bakker and Demerouti (2008) and Llorens et al. (2007) provide further support for these cyclical processes in which personal resources mediate the relationship between job resources and work engagement, and job resources mediate the relationship between personal resources and work engagement. Considering the conceptual similarity of personal resources and career competencies, we hypothesize that job resources may also mediate the relationship between career competencies and work engagement. For instance, individuals who are actively building their network and who communicate with colleagues about their career whishes, may subsequently experience more social support. This, in turn, may stimulate work engagement. This leads to our next hypothesis:

Hypothesis 2b. Job resources act as a mediator in the relationship between career competencies and work engagement.

Third, we investigated whether career competencies played a role in the health impairment process of the JD-R model. COR theory (Hobfoll, 1989) states that loss of resources may lead to so-called loss-cycles (see also: Ten Brummelhuis, Ter Hoeven, Bakker, &

Peper, 2011). However, because personal resources are associated with motivation and positive self-evaluations, they may be expected to be particularly relevant for motivational processes. Xanthopoulou et al. (2007) found no support for a role of personal resources in the relationship between job demands and emotional exhaustion. Considering these results and the conceptual similarity between career competencies and personal resources, there is no reason to assume that career competencies play a part in the health impairment process of the JD-R model. This leads to our final hypothesis:

Hypothesis 3. Career competencies are not related to job demands and emotional exhaustion.

Finally, we also assessed potential cross-relationships in our study. Crawford, LePine, and Rich (2010) recently showed in a meta-analysis that job resources were negatively related to burnout, and that job demands were negatively related to work engagement when considered as hindrances, and positively related to work engagement when considered as challenges. Therefore, we also examined the cross-relationships between job resources and emotional exhaustion, and between job demands and work engagement in our models.

5. Method

5.1. Participants and procedure

Our study was conducted among young interns and employees (aged 16–30 years) in a large Dutch educational institution and a Dutch multinational. The participants from the educational institution were interns who were finishing their education with an internship of three or four days per week for at least three consecutive months. The participants in the multinational were temporary employees who were given a job in a special program that aimed to return them to work. After obtaining informed consent, participants received a paper-and-pencil questionnaire. All questionnaires were handed out prior to school lessons in the educational institution, and during group sessions in the multinational. The researcher or an assistant was present to answer any questions and to check the filled-out questionnaires for completeness. All 305 employees who received a questionnaire completed it, resulting in a 100% response rate. Most of the participants came from the educational institution ($n = 192$ versus $n = 113$ from the multinational). To assure that we could combine these groups, we tested whether the participants differed on our study variables. Some minor differences were found: participants from the multinational reported slightly lower emotional workload ($F(1, 303) = 30.78$, $p < .01$), physical workload ($F(1, 303) = 50.91$, $p < .01$), and emotional exhaustion ($F(1, 303) = 19.73$, $p < .01$). No differences were found for work pressure, job resources, work engagement, and career competencies. Because the differences were small, and because the participants had the same age and educational level, we decided that combining them in one group would be appropriate. The majority of the participants were male (57.7%) and most of the participants had intermediate vocational education level (76.4%). The mean age of the participants was 22 years ($SD = 3.84$), and the mean number of working hours per week was 32 ($SD = 10.63$). The participants of the multinational worked in General Industry (31.1%), and the interns from the educational institution predominantly worked in Trade (12.5%), Health and Wellbeing (11.5%), and Business Services (11.1%).

5.2. Measurement instruments

5.2.1. Job resources

Three types of job resources were measured in this study. All items of social support from colleagues and autonomy were measured with a 5-point Likert scale ranging from 1 (*never*) to 5 (*always*), and the items of opportunities for development were measured with a 5-point Likert scale ranging from 1 (*completely disagree*) tot 5 (*completely agree*). Social support from colleagues was measured with four items from Peeters, Buunk, & Schaufeli (1995). An example item is, "If necessary, my colleagues will help me with a specific task" ($\alpha = .83$). Autonomy was measured with four items based on Van Veldhoven, De Jonge, Broersen, Kompier, and Meijman (2002). A sample item is, "Can you decide the order of your tasks?" ($\alpha = .79$). Opportunities for development were measured with four items from the Job Content Questionnaire (Karasek et al., 1998). An example item from this scale is, "My work offers me enough opportunities to learn new things" ($\alpha = .80$). These scales have shown to be positively associated with employee wellbeing (Van Veldhoven et al., 2002), and negatively related to occupational stress (Peeters, Buunk, & Schaufeli, 1995) and job demands (Karasek et al., 1998).

5.2.2. Job demands

Three types of job demands were measured based on Van Veldhoven et al. (2002). Work pressure and physical workload were measured with four items, and emotional workload was measured with three items, all on a 5-point Likert scale ranging from 1 (*never*) to 5 (*always*). A sample item of work pressure was, "Do you have to work hard to get things done?" ($\alpha = .82$), a sample item of emotional workload was, "Do you encounter emotional situations on your work?" ($\alpha = .79$), and a sample item of physical workload was, "do you perform physically demanding work?" ($\alpha = .88$). The items have been shown to be positively associated with occupational stress, and negatively associated with job resources (Van Veldhoven et al., 2002).

Work engagement was measured with the nine-item version of the Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). The items were measured on a 7-point Likert scale ranging from 0 (*never*) to 6 (*always*). The UWES items reflect three underlying dimensions, which are measured with three items each: vigor (e.g., "At work I feel bursting with energy";

α = .77), dedication (e.g., "My work inspires me"; α = .88), and absorption (e.g., "I get carried away when I am working"; α = .81). The items of this scale have been shown to be positively associated to job resources and personal resources (e.g., Xanthopoulou et al., 2009), and to performance (Bakker & Demerouti, 2008).

Emotional exhaustion was measured with the five-item subscale from the Utrecht Burnout Scale (UBOS; Schaufeli & Van Dierendonck, 2000). The items were measured on a 7-point Likert scale ranging from 0 (*never*) tot 6 (*always*). One item was deleted from the scale because it clearly reduced the internal consistency of the scale. An example item from this scale is, "I feel mentally exhausted because of my work" (α = .88). This scale has been shown to be positively associated with job demands, and negatively associated with job resources and work engagement (Schaufeli & Bakker, 2004).

Career competencies were measured with the 21-item Career Competencies Questionnaire (CCQ; Akkermans et al., 2013). The items were measured on a 5-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). The CCQ items reflect six underlying career competencies: *reflection on motivation* was measured with 3 items (e.g., "I know what I like in my work"; α = .83), r*eflection on qualities* was measured with 4 items (e.g., "I know my strengths in my work"; α = .92), n*etworking* was measured with 4 items (e.g., "I know how to ask for advice from members of my network"; α = .87), s*elf-profiling* was measured with 3 items (e.g., "I am able to show others what I want to achieve in my career"; α = .86), *work exploration* was measured with 3 items (e.g., "I can actively search for the developments in my area of work"; α = .86), and *career control* was measured with 4 items (e.g., "I can make clear career plans"; α = .88). The items of the CCQ have been shown to be positively related to related concepts such as general self-efficacy, task performance, and perceived employability (Akkermans et al., 2013).

5.3. Strategy of analysis

We analyzed the data with structural equation modeling (SEM) using AMOS 20 (Arbuckle, 2011), which is a preferable way to analyze mediation models with latent constructs (Baron & Kenny, 1986). To examine the fit of the data we used the comparative fit index (CFI), the Tucker–Lewis index (TLI), and the root mean square error of approximation (RMSEA). CFI and TLI values of >.90, and RMSEA values of <.08 represent acceptable fit, whereas values of >.95 and <.06 represent a good fit (Hu & Bentler, 1999). We used bootstrapping to test whether career competencies mediated the path between job resources and work engagement (H2a), and whether job resources mediated the path between career competencies and work engagement (H2b). Bootstrapping is a statistical re-sampling method estimating the parameters of a model strictly from the sample (Preacher & Hayes, 2008). Bootstrapping computes more accurate confidence intervals of indirect effects than the more commonly used causal step strategy (Baron & Kenny, 1986), because it does not assume a normal distribution of the variables (Preacher & Hayes, 2008). This is especially relevant here because indirect effects have distributions that skew away from zero (Shrout & Bolger, 2002).

We performed latent-variable structural path analyses with maximum likelihood estimation (e.g., Jöreskog & Sörbom, 1996). To test the models, we included the latent variables *job resources* (represented by social support from colleagues, autonomy, and opportunities for development), *job demands* (represented by work pressure, emotional workload, and physical workload), *work engagement* (represented by vigor, dedication, and absorption), *emotional exhaustion* (represented by four manifest items), and *career competencies* (represented by reflection on motivation, reflection on qualities, networking, self-profiling, work exploration, and career control). This procedure has been used in several studies testing the JD-R model (e.g., Bakker et al., 2010; Bakker et al., 2007).

6. Results

6.1. Descriptive statistics

Table 1 shows the means, standard deviations, and intercorrelations of the study variables. Career competencies were positively correlated with job resources (except for reflection on motivation and self-profiling) and work engagement. Furthermore, networking was the only career competency that was significantly correlated with job demands, but none of the career competencies were significantly correlated with emotional exhaustion. With the exception of the correlation between networking and self-profiling (r = .69), no high correlations (i.e., >.60) were present, indicating that multicollinearity is unlikely to bias our results.

First, we tested a one-factor model in which all manifest variables loaded onto a single factor (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). As expected, model fit was bad: $\chi^2(152) = 1.842.14$, $p < .01$; TLI = .29; CFI = .37; RMSEA = .19. These results support the construct validity of our variables, and suggest that common method bias was not a major problem. Before testing the structural paths, we tested the measurement model with all manifest factors loading onto their corresponding latent factors. The model fit was good: $\chi^2(142) = 265.76$, $p < .01$; TLI = .94; CFI = .95; RMSEA = .05. All factor loadings were significant onto their proposed factor for job resources (between .60 and .75), job demands (between .64 and .78), work engagement (between .75 and .91), emotional exhaustion (between .77 and .89), and career competencies (between .68 and .80).

6.2. Career competencies in the JD-R model

As expected, we found positive relationships between job resources and work engagement (β = .54, $p < .001$), and between job demands and emotional exhaustion (β = .28, $p < .001$). A positive relationship was also found between job resources and

Table 1
Means, standard deviations, and intercorrelations of study variables (N = 305).

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Job resources	3.68	0.60	–																			
2. Social support	3.75	0.85	0.80	–																		
3. Autonomy	3.70	0.72	0.77	0.40	–																	
4. Opportunities for development	3.59	0.74	0.79	0.43	0.46	–																
5. Job demands	2.47	0.75	0.08	0.04	0.06	0.12	–															
6. Work pressure	2.85	0.78	0.18	0.08	0.13	0.22	0.76	–														
7. Emotional Demands	2.22	0.94	0.01	−0.02	0.05	−0.00	0.85	0.48	–													
8. Physical demands	2.35	1.01	0.05	0.05	−0.02	0.07	0.86	0.49	0.59	–												
9. Work engagement	3.90	0.99	0.48	0.37	0.30	0.46	0.03	0.13	−0.05	0.02	–											
10. Vigor	3.75	1.01	0.39	0.30	0.30	0.33	0.01	0.07	−0.01	−0.01	0.83	–										
11. Dedication	3.98	1.18	0.49	0.38	0.29	0.39	0.07	0.13	−0.02	0.06	0.91	0.67	–									
12. Absorption	3.94	1.15	0.41	0.30	0.27	0.40	0.03	0.16	−0.04	0.01	0.87	0.63	0.76	–								
13. Emotional Exhaustion	1.76	1.08	0.16	−0.06	−0.21	−0.12	0.27	0.19	0.21	0.26	0.22	−0.24	−0.19	−0.20	–							
14. Career Competencies	3.47	0.71	0.20	0.10	0.15	0.21	0.14	0.14	0.06	0.14	0.29	0.29	0.28	0.18	0.02	–						
15. Reflection on motivation	3.60	0.78	0.08	0.02	0.04	0.14	0.08	0.08	0.04	0.07	0.24	0.25	0.23	0.15	0.01	0.81	–					
16. Reflection on Qualities	3.58	0.84	0.19	0.12	0.11	0.22	0.06	0.04	0.02	0.09	0.35	0.35	0.33	0.21	0.02	0.59	0.58	–				
17. Networking	3.41	0.89	0.25	0.18	0.17	0.25	0.17	0.15	0.10	0.17	0.32	0.32	0.32	0.21	0.02	0.62	0.53	0.51	–			
18. Self-profiling	3.42	0.80	0.09	0.09	−0.01	0.11	0.07	0.03	0.05	0.09	0.20	0.21	0.18	0.08	0.07	0.55	0.49	0.50	0.55	–		
19. Work exploration	3.51	0.79	0.21	0.15	0.15	0.22	0.05	0.04	−0.00	0.09	0.28	0.25	0.27	0.20	−0.04	0.64	0.55	0.48	0.69	0.50	–	
20. Career control	3.41	0.85	0.20	0.12	0.15	0.25	0.04	0.03	0.02	0.03	0.36	0.36	0.32	0.29	0.01	0.55	0.50	0.49	0.58	0.55	0.58	–

Note. All correlations ≥ 0.10 significant at $p < .05$; all correlations ≥ 0.15 significant at $p < .01$.

career competencies ($\beta = .32$, $p < .001$), and between career competencies and work engagement ($\beta = .23$, $p < .001$). These results confirm Hypothesis 1a by showing a significant relationship between job resources and career competencies, and Hypothesis 1b by showing a significant relationship between career competencies and work engagement. We also tested the cross-relationships between job resources and emotional exhaustion, and between job demands and work engagement. These associations were not significant: $\beta = -.13$, $p = .06$, and $\beta = .02$, $p = .79$, respectively.

We tested three structural models to determine the role of career competencies in the JD-R model. All models included career competencies, job resources, job demands, work engagement, and emotional exhaustion. In Model 1, we tested whether career competencies mediated the relationship between job resources and work engagement (H2a). In Model 2, we tested whether job resources mediated the relationship between career competencies and work engagement (H2b). In Model 3 we tested whether career competencies mediated the relationship between job demands and emotional exhaustion (H3).

6.2.1. Career competencies in the motivational process (Model 1)

We extracted 2000 new samples with bootstrapping to test the indirect effect of job resources on work engagement through career competencies (Hypothesis 2a). Next, we compared three competing structural models to determine the best fit to the data: a direct effect only model (i.e., a structural model in which job resources and career competencies only had direct effects on work engagement), a full mediation model (i.e., a structural model in which job resources only had an effect on work engagement via career competencies), and a partial mediation model (i.e., a structural model in which job resources had a direct effect on work engagement and an indirect effect on work engagement via career competencies). The full mediation model showed the worst fit of these three models: $\chi^2(146) = 325.56$, $p < .01$; TLI = .92; CFI = .93; RMSEA = .06. The direct effect only model fitted the data significantly better than the full mediation model: $\Delta\chi^2(3) = 17.26$, $p < .01$; TLI = .93; CFI =.94; RMSEA = .06. The partial mediation model fitted the data significantly better than the direct effect only model: $\Delta\chi^2(2) = 44{,}86$, $p < .01$; TLI = .95; CFI = .96; RMSEA = .05. The standardized total effect of job resources on work engagement was significant: $\beta = 0.62$, $p < .001$, 95% CI [.50, .71]. The standardized direct effect was significant, $\beta = 0.54$, $p < .001$, 95% CI [.41, .65], and the standardized indirect effect was also significant, $\beta = .08$, $p < .001$, 95% CI [.03, .13]. This best fitting model explained 43% of the variance in work engagement and 13% of the variance in emotional exhaustion. These results confirm Hypothesis 2a: career competencies indeed have a mediating effect on the relationship between job resources and work engagement. However, job resources also still have a direct effect on work engagement, indicating that career competencies partially mediate this relationship. Fig. 1 depicts the best fitting model (i.e., the partial mediation model) of Model 1, in which career competencies partially mediate the effect of job resources on work engagement.

6.2.2. Job resources as mediators (Model 2)

We also tested whether job resources may mediate between career competencies and engagement. This time, the direct effect only model showed the worst fit to the data: $\chi^2(147) = 346.79$, $p < .01$; TLI = .91; CFI = .93; RMSEA = .07. The full mediation

model fitted the data significantly better: $\Delta\chi^2(1) = 70.63$, $p < .01$; TLI = .94; CFI = .95; RMSEA = .054. The partial mediation model fitted the data better than the full mediation model: $\Delta\chi^2(1) = 14.37$, $p < .01$; TLI = .95; CFI = .96; RMSEA = .051. The standardized total effect of career competencies on work engagement was significant: $\beta = 0.40$, $p < .001$, 95% CI [.28, .51]. The standardized direct effect was significant, $\beta = 0.23$, p = .002, 95% CI [.12, .34], and the standardized indirect effect was also significant, $\beta = .17$, $p < .001$, 95% CI [.09, .27]. These results confirm Hypothesis 2b: job resources have a partially mediating effect on the relationship between career competencies and work engagement. This model is depicted in Fig. 2.

6.2.3. Career competencies in the health impairment process (Model 3)

The relationships between job demands and career competencies, and between career competencies and emotional exhaustion were not significant ($\beta = 0.10$, *ns*, and $\beta = -0.03$, *ns*, respectively). Furthermore, there was no significant indirect effect of job demands on emotional exhaustion ($\beta = -0.003$, *ns*). These results indicate that career competencies do not play a role in the health impairment process, thereby confirming Hypothesis 3.

7. Discussion

The main purpose of our study was to investigate whether career competencies may act in a similar way as personal resources in motivating young employees and stimulating their wellbeing at work. Specifically, we tested whether career competencies could play a role in motivational and health impairment processes assumed by the Job Demands – Resources (JD-R) model (Demerouti et al., 2001). The findings of our study offer support for the role of career competencies as a mediator in motivational processes, and they suggest that job resources and career competencies may be mutually enhancing in stimulating work engagement. We also found that career competencies were uniquely related to motivational processes, as they were not related to job demands and emotional exhaustion. Although caution is required because our sample consisted of young persons employed in a temporary job, these results support the notion that career competencies are a relevant concept for stimulating

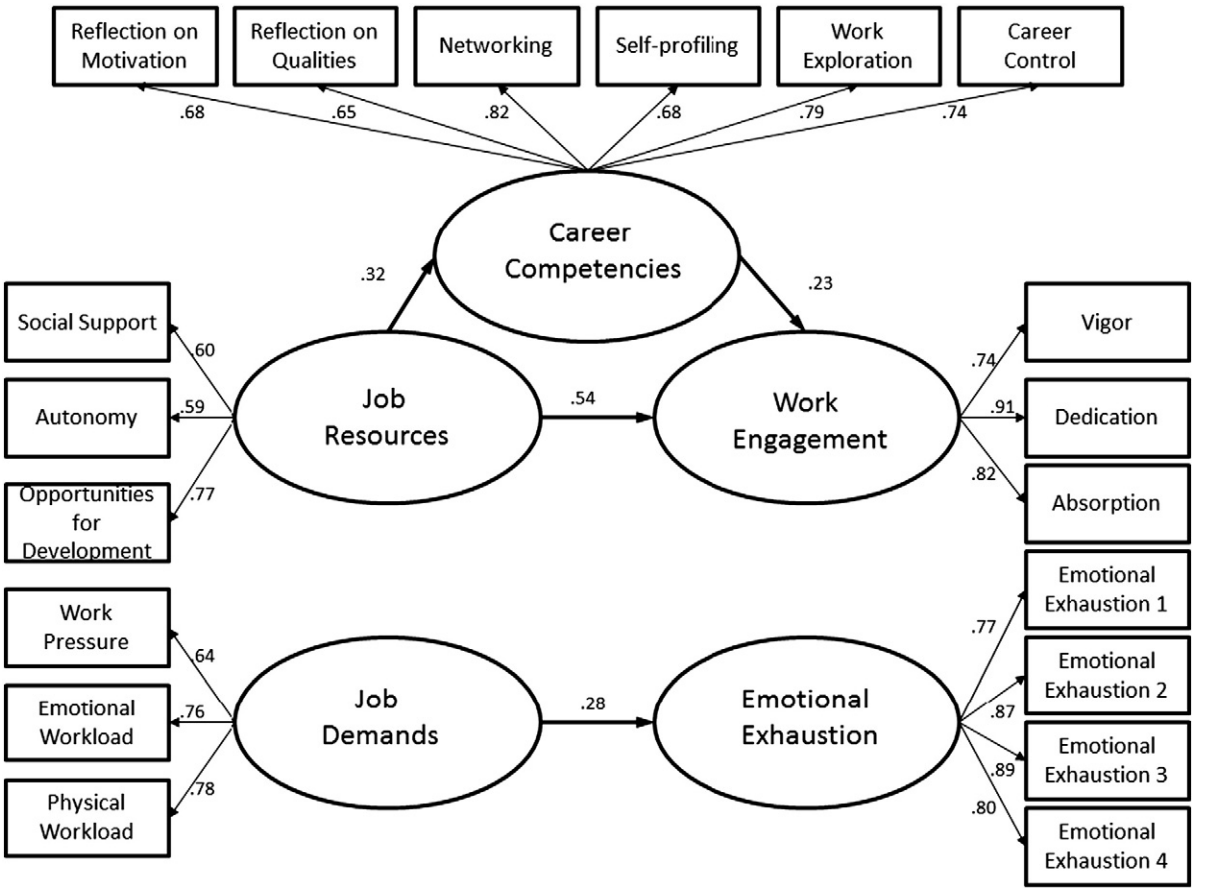

Fig. 1. Career competencies as mediator in the motivational process. *Note.* Entries represent standardized regression weights. All structural pathways are significant at the $p < .01$ level. N = 305.

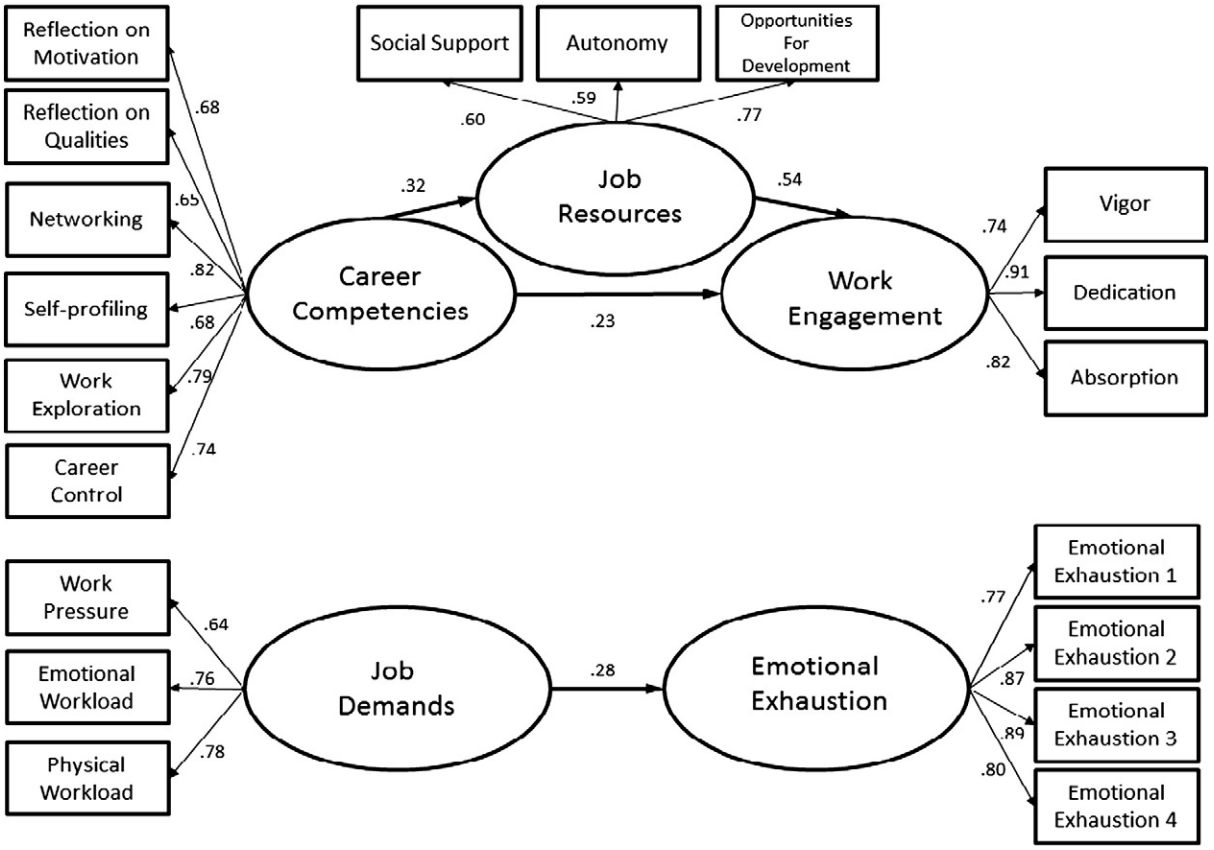

Fig. 2. Job resources as mediator in the motivational process. *Note*. Entries represent standardized regression weights. All structural pathways are significant at the $p < .01$ level. N = 305.

employee wellbeing. Furthermore, our findings underline the value of combining research on career development and employee wellbeing (Hall & Las Heras, 2010).

7.1. Career competencies in the JD-R model

7.1.1. Career competencies in motivational processes

As expected, we found a positive relationship between career competencies and job resources (Hypothesis 1a), and between career competencies and work engagement (Hypothesis 1b). We also found that career competencies mediated the relationship between job resources and work engagement (Hypothesis 2a). That is, a work environment with sufficient amounts of social support, autonomy, and opportunities for development can stimulate the development of career competencies, which can subsequently foster higher levels of work engagement. In addition, we found that job resources mediated the relationship between career competencies and work engagement (Hypothesis 2b), indicating that the development of reflective, communicative, and behavioral career competencies can activate employees to recognize and mobilize the resources that are present in their work environment, which can subsequently make them more engaged in their work. These findings suggest that job resources and career competencies may have a mutually reinforcing effect on employee wellbeing, similar to earlier findings with regard to job resources and personal resources (e.g., Xanthopoulou et al., 2009). These findings are in line with the principles of COR theory (Hobfoll, 2002), which states that so-called resource caravans may develop in which resources can create additional resources, which, in turn, foster work engagement. In addition, although our cross-sectional data prevented us from testing causal and reciprocal effects, our findings are in line with the notion that job resources and personal resources may form a gain spiral that contributes to engagement (Xanthopoulou et al., 2009). Therefore, we conclude that career competencies may indeed be a relevant concept in stimulating employee wellbeing, and they have a similar effect as personal resources in motivational processes. However, research on personal resources and career competencies, and their relationship with the JD-R model, is still in its infancy and more research is needed to further solidify our findings.

Another noteworthy result is that the relationship between job resources and work engagement was *partially* mediated by career competencies, and that the relationship between career competencies and work engagement is *partially* mediated by job resources. This finding is in line with COR theory and with earlier findings which indicated that job resources and personal

resources both have unique contributions to employee wellbeing and should not be studied as isolated predictors of work engagement (Xanthopoulou et al., 2009).

7.1.2. Career competencies in health impairment processes

Our results demonstrated that, in accordance with Hypothesis 3, career competencies are neither associated with job demands nor with emotional exhaustion. In general, the health impairment process seemed to be weaker than the motivational processes in our sample. These findings suggest that career competencies are not relevant for the health impairment process and it consolidates the *unique* importance of career competencies in the motivational process. These results are, to some extent, in line with earlier findings that showed the importance of job resources and motivational processes, as opposed to job demands and health impairment processes, for young workers with lower levels of education (Akkermans et al., 2009; in press).

7.1.3. Cross-relationships

Finally, we also tested for potential cross-relationships between job resources and emotional exhaustion, and between job demands and work engagement. Contrary to the findings of Crawford et al. (2010) and Xanthopoulou et al. (2007), who found significant cross-relationships, our results indicated no such relationships for either process. Our results may be due to our research group as we studied young employed persons who were just starting their career, and whose work has a focus on personal development besides a focus on production. Emotional exhaustion may be less likely to occur in this group, thereby reducing the chance of finding cross-relationships. This line of reasoning would also explain the rather low relationship between job demands and emotional exhaustion. Therefore, further research on the generalizability of our findings is warranted.

Taken together, it appears that motivational processes are more important to young workers' wellbeing than health impairment processes. It may therefore be important to strengthen job resources and additional factors such as career competencies and personal resources. It is tempting to conclude that in order to enhance wellbeing at work the focus should be on resources and motivational processes when considering young employees, and on demands and health impairment process in the case of older employees. This line of reasoning may lead to more customized and more effective interventions aimed at enhancing wellbeing. However, as noted above, more research is needed on the specific factors that influence motivational and health impairment processes among specific groups of employees.

7.2. Limitations and suggestions for future research

Our study has three limitations that need to be addressed. First, the cross-sectional nature prevents conclusions about causal and reciprocal relationships among the variables, and it limits the interpretation of indirect relationships (Taris & Kompier, 2006). To fully understand the direction of the effects and the causal relationships between our variables, longitudinal analyses are necessary. Ideally, a three-wave design should be used in future studies to investigate the causal and mediated relationships between job resources, career competencies, and work engagement. This could provide a better understanding of the dynamic nature of these concepts, and could further explore the effect that career competencies have in stimulating employee wellbeing.

A second limitation concerns potential common method bias due to the exclusive use of self-report measures. We attempted to minimize this problem by following the suggestions of Podsakoff et al. (2003) in that we only used carefully constructed and validated measures and we attempted to reduce participants' evaluation apprehension by emphasizing there were no right or wrong answers. Moreover, it can be argued that constructs such as personal resources and work engagement are nearly impossible to measure in any other way than by self-reports (Mäkikangas, Kinnunen, & Feldt, 2004). Still, it is important to also look at objective measures, most notably for job resources. For instance, future studies could investigate the relationship between formal opportunities for professional development (e.g., personal budget for training and development) and the mastery of career competencies.

Finally, the current study was specifically aimed at young employed persons between 16 and 30 years of age with lower educational levels. Because of the specific working conditions and relationships at work the generalizability of our results is at stake. First, further research is needed on young workers in regular jobs, and second, additional research is needed among cohorts of older workers. Investigating the role of career competencies in other working populations could provide a deeper understanding of the ways in which career competencies can contribute to wellbeing at work.

7.3. Theoretical implications

Our study contributes to the literature in several ways. First, we provide further validation for the integrative framework of six career competencies that was developed by Akkermans et al. (2013). In addition, this study expands that framework by demonstrating that career competencies are associated with job resources and work engagement, but not to with job demands and emotional exhaustion. This is an important finding because it shows that career competencies are not only important for career development, but also for motivational processes in the workplace. These findings underline the arguments of Hall and Las Heras (2010) with regard to combining research on career development and job design. Career competency development may be a fruitful basis for creating so-called “smart jobs”, which are designed to stimulate both employee wellbeing and career development.

To the best of our knowledge, our study is the first to integrate career competencies in the JD-R model (Demerouti et al., 2001). With our findings we show that career competencies may influence employee wellbeing in a similar way as personal resources.

We contribute to the existing knowledge of the JD-R model by demonstrating that career competencies and job resources may be mutually enhancing in stimulating work engagement. These results are also in line with Conservation of Resources (COR) theory (Hobfoll, 1989), which suggests that resources can build additional resources, thereby subsequently fostering wellbeing.

7.4. Practical implications

Our results suggest that career competencies and job resources may be mutually reinforcing in stimulating work engagement of employees. This means that HR policies and employability programs could focus on simultaneously stimulating job-related resources and career competencies of employees to increase their wellbeing. For example, creating opportunities for professional development can have a positive effect on wellbeing and motivation by itself. However, additional effects may be gained when employees have a better understanding of their values and qualities (reflective competencies), are better at communicating with significant others (communicative competencies), and know how to find ways to become further educated and set realistic goals (behavioral competencies). Interventions aimed at increasing both job resources and career competencies may therefore be a promising addition to stimulate wellbeing and career development at work.

Career counselors may also profit from our findings. Stimulating career competencies of employees may enhance wellbeing in the current job and in the professional career as a whole. In addition, career counseling programs may benefit from monitoring career competencies on a regular basis, thereby providing specific guidelines to enhance employees' wellbeing at work. For example, a mentor or coach could be assigned to a young worker who has not sufficiently mastered his or her behavioral competencies. Moreover, interventions (e.g. training sessions, coaching sessions) could be implemented to enhance these competencies, thereby strengthening both work engagement and career development. This may be especially helpful for young workers who are just starting their career.

8. Conclusion

Faced with many changes and new responsibilities in a brief period of time, it is crucial that young workers acquire proper resources to effectively manage their job and professional career. Our study demonstrated that career competencies are a relevant concept for employee wellbeing and may play a similar role as personal resources in motivational processes. That is, career competencies and job resources may be mutually enhancing and may, in this way, stimulate work engagement. Career competencies may therefore offer a fruitful basis for designing so-called “smart jobs”, which are specifically designed to foster both wellbeing and career development at work. Although personal development is relevant at all ages in working life, it may be especially important for young employees. A focus on developing career competencies may foster their development and wellbeing at work.

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