



# Proactivity, job characteristics, and engagement: a longitudinal study

Proactivity, job characteristics, and engagement

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Received 5 August 2009

Revised 12 October 2009

Accepted 13 October 2009

## Abstract

**Purpose** – This paper sets out to examine proactive personality in relation to job demands, job resources and engagement.

**Design/methodology/approach** – The current study employed a two-wave complete panel study among 794 Dutch government employees. Based upon the Job Demands-Resources (JD-R) model, previous studies, job crafting theories, and Conservation of Resources (COR) theory, hypotheses on the associations of proactive personality with job demands, resources, and engagement were developed.

**Findings** – Analyses revealed that proactive personality was associated with an increase in engagement 18 months later. Moreover, proactive employees perceiving high social support reported the highest levels of engagement over time.

**Research limitations/implications** – A first shortcoming is that proactive personality was only measured at one point in time, which restricted the testing of causal relationships of proactive personality with engagement. Second, this study only measured engagement as outcome measure and third variables may have affected the associations of proactive personality with job demands and resources and engagement. Third, only small effect sizes of proactive personality (and job demands and resources) on engagement over time were found. With regard to theoretical implications, this study suggests a refinement of the JD-R model by perceiving proactive personality as a personal resource which coincides with job resources such as social support and/or is triggered by (low) external job demands in increasing engagement.

**Practical implications** – Since this study's findings suggest that proactive personality is a personal resource with beneficial effects on employees' levels of work-related engagement, employers are advised to promote the behavior expressed by proactive employees. When employees are under challenged due to a low level of quantitative job demands or when they want to optimize their work environment in case of high job demands, proactive personality may have a positive impact on their engagement over time, in particular when combined with high levels of support from their colleagues and supervisor.

**Originality/value** – This study's value consists of its innovative effort to relate proactive personality to engagement 18 months later. In addition, the longitudinal design of this study made it possible to examine the associations of proactive personality, job demands and resources with engagement over time.

**Keywords** Job satisfaction, Job descriptions, Personality, The Netherlands

**Paper type** Research paper



Career Development International  
Vol. 15 No. 1, 2010

pp. 59-77

© Emerald Group Publishing Limited  
1362-0436

DOI 10.1108/13620431011020899

In the current study, we examine the role of proactive personality in longitudinal relations between psychosocial work characteristics and engagement. Before addressing the specific hypotheses of this study, we pay attention to its main concepts: job demands, job resources, engagement, and proactive personality.

### **Job demands, job resources and engagement**

Engagement is defined as a positive work-related state of mind that is characterized by vigor, dedication, and absorption (Bakker and Demerouti, 2009; Schaufeli and Salanova, 2007). Vigor is characterized by high levels of energy and mental resilience while working. Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, and challenge. Absorption is characterized by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work.

According to the Job Demands-Resources (JD-R) model (Bakker and Demerouti, 2007; Demerouti *et al.*, 2001), job demands and job resources play a vital role in the development of engagement. Job demands are defined as those physical, social, or organizational aspects of the job that require sustained physical and/or psychological effort on the part of the employee and are therefore associated with physiological and/or psychological costs (e.g., mental workload). Job resources refer to those physical, psychological, social, or organizational aspects of the job that:

- reduce job demands and the associated physiological and psychological costs;
- are functional in achieving work goals; or
- stimulate personal growth, learning, and development (e.g., autonomy or social support at work).

Job resources can either increase employees' growth, learning and development, or help them in achieving work goals (Bakker, 2008). High levels of job demands in combination with high levels of resources may lead to high levels of engagement (e.g., Bakker *et al.*, 2007).

Similarly, the Conservation of Resources (COR) model (Hobfoll, 1985) proposes that job resources like social support or job autonomy play an important role in reinforcing positive images of oneself, and in fostering a positive work outcome like work engagement (Demerouti *et al.*, 2001). In other words, employees are expected to have high levels of engagement when they perceive high levels of job demands accompanied by high job resources.

A growing number of cross-sectional studies has already presented evidence for these relationships between job demands, job resources, and engagement (see Bakker, 2008; de Lange *et al.*, 2008). However, in their review of 16 studies on the JD-R model, de Lange *et al.* (2008) revealed that only three studies were based on a longitudinal design. This study aims to extend these previous studies and test the JD-R model further by examining the longitudinal associations of job demands (i.e. quantitative workload) and job resources (i.e. influence at work and social support) with engagement in a two-wave complete panel study. In accordance with the basic assumptions of the JD-R model, we expect that:

- H1.* High job demands and high job resources predict an increase in engagement over time.

**Proactive personality and engagement**

In a commonly adopted definition (e.g. Parker and Sprigg, 1999; Parker *et al.*, 2006; Ohly *et al.*, 2006; Sonnentag, 2003; Thompson, 2005), Frese *et al.* (1996) define proactivity as a behavioral syndrome that causes an individual to take initiative and to adopt an active orientation that goes beyond actual work requirements. Proactive personality does not only include phenomena such as taking initiative in improving current circumstances or creating new ones (Morrison and Phelps, 1999), but also searching for learning opportunities and engaging in learning activities (Frese *et al.*, 1996). It involves challenging the status quo rather than passively adapting to present conditions (Crant and Bateman, 2000). The multidimensionality of proactive personality was recently captured by Grant and Ashford (2008, p. 8) in defining proactive personality as “anticipatory action that employees take to impact themselves and/or their environments”. This definition clearly reflects the two most distinguishable features of proactive personality: acting in advance and intended impact.

In her study on the associations between recovery, work engagement and proactive personality, Sonnentag (2003) asked 147 employees to complete a questionnaire and a daily survey during five consecutive work days. She found that day-level work engagement was a significant predictor of day-level personal initiative and day-level pursuit of learning. In other words, high levels of engagement foster proactive personality on a daily basis. However, the reversed causal association between engagement and proactive personality has – to our knowledge – not been studied yet, and is equally plausible. It is, therefore, imperative to investigate the causal effect of proactivity on engagement. Proactive personality may lead to increased engagement through, for example, the development of improved work strategies and increased levels of intrinsic (or extrinsic) motivation. In that case, proactive personality might be considered a resource for engagement.

Recent studies of the JD-R model indeed suggest that engagement may be enhanced by personal resources, next or in addition to job-related resources. Salanova *et al.* (2006), for example, distinguished between personal and job-related resources in their longitudinal study of 258 secondary school teachers. They found that personal resources such as self-efficacy beliefs led to higher levels of work-related engagement. Following the definitions and mechanisms given above, proactive personality may be conceived as a personal resource for reducing job demands, achieving work goals, or fostering personal goals, all of which increase work-related engagement. Therefore, we expect that:

*H2.* Proactive personality will lead to increased levels of engagement over time.

**Moderating role of proactive personality in the association of job demands and resources with engagement**

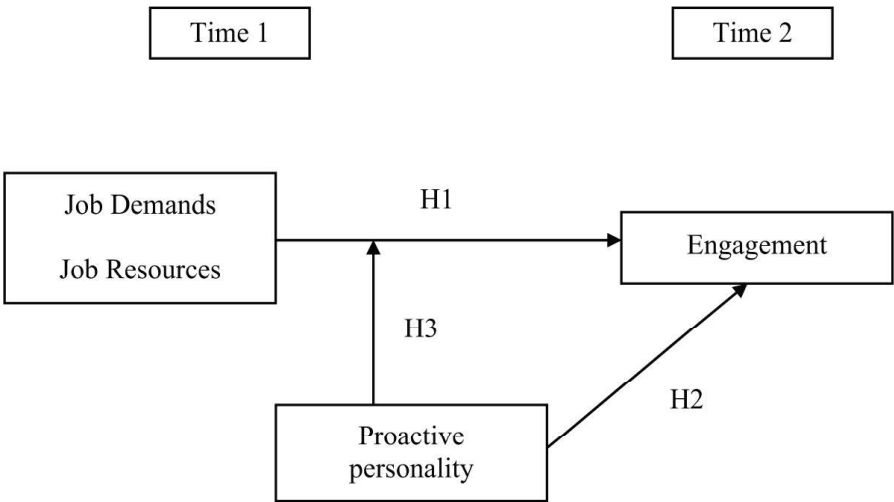
Although individuals can be characterized as being more or less proactive in general, actual proactive personalities are triggered or supported by work- or organization-related features (Morrison and Phelps, 1999). In their longitudinal study on the associations between stressors and personal initiative, Fay and Sonnentag (2002) expected that individuals experiencing high levels of stressors will actively reshape their work environment by showing more personal initiative in order to

change the suboptimal job situation. This assumption was supported by their finding that stressors were positively related to changes in personal initiative over time.

More specifically, Parker and Sprigg (1999) examined the moderating role of proactive personality in the relationships between the job-related predictors of the Demands-Control Model (Karasek, 1979) on the one hand and strain and learning-oriented outcomes on the other hand. They found that proactive personality played an important moderating role in the effects of job demands and resources on strain and learning. Job control was only associated with greater role breadth self-efficacy (a learning-oriented outcome) for those individuals who were likely to make use of that control, that is, the proactive employees.

These findings point to the concept of job crafting. In the JD-R model and other work-stress models, employees are generally portrayed as passive receivers of their work environment, but more recent fundamental and empirical research points to the active role employees can take in shaping or crafting their own environment (Frese *et al.*, 2007; de Lange *et al.*, 2008; Lyons, 2008; Wrzesniewski and Dutton, 2001). Wrzesniewski and Dutton (2001) define job crafting as: “the physical and cognitive changes individuals make in the task or relational boundaries of their work” (Wrzesniewski and Dutton, 2001, p. 179). Frese *et al.* (2007) refer in this context to the concept of reciprocal determinism (originally suggested by Bandura, 1997), which states that people can be the producer as well as the product of their social systems. In a similar vein, Hobfoll’s (1985) COR theory postulates that workers strive to obtain or retain their job resources to effectively cope with their work environment.

This study aims to extend the JD-R model by including the interaction of job-related demands and resources with a personal resource over time. Therefore, we examine the moderating role of proactive personality in the longitudinal association between job demands and resources on the one hand and engagement on the other hand over time (the research model is given in Figure 1). In line with the JD-R model (Bakker and Demerouti, 2007) and COR theory (Hobfoll, 1985), we expect that employees perceiving high levels of job resources, such as social support, are better capable or equipped to deal with their job-related stressors or demands. Job resources either play an intrinsic motivational role because they foster employees’ growth, learning and development, or



**Figure 1.**  
Research model and  
hypotheses



they play an extrinsic motivational role because they are instrumental in achieving work goals (Bakker, 2008).

Furthermore, COR theory (Hobfoll, 2001) suggests that various types of resources aggregate in so-called “resource caravans” in both an immediate and a life-span sense. These caravans reflect the idea that having one major resource is typically linked with having others. Several studies have found support for the existence of these resource caravans (Cozzarelli, 1993; Rini *et al.*, 1999). Moreover, as Hobfoll (2001, p. 339) suggests “the fit of personal, social, economic, and environmental resources with external demands determines the direction of stress responding and resultant outcomes”. Thus, employees with a proactive personality – which can be considered a personal resource – may be apt at generating or using job resources such as support from colleagues, in particular when facing a challenging work situation characterized by high job demands. This amplifying effect of proactive personality is reflected by the third hypothesis:

- H3.* High job demands and high job resources will be more strongly related to engagement over time among proactive employees than among less proactive employees.

## Method

### *Participants*

In 2006, a link to a web-based survey was sent via e-mail to all employees of a large governmental organization in The Netherlands as part of a larger scale longitudinal study on career determinants, patterns, and outcomes. In total 2,124 respondents filled out the complete questionnaire on-line (response rate 20 percent). Despite the low response rate this sample appeared to be representative of the total population with regard to gender (74 percent male in the sample versus 72 percent male in the population) and age (18 percent of the sample and 17 percent of the population was < 35 years; in both groups 33 percent was 35-44 years; 35 percent was 45-54 years; 14 percent in the sample and 15 percent in the population was ≥ 55 years). After 18 months, a second survey was sent to these respondents, of whom 1,185 completed and returned the questionnaire (response rate 56 percent). However, after listwise deletion the complete panel of respondents consisted of  $n = 794$  respondents without missing values on the central research variables. Of those, 77 percent were male. The average age was 44.3 (ranging from 24 to 63 years). Of all respondents, 84 percent was married or co-habiting and 69 percent had children. The educational level of 70 percent was a bachelor degree or higher. In terms of employment, 85 percent had a full-time contract, average tenure at the organization was 15.9 years (ranging from two to 43 years), average tenure in current position was 5.4 years (ranging from 0 to 39 years), 18 percent worked in a managerial or supervisory position, and 42 percent qualified their current functional area as technical in nature.

### *Measures*

*Psychosocial work characteristics.* Job demands were measured using a Dutch version of Karasek’s (1985) Job Content Questionnaire reflecting quantitative demands. These demands were measured by four items. Sample items are “Do you have enough time for your work tasks?”, or “Do you have to work very hard?” (ranging from 1 “never/hardly ever” to 5 “always”). Following the suggestion by several authors (Taris *et al.*, 2006;

Schreurs and Taris, 1998; de Jonge and Kompier, 1997), the job-control dimension of Karasek (1985) (or the “job resource” dimension of the JD-R model (Bakker and Demerouti, 2007)) was operationalized as “influence at work” (Kristensen *et al.*, 2005). Influence at work was measured by four items. Sample items are “Do you have a large degree of influence concerning your work?”, or “Can you influence the amount of work assigned to you?” (ranging from 1 “never/hardly ever” to 5 “always”). A second job resource included in this study is Social support, which embodies both support from supervisors and colleagues. This dimension consists of four items, for example: “How often do you get help and support from your immediate superior?”, or “How often is your immediate superior willing to listen to your work related problems?” (ranging from 1 “never/hardly ever” to 5 “always”).

*Proactive personality.* This central concept was assessed by a Dutch translation of Seibert *et al.* (1999) ten-item version of Bateman and Crant’s (1993) 17-item scale. Sample items of this shortened version are: “I am constantly on the lookout for new ways to improve my life”, or “Wherever I have been, I have been a powerful force for constructive change” (ranging from 1 “do not agree at all” to 7 “fully agree”). Principal component factor analysis confirmed the one-dimensional structure.

*Engagement.* Engagement was measured using the Dutch version of the Utrecht Work Engagement Scale (UWES) developed by Schaufeli and co-authors (Schaufeli and Bakker, 2003; Schaufeli *et al.*, 2002). These 17 items cover three aspects of the work engagement concept: vigor (sample item: “I feel strong and vigorous in my work”), dedication (sample item: “I am enthusiastic about my job”), and absorption (sample item: “I get carried away by my work”). Participants answered the items on a seven-point frequency rating scale, ranging from 0 “never” to 6 “every day”. Schaufeli *et al.* (2002; Schaufeli and Bakker, 2003) suggested that vigor, dedication, and absorption represent three distinct dimensions of work engagement. Therefore, we will use the three separate scales in our analyses.

*Covariates.* In the current study, the following variables were controlled for. Gender was measured with a single question and two answer alternatives (1 = man; 2 = woman). Age was measured as calendar age. Finally, engagement at time 1 was controlled for when examining the effects of work characteristics, and proactive personality on career success 18 months later.

## Results

### *Descriptive results*

Table I shows the means, standard deviations, ranges and Cronbach’s alpha’s for all study variables. Although reliabilities of measurement scales were in general reasonable to good (e.g.,  $\alpha = 0.92$  for dedication at time 1), several scales had relatively low Cronbach’s alpha’s of  $\alpha < 0.70$  (i.e. influence at work at time 1 and 2 and social support at time 2). Because of the theoretical importance of these job resources to this study, we decided to include them in our analyses.

Table II shows the correlations between the non-dichotomous study variables. Proactive personality (time 1) is positively related to vigor, dedication, and absorption at time 2, with correlations ranging from  $r = 0.26$  ( $p < 0.001$ ) to  $r = 0.30$  ( $p < 0.001$ ).

Variables	M	SD	Range	Cronbach's alpha
<i>Time 1</i>				
Quantitative demands	3.17	0.59	1-5	0.71
Influence at work	3.38	0.60	1-5	0.67
Social support	3.45	0.64	1-5	0.72
Proactive personality	4.91	0.80	1-7	0.86
Vigor	5.11	0.99	1-7	0.85
Dedication	5.18	1.20	1-7	0.92
Absorption	4.76	1.06	1-7	0.80
<i>Time 2</i>				
Quantitative demands	2.80	0.57	1-5	0.71
Influence at work	2.60	0.59	1-5	0.66
Social support	2.45	0.60	1-5	0.69
Vigor	5.40	1.06	1-7	0.85
Dedication	5.53	1.24	1-7	0.91
Absorption	4.91	1.09	1-7	0.79

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**Table I.**  
Means, standard deviations, range and Cronbach's alphas of study variables (time 1 and time 2;  $n = 794$ )

*H1: High job demands and high job resources predict an increase in engagement over time*

Table III shows the final regression analysis results testing *H1* through *H3*. In these regression analyses (change in) engagement was inserted as the dependent variable, and the covariates (i.e. gender, age, and engagement at time 1) were entered as independent variables in Model 1. In Model 2 the central research variables (i.e. proactive personality and the psychosocial work characteristics) were added to the covariates. In Model 3 the two-way interaction effects of job demands with job resources, and of proactive personality with either job demands or resources, were inserted as independent variables. And in Model 4 the three-way interaction effects of proactive personality with job demands and job resources were added to the independents.

Regarding the association of psychosocial work characteristics with engagement (Model 2), we can conclude that neither quantitative job demands, influence at work, nor social support were related significantly to engagement 18 months later. The interaction effects of job demands with job resources (Model 3) were not significantly related to engagement either with standardized beta's ranging from  $\beta = -0.02$  (ns) to  $\beta = 0.01$  (ns). In general, the highest percentage of variance explained in engagement at time 2 (and the strongest effect sizes) can be attributed to time 1 engagement. The standardized beta of time 1 dedication on this dimension of engagement 18 months later was  $\beta = 0.37$  ( $p < 0.001$ ), for example. In sum, *H1* is not supported.

*H2: Proactive personality will lead to increased levels of engagement over time*

Table III (Model 2) shows that time 1 proactive personality is related to an increase in dedication and absorption 18 months later ( $\beta = 0.06$ ,  $p < 0.001$ , and  $\beta = 0.05$ ,  $p < 0.05$ , respectively), after controlling for these two dimensions of engagement at time 1 ( $\beta = 0.37$ ,  $p < 0.001$ , and  $\beta = 0.35$ ,  $p < 0.001$ ). Therefore, we can conclude that *H2* is supported for the association between proactive personality and two dimensions of engagement (i.e. dedication and absorption).

**Table II.**  
Correlations between  
study variables (time 1  
and time 2)

Variables	1	2	3	4	5	6	7	8
1. Age	—							
2. Proactive personality (t1)	−0.02	—						
3. Quantitative demands (t1)	0.00	0.17***	—					
4. Influence (t1)	−0.02	0.20***	−0.04	—				
5. Social support (t1)	−0.09	0.00	−0.07	0.29***	—			
6. Vigor (t2)	0.06	0.30***	0.12**	0.17***	0.09**			
7. Dedication (t2)	0.04	0.26***	0.11*	0.20***	0.15***	0.80***	—	
8. Absorption (t2)	0.05	0.28***	0.23***	0.15***	0.08**	0.76***	0.76***	—

**Notes:** \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; t1 = time 1, and t2 = time 2



	$R^2$	Vigor (t2) $F$	$\beta$	$R^2$	Dedication (t2) $F$	$\beta$	$R^2$	Absorption (t2) $F$	$\beta$
<i>1. Covariates</i>									
Gender	0.15	159.23***	0.01	0.14	139.44***	-0.01	0.14	142.77***	0.01
Age			0.01			-0.01			-0.01
Corresponding t1 predictor			0.40***			0.37***			0.35***
<i>2. Factors</i>									
Proactive personality	0.15	68.71***	0.01	0.14	62.15***	0.06***	0.14	63.31***	0.05*
Quantitative demands			-0.01			-0.02			0.03
Influence at work			0.00			-0.01			0.01
Social support			-0.03			-0.01			-0.01
<i>3. Two-way interaction effects</i>									
Demands*influence	0.16	40.99***	0.00	0.14	36.85***	0.00	0.15	37.80***	0.01
Demands*support			-0.02			0.01			0.00
Proactive personality*demands			-0.05**			-0.06**			-0.06**
Proactive personality*influence			-0.03			-0.01			-0.02
Proactive personality*support			0.02			-0.01			0.00
<i>3. Three-way interaction effects</i>									
Proactive personality*demands*influence	0.16	35.25***	-0.01	0.14	32.19***	-0.01	0.15	32.51***	-0.01
Proactive personality*demands*support			-0.02			-0.05*			-0.02

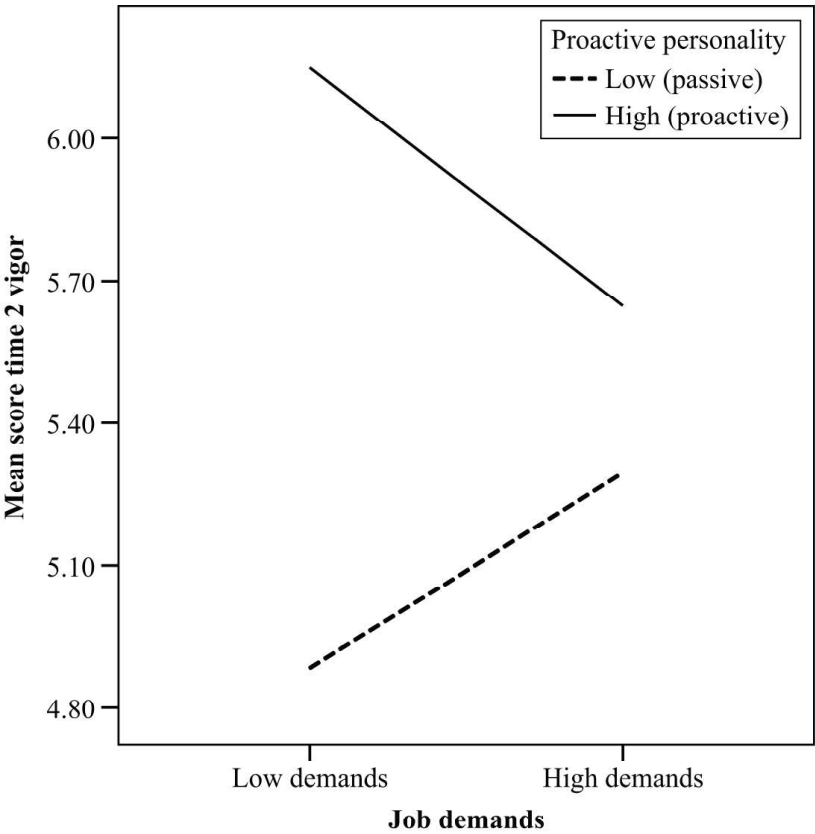
**Notes:** \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ; gender (1 = man; 2 = woman)

**Table III.**  
Regression analyses of  
engagement on  
covariates (model 1),  
proactive personality and  
job demands and  
resources (model 2),  
two-way interactions  
(model 3), and three-way  
interactions (model 4) of  
proactive personality  
with job demands and  
resources

H3: *High job demands and high job resources will be more strongly related to engagement over time among proactive employees than among less proactive employees*

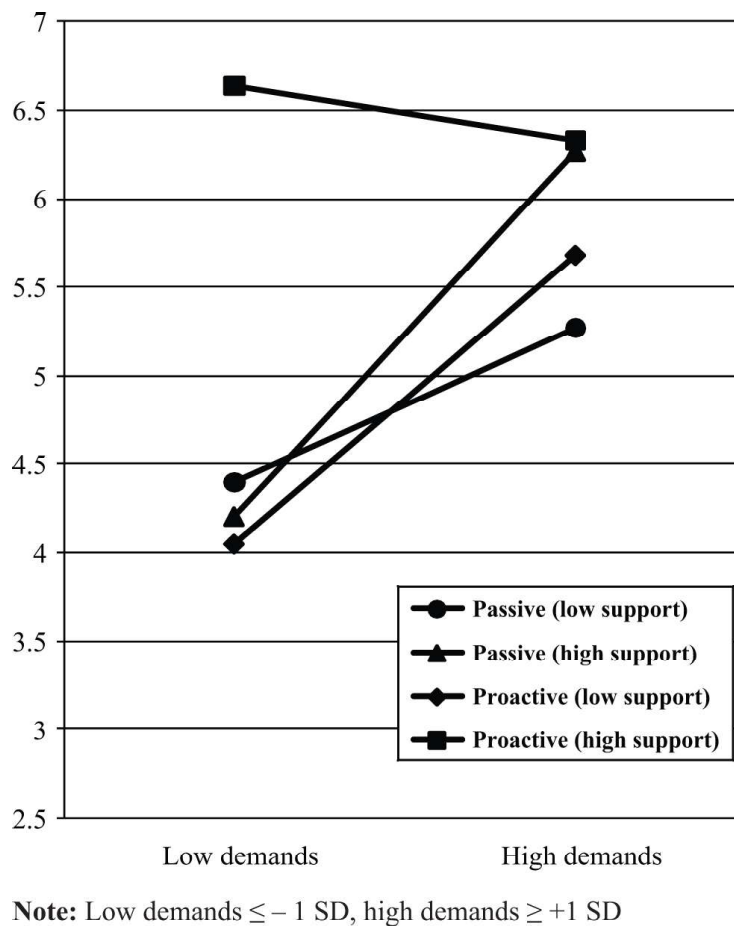
Before turning to H3, we tested the two-way interactions of proactive personality with either job demands or job resources in an explorative manner (Model 3). We found that the interaction of time 1 proactive personality with job demands was significantly related to all three dimensions of engagement at time 2 (standardized beta's of  $\beta = -0.05, p < 0.01$  and  $\beta = -0.06, p < 0.01$ ). The interaction effect of demands and proactive personality on vigor is presented in Figure 2. Proactive employees have higher levels of vigor at time 2 when compared to more “passive” employees (i.e. those with low levels of proactive personality). However, proactive employees appear to benefit more from low levels of job demands, whereas passive employees profit more from high job demands in terms of increased levels of vigor 18 months later. For the other two engagement dimensions, similar results were found.

Model 4 shows the three-way interaction effects of job demands, job resources, and proactive personality on engagement. The three-way interaction of proactive personality with quantitative demands and social support was significantly associated with dedication at time 2 ( $\beta = -0.05, p < 0.05$ ), after controlling for the covariates (Model 1), main effects of proactive personality and the psychosocial work characteristics (Model 2), and two-way interaction effects of proactive personality with job demands and job resources (Model 3). This interaction effect is depicted in Figure 3,



**Figure 2.**  
Two-way interaction  
between time 1 job  
demands and proactive  
personality when  
predicting vigor at time 2

**Note:** Low demands  $\leq -1$  SD, high demands  $\geq +1$  SD



**Figure 3.**  
Three-way interaction  
between time 1 job  
demands, social support,  
and proactive personality  
when predicting  
dedication at time 2

which compares proactive and passive employees with either high or low levels of support on their levels of dedication at time 2 when facing high or low job demands. Apparently, dedication at time 2 is highest when levels of both time 1 proactive personality and social support are high, regardless of the level of job demands at time 1. The slope of this upper line (i.e. proactive employees with high levels of support) differed significantly from that of the other three lines ( $F_{(1,792)} = 27.10, p < 0.001$ ), whereas the other three lines did not differ significantly from each other with regard to their slope ( $F_{(2,792)} = 1.02, ns$ ). Thus, *H3* is not supported. Proactive employees perceiving high levels of social support reported the highest levels of dedication 18 months later, regardless of the perceived level of job demands.

## Discussion

### *Summary of main findings*

In the current study, we set out to examine the role of proactive personality in longitudinal relations between psychosocial work characteristics and engagement. Based upon the JD-R model (Bakker and Demerouti, 2007), job crafting (e.g., Wrzesniewski and Dutton, 2001), and COR (Hobfoll, 1985) theories, we developed

hypotheses on the associations of proactive personality, in interaction with job demands and job resources, and engagement over time.

*Job demands, job resources and engagement.* We found that the psychosocial work characteristics we selected in this study (i.e. quantitative demands, influence at work, and social support) were not significantly related to engagement 18 months later. As indicated by the regression analyses in Table III, engagement appeared to be relatively stable over a 18month time-interval in this sample of employees. Possibly, this time-interval is inadequate to examine the impact of job demands and job resources on engagement. It is conceivable that psychosocial work characteristics affect employees' levels of engagement in a daily fluctuating manner (e.g., de Lange *et al.*, 2004). Social support, for example, may be perceived as high by an employee on a Monday, but following a supervisor-related conflict two days later the same employee may experience a serious decrease in social support. These more subtle changes in the job-related context and their subsequent effect on engagement can only be monitored by diary studies in which employees complete surveys on a daily basis.

*Proactive personality in association with job demands, job resources, and engagement.* Proactive personality was, as expected, associated with an increase in dedication and absorption 18 months later. Proactivity may function as a personal resource, through which employees impact their work environment and which increases their work-related engagement.

Furthermore, proactive personality in combination with quantitative job demands was associated with all three engagement dimensions over time. Proactive employees benefited more from low job demands, whereas passive employees profited more from high job demands in terms of increased levels of engagement 18 months later. Possibly, proactive employees are triggered more by under demanding jobs to improve their work situation, thereby enhancing their job-related engagement. For more passive or reactive employees, the opposite may hold true. That is, their engagement may primarily be increased by jobs that can be portrayed as over demanding. It is possible that employees who are less proactive will only act on the need to change their work situation (thereby increasing their levels of engagement) in case they experience high levels of stressors. This suggests diverging relationships between job demands and engagement over time for more versus less proactive employees.

Finally, proactive personality in combination with quantitative job demands and social support was related to dedication over time. Proactive employees with high levels of support reported the highest levels of dedication 18 months later, regardless of the level of job demands. This supports the psychosocial mechanism developed by Grant and Ashford (2008) that proactive personality will have a larger impact on engagement over time when job resources are high. In resourceful jobs, proactive employees experience increased efficacy to employ their proactive personality to either optimize (in case of high job demands) or improve (in case of low demands) their work situation (see Morrison and Phelps, 1999; Sonnentag, 2003). Less proactive employees, however, only profited from high levels of support in terms of their dedication over time when confronted with high job demands.

#### *Contributions to theory*

The three main conclusions of this study are that:

- (1) proactive employees report increased levels of engagement 18 months later;

- 
- (2) proactive employees benefit more from low job demands, whereas less proactive employees profit more from high job demands in terms of increased levels of engagement over time; and
  - (3) proactive employees profit more from job resources in terms of increased levels of dedication over time than less proactive employees.

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Proactive personality may be a personal resource which interacts with (or is triggered by) low job demands and high job resources in determining employees' engagement or well-being. The positive impact of personal resources is acknowledged by Salanova *et al.* (2006), who also distinguish between personal and job-related resources, and found that personal resources (i.e. self-efficacy beliefs) lead to higher levels of work-related engagement. Moreover, Parker and Sprigg (1999) found a similar interaction of job control and proactivity in predicting learning-related outcomes.

Therefore, this study supports the extension of the JD-R model (Bakker and Demerouti, 2007) with personal resources such as proactive personality. We believe that engagement is determined by an interaction of job demands and job resources with personal resources over time. A two-year follow-up study by Xanthopoulou *et al.* (2007) indicated that three personal resources (i.e. self-efficacy, organizational-based self-esteem, and optimism) can make a unique contribution to explaining variance in work engagement over time, over and above the impact of job resources and previous levels of engagement. In this study, we have found additional support for a unique contribution of another personal resource (i.e. proactive personality) over an 18-month period, over and above the impact of job demands, job resources and previous levels of engagement. Moreover, we found interactions of this personal resource with job demands and job resources on engagement.

This is in line with other resource-based theories of stress such as COR theory (Hobfoll, 2001, p. 339), which suggests that "the fit of personal, social, economic, and environmental resources with external demands determines the direction of stress responding and resultant outcomes". In addition, there is strong evidence that resources aggregate in "resource caravans" in both an immediate and a life-span sense (Cozzarelli, 1993; Rini *et al.*, 1999). Consequently, employees with a proactive personality may be apt at generating social support in a demanding work context.

This study is one of the first to show that perceiving proactive personality as a personal resource can help in further explaining associations of job demands and resources with engagement over time. The value of proactive personality is that it reinforces the impact of job resources such as social support and/or is triggered by (low) external job demands in increasing engagement. These results illustrate that COR theory (Hobfoll, 2001) and related concepts like job crafting (Wrzesniewski and Dutton, 2001) can be used in further refining the JD-R model and stimulating future research in this area.

#### *Limitations and strengths*

This study is characterized by several shortcomings. First, proactive personality was only measured at time 1. This restricted the testing of causal relationships of proactive personality with engagement. Although we found an effect of time 1 proactive personality on time 2 engagement, it is possible that alternative causal paths link proactivity to engagement. Employees who are engaged may be energized



to improve their work environment even more by acting proactively, for example. The plausibility of this “reversed” causal relationship was already demonstrated by Sonnentag (2003). In combination with the findings of the current study, this would suggest that the association of proactive personality and engagement is “reciprocal” in nature. Proactive employees may experience increased levels of engagement over time (by consciously shaping their work environment through reducing job demands, achieving work goals, or fostering personal goals), which may trigger their proactive personality even further. Future researchers are advised to examine these temporal associations of proactive personality with engagement further by employing a longitudinal design with different time-intervals. As stated earlier, employees’ perceptions of job demands or resources and their levels of engagement may fluctuate on a daily basis. Therefore, diary studies are also needed to study the “short-term” impact of proactive personality on employees’ work context and their well-being.

A second shortcoming lies in the fact that this study only measured engagement as outcome measure. Other measures of health or well-being (e.g., burnout, or psycho-physiological measures) may shed more light on the impact of proactive personality on employees’ (work) environment and their well-being. Furthermore, third variables may affect the associations of proactive personality, job demands and resources, and engagement. In this study we only controlled for the influence of age, gender, and engagement at time 1. An alternative relevant construct related to engagement is work-related involvement. According to Kanungo (1979, p. 121), involvement can be defined as “a generalized cognitive (or belief) state of psychological identification with work insofar as work is perceived to have the potentiality to satisfy one’s salient needs and expectations”. It is conceivable that the more one identifies with one’s job (and the more resources one’s job provides in order to satisfy one’s needs and expectations), the more engaged one will be. In their review of the literature on job-related involvement, Rabinowitz and Hall (1977) concluded that job-related resources such as autonomy will increase the likelihood of an individual to become job involved (Hall, 1971; Lawler and Hall, 1970; Tannenbaum, 1966). In sum, we believe that future studies should include alternative relevant covariates such as job-related involvement in examining associations of proactive personality with job demands and resources and engagement.

Finally, in this study we only found small effect sizes of proactive personality (and job demands and resources) on engagement over time. According to Schaufeli and Bakker (2004, p. 295) engagement refers to a “persistent and pervasive affective-cognitive state”, and in this sample engagement was indeed found to be relatively stable over time. Moreover, small effect sizes are not uncommon in longitudinal studies. Dormann and Zapf (2002) showed that, in studies that examined causal relationships between stressors and strain, the reported beta’s were on average only  $\beta = 0.12$ . Therefore, the relevance of the causal association of proactive personality and engagement found in our study should not be underestimated (Semmer *et al.*, 1996; Taris, 2000).

Despite these shortcomings, this study has got two strengths of which the most important one is its innovative effort to relate proactive personality to engagement 18 months later. Although previous studies on proactive personality have shed light on (among others) the effect of proactivity on learning (Parker and Sprigg, 1999) and the work environment (Sonnentag, 2003), the impact of proactive personality in

combination with work characteristics on engagement has not been studied before. In addition, the longitudinal design of this study made it possible to examine the associations of proactive personality, job demands and resources with engagement over time.

Proactivity, job characteristics, and engagement

### *Practical implications*

Since this study's findings suggest that proactive personality is a personal resource with beneficial effects on employees' levels of work-related engagement, employers are advised to foster this type of behavior. When employees are under challenged due to a low level of quantitative job demands or when they want to optimize their work environment in case of high job demands, proactive personality may have a positive impact on their engagement over time, in particular when combined with high levels of support from their colleagues and supervisor. Therefore, supervisors may profit from actively supporting their employees and from stimulating their proactive personality.

For those employees who are less proactive, however, it may also be wise to improve their job resources. The three-way interaction effect of proactive personality with job demands and social support on dedication found in this study suggested that less proactive employees with high levels of job demands may profit greatly from high levels of support in terms of their dedication over time. So also the more passive or reactive type of employees may thrive on supervisor and colleague support when faced with high quantitative job demands.

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