

Teacher Engagement and the Role of Psychological Capital

S.C.M. van der Schoor

Student nummer: 1949969

Supervisor: Dr. K. Mortier

Tweede lezer: Drs. P. H. Dekker

Master these: Arbeids- en Organisatiepsychologie

Augustus, 2015

Vrije Universiteit, Amsterdam

Abstract

The current research sought to provide more insight into the resources that predict engagement among teachers. In addition, the role of personal resources within the motivational process of the Job demands- Resources (JD-R) model was examined. The personal resources included in this research were self-efficacy, optimism, hope and resiliency which together constitute the construct psychological capital (PsyCap). Cross-sectional data was collected, using an online questionnaire, from 84 teachers of two suburban secondary schools. The results revealed that the job resource opportunities for development and PsyCap predicted work engagement among teachers in secondary education. PsyCap did not mediate the relation between job resources and work engagement. In addition, job demands did not increase the relation between PsyCap and work engagement. This study confirms the role of personal resources, PsyCap, within the motivational process of JD-R model and hence the importance of developing PsyCap in teachers to keep them energetic and motivated.

Keywords: Job-Demands-Resources model, engagement, job demands, job resources, psychological capital, teachers

Teacher Engagement and the Role of Psychological Capital.

Traditionally, research on the relationship between work and well-being has a negative focus in organizational psychology. Schaufeli and Salanova (2007) suggested that the focus of many studies on work experience has been one-sided. That is, the main focus has been on the adverse effects of work, such as burnout and stress (Bakker, 2009; Schaufeli & Salanova, 2007; Bakker, Schaufeli, Leiter, & Taris, 2008), which was also the case within the education domain. Teaching is considered as one of the most stressful occupations (Johnson et al., 2005), up to a third of the teachers consider teaching as stressful (Borg & Falzon, 1989). Almost 20% of the teachers indicate that they experience signs of burnout, relative to 13% of the total workforce in the Netherlands (VOION, 2013). According to Boyle, Borg, Falzon, and Baglioni (1995) the main sources that create stress for teachers are workload and student misbehavior.

Even though it has been acknowledged that teaching is a tough job, the majority of the teachers find their work satisfying (Borg & Falzon, 1989; Borg & Riding, 1991). More attention to the positive effects of work on employee well-being has been paid since the introduction of the positive psychology (Seligman & Csikszentmihalyi, 2000). This increased attention has led to a shift from minimizing the negative effects of work on well-being towards fostering job-related well-being, in other words towards engagement (Schaufeli & Bakker, 2004). Engaged employees can have advantages for an organization: they are more energetic, persevering and enthusiastic about their work. Moreover, engaged employees are involved and willing to invest more effort in their work (Schaufeli & Bakker, 2004). In addition, they are dedicated, strive to reach more challenging goals and perform better compared to employees who are not engaged (Bakker & Leiter, 2010).

According to Bal, Bakker, and Kallenberg (2006) there are two reasons why engagement in education is important. First of all, engagement is important because it is

contagious. When teachers are enthusiastic in front of the class, this enthusiasm can pass on to the students. For example, Bakker's (2005) research among music teachers showed that engagement of these teachers could be passed on to the students. Secondly, among engaged teachers absenteeism is lower and they will resign less quickly (Schaufeli & Bakker, 2004; Schaufeli, Bakker, & Van Rhenen, 2009). Moreover, schools are becoming more like companies and put more emphasis on performance. The process of education is characterized by efficiency and effectiveness. This efficiency thinking in education is increasingly questioned, especially by students in higher education (Verbrugge, 2015). Both students and teachers are afraid that this efficiency thinking, instructed from management, will influence the quality in education. They emphasize the importance of good quality education ("Minister Bussemaker In Debat Met Protesterende Studenten Uva", 2015; Klaver & Ganzevoort, 2015). To offer quality, the role of human capital is central in education, so it is important to keep teachers mentally healthy and motivated. Thus, in order to provide quality in education, teachers should be passionate, energetic and dedicated.

Therefore, it is important for organizations and especially in education that employees are engaged in their work. What makes some employees engaged and others disengaged? Previous research has shown that both work-related and personal aspects may contribute to work engagement (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009b). These aspects are seen as resources, job resources (such as autonomy and social support) and personal resources (such as optimism, resilience and efficacy) (Xanthopoulou et al., 2009b). Job and personal resources may contribute to engagement and can help employees handle burdening aspects they may encounter in their job (Bakker & Demerouti, 2008; Xanthopoulou et al., 2009b). However, most attention has been paid to the relationship between job resources and engagement (Bakker & Demerouti, 2007). Less attention has been paid to the role of personal

resources in relationship with engagement and limited attention has been paid to the role of job resources and personal resources in relation to each other (Schaufeli & Taris, 2013).

The aim of the current research is to gain more insight into the resources that are of importance in stimulating work engagement among teachers, and in particular on the role of personal resources. The relationship between job resources, personal resources and work engagement will be investigated among teachers in secondary education. A clear theoretical and practical understanding of the relationship between job resources, personal resources and work engagement is needed in order to develop and implement interventions to enhance teacher engagement and towards improving teacher performance, and other organizational outcomes.

Engagement

In the '90s, Kahn (1990) introduced the term engagement, to explain how employees are personally engaged and disengaged at work. Around the turn of the century with the arrival of positive psychology, there was increasingly more academic attention for the concept of work engagement. Within positive psychology the emphasis is on human strength and optimal functioning in contrast to the traditional focus in the psychology on weaknesses and malfunctioning (Seligman & Csikszentmihalyi, 2000). In this approach the shift of academic attention from burnout to work engagement is fitting.

Schaufeli and Bakker (2004) defined engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Engagement refers to a persistent and pervasive affective–cognitive state that is not focused on any particular object, event, individual, or behavior” (p. 295). People who are engaged get energy while working, are willing to invest more effort in their work and are persistent in spite of difficulties. In addition, they are involved, enthusiastic and preoccupied with their work (Schaufeli & Bakker, 2004).

Furthermore, several studies have shown a relation between work engagement and work related outcomes. Work engagement is positively related to in-role and extra-role performance (Schaufeli, Taris, & Bakker, 2006), and client satisfaction (Salanova, Agut, & Peiró, 2005). Moreover, positive attitudes towards work and towards the organization, such as job satisfaction and organizational commitment (Lorens, Bakker, Schaufeli, & Salanova, 2006; Luthans, Norman, Avolio, & Avey, 2008; Schaufeli, Taris, & Van Rhenen, 2008) are found as a consequence of engagement. In addition, engaged employees have lower turnover intentions (Schaufeli & Bakker, 2004), and sickness absenteeism (Schaufeli, Bakker, & Van Rhenen, 2009). Furthermore, there are some indications that engagement is positively related to health (Schaufeli, Taris, & Van Rhenen, 2008). Also within the domain of education some relations were found with work engagement (Bakker, Demerouti, & Euwema, 2005; Hakanen, Bakker, & Schaufeli, 2006; Bakker, 2005). The research of Bakker and Bal (2010) found that week-level work engagement was a predictive value for week-level performance. Moreover, Hakanen et al. (2006) found that among teachers work engagement had a positive relation with organizational commitment.

Several psychological models are used to explain the antecedents of work-related well-being, like the Demand-Control Model (DCM; Karasek, 1979) and the Effort-Reward Imbalance (ERI) model (Siegrist, 1996). These models focuses on the negative indicators of employee well-being, like burnout, according to a limited set of predictor variables. Besides focusing on the negative indicators of employee well-being, the Job-Demand Resources (JD-R) model also focuses on the positive indicators of employee well-being (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). This model offers a theoretical framework to explain both the positive and negative effects of work, such as engagement and burnout, according to job demands and resources. Within the scope of this research first the JD-R model will be discussed. Second, the job

resources that contribute to work engagement will be reviewed. Third, the personal resources that contribute to work engagement will be reviewed. Finally, the importance of resources under stressful conditions are considered.

Job Demands-Resources model

The Job Demands-Resources (JD-R) model is applicable to a wide range of occupations and focuses on both the negative and positive indicators of employee well-being (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). The underlying assumption of this model is that every occupation has their own work related characteristics (job demands and job resources) that influence the degree of strain and motivation, often operationalized as burnout and engagement. *Job demands* are “those physical, social, or organizational aspects of the job that require sustained physical and/or psychological (i.e., cognitive or emotional) effort on the part of the employee and are therefore associated with certain physiological and/or psychological costs” (Bakker & Demerouti, 2007, p. 312). This means that characteristics of the job, such as workload, ask for continual physical or mental effort. *Job resources* refer to work aspects that are functional for achieving work goals and stimulate personal growth and development. Moreover, they reduce the physiological and psychological burdens of the job demands (Bakker & Demerouti, 2007). Examples of job resources are feedback, social support and autonomy.

Furthermore, the model assumes that these job demands and job resources evoke two psychological processes that are involved in the development of job strain and motivation: the health impairment process and the motivational process (Bakker & Demerouti, 2007). Within the first process, the health impairment process, it is assumed that high job demands could cause depletion of mental and physical energy reserves. In the long term this may result in health problems or burnout. The second process assumes that job resources, like autonomy, feedback and social support, have a motivational potential. According to the JD-R model this

motivational process can lead to high work engagement and job performance (Bakker & Demerouti, 2007). Another assumption of this model is that job resources particularly influence motivation or work engagement when job demands are high (Bakker & Demerouti, 2007). In addition, Bakker (2011) postulated that those employees who are engaged and performing well are able to create and gain more resources, which fosters engagement over time. This feedback loop means that there is a positive gain spiral (Bakker, 2011).

Most research on the JD-R model has focused on the importance of *work* related resources to explain burn-out and engagement. However, besides these job resources also *personal resources* have an influence on employee well-being. These personal resources are of influence on the way employees experience their working environment and adapt to it (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Personal resources are “positive self-evaluations that are linked to resiliency and refer to individuals’ sense of their ability to control and impact upon their environment successfully” (Bakker & Demerouti, 2008, p. 213). Like job resources, personal resources are functional for achieving work goals and stimulate personal growth and development. In addition, personal resources reduce the physiological and psychological burdens of job demands (Bakker & Demerouti, 2008). Examples of personal resources are self-efficacy and optimism. Previous studies have shown that both job resources as well as personal resources activate the motivational process and contribute to work engagement and work related outcomes (Bakker & Demerouti, 2008; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009b). Therefore, the JD-R model, of Bakker and Demerouti (2008), takes both job and personal resources into account. The overall JD-R model of work engagement is depicted in Figure 1.

Moreover, the importance of resources, both job and personal, is highlighted in the conservation of resources (COR) theory (Hobfoll, 1989). Hobfoll (1989, 2001) stated that people put effort into obtaining, maintaining and protecting resources. Stress occurs when

there is a potential or actual loss of resources or when people fail to gain resources after they have invested in obtaining resources. Moreover, it has been assumed that people who have a lot of job and personal resources, are better able to maintain and generate more resources, allowing them to experience a higher level of well-being and performance (Hobfoll, 2002). In addition, Hobfoll (2002) stated that resource gain become more important under conditions of resource loss.

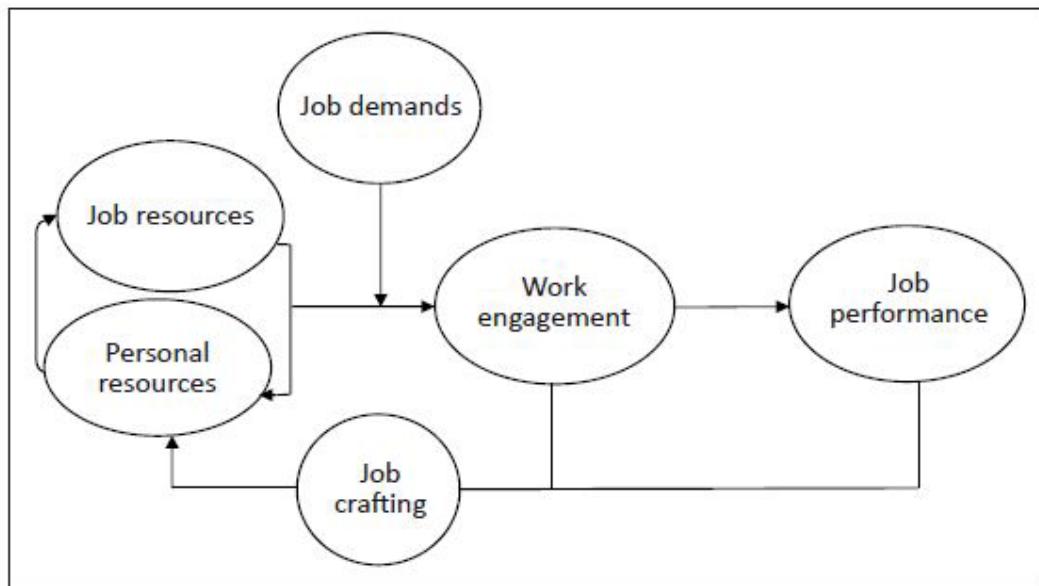


Figure 1. The job demands-resources model of work engagement. Reprinted from “Bakker, A.B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science*, 20(4), 265-269.

Job resources

Within the JD-R model it is assumed that job resources trigger the motivational process. Job resources can have an intrinsic motivational role, by fulfilling basic needs such as the needs for autonomy, relatedness, and competence (Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). Job resources can also have an extrinsic motivational role because they are essential for accomplishing work tasks and achieving work goals (Schaufeli & Bakker, 2004). This motivational process, where job resources contribute to work engagement has

been investigated in several studies. It was found that job resources were positively associated with work engagement and positive work related outcomes (Schaufeli & Bakker, 2004; Hakanen, Bakker, & Schaufeli, 2006).

For example, Schaufeli and Bakker (2004) found evidence of a positive relation between job resources (performance feedback, social support, and supervisory coaching) and work engagement among four different samples of employees (insurance company, a pension fund company, an Occupational Health and Safety Service, and a home-care institution). They also found that engagement mediated the relation between job resources and turnover intentions. In addition, in a study among managers of a telecom company, Schaufeli, Bakker, and Van Rhenen (2009) found that an increase of job resources predicted engagement over a period of one year. An increase in job control, performance feedback, social support, and opportunities to learn, were positive predictors of future work engagement and reduced sickness absenteeism.

Moreover, several studies have been conducted on the relation between job resources and work engagement among teachers. For example, a study of Hakanen, Bakker, and Schaufeli (2006) showed, among more than 2000 teachers of elementary, secondary and vocational schools, that job control, information, supervisory support, innovative climate, and social climate were positively related to work engagement. Bakker and Bal (2010) studied the effect of week-level job resources on week-level work engagement among 54 Dutch teachers. Week-levels of autonomy, exchange with the supervisor (feedback and coaching) and opportunities for development were positively related to week-level engagement and week-level engagement was positively related to performance. They also found evidence for a causal relationship between week-levels of work engagement and job resources. In a study among Finnish teachers working in elementary, secondary, and vocational schools, Bakker, Hakanen, Schaufeli, and Xanthopoulou (2007) also found that job resources had a positive

relation with work engagement. The results showed that particularly supervisor support, innovativeness, information, appreciation, and organizational climate were important job resources for teachers.

Taking into account all the above-mentioned studies, it can be expected that job resources have a positive relation with work engagement among teachers. Important job resources for teachers are taken into account in the present research. In line with Bakker and Bal (2010) and Hakanen, Bakker, and Schaufeli (2006) autonomy, feedback, social support (supervisor and colleagues), and opportunities for development will be included in the current research.

Hypothesis 1: Job resources are positively related to work engagement among teachers.

Personal resource

Research has shown that besides job resources also personal resources were able to contribute to work engagement and performance outcomes (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). The influence of personal resources at work has been mainly investigated by the positive organizational behavior (POB), which is developed within the positive psychology work (Luthans & Youssef, 2007). POB “applies positively oriented human resource strengths and psychological capacities that can be measured, developed and managed for performance improvement in today’s workplace” (Luthans & Youssef, 2004, p. 152).

According to Luthans and Youssef (2004) there were four personal resources that met the POB criteria of being positive, unique, measurable, developable, and performance related. These personal resources were self-efficacy, optimism, hope and resiliency. Luthans and Youssef (2004) combined these four personal resources, self-efficacy, optimism, hope and resiliency, into the concept of psychological capital (PsyCap). PsyCap is defined as “An individual’s positive psychological state of development that is characterized by: having

confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; making a positive attribution (optimism) about succeeding now and in the future; persevering toward goals, and when necessary, redirecting paths to goals (hope) in order to succeed; and when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success" (Youssef & Avolio, 2007, p. 3).

The relation of both the individual constructs (self-efficacy, optimism, hope and resiliency) and the core concept PsyCap has been investigated with attitudinal, behavioral and performance outcomes. Youssef and Luthans (2007) studied the relation between the personal resources, hope, optimism and resilience and four job outcomes (job satisfaction, work happiness, organizational commitment and performance). The results showed that hope, optimism and resilience were related to job satisfaction and work happiness. Only hope and resilience were related to organizational commitment, and hope was related to performance. In addition, Sun, Zhao, Yang, and Fan (2011) investigated the relation between PsyCap and performance among nurses. The results showed that there was a positive relation between self-reported PsyCap and performance, which was mediated through job embeddedness. Furthermore, Luthans, Avolio, Avey, and Norman (2007) found that hope, resilience, optimism and self-efficacy were positively related to performance and job satisfaction. Moreover, PsyCap was a better predictor of these outcomes than the individual components alone. In addition, research showed that PsyCap was negatively related to work stress symptoms, intention to quit and job search behaviors (Avey, Luthans, & Jensen, 2009). Moreover, Avey, Luthans, and Youssef (2010) found a negative relation between PsyCap and intention to quit and a positive relation with organizational citizenship behavior. This means that those who score higher on PsyCap are more likely to engage in more desirable extra-role behaviors and have a lower intention to quit their job.

Furthermore, some studies investigated the relationship of PsyCap or one of the four

constructs with engagement. Simbula, Guglielmi, and Schaufeli (2011) found a relation between self-efficacy among teachers and engagement. Sihag and Sirakwal (2014) researched the relation between PsyCap and work engagement among 420 IT professionals. They found a positive relation between PsyCap (hope, resilience) and work engagement: employees with higher level of PsyCap showed higher levels of work engagement. Simons and Buitendach (2013) also found a positive relation between PsyCap and work engagement among call centre employees. They also found that work engagement mediated the relation between PsyCap and organizational commitment. Furthermore, in a longitudinal study among frontline employees in international five- and four-star chain hotels Karatepe and Karadas (2015) found a relation between PsyCap and engagement. They also found that work engagement mediated the relation between PsyCap and job, career and life satisfaction. This means that psychological capital activates work engagement, which in turn leads to higher job, career, and life satisfaction.

In sum, the results of these different studies showed that PsyCap is positively related to job outcomes, as well as to work engagement. Even though these studies were conducted in a business-like environment, it can be expected, based on the fact that schools becoming more like companies, that PsyCap also has a positive effect on engagement among teachers.

Hypothesis 2: PsyCap is positively related to work engagement among teachers.

In addition to a direct relationship between personal resources and engagement, personal and job resources in conjunction can also contribute to engagement. This means that besides a positive relation between PsyCap and engagement, PsyCap also forms a link in the motivational process of the JD-R model between job resources and engagement. This connects to the COR theory of Hobfoll (2002) where it is assumed that resources accumulate. The existence of resources tend to generate more resources which may result in positive outcomes. Assuming that when employees have a lot of job resources, this activates personal

resources (PsyCap), which can lead to positive outcomes, such as engagement (Luthans, Avey, Avolio, Norman, and Combs, 2006).

Some evidence is found for this mediating effect of personal resources. Xanthopoulou, Bakker, Demerouti, and Schaufeli (2007) included several personal resources: self-efficacy, organizational bases self-esteem and optimism (2 components from PsyCap) in their research among employees of an electronics company. According to the results of this research the relation between job resources and engagement was mediated by personal resources. In a longitudinal study among Italian teachers it was found that job resources influenced the self-efficacy of teachers and that self-efficacy partial determined the degree of work engagement (Simbula, Guglielmi, & Schaufeli, 2011). They also found that work engagement had an effect on job resources and self-efficacy. Xanthopoulou, Bakker, Demerouti, and Schaufeli (2009a) also investigated the effects of job resources, personal resources and engagement. They investigated how daily fluctuations in job resources (autonomy, coaching, and team climate) were related to daily changes in employees' self-efficacy, self-esteem, and optimism (2 components from PsyCap), work engagement, and company financial returns. Employees working at a fast food company completed a questionnaire and a diary, over five consecutive workdays. They revealed that day-level job resources had an effect on work engagement through day-level personal resources. Day-level work engagement had a positive relation with daily financial returns. A longitudinal study of Llorens, Schaufeli, Bakker, and Salanova (2007), among psychology students, showed that self-efficacy mediated the relation between job resources and engagement. Thus, the more task resources the students perceived for completing a task, the higher their levels of efficacy beliefs and the higher their levels of engagement were three weeks later. Furthermore, they found a reciprocal relation between job resources, self-efficacy and engagement. Xanthopoulou, Bakker, Demerouti, and Schaufeli

(2009b) replicated these findings among employees over a period of 18 months. Next to self-efficacy they also took optimism and organizational based self-esteem as personal resources.

These studies showed that personal resources mediate the relation between job resources and engagement. However, most studies only used some components of the core concept PsyCap. According to Luthans, Avolio, Norman, and Avey (2006) optimism, hope, self-efficacy and resilience had, when combined, a synergistic effect. As has been found in previous research the core construct PsyCap predicted performance and satisfaction better than any of the individual components alone (Luthans, Avolio, Avey, & Norman, 2007). Therefore in the current research the core construct PsyCap will be included. Research on the relation between core construct PsyCap, job resources and work engagement among teachers, has not been done yet. Because the individual components of PsyCap mediate the relationship between job resources and engagement, it can be expected that the core construct PsyCap mediates the relationship between job resources and work engagement among teachers.

Hypothesis 3: PsyCap mediates the relation between job resources and work engagement among teachers

Importance of resources under stressful conditions

According to the assumptions of the JD-R model, resources particularly influence motivation or work engagement when job demands are high (Bakker & Demerouti, 2007). Additionally, the COR theory (Hobfoll, 2002) proposed that “resource gain become increasingly important in the face of loss” (p. 312). This indicates that resources become more important and acquire their motivational potential when people are confronted with stressful conditions.

Hakanen, Bakker, and Demerouti (2005) investigated this interaction between job demands, job resources and work engagement among Finnish dentists. They found that job

resources were more strongly related to work engagement when dentists were confronted with high levels of job demands. Dentists benefited most from their job resources under conditions of high demands, suggesting that resources become salient under stressful conditions. Similar findings have been reported by Bakker, Hakanen, Schaufeli, and Xanthopoulou (2007). In a study among Finnish teachers working in elementary, secondary, and vocational schools, Bakker et al. (2007) found that job resources particularly influenced work engagement when teachers were confronted with high levels of pupil misconduct. The results showed that particularly supervisor support, innovativeness, information, appreciation, and organizational climate were important job resources for teachers. Those job resources helped teachers to cope with pupil misbehavior. In addition, in a longitudinal study among 163 employees of an electronic company Xanthopoulou, Bakker, and Fischbach (2015) investigated the relation between personal resources (self-efficacy and optimism), job demands (emotion-rule dissonance and emotional demands) and work engagement. They found that emotional demands and emotion-rule dissonance boost the effect of self-efficacy on work engagement. This means that self-efficacy was particularly beneficial for engagement, when employees are confronted with high levels of emotional demands and emotion-rule dissonance.

These studies showed that job and personal resources become important under conditions of high job demands. Earlier studies already investigated the relation between *job resources*, job demands, and work engagement among teachers (Bakker, Hakanen, Schaufeli, & Xanthopoulou, 2007). Research on the relation between *personal resources*, job demands and work engagement among teachers has not been done yet. It can be expected that job demands also boost the relation between personal resources (PsyCap) and work engagement among teachers. Based on earlier studies the job demands workload and emotional demands will be included in the current research (Prieto, Soria, Martínez, & Schaufeli, 2008). The overall research model is depicted in Figure 2.

Hypothesis 4: Emotional demands (4a) and workload (4b) increase the effect of PsyCap on work engagement among teachers.

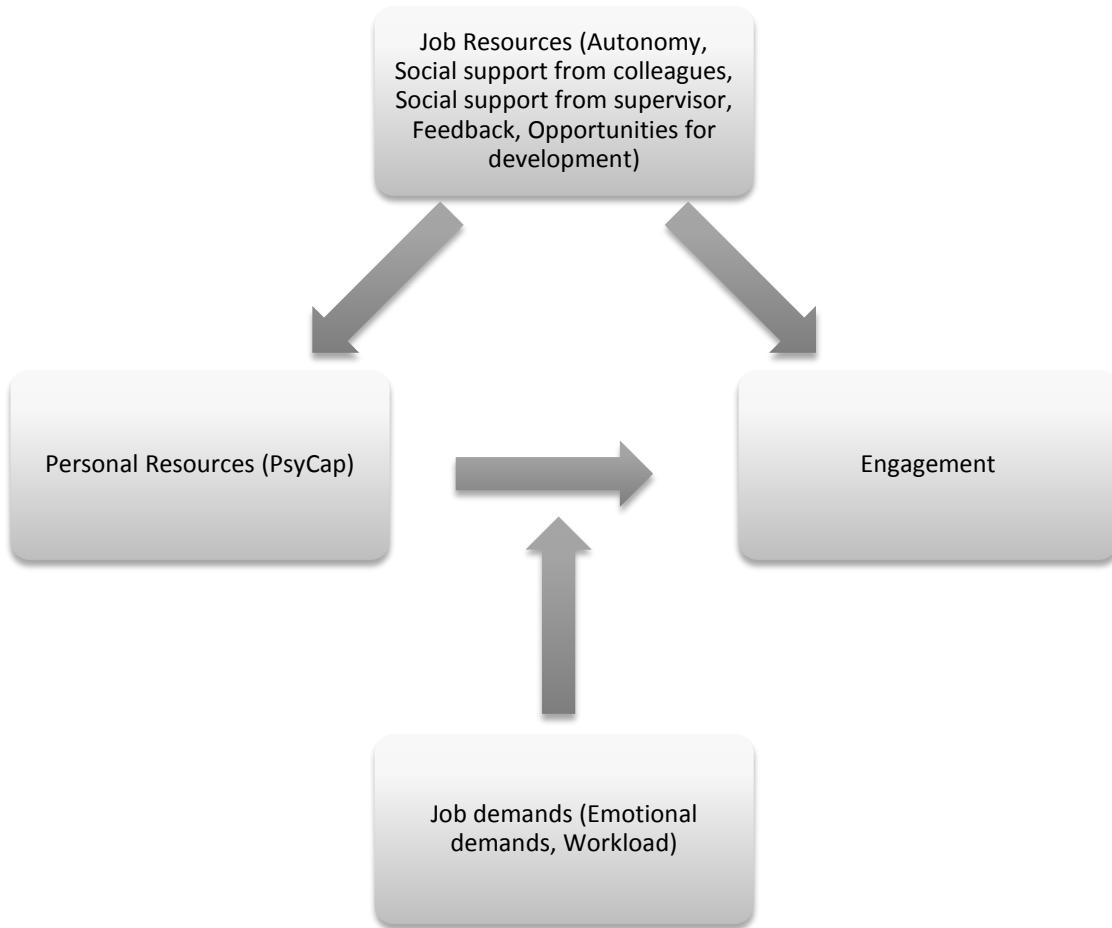


Figure 2. Research model with job resources and personal resources as predicting factors for engagement.

Method

Participants and procedure

This research was conducted among teachers of two secondary schools. The schools are located in Mijdrecht and Vinkeveen. The teachers received an email from the headmaster with a description of the research objective and a link to the online questionnaire. The

teachers participated on a voluntary basis. It was assured that the information was treated confidentially. The completion took about 10 minutes. In total 86 teachers completed the questionnaire. Two teachers were excluded, which will be discussed in the result section. The remaining 84 teachers were included, whereof 34 (40.5 %) males and 50 (59.5%) females. The mean age of the teachers was 41.61 ($SD = 13.45$). The teachers worked an average of 15.15 ($SD = 11.42$) years in the educational system and were on average 8.88 ($SD = 7.25$) years employed at their current employer. According to their contract they worked an average of 30.56 ($SD = 9.64$) hours a week. They spent an average of 6.48 ($SD = 5.98$) hours a week extra on their work.

Measures

Job resources: Five job resources were included in the questionnaire: autonomy, social support from colleagues, social support from the supervisor, feedback and opportunities for development. The job resources were measured using abbreviated scales of the Dutch questionnaire Vragenlijst Beleving en Beoordeling van de Arbeid (VBBA) (Van Veldhoven & Meijman, 1994; Van Veldhoven, Meijman, Broersen, & Fortuin, 2002). *Autonomy* was measured on the basis of 3 items. A sample item was: “Can you decide how to carry out your tasks”. The internal consistence (Cronbach’s α) was .71. *Social support from colleagues* was measured on the basis of 3 items. A sample item was: “Can you ask your colleagues for help if necessary?”. The internal consistence (Cronbach’s α) was .82. Also *Social support from the supervisor* was measured on the basis of 3 items. A sample item was: “Can you count on your supervisor when it gets difficult at work?”. The internal consistence (Cronbach’s α) was .91. *Feedback* was measured on the basis of 3 items. A sample item was: “I receive sufficient information about the goal of my work”. The internal consistence (Cronbach’s α) was .80. *Opportunities for development* were measured on the basis of 4 items. A sample item was: “My work offers me the opportunity to learn new things”. The internal consistence

(Cronbach's α) was .87. All job resources items were scored on a five-point scale. For autonomy, social support from the supervisor and social support from colleagues the scale ranged from "never" (1) to "always" (5) and for feedback and opportunities for professional development the scale ranged from "totally disagree" (1) to "totally agree" (5).

Job demands: Two job demands were included in the questionnaire, workload and emotional demands. The job demands were measured using abbreviated scales of the Dutch questionnaire Vragenlijst Beleving en Beoordeling van de Arbeid (VBBA) (Van Veldhoven & Meijman, 1994; Van Veldhoven, Meijman, Broersen, & Fortuin, 2002). *Workload* was measured on the basis of 4 items. A sample item was: "Do you have too much work to do?" The internal consistency (Cronbach's α) was .89. *Emotional demands* were measured on the basis of 3 items. A sample item was: "Is your work emotionally tough?" The internal consistency (Cronbach's α) was .83. All job demands items were scored on a five-point scale. The scale ranged from "never" (1) to "always" (5).

Personal resources: Four personal resources constitute the psychological capital, namely, self-efficacy, hope, optimism and resilience. Hope, optimism and resilience were measured based on the abbreviated Psychological Capital Questionnaire (PCQ-12) (Luthans, Avolio, Avey, & Norman, 2007). *Hope* was measured on the basis of 4 items. A sample item was: "I can think of many ways to reach my current work goals". *Optimism* was measured on the basis of 2 items. A sample question was: "I always look on the bright side of things regarding my job". *Resilience* was measured on the basis of 3 items. A sample item was "I can get through difficult times at work because I've experienced difficulty before". Self-efficacy is the only subscale of the Psychological Capital Questionnaire which has not been used, because these self-efficacy items focuses on managers. Self-efficacy has been measured based on the abbreviated Generalized Self-efficacy scale (Swarzter & Jerusalem, 1995; Chen, Gully, & Eden, 2001). *Self-efficacy* was measured on the basis of 5 items. A sample item was:

“When facing difficult tasks, I am certain that I will accomplish them”. The items were scored on a six-point scale from “strongly disagree” (1) to “strongly agree” (6). The internal consistence of PsyCap (Cronbach’s α) was .81.

Engagement: The dependent variable work engagement was measured with the abbreviated Dutch questionnaire of the Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2003). This questionnaire contains 9-items, 3 items for each of the three subscales vigor, dedication, and absorption. Some sample items were “At my work, I feel bursting with energy” (vigor), “I am enthusiastic about my job” (dedication) and “I am immersed in my work” (absorption). The items were scored on a seven-point scale from “never” (0) to “daily” (6). The internal consistence (Cronbach’s α) was .91.

Data analyses

The data processing program SPSS 22 was used to carry out the analyses. The internal consistency of the job resources, job demands, PsyCap and engagement has been calculated by means of the Cronbach's alpha. Descriptive statistics (means, standard deviations) were used to describe the data. Pearson product-moment correlation coefficients were used to specify the relationship between job resources, job demands, PsyCap and work engagement. The statistical significance level used was $p \leq 0.05$.

Multiple regression analysis was used to test hypothesis 1. In hypothesis 1 the independent variables were autonomy, social support from colleagues, social support from the manager, feedback and opportunities for development. The dependent variable was engagement. Regression analysis was used to test hypothesis 2. In hypothesis 2 the independent variable was PsyCap and the dependent variable was work engagement.

Hypothesis 3 was tested by means of the Baron and Kenny (1986) method. Four conditions were required for detecting the presence of mediation. The first condition required a significant relation between the predictor (job resources) and the outcome variable (work

engagement). The second condition required a significant relation between the predictor (job resources) and the mediator (PsyCap). The third condition required a significant relation between the mediator (PsyCap) and the outcome variable (work engagement). The final condition required that the relation between the predictor and outcome variable became non-significant, or became significantly weaker after the inclusion of the mediator. The relation between the predictor and the outcome variable became non-significant when the relation was fully mediated. The relation between the predictor and the outcome variable became significantly weaker when the relation was partial mediated. These conditions were tested by means of hierarchical multiple regression analysis. To examine the significance of the mediating effect the Sobel z-test was applied.

Hierarchical multiple regression analysis was used to test the interaction effects in hypothesis 4. First the data were centered and the interaction terms were calculated. The interaction terms were calculated by multiplying the standardized scores of the job demands and PsyCap. In the first step job demands and PsyCap were added. In the second step the interaction term was added.

Results

Preliminary data analysis revealed two extreme outliers, which had been removed. Means (M), standard deviations (SD), Cronbach's alpha coefficients (α), and bivariate correlations (*Pearson's r*) among the studied variables are presented in Table 1.

As can be seen in Table 1, all variables have satisfactory reliabilities with Cronbach's alpha coefficients of 0.70 or higher (Nunnaly & Bernstein, 1994). The average score on engagement could be classified as average (4.56. on a 7-point scale) (Schaufeli & Bakker, 2003).

Table 1
Means, standard deviations, Cronbach's alpha, and correlations among the study variables (N=84)

Factor	M	SD	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Sex (0=m, 1=f)	-	-	-															
2. Age	41.40	13.45	-	-.01														
3. Contract size	30.51	10.35	-	-.25*	.15													
4. Extra work hours	6.48	5.98	-	.06	.15	-.05												
5. Years in educational system	15.15	11.42	-	-.04	.80**	.19	.13											
6. Years at current employer	8.88	7.25	-	-.10	.69**	.10	.04	.73**										
7. PsyCap	4.74	.41	.81	-.04	-.11	.20	.19	-.09	.01									
8. Engagement	4.56	.82	.91	.21	.06	.21	.19	-.03	.00	.34**								
9. Social support colleagues	4.13	.67	.82	.20	-.18	-.03	.14	-.10	-.05	.24*	.39**							
10. Social support supervisor	3.90	.88	.91	.26*	-.07	.01	.09	-.12	-.03	.14	.26*	.59**						
11. Autonomy	3.81	.64	.71	.13	.14	.13	.05	.09	-.01	.22*	.33**	.22*	.36**					
12. Feedback	3.43	.70	.80	.14	-.15	-.09	.02	-.17	-.20	.13	.42**	.34**	.34**	.26*				
13. Opportunities for development	3.36	.70	.87	.21	-.13	-.04	.11	-.10	-.16	.23*	.31**	.48**	.44**	.31**	.68**			
14. Workload	3.49	.73	.89	-.04	-.10	.09	.22*	-.07	.02	.31**	.12	-.10	.03	-.07	-.04	.01		
15. Emotional demands	2.71	.72	.83	.20	.04	.05	.18	-.07	-.05	.09	.19	-.11	.04	-.08	-.01	.11	.39**	

Note. * $p < .05$; ** $p < .01$.

The job resources autonomy ($r = .33, p < .01$), social support from colleagues ($r = .39, p < .05$), social support from the supervisor ($r = .26, p < .01$), feedback ($r = .42, p < .01$) and opportunities for development ($r = .31, p < .01$) all had a relation with job engagement. Also PsyCap ($r = .34, p < .01$) had a relation with job engagement. The job demands workload and emotional demands both did not have a relation with engagement. None of the demographic variables had a relation with job engagement and were therefore excluded for further analysis.

Testing of the Hypotheses

Hypothesis 1

Multiple regression analysis was used to assess whether the job resources were related to work engagement (hypothesis 1). The independent variables were autonomy, social support from colleagues, social support from the supervisor, feedback and opportunities for development. The dependent variable was engagement. The overall regression was statistically significant, $F(5, 83) = 8.28, p < .01$ and explained 34.7 % of the variance in work engagement. Only opportunities for development predicted work engagement ($\beta = .36, p < .05$). The results are shown in Table 2.

Table 2

Summary of multiple regression analysis of job resources on engagement (N = 84)

Variable	B	SE B	β	R^2
				.35
Autonomy	.24	.13	.19	
Social support supervisor	-.13	.11	-.14	
Social support colleagues	.28	.15	.23	
Feedback	.11	.15	.10	
Opportunities for development	.41	.16	.36*	

Note. * $p < .05$ ** $p < .01$

Hypothesis 2

Hypothesis 2 stated that PsyCap would have a positive relation with work engagement. This hypothesis was tested by means of regression analysis. The independent variable was PsyCap and the dependent variable was engagement. The overall regression was statistically significant, $F(1,83) = 10.88, p < .01$ and explained 11.7 % of the variance in work engagement. Table 3 shows that PsyCap was positive related to work engagement ($\beta = .34, p < .05$).

Table 3

Summary of regression analysis of PsyCap on engagement (N = 84)

Variable	B	SE B	β	R^2
PsyCap	.68	.21	.34**	.12

Note. * $p < .05$ ** $p < .01$

Hypothesis 3

According to hypothesis 3, PsyCap mediates the relationship job resources and work engagement. Baron and Kenny's (1986) four conditions for detecting the presence of this mediation effect was used to test this hypothesis. The first condition required a significant relation between the predictor (job resources) and the outcome variable (work engagement). The second condition required a significant relation between the predictor (job resources) and the mediator (PsyCap). The third condition required a significant relation between the mediator (PsyCap) and the outcome variable (work engagement). The final condition required that the relation between the predictor and outcome variable became non-significant, or became significantly weaker after the inclusion of the mediator. The relation between the predictor and the outcome variable became non-significant when the relation was fully mediated. The relation between the predictor and the outcome variable became significantly weaker when the relation was partial mediated. These conditions were tested by means of

hierarchical multiple regression. To examine the significance of the mediating effect the Sobel z-test was applied.

The first condition, the relation between job resources and work engagement was already tested in hypothesis 1 and is shown in Table 2. Only opportunities for development had a positive relation with work engagement ($\beta = .36, p < .05$). The second condition for mediation implied that job resources would have a positive relation with PsyCap. The results showed that job resources were not related to PsyCap. The second condition was not met. The mediation effect was not further investigated and it was concluded that there was no mediation effect.

Hypothesis 4

According to hypothesis 4a workload increases the effect of PsyCap on work engagement. This hypothesis was tested by means of hierarchical multiple regression analyses. In the first step workload and PsyCap were added (model 1). Only PsyCap had a positive relation with work engagement ($\beta = .34, p < .01$). In the second step the interaction term was added (model 2). In step two of the regression analyses the interaction term was not significant. The results are shown in Table 4.

According to hypothesis 4b emotional demands increases the effect of PsyCap on work engagement. This hypothesis was tested by means of hierarchical multiple regression analyses. In the first step workload and PsyCap were added (model 1). Only PsyCap had a positive relation with work engagement ($\beta = .33, p < .01$). In the second step the interaction term was added (model 2). In step two of the regression analyses the interaction term was not significant. The results are shown in Table 5.

Table 4

Moderation effect of workload on the relation between PsyCap and Engagement (N=84).

Variable	Model 1			Model 2		
	B	SE B	β	B	SE B	β
Workload	.01	.12	.01	.00	.12	.00
PsyCap	.67	.22	.34**	.61	.22	.31**
Workload * PsyCap				.40	.24	.18
Total R ²		.12			.15	
ΔR^2					.03	

Note. * $p < .05$ ** $p < .01$

Table 5

Moderation effect of emotional demands on the relation between PsyCap and Engagement (N=84).

Variable	Model 1			Model 2		
	B	SE B	β	B	SE B	β
Emotional demands	.18	.12	.16	.17	.12	.15
PsyCap	.65	.21	.33**	.63	.21	.32**
Emotional demands * PsyCap				.25	.35	.08
Total R ²		.14			.15	
ΔR^2					.01	

Note. * $p < .05$ ** $p < .01$

Discussion

The aim of the current research was twofold. The first goal of the present study was to determine which aspects, resources, are important in stimulating work engagement among teachers in secondary education. The second goal was to gain a greater understanding of the role that personal resources, PsyCap, play in the JD-R model's motivational process. To offer high quality in education, it is important that teachers are energetic and motivated. A clear theoretical and practical understanding of the relationship between job resources, personal resources and engagement is needed in order to develop and implement interventions to enhance teacher engagement and towards improving teacher performance. Using the COR theory (Hobfoll, 2002) and the JD-R model (Schaufeli & Bakker, 2004) as the theoretical frameworks, the current study examined whether job resources and personal resources were related to work engagement. In addition, the current study examined whether personal resources mediated the relationship between job resources and work engagement. Furthermore, the current study also examined whether job demands moderate the relation between personal resources and work engagement. The current study found that job and personal resources were related to work engagement. The mediating effect of personal resources was not found in the current study, as well as the moderating effect of job demands.

In the first hypothesis it was expected that job resources were positively related to work engagement. The results showed that teachers scored average on work engagement (Schaufeli & Bakker, 2003). The only job resource in predicting work engagement among teachers in secondary education were opportunities for development. Teachers with more opportunities for development were more engaged. This means that teachers who get space to develop themselves, develop their strengths and learn new things are more energetic and motivated. Teachers mainly choose for the teaching profession because of their intrinsic motivation to teach children (Richardson & Watt, 2006). This motivation also makes that

teachers want to develop and improve themselves so they can offer better education. For teachers, it is important that they develop themselves professionally and didactic but also because of the constant changes in education (Veen, Zwart, Meirink, & Verloop, 2010; Garet, Porter, Desimone, Birman, & Yoon, 2001; Glenn, 2009; Clarke & Hollingsworth, 2002). These constant changes apply both to the technology used in education and the way of teaching. For example, in August 2014 the law “passend onderwijs” became operative. From that moment onwards every school needs to offer suitable education to all its students. Suitable education is education that fits the special needs of students (Jepma, Beekhoven, Fukkink, Miedema, & De Vries, 2015).

Support from the supervisor, social support from colleagues, autonomy and feedback were not related to work engagement. Teachers with more social support, feedback and autonomy were not more engaged. This does not correspond to previous research. In previous research it was found that in addition to opportunities for development also support from the supervisor, social support from colleagues, autonomy and feedback were related to work engagement among teachers (Bakker & Bal, 2010; Hakanen, Bakker, & Schaufeli, 2006). An explanation why social support from colleagues, social support from a supervisor, feedback and autonomy were not related with job engagement may have to do with the fact that these job resources contribute to opportunities for development. In the current research autonomy ($r = .31$), social support from colleagues ($r = .48$) social support from the supervisor ($r = .44$) and feedback ($r = .68$) were all significantly correlated with opportunities for development. Van Ruisseveldt, Verboon, and Smulders (2011) postulated that learning opportunities are facilitated by other job resources. Learning opportunities in turn promote the development of new skills and enable the employee to achieve their work goals at lower psychological costs. This means that job resources stimulate personal growth and development and lower physiological and psychological cost when employees have learning opportunities. This

implicates that learning opportunities mediate the relationship between job resources and work related well-being (Ruyssseveldt, Verboon, & Smulders, 2011). Because opportunities to learn are an important part of opportunities for development it can be expected that job resources also contribute to opportunities for development (Richter, Kunter, Klusmann, Lüdtke, & Baumert, 2011). Another possible explanation why social support from the supervisor, social support from colleagues, autonomy and feedback did not predict work engagement may be related to the relative small and homogeneous sample size. When a sample size is too small, the power can be too low to detect an effect (VanVoorhis & Morgan, 2007; Green, 1991).

In the second hypothesis, it was predicted that personal resources would positively affect work engagement among teachers. The results of the present study showed that PsyCap was positively related to work engagement among teachers in secondary education. This means that teacher who scored high on PsyCap (optimism, hope, resilience and self efficacy) were more engaged. For teachers, it is important that they consider themselves able to motivate children, affect learning and bring about the desired learning outcomes in these children, even among difficult and unmotivated children (Tschanen-Moran, Hoy, & Hoy, 1998). In addition, they have to believe they will be successful in teaching children and plan ways to meet that goal. They are optimistic about the future and demonstrate effective strategies for working with challenging students or stressful school situations (Gu & Day, 2007; Howard & Johnson, 2004). The results of the current study are in line with previous research of Sihag and Sirakwal (2014) and Karatepe and Karadas (2015) who also found that PsyCap was positively related to work engagement.

The results did not support the third hypothesis that PsyCap mediates the relation between job resources and engagement. Only a direct link was found between job resources and engagement, but no indirect effect via PsyCap. Job resources were not related to PsyCap,

which means that the job resources did not activate teachers' PsyCap. The results from the current study do not correspond to the COR theory of Hobfoll (1989, 2002) and previous research. According to Hobfoll's (2002) COR theory the existence of resources tend to generate more resources. Xanthopoulou, Bakker, Demerouti, and Schaufeli (2007) and Luthans, Avey, Avolio, Norman, and Combs (2006) stated that job resources activate employees' personal resources (PsyCap), which makes them feel more capable of controlling their work environment and as a result they are more engaged.

A possible explanation why job resources did not activate teachers' PsyCap may have to do with the fact that the research was conducted at the end of the school year. At the end of the school year no lessons and exams were given anymore. The end of the school year consists primarily of finishing the school year and looking forward to the next school year. It is possible that job resources will be less important at the end of the school year and therefore did not activate the PsyCap of teachers. Another explanation for rejecting this hypothesis could be the nature of the personal resources, PsyCap, included in this study. In the literature this mediating effect has only been found for the individual components (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009b). The current study examined whether the composite construct PsyCap mediates the relation between job resources and work engagement. There are some questions about the use of this composite score for PsyCap (Dawkins, Martin, Scott, & Sanderson, 2013). To rule out this explanation, it was subsequently analyzed whether the individual components hope ($\beta = .46, p < .01$), optimism ($\beta = .04, p = .74$), resilience ($\beta = .08, p = .49$) and self-efficacy ($\beta = -.09, p = .53$) mediate the relation between job resources and engagement. Also, for the individual components of PsyCap this mediating effect was not found. None of the job resources were related to the individual components of PsyCap.

The results did not support the fourth hypothesis that job demands increases the effect of PsyCap on work engagement. This means that job demands do not boost the effect of

PsyCap on work engagement. Teachers did not benefit more from PsyCap when they experience higher job demands. This means that teachers do not use PsyCap as a coping mechanism to deal with job demands. This is in contrast to earlier research which found that resources particularly influenced work engagement when employees were confronted with high levels of job demands (Bakker, Hakanen, Schaufeli, & Xanthopoulou, 2007). An explanation could be that the job demands and personal resources did not ‘match’, according to the matching hypothesis (De Jonge & Dormann, 2006). This principle states that a moderating effect is more likely to be found when the resources and demands match in terms of addressing the same domains of human psychological functioning (i.e., cognitive, emotional, or physical/behavioral) (De Jonge & Dormann, 2006). It is possible that PsyCap operate at another level (e.g. cognitive-emotional) than the job demands (e.g., emotional and cognitive-behavioral).

Moreover, in the current study job demands were not related to work engagement. This corresponds to the study of Xanthopoulou, Bakker, and Fischbach (2015) which also found no main effects for job demands. It should also be noted that the JD-R model does not expect a direct relationship between job demands and engagement (Bakker & Demerouti, 2008).

Limitations and further research

One of the limitations is the cross-sectional nature of this study. Because measurements were made at one point in time, no statements can be made about causality and reciprocity of relationships. Longitudinal research should bring a better understanding of causality and directions of the relations (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009b). Xanthopoulou et al (2009b) found reciprocal relations between job and personal resources and engagement. They indicated that job and personal resources predicted work

engagement over time. In addition, engagement predicted job and personal resources over time.

In addition, a limitation of the present study is the relatively small ($N=84$) sample. Stone-Romero and Anderson (as cited in Aguinis, 1995) stated that a study needs a minimum of 120 respondents to generate a sufficient effect size. In addition, the sample was rather homogenous as the two schools of the teachers belonged to the same school community. Because of this, it is possible that they share one or more properties, like organizational culture, which have influenced the results of this study. The generalizability of the results to other schools are therefore limited. Future research could focus on multiple schools located throughout the country.

Furthermore, teachers could have responded socially desirable, which can attenuate, inflate or moderate relationships between variables (Zerbe & Paulhus, 1987). This has been tried to overcome by ensuring the anonymity of the teachers. Another limitation is that the current study is based on self-reports, which can lead to problems with common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). It can be argued that constructs like personal resources and work engagement are difficult to measure in any other way than by self-reports (Makikangas, Kinnunen, & Feldt, 2004). Future research could use multiple measure points in time, in order to reduce the effects of common method variance (Podsakoff et al., 2003).

In addition to reduce the methodological problems, follow-up research could also examine whether this personal perspective within the JD-R model can be expanded. The current research has focused on the four components of PsyCap, and in particular on the role these personal resources play within the motivational process of the JD-R model. Follow-up research could examine whether more personal resources meet the POB criteria of being positive, unique, measurable, developable, and performance related (Luthans & Youssef,

2007). Future research could investigate, in addition to personal resources, whether personal *demands* exist and can be included in the JD-R model. These personal demands could also play a role within the health impairment process or motivational process of the JD-R model. It is possible that personal demands, just as job demands, are positive related to burnout. In addition, it is possible that personal demands play a moderating role in the motivational process. So far not much academic attention has been paid to personal demands. Some studies argue that possibly perfectionism, goal setting, expectations and workaholism may be perceived as personal demands (Schaufeli & Taris 2014; Guglielmi, Simbula, Schaufeli, & Depolo, 2012; Prieto, Soria, Martínez, & Schaufeli, 2008). In addition, future research could also focus on the importance of opportunities for development. It is possible that opportunities for development, just like learning opportunities, mediate the relation between job resources and engagement (Ruysseveldt, Verboon, & Smulders, 2011).

Practical implications

Employers are increasingly looking for ways to stimulate engagement among employees, because this can lead to positive organizational outcomes (Bakker, 2009). The current research showed that opportunities for development contribute positively to engagement. Teachers who develop themselves feel more competent and are able to provide better education. This may contribute to the development of the children they teach. Therefore it is important that the employer provide sufficient opportunities for development, and that teachers are aware of these opportunities. In addition, teachers who are actively seeking opportunities to develop must be given sufficient space to develop themselves.

Furthermore, the current study has shown that personal resources contribute positively to work engagement among teachers. There are two ways that the employer can make sure that their teachers have a lot of personal resources. During recruitment and selection of new teachers, employers could take into account the degree of PsyCap. This way they can increase

the possibility to recruit teachers who will be engaged. During a job interview employers could ask in which degree applicants are hopeful, optimistic, self-confident and resilient.

According to Luthans and Youssef (2007) PsyCap is developable. This means that employers can focus on the development of hope, optimism, resilience and self-efficacy through training and interventions. For example, to train PsyCap, teachers could use the micro-intervention developed by Luthans, Avey, Avolio, Norman, and Combs (2006). This intervention lasts between one and three hours. During the intervention an effort is made to increase employees PsyCap. In the first step of the intervention the participants has to identify personally valuable goals and identify subgoals. In the second step, the participants generate multiple pathways to accomplish those goals by means of brainstorming. After brainstorming participants talk with each other and provide alternative pathways to accomplish the goals of other participants. In the end participants have to generate realistic pathways to accomplish their goals. In the final step, they have to consider possible obstacles they may encounter and find ways to overcome those obstacles in order to accomplish their goals.

Conclusion

The current research sought to provide more insight into the role of personal resources within the motivational process in the JD-R model. This research found that job resources and personal resources are independent predictors of engagement. Based on the results of this research it can be concluded that the personal resources: hope, optimism, self-efficacy and resilience, which form the core construct psychological capital, make an essential contribution to the engagement of teachers. In addition, opportunities for development are an important job resource that keep teachers energetic and dedicated. The current study provides additional evidence for the role of personal resources within the JD-R model.

References

- Aguinis, H. (1995). Statistical power with moderated multiple regression in management research. *Journal of Management*, 21(6), 1141-1158.
- Avey, J. B., Luthans, F., & Jensen, S. M. (2009). Psychological capital: A positive resource for combating employee stress and turnover. *Human Resource Management*, 48(5), 677-693.
- Avey, J. B., Luthans, F., & Youssef, C. M. (2010). The additive value of positive psychological capital in predicting work attitudes and behaviors. *Journal of Management*, 36(2), 430-452.
- Bakker, A. B. (2005). Flow among music teachers and their students: The crossover of peak experiences. *Journal of vocational behavior*, 66(1), 26-44.
- Bakker, A. B. (2009). Bevlogen van beroep. Retrieved from http://www.beanmanaged.com/doc/pdf/arnoldbakker/articles/articles_arnold_bakker_198.pdf
- Bakker, A. B., & Bal, M. P. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology*, 83(1), 189-206.
- Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science*, 20(4), 265-269.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of managerial psychology*, 22(3), 309-328.
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career development international*, 13(3), 209-223.
- Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of occupational health psychology*, 10(2), 170.
- Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of educational psychology*, 99(2), 274.
- Bakker, A. B., & Leiter, M. P. (Eds.). (2010). *Work engagement: A handbook of essential theory and research*. Psychology Press.
- Bakker, A. B., & Sanz-Vergel, A. I. (2013). Weekly work engagement and flourishing: The role of hindrance and challenge job demands. *Journal of Vocational Behavior*, 83(3), 397-409.
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, 22(3), 187-200.

- Bal, P.M., Bakker, A.B., & Kallenberg, T. (2006). Bevlogen voor de klas. *VELON Tijdschrift voor lerarenopleiders*, 27(1), 19-22)
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.
- Borg, M. G., & Falzon, J. M. (1989). Stress and job satisfaction among primary school teachers in Malta. *Educational Review*, 41(3), 271-279.
- Borg, M. G., & Riding, R. J. (1991). Occupational stress and satisfaction in teaching. *British Educational Research Journal*, 17(3), 263-281.
- Boyle, G. J., Borg, M. G., Falzon, J. M., & Baglioni, A. J. (1995). A structural model of the dimensions of teacher stress. *British Journal of Educational Psychology*, 65(1), 49-67.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress*, 22(3), 277-294.
- Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational research methods*, 4(1), 62-83.
- Clarke, D., & Hollingsworth, H. (2002). Elaborating a model of teacher professional growth. *Teaching and teacher education*, 18(8), 947-967.
- Dawkins, S., Martin, A., Scott, J., & Sanderson, K. (2013). Building on the positives: A psychometric review and critical analysis of the construct of psychological capital. *Journal of Occupational and Organizational Psychology*, 86(3), 348-370.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied psychology*, 86(3), 499.
- Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American educational research journal*, 38(4), 915-945.
- Glenn, A. D. (1997). Technology and the continuing education of classroom teachers. *Peabody Journal of Education*, 72(1), 122-128.
- Green, S. B. (1991). How many subjects does it take to do a regression analysis. *Multivariate behavioral research*, 26(3), 499-510.
- Gu, Q., & Day, C. (2007). Teachers resilience: A necessary condition for effectiveness. *Teaching and Teacher Education*, 23(8), 1302-1316.
- Guglielmi, D., Simbula, S., Schaufeli, W. B., & Depolo, M. (2012). Self-efficacy and workaholism as initiators of the job demands-resources model. *Career Development International*, 17(4), 375-389.

- Hakanen, J. J., Bakker, A. B., & Demerouti, E. (2005). How dentists cope with their job demands and stay engaged: The moderating role of job resources. *European journal of oral sciences, 113*(6), 479-487.
- Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of school psychology, 43*(6), 495-513.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American psychologist, 44*(3), 513.
- Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: advancing conservation of resources theory. *Applied Psychology, 50*(3), 337-421.
- Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of general psychology, 6*(4), 307.
- Howard, S., & Johnson, B. (2004). Resilient teachers: Resisting stress and burnout. *Social Psychology of Education, 7*(4), 399-420.
- Jepma, I., Beekhoven, S., Fukkink, H., Miedema, I., & De Vries, C. (2015). Ricting en inrichting van Passend onderwijs in samenwerkingsverbanden. *Sardes, Utrecht*, 1-116.
- Johnson, S., Cooper, C., Cartwright, S., Donald, I., Taylor, P., & Millet, C. (2005). The experience of work-related stress across occupations. *Journal of managerial psychology, 20*(2), 178-187.
- De Jonge, J., & Dormann, C. (2006). Stressors, resources, and strain at work: a longitudinal test of the triple-match principle. *Journal of Applied Psychology, 91*(6), 1359.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of management journal, 33*(4), 692-724.
- Karasek, R.A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly, 24*, 285-308.
- Karatepe, O. M., & Karadas, G. (2015). Do psychological capital and work engagement foster frontline employees' satisfaction? A study in the hotel industry. *International Journal of Contemporary Hospitality Management, 27*(6).
- Klaver, J., & Ganzevoort, R. (2015, 27 february). Een linkse lente in het onderwijs. *de Volkskrant*. Retrieved from <http://www.volkskrant.nl/opinie/een-linkse-lente-in-het-onderwijs~a3874899/>
- Llorens, S., Bakker, A. B., Schaufeli, W., & Salanova, M. (2006). Testing the robustness of the job demands-resources model. *International Journal of Stress Management, 13*(3), 378.

- Llorens, S., Schaufeli, W., Bakker, A., & Salanova, M. (2007). "Does a positive gain spiral of resources, efficacy beliefs and engagement exist?." *Computers in Human Behavior* 23.1 (2007): 825-841.
- Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., & Combs, G. M. (2006). Psychological capital development: toward a micro- intervention. *Journal of Organizational Behavior*, 27(3), 387-393.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel psychology*, 60(3), 541-572.
- Luthans, F., Norman, S. M., Avolio, B. J., & Avey, J. B. (2008). The mediating role of psychological capital in the supportive organizational climate—employee performance relationship. *Journal of organizational behavior*, 29(2), 219-238.
- Luthans, F., & Youssef, C. M. (2004). Human, Social, and Now Positive Psychological Capital Management:: Investing in People for Competitive Advantage. *Organizational dynamics*, 33(2), 143-160.
- Luthans, F., & Youssef, C. M. (2007). Emerging positive organizational behavior. *Journal of management*, 33(3), 321-349.
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital: Developing the human competitive edge*. Oxford University Press.
- Mäkikangas, A., Kinnunen, U., & Feldt, T. (2004). Self-esteem, dispositional optimism, and health: Evidence from cross-lagged data on employees. *Journal of research in personality*, 38(6), 556-575.
- MINISTER BUSSEMAKER IN DEBAT MET PROTESTERENDE STUDENTEN UVA.
(2015, 24 april). Retrieved from
<http://www.nationaleonderwijsgids.nl/universiteit/nieuws/27437-minister-bussemaker-in-debat-met-protesterende-studenten-uva.html>
- Nunnally, J. C., & Bernstein, I. H. (1994). The assessment of reliability. *Psychometric theory*, 3, 248-292.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology*, 88(5), 879.
- Prieto, L. L., Soria, M. S., Martínez, I. M., & Schaufeli, W. (2008). Extension of the Job Demands-Resources model in the prediction of burnout and engagement among teachers over time. *Psicothema*, 20(3), 354-360.

- Richardson, P. W., & Watt†, H. M. (2006). Who chooses teaching and why? Profiling characteristics and motivations across three Australian universities. *Asia Pacific Journal of Teacher Education*, 34(1), 27-56.
- Richter, D., Kunter, M., Klusmann, U., Lüdtke, O., & Baumert, J. (2011). Professional development across the teaching career: Teachers' uptake of formal and informal learning opportunities. *Teaching and teacher education*, 27(1), 116-126.
- Van Ruysseveldt, J., Verboon, P., & Smulders, P. (2011). Job resources and emotional exhaustion: The mediating role of learning opportunities. *Work & Stress*, 25(3), 205-223.
- Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: the mediation of service climate. *Journal of applied psychology*, 90(6), 1217.
- Schaufeli, W. B., & Bakker, A. B. (2003). Utrecht work engagement scale: Preliminary manual. *Occupational Health Psychology Unit, Utrecht University, Utrecht*.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of organizational Behavior*, 25(3), 293-315.
- Schaufeli, W.B., & Bakker, A.B. (2007). De psychologie van arbeid en gezondheid. Houten/Diegem: Bohn Stafleu Van Loghum.
- Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior*, 30(7), 893-917.
- Schaufeli, W., & Salanova, M. (2007). Work engagement. *Managing social and ethical issues in organizations*, 135-177.
- Schaufeli, W., & Taris, T. W. (2013). Het Job Demands-Resources model: overzicht en kritische beschouwing. *Gedrag & Organisatie*, 26(2), 182-204.
- Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the Job Demands-Resources Model: Implications for improving work and health. In *Bridging occupational, organizational and public health* (pp. 43-68). Springer Netherlands.
- Schaufeli, W. B., Taris, T. W., & Bakker, A. B. (2006). Dr. Jekyll or Mr. Hyde: On the differences between work engagement and workaholism. *Research companion to working time and work addiction*, 193-217.
- Schaufeli, W. B., Taris, T. W., & Van Rhenen, W. (2008). Workaholism, Burnout, and Work Engagement: Three of a Kind or Three Different Kinds of Employee Well-being?. *Applied Psychology*, 57(2), 173-203.

- Seligman, M. E., & Csikszentmihalyi, M. (2000). *Positive psychology: An introduction* (Vol. 55, No. 1, p. 5). American Psychological Association.
- Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of occupational health psychology*, 1(1), 27.
- Sihag, P., & Sarikwal, L. (2014). Impact of Psychological Capital on Employee Engagement: A Study of IT Professionals in Indian Context. *Management Studies and Economic Systems*, 1(2), 127-139.
- Simbula, S., Guglielmi, D., & Schaufeli, W. B. (2011). A three-wave study of job resources, self-efficacy, and work engagement among Italian schoolteachers. *European Journal of Work and Organizational Psychology*, 20(3), 285-304.
- Simons, J. C., & Buitendach, J. H. (2013). Psychological capital, work engagement and organisational commitment amongst call centre employees in South Africa. *SA Journal of Industrial Psychology*, 39(2), 1-12.
- Sun, T., Zhao, X. W., Yang, L. B., & Fan, L. H. (2012). The impact of psychological capital on job embeddedness and job performance among nurses: a structural equation approach. *Journal of advanced nursing*, 68(1), 69-79.
- Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. *Measures in health psychology: A user's portfolio. Causal and control beliefs*, 1, 35-37.
- Tschannen-Moran, M., Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of educational research*, 68(2), 202-248.
- Van Veldhoven, M. J. P. M., & Meijman, T. F. (1994). Het meten van psychosociale arbeidsbelasting met een vragenlijst: de vragenlijst beleving en beoordeling van de arbeid (VBBA). *Nederlands Instituut voor Arbeidsomstandigheden NIA*.
- Van Veldhoven, M., Meijman, T. F., Broersen, J. P. J., & Fortuin, R. J. (2002). *HANDLEIDING VBBA*.
- VanVoorhis, C. R. W., & Morgan, B. L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology*, 3(2), 43-50.
- Van Veen, K., Zwart, R., Meirink, J., & Verloop, N. (2010). Professionele ontwikkeling van leraren. *Een reviewstudie naar effectieve kenmerken van professionaliseringssinterventies van leraren. Teacher professional development. A review of studies on effective characteristics of teacher professionalization interventions*. Leiden: ICLON/Expertisecentrum Leren van Docenten.
- Verbrugge, A. (2015, 24 may). Voorwoord: Rendementsdenken en beroepseer. Retrieved from <http://www.beteronderwijsnederland.nl/vakwerk/2015/05/voorwoord-rendementsdenken-en-beroepseer>.

- VOION (2013). Nationale Enquete Arbeidsomstandigheden 2013 voor voortgezet onderwijs. Retrieved from <http://publications.tno.nl/publication/34612369/V9bsJ6/voion-2014-nationalepublieksversie.pdf>.
- Van Wingerden, J., Van Kessel, J., Bakker, A.B., & Derkx, D. (2014). Bevlogen in het onderwijs. Gouda: Koninklijke Auris Groep.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management, 14*(2), 121.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009a). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology, 82*(1), 183-200.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009b). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational behavior, 74*(3), 235-244.
- Xanthopoulou, D., Bakker, A. B., & Fischbach, A. (2015). Work Engagement Among Employees Facing Emotional Demands. *Journal of Personnel Psychology*.
- Youssef, C. M., & Luthans, F. (2007). Positive organizational behavior in the workplace the impact of hope, optimism, and resilience. *Journal of Management, 33*(5), 774-800.
- Zerbe, W. J., & Paulhus, D. L. (1987). Socially desirable responding in organizational behavior: A reconception. *Academy of Management Review, 12*(2), 250-264.

Appendix

Questionnaire.

Achtergrondgegevens

Geslacht	_____	(man/vrouw)
Leeftijd	_____	jaar
Voor hoeveel uur per week heeft u een aanstelling op deze school?	_____	uur
Hoeveel uur besteedt u, buiten uw aanstelling, gemiddeld extra per week aan uw schoolwerk?	_____	uur
Hoeveel jaar bent u werkzaam in het onderwijs?	_____	jaar
Hoeveel jaar bent u werkzaam op het VLC?	_____	jaar

PsyCap

Wilt u aangeven in hoeverre iedere uitspraak op u van toepassing is door steeds het best passende cijfer (van 1 tot 6) in te vullen?

Geheel mee oneens	Mee oneens	Enigszins mee oneens	Enigszins mee eens	Mee eens	Geheel mee eens
1	2	3	4	5	6

Hoop

- 1. Ik vertrouw erop dat ik, als ik mij in een moeilijke situatie bevind in mijn werk, een oplossing kan vinden
- 2. Op dit ogenblik beschouw ik mezelf als succesvol in mijn werk
- 3. Ik kan veel manieren bedenken om mijn huidige werkdoelen te bereiken
- 4. Op dit ogenblik bereik ik de doelstellingen die ik in mijn werk voor mezelf gesteld heb

Optimisme

- 5. Ik bekijk mijn werk altijd van de zonnige kant
- 6. Ik ben optimistisch wat betreft mijn toekomst binnen het werk

Eigen-effectiviteit

- 7. Als er zich op mijn werk moeilijke problemen voordoen weet ik die op te lossen
- 8. Op mijn werk bereik ik mijn doel, ook wanneer er zich onverwachte situaties voordoen
- 9. Als ik obstakels op mijn werk tegenkom vind ik altijd wel een manier om ze te omzeilen
- 10. Ook al kost het mij veel tijd en energie, ik bereik op mijn werk wat ik wil
- 11. Als er iets nieuws op mij afkomt op het werk weet ik altijd wel hoe ik daar mee om moet gaan

Weerbaarheid

- 12. Ik kan goed zonder hulp van anderen werken als dat nodig is
- 13. Gewoonlijk neem ik stressvolle dingen in het werk er gewoon bij
- 14. Moeilijke momenten in het werk kan ik best aan, want ik heb al voor hetre vuren gestaan

Utrechtse Bevlogenheids Schaal

De volgende uitspraken hebben betrekking op hoe u uw werk beleeft en hoe u zich daarbij voelt. Wilt u aangeven hoe vaak iedere uitspraak op u van toepassing is door steeds het best passende cijfer (van 0 tot 6) in te vullen?

	Sporadisch	Af en toe	Regelmatig	Dikwijls	Zeer dikwijls	Altijd
0	1	2	3	4	5	6
Nooit	Een paar keer per jaar of minder	Eens per maand of minder	Een paar keer per maand	Eens per week	Een paar keer per week	Dagelijks

- 1. Op mijn werk bruis ik van energie.
- 2. Als ik werk voel ik me fit en sterk.
- 3. Ik ben enthousiast over mijn baan.
- 4. Mijn werk inspireert mij.
- 5. Als ik 's morgens opsta heb ik zin om aan het werk te gaan.
- 6. Wanneer ik heel intensief aan het werk ben, voel ik mij gelukkig.
- 7. Ik ben trots op het werk dat ik doe.
- 8. Ik ga helemaal op in mijn werk.
- 9. Mijn werk brengt mij in vervoering.

Job-Resources

Wilt u aangeven in hoeverre iedere uitspraak op u van toepassing is door steeds het best passende cijfer (van 1 tot 5) in te vullen?

Nooit	Zelden	Soms	Vaak	Altijd
1	2	3	4	5

Sociale steun collega's

De volgende vragen gaan over de samenwerking met uw directe collega's.

- 1. Kunt u als dat nodig is uw directe collega's om hulp vragen?
- 2. Kunt u op uw directe collega's rekenen wanneer u het in uw werk wat moeilijk krijgt?
- 3. Voelt u zich in uw werk gewaardeerd door uw directe collega's?

Sociale steun leidinggevende

De volgende vragen gaan over uw directe leidinggevende.

- 4. Kunt u op uw directe leiding rekenen wanneer u het in het werk wat moeilijk krijgt?
- 5. Kunt u als dat nodig is de directe leiding om hulp vragen?
- 6. Voelt u zich in het werk gewaardeerd door de directe leiding?

Autonomie

De volgende vragen gaan over de vrijheid die u heeft bij het uitvoeren van uw werkzaamheden.

- 7. Heeft u vrijheid bij het uitvoeren van uw werkzaamheden?
- 8. Kunt u zelf beslissen hoe u het werk uitvoert?
- 9. Kunt u deelnemen aan besluitvorming die met uw werk te maken heeft?

Emotionele belasting

De volgende vragen gaan over de emotionele belasting die u ervaart bij het uitvoeren van uw werkzaamheden.

- 10. Is uw werk emotioneel zwaar?
- 11. Heeft u in uw werk te maken met zaken die u persoonlijk raken?
- 12. Komt u in uw werk in emotioneel beladen situaties terecht?

Werkdruk

De volgende vragen gaan over de werkdruk die u ervaart bij het uitvoeren van uw werkzaamheden.

- 13. Heeft u teveel werk te doen?
- 14. Hoe vaak komt het voor dat u extra hard moet werken om iets af te krijgen?
- 15. Moet u erg snel werken?
- 16. Werkte u onder tijdsdruk?

Wilt u aangeven in hoeverre iedere uitspraak op u van toepassing is door steeds het best passende cijfer (van 1 tot 5) in te vullen?

Geheel mee oneens	Mee oneens	Neutraal	Mee eens	Geheel mee eens
1	2	3	4	5

Feedback

De volgende stellingen gaan over de feedback die u over uw werk krijgt. Dit kan van zowel collega's als van leidinggevende(n) zijn.

- 16. Er zijn binnen mijn werk voldoende mogelijkheden om er achter te komen hoe goed ik mijn werk doe
- 17. Ik krijg voldoende informatie over het doel dat ik moet bereiken met mijn werk
- 18. Ik krijg voldoende informatie over het resultaat van mijn werk

Ontplooiingsmogelijkheden

De volgende stellingen gaan over de mogelijkheden tot ontwikkeling die u in uw werk ervaart.

- 19. Ik kan mezelf bij mijn organisatie voldoende ontplooien
- 20. In mijn werk heb ik de mogelijkheid om mijn sterke punten te ontwikkelen
- 21. Mijn werk biedt mij de mogelijkheid nieuwe dingen te leren
- 22. Binnen deze organisatie zijn er voor mij voldoende mogelijkheden om door te groeien naar een andere functie