

Literature on Work Engagement (19th May, 2010)

In English

Andreassen, C. S., Ursin, H. & Eriksen, H.R. (2007). The relationship between strong motivation to work, "workaholism", and health. *Psychology and Health*, 22, 615-629.

The aims of the present study were to examine (1) psychometric properties of Spence and Robbins' measures of the components of workaholism and (2) relations between workaholism and health-related outcomes [job stress, burnout, work engagement, and subjective health complaints (SHC)]. Two hundred and thirty-five bank employees completed questionnaires measuring workaholism, job stress, burnout, work engagement, and SHC. Factor analyses suggested a two-factor model of workaholism, "Drive" and "Enjoyment of Work". There were significant relations between workaholism subscales and SHC, job stress, burnout, and work engagement. The "Drive" subscale correlated positively with job stress and SHC, and marginally with burnout and work engagement. The "Enjoyment of Work" subscale correlated negatively with job stress, burnout, and SHC. The results showed that a two-factor model of workaholism provided the best fit for Norwegian data, supported a differentiation of enthusiastic and nonenthusiastic workaholic features, and were related in predictable ways to SHC, burnout, and work engagement, as predicted from contemporary cognitive stress theory.

Attridge, M. (2009). Measuring and managing employee work engagement: a review of the research and business literature. *Journal of Workplace Behavioral Health*, 24, 383-398.

High levels of work engagement are when employees are involved with, committed to, enthusiastic, and passionate about their work. This article provides a review of the literature on employee engagement, based on studies from academic and business sources. Areas of focus include defining the concept of employee work engagement, how it is measured, how often it occurs, the costs of disengagement, the business benefits linked to positive engagement, and how workplaces can be changed to encourage engagement. The findings indicate that work engagement can be improved through adopting certain workplace behavioral health practices that address supervisory communication, job design, resource support, working conditions, corporate culture, and leadership style. Also featured are several case studies from employers who measure and use employee engagement data to improve their work culture, retain employees, and increase business financial success. Implications for improving the service of employee assistance and behavioral health providers are discussed.

Avery, D.R., McKay, P.F. & Wilson, D.C. (2007). Engaging the aging workforce: The relationship between perceived age similarity, satisfaction with co-workers, and employee engagement. *Journal of Applied Psychology*, 92, 1542-1556.

Business publications and the popular press have stressed the importance of creating conditions for meaningful employee expression in work roles, also known as engagement. Few empirical studies, however, have examined how individual or situational factors relate to engagement. Consequently, this study examines the interplay between employee age, perceived co-worker age composition, and satisfaction with older (older than 55) and younger (younger than 40) co-workers on engagement using a sample of 901 individuals employed in the United Kingdom. Results indicated that satisfaction with one's co-workers related significantly to engagement. Moreover, perceived age similarity was associated with higher levels of engagement among older workers when they were highly satisfied with their co-workers over 55 and lower levels of engagement when they were not.

Bakker, A.B. (in press). Building engagement in the workplace. In C. Cooper & R. Burke (Eds.) (2008). *The peak performing organization*. London: Routledge.

This chapter gives an overview of the recently introduced concept of work engagement. I first define engagement as

a state including vigor, dedication, and absorption, and describe the results of qualitative studies on the manifestation of engagement. Then I discuss the psychological role of job and personal resources as predictors of engagement, and their increased salience in the context of high job demands. Four reasons why engaged workers are more productive are discussed, as well as the available evidence. Since even engaged workers have their off-days, studies on daily changes in work engagement are reviewed as well. 'All that glitters is not gold', and therefore, I also discuss the possible downside of work engagement. The chapter closes with a discussion of what companies can do to build engagement in the workplace.

Bakker, A.B. & Bal, P.M. (2009). Weekly work engagement and performance: a study among starting teachers. *Journal of Occupational and Organizational Psychology*, 1-18.

This study among 54 Dutch teachers tested a model of weekly work engagement. On the basis of theories about the motivational potential of job resources, we predicted that teachers' weekly job resources are positively related to their week-levels of work engagement, and that week-level work engagement is predictive of week-level performance. In addition, we hypothesized that momentary work engagement has a positive, lagged effect on next week's job resources. Teachers were asked to fill in a weekly questionnaire every Friday during 5 consecutive weeks. Results of multi-level analyses largely confirmed our hypotheses, by showing that week-levels of autonomy, exchange with the supervisor, and opportunities for development (but not social support) were positively related to weekly engagement, which, in turn, was positively related to weekly job performance. Moreover, momentary work engagement was positively related to job resources in the subsequent week. These findings show how intra-individual variability in employees' experiences at work can explain weekly job performance.

Bakker, A.B. & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, 22, 309-328.

The purpose of this paper is to give a state-of-the art overview of the Job Demands-Resources (JD-R) model. The strengths and weaknesses of the demand-control model and the effort-reward imbalance model regarding their predictive value for employee well being are discussed. The paper then introduces the more flexible JD-R model and discusses its basic premises. The paper provides an overview of the studies that have been conducted with the JD-R model. It discusses evidence for each of the model's main propositions. The JD-R model can be used as a tool for human resource management. A two-stage approach can highlight the strengths and weaknesses of individuals, work groups, departments, and organizations at large. This paper challenges existing stress models, and focuses on both negative and positive indicators of employee well being. In addition, it outlines how the JD-R model can be applied to a wide range of occupations, and be used to improve employee well being and performance.

Bakker, A.B. & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, 13, 209-223.

Purpose – This paper aims to provide an overview of the recently introduced concept of work engagement. Design/methodology/approach – Qualitative and quantitative studies on work engagement are reviewed to uncover the manifestation of engagement, and reveal its antecedents and consequences. Findings – Work engagement can be defined as a state including vigor, dedication, and absorption. Job and personal resources are the main predictors of engagement; these resources gain their salience in the context of high job demands. Engaged workers are more creative, more productive, and more willing to go the extra mile. Originality/value – The findings of previous studies are integrated in an overall model that can be used to develop work engagement and advance career development in today's workplace.

Bakker, A.B. & Demerout, E. (2009). The crossover of workengagement between working couples. A closer look at the role of empathy. *Journal of Managerial Psychology*, 24, 220-236.

Purpose – *The purpose of this paper is to examine the role of empathy (empathic concern and perspective taking) in the crossover process. Specifically, it aims to test whether empathy moderates the crossover effect of women's work*

engagement to their men's work engagement. Additionally, it seeks to investigate the relationship between men's engagement and colleague ratings of job performance.

Design/methodology/approach – Hypotheses were tested using a cross-sectional design with three sources of information: 175 Dutch women and their partners working in different occupational sectors, as well as 175 colleagues of the male participants.

Findings – Results of moderated structural equation modeling analyses showed that the crossover of work engagement from women to men was strongest when men were high (vs low) in perspective taking (the spontaneous tendency of a person to adopt the psychological perspective of other people). Empathic concern did not moderate the crossover effect. In addition, men's work engagement was positively related to in-role and extra-role performance.

Practical implications – Results suggest that work engagement is not only important for one's own, but also for one's partner's performance. This implies that companies should try to facilitate engagement.

Originality/value – The findings shed light on the crossover process, and indicate under which conditions employees are influenced by their partners and consequently change their work behavior.

Bakker, A.B., Demerouti, E. & Schaufeli, W.B. (2003). Dual processes at work in a call centre: An Application of the Job Demands – Resources Model. *European Journal of Work and Organizational Psychology*, 12, 393-417.

This study among 477 employees working in the call centre of a Dutch telecom company (response 88%) examined the predictive validity of the job demands – resources (JD –R) model for self-reported absenteeism and turnover intentions. The central hypothesis was that job demands would be the most important predictors of absenteeism, through their relationship with health problems (i.e., exhaustion and Repetitive Strain Injury—RSI), whereas job resources would be the most important predictors of turnover intentions, through their relationship with involvement (i.e., organizational commitment and dedication). Results of a series of SEM analyses largely supported these dual processes. In the first energy-driven process, job demands (i.e., work pressure, computer problems, emotional demands, and changes in tasks) were the most important predictors of health problems, which, in turn, were related to sickness absence (duration and long-term absence). In the second motivation-driven process, job resources (i.e., social support, supervisory coaching, performance feedback and time control) were the only predictors of involvement, which, in turn, was related to turnover intentions. Additionally, job resources had a weak negative relationship with health problems, and health problems positively influenced turnover intentions. The application of the JD –R model as a human resource management tool in call centres as well as in other organizations is discussed.

Bakker, A.B., Demerouti, E. & Schaufeli, W.B. (2005) The crossover of burnout and work engagement among working couples. *Human Relations*, 58, 661-689.

The present study tested the hypothesis that burnout and work engagement may cross-over from husbands to wives and vice versa. Data was collected among 323 couples working in a variety of occupations. The Job Demands – Resources model was used to simultaneously examine possible correlates of burnout and engagement for each partner separately. The results of a series of hierarchical regression analyses provide evidence for the crossover of burnout (exhaustion and cynicism) and work engagement (vigor and dedication) among partners. The crossover relationships were significant and about equally strong for both partners, after controlling for important characteristics of the work and home environment. These findings expand previous crossover research, particularly by showing that positive experiences at work may be transferred to the home domain. We argue that the crossover of positive feelings among partners should be placed more prominently on the research agenda.

Bakker, A.B., Hakanen, J., Demerouti, E, & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology*, 99, 274-284.

This study among 805 Finnish teachers working in elementary, secondary, and vocational schools tested two interaction hypotheses. On the basis of the Job Demands - Resources model, we predicted that job resources act as

buffers and diminish the negative relationship between pupil misbehavior and work engagement. In addition, using conservation of resources theory, we hypothesized that job resources particularly influence work engagement when teachers are confronted with high levels of pupil misconduct. In line with these hypotheses, moderated structural equation modeling analyses resulted in fourteen out of eighteen possible two-way interaction effects. Particularly supervisor support, innovativeness, appreciation and organizational climate seem important job resources for teachers that help them cope with demanding interactions with students.

Bakker, A.B., Schaufeli, W.B., Demerouti, E. & Euwema, M.C. (2007). An organizational and social psychological perspective on burnout and work engagement. In M. Hewstone, H. Schut, J. de Wit, K. van den Bos & M. Stroebe (Eds.), *The scope of social psychology: Theory and applications* (pp. 229-252). Andover, UK: Psychology Press.

This chapter aims to integrate an organizational (i.e. the Job Demands-Resources Model) with a social psychological perspective (i.e. emotional contagion and social comparison) on the experience of burnout and work engagement. It is shown that aspects of work (cf. the organizational psychological perspective) and of individuals within groups (cf. the social psychological perspective) are both able to predict the development and sustenance of occupational well-being or unwell-being. Some studies have aimed to integrate both perspectives in the study of employee well-being, but it is argued that more systematic work should be conducted in this direction. Each of these perspectives can be enriched by the insights gained in the other perspective and their simultaneous consideration may promote a more systemic view on occupational health and well-being. This will help research and practice to find more workable solutions, which are beneficial for well-being and for all involving parties.

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, 187-200.

This position paper introduces the emerging concept of work engagement – a positive, fulfilling, affective-motivational state of work-related well-being that is characterized by vigor, dedication, and absorption. Although there are different views of work engagement, most scholars agree that engaged employees have high levels of energy and identify strongly with their work. The most often used instrument to measure engagement is the Utrecht Work Engagement Scale, a self-report instrument that has been validated in many countries across the world. Previous research on engagement has investigated how the concept differs from related concepts (e.g., workaholism, organizational commitment), and has focused on the most important predictors of work engagement. These studies revealed that engagement is a unique concept that is best predicted by job resources (e.g., autonomy, supervisory coaching, performance feedback) and personal resources (e.g., optimism, self-efficacy, self-esteem). Moreover, the first studies have shown that work engagement is predictive of job performance and client satisfaction. The paper closes with what we don't know about work engagement, and offers a brief research agenda.

Bakker, A.B., Van Emmerik, H. & Euwema, M.C. (2006). Crossover of burnout and engagement in work teams. *Work and Occupations*, 33, 464-489.

This study investigates the crossover of burnout and work engagement among 2229 Royal Dutch constabulary officers, working in one of 85 teams. We hypothesized that both states may transfer from teams to individual team members. The results of multilevel analyses confirm this crossover phenomenon by showing that team level burnout and work engagement are related to individual team members' burnout (i.e., exhaustion, cynicism and reduced professional efficacy) and work engagement (vigor, dedication, and absorption), after controlling for individual members' job demands and resources. The implications of these findings for interventions aimed at the promotion of employee well-being are discussed.

Balducci, C., Fraccaroli, F. & Schaufeli, W.B. (2008). *Psychometric properties of the Italian*

version of the Utrecht Work Engagement Scale (UWES-9): A cross-cultural analysis (Manuscript submitted for publication.)

Work engagement may be defined as a positive, fulfilling, work-related psychological state characterized by the dimensions of vigor, dedication and absorption. In this study, the psychometric properties of the Italian version of the Utrecht Work Engagement Scale (UWES-9) were investigated by using two samples: Italian (n = 668) and Dutch (n = 2213) white collar employees. In addition to reliability analyses, a series of multiple-group confirmatory factor analyses of the UWES-9 were also conducted. Validity of the UWES-9 was investigated by studying its correlations with the Job-related Affective Well-being Scale (JAWS) and with a measure of work performance. Results showed that a three-factor solution of the UWES-9 is invariant across the Italian and Dutch samples, with data supporting factor variance and covariance invariance in addition to metric invariance. Internal consistencies of the vigor, dedication and absorption scales are good. The UWES-9 and its subscales show significant correlations in the expected direction with the JAWS and with work performance. The Italian version of the UWES-9 behaves consistently with its original Dutch version and may be used for future studies of work engagement.

Balducci, C., Schaufeli, W.B. & Fraccaroli, F. (2010). The Job Demands-Resources Model and Counterproductive Work Behaviour: The Role of Job-related Affect. *European Journal of Work & Organizational Psychology* (*in press*)

The Job Demands-Resources (JD-R) model postulates that job demands and job resources constitute two processes: the health impairment process, leading to negative outcomes, and the motivational process, leading to positive outcomes. In the current research we extended the JD-R model by including both counterproductive work behaviour (CWB) as a behavioral stress-reaction and job-related affect as a mediator in both processes. In a sample of 818 public-sector employees we found support for a model where job demands (workload, role conflict, and interpersonal demands) were associated with abuse/hostility CWB, whereas job resources (decision authority, social support, and promotion prospects) were associated with work engagement. Furthermore, job-related negative affect mediated the relationship between job demands and abuse/hostility CWB, whereas job-related positive affect mediated the relationship between job resources and work engagement. We also found that the impact of job demands on negative affect, was attenuated by job resources.

Beckers, D.G.J., Van der Linden, D., Smulders, P.G.W., Kompier, M.A.J., Taris, T. & Van Yperen, N.W. (2007). Distinguishing between overtime work and long working hours among full-time and part-time employees. *Scandinavian Journal of Work Environment & Health*, 33, 37-11.

Objectives: This study aimed at disentangling the effects of overtime work from those of long work hours. For part-time workers, overtime work is not intertwined with long work hours as it is for full-time workers. Therefore, part-time and full-time workers were compared regarding the association between overtime and well-being (fatigue and engagement). Such comparisons may also shed more light on the psychosocial meaning of overtime work for part-time and full-time workers. Methods: A survey study was conducted among a representative sample of Dutch employees (N = 2419). Analysis of covariation was used to investigate whether the relationship between overtime and well-being differs for marginal part-time (8-10 contractual work hours), substantial part-time (21 -24 hours) and full-time (> 25 hours) workers. Work characteristics (i.e. job demands, decision latitude, and job variety), age, and gender were treated as covariates. Results: No significant relationship between overtime and fatigue was found for any of the contract-hours groups. For part-time workers, overtime was not related to more engagement, whereas for full-time workers it was. Conclusions: It is important to distinguish between overtime and long work hours, given the differential overtime-engagement relationship among part-time and full-time workers. This finding suggests that part-time employees work overtime for reasons other than being engaged or that working overtime does not increase engagement for this group of employees. Overtime seems to have a different meaning for part-time and full-time employees.

Beckers, D.G.J., Van der Linden, D., Smulders, P.G.W., Kompier, M.A.J., Van Veldhoven,

J.P.M. & Van Yperen, N.W. (2004). Working overtime hours: Relations with fatigue, work motivation, and the quality of work. *Journal of Occupational and Environmental Medicine*, 46, 1282-1289.

Objectives: We sought to better understand the relationship between overtime and mental fatigue by taking into account work motivation ('engagement') and the quality of overtime work and studying theoretically derived subgroups. Methods: We conducted a survey-study among a representative sample of the Dutch full-time workforce (N = 1,807). The prevalence of overtime work and the associations between overtime and job demands, job variety, decision latitude, fatigue, and work motivation ('engagement') was studied through descriptive statistics. We used MANCOVA (covariates: age, gender, salary level) to compare six overtime-fatigue subgroups with respect to work motivation ('engagement') and job characteristics. Results: A total of 67% of the respondents worked overtime (mean, 3.5 hours). Overtime workers appeared to be non-fatigued, motivated ('engaged') workers with favorable work characteristics. MANCOVA revealed no significant overtime-fatigue interaction. Conclusions: Moderate overtime is common among Dutch workers, who seem to be happy workers with attractive jobs rather than fatigued employees.

Beckers, D.G.J., Van Hooff, D., Van der Linden, D., Kompier, M.A.J., Taris, T. & Geurts, S. (2008). A diary study to open up the black box of overtime among university faculty. *Scandinavian Journal of Work Environment & Health*, 34, 213-223.

Objectives: This study aimed to open up the black box of overtime work among university faculty members by providing information on (i) when faculty members work overtime; (ii) what activities are undertaken during overtime, and (iii) how overtime is experienced. Methods: Data were collected among 120 Dutch faculty members who completed a general questionnaire (addressing general overtime hours, work characteristics and well-being) and a 9-day diary study (with information on daily overtime hours, activities and experiences). Results: Overtime was very prevalent among faculty members, high overtime workers being non-fatigued, engaged employees with positive work characteristics. (1) Overtime was unevenly distributed over the week: overtime was common on Sunday and Monday and uncommon on Friday and Saturday. (ii) Overtime activities during the weekend differed from those during the work week: during weekend-overtime work, relatively much time was spent on research. (iii) Overtime activities were experienced differently than activities during regular hours: overtime work was experienced as less effortful and stressful than regular work hours, and week-end overtime as less pleasurable than regular hours and evening overtime. Conclusions: This detailed day-to-day mapping and the evaluation of overtime work contributes to a better understanding of overtime work by demonstrating meaningful pattern of overtime over the (work)week and meaningful associations between overtime activities and time-contingent experiences. It is suggested that work-time control plays an important role in explaining the results.

Brake, J.H.M. te, Bouwman, A-M., Gorter, R.C., Hoogstraten, J. & Eijkman, M.A.J., (2007). Professional burnout and work engagement and among Dutch dentists. *European Journal of Oral Science*, 115, 180-185.

A recent development within burnout research is the shift to its conceptual opposite: work engagement. This study aimed to unravel the concepts of burnout and work engagement, and to determine their levels among dentists. A representative sample of 497 Dutch general dental practitioners was included (survey response rate of 59%), consisting of 372 men and 121 women (the gender of 4 dentists remained unknown). The hypothesized three-factor structure of work engagement (vigor, dedication, and absorption), as measured by the Utrecht Work Engagement Scale (UWES), was substantiated among dentists. It was also found that work engagement was related negatively to burnout, as measured by the Maslach Burnout Inventory (MBI). However, a model consisting of a reduced ("core") burnout factor and an "enhanced" engagement factor (composed of the three original factors plus the burnout factor, personal accomplishment) showed the best fit. Overall burnout levels among dentists are low, and the levels of engagement indicate that dentists have a positive working attitude.

Bresó, E., Schaufeli, W.B. & Salanova, M. (2007). *Past success and self-efficacy as antecedents of burnout and engagement among Spanish and Portuguese university students* (Manuscript submitted for publication).

Based on Albert Bandura's Social Cognitive Theory (1997, 2001), this study examines the mediating role of self-efficacy in the prediction of student burnout and engagement. Spanish (n=863) and Portuguese (n=721) students provided information about their past academic success, self-efficacy, burnout (i.e., exhaustion and cynicism), and engagement (i.e., vigor and dedication). Structural equation modeling analyses were consistent with a full mediation model in which academic past success predicts self-efficacy, which in turn, predicts student burnout and engagement. Additionally, multiple-group analyses revealed the cross-national stability of the proposed model. Implications of the study are discussed, together with limitations and suggestions for future research

Bresó, E., Schaufeli, W.B. & Salanova, M. (2007). *Can a self-efficacy-based intervention decrease burnout, increase engagement, and enhance performance? A quasi-experimental study.* (Manuscript submitted for publication).

Using the Social Cognitive Theory as a theoretical framework, this study evaluated a 4-month, individual cognitive-behavioral intervention program to increase self-efficacy, engagement, and performance, and to decrease burnout, among university students. The main objective of the intervention was to decrease student anxiety to cope with exams in order to increase their self-efficacy beliefs. One study group intervened, and two control groups participated (i.e., stressed group vs. healthy control group). All 3 groups filled out a questionnaire before the intervention and 6 months later (2 months after finishing the intervention). The results showed that self-efficacy, engagement and performance increased in the intervened group when compared with both control groups. Regarding burnout, decreases were noted in both the intervened and stressed control groups but not in the healthy control group. The implications of the study are discussed, together with limitations and suggestions for future research

Chughtai, A.A. & Buckley, F. (in press). Linking trust in the principal to school outcomes – The mediating role of organizational identification and work engagement. *International Journal of Educational Management*.

Purpose – The main purpose of this study was to examine the effects of faculty's trust in the school principal on three school outcomes, namely, self reported in-role job performance, organizational citizenship behaviour (OCB) and learning goal orientation. Furthermore, this research aimed to highlight the role of organizational identification and work engagement in explaining the linkage between trust in the principal and the three outcome variables. Design/methodology/approach- Survey data were collected from 130 high school teachers in Pakistan. Hierarchical multiple regression analyses were used to test the research hypotheses.

Findings – The results of this study revealed that organizational identification and work engagement fully mediated the relationship between trust in the principal and in-role job performance; whereas, they partially mediated the effects of trust in the principal on OCB and learning goal orientation.

Research limitations/implications- The data used in this paper were cross-sectional and hence we cannot determine causation. Additionally, the data for this study were collected from a single source, which may create problem of common method variance. Nevertheless, the results of this study provide ample evidence, which proves that faculty trust in the principal is a key determinant of school effectiveness.

Originality/value – This study extends the literature by providing insights into two processes through which trust in the principal can affect performance and learning orientation of teachers.

Cifre, E., Salanova, M. & Rodríguez-Sánchez, A.M. (*in press*). Dancing between theory and practice: Work stress intervention through the action-research approach. *Human Factors and Ergonomics in Manufacturing* (*in press*).

The present quasi-experimental and longitudinal study assesses the effectiveness of a work stress intervention (i.e., Team Redesign) to increase job and personal resources, and to consequently reduce job strain and increase employee psychosocial well-being in a manufacturing enamel company following the Resources-Experiences-Demands Model (RED Model; Salanova, Cifre, Llorens, Martínez, & Lorente, 2009) and within the Action-Research approach. The sample consisted of 108 employees at Time 1 and 72 employees at Time 2. Repeated Measures MANOVA showed that the Time X Intervention interaction had reliable, positive and incremental effects on job resources (i.e., innovation climate), personal resources (i.e., professional self-efficacy and perceived competence) and motivational outcomes (i.e., work engagement: vigor and dedication) on the intervened group (laboratory team, n=9) when compared with the control group (n=63 employees from different departments). Finally, we discuss the theoretical and practical implications based on the RED Model, including the feedback from Intervention (Action) to Theory (Research).

De Lange, A.H. De Witte, H. & Notelaers, G. (2008). Should I stay or should I go? Examining longitudinal relations among job resources and work engagement for stayers versus movers. *Work & Stress*, 22, 201-223.

This two-wave (16-month lag) Belgian panel study is one of the first to test theory-driven hypotheses on the relations between job resources, work engagement, and actual turnover across time. The study focuses on three groups: stayers, workers who have obtained promotions (“promotion makers”), and external job movers. In line with the Job Demands-Resources model, we hypothesized normal crosslagged effects of job resources on work engagement for stayers. Based on broaden-and-build theory, a reversed causal effect of work engagement on job resources was predicted for the job changers. Additionally, we examined whether the changes in the job change groups matched the refuge hypothesis (that less engaged workers change to jobs providing more resources) or the positive gain hypothesis (that engaged workers get promoted to jobs having even more resources). The results partially supported our hypotheses. We found that low work engagement, low job autonomy, and low departmental resources predicted actual transfer to another company. Furthermore, for stayers we found positive effects of job autonomy on work engagement, but also reversed causal effects. For external movers and promotion makers the expected reversed causal effects of work engagement were found. The across time mean changes support the positive gain hypothesis for promotion makers, and the refuge hypothesis for external movers.

Demerouti, E., Bakker, A.B., Janssen, P.P.M. & Schaufeli, W.B. (2001). Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work, Environment & Health*, 27, 279-286.

The present study among 381 employees from an insurance company used discriminant analyses techniques to examine the relationship between job demands and job control on the one hand, and health impairment and motivation on the other. Results showed that the amount of demands and control could be predicted on the basis of employees’ experience of health impairment (burnout and health complaints) and motivation (engagement and commitment). Each of the four combinations of demands and control differentially affected the experience of strain or motivation. Job demands were most clearly related to health impairment, whereas job control was most clearly related to motivation. These findings partly contradict the demand-control model, but are consistent with the recently proposed job demands – resources model.

Dollard, M.F. & Bakker, A.B. (2009). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology*. (*in press*)

We constructed a model of workplace psychosocial safety climate (PSC) to explain the origins of job demands and resources, worker psychological health, and employee engagement. PSC refers to policies, practices, and procedures for the protection of worker psychological health and safety. Using the job demands–resources framework, we hypothesized that PSC as an upstream organizational resource influenced largely by senior management, would precede the work context (i.e. job demands and resources) and would in turn predict psychological health and work engagement via mediation and moderation pathways. We operationalized PSC at the school level and tested mesomediational models using two-level (longitudinal) hierarchical linear modelling in a sample of Australian education workers $\delta N \frac{1}{4} 209\text{--}288P$. Data were repeated measures separated by 12 months, nested within individuals, nested within 18 schools. PSC predicted change in individual psychological health problems (psychological distress, emotional exhaustion) through its relationship with individual job demands (work pressure and emotional demands). PSC moderated the relationship between emotional demands and emotional exhaustion. PSC predicted change in employee engagement, through its relationship with skill discretion. The results show that the PSC construct is a key upstream component of work stress theory and a logical intervention site for work stress intervention.

Durán, A., Extremera, N. & Rey, L. (2004). Engagement and burnout: Analyzing their association patterns. *Psychological Reports, 94*, 1084-1050.

This study explored the negative patterns of associations between Emotional Exhaustion and Depersonalization with the dimensions of Engagement, while it was hypothesized a positive link with Personal Accomplishment. The sample was composed by 112 Spanish human services professionals who work with mentally retarded people. The analysis showed moderate negative correlations among scores on Emotional Exhaustion and on all three Engagement scales (-.55 for Vigor; -.41 for Dedication; -.24 for Absorption), positive correlations among scores on Personal Accomplishment and Engagement dimensions (Vigor .57; Dedication .54; Absorption .50), and only significant correlations between scores on Depersonalization and Vigor (-.39) and on Dedication (-.22). The data obtained using the Maslach Burnout Inventory-Human Services Survey did not support the hypothesis of stronger negative correlations between the measures, Emotional Exhaustion-Vigor and Depersonalization-Dedication, hypothesized in the conceptual model by Schaufeli, Salanova, González-Romá and Bakker.

Durán, A., Extremera, N. & Rey, L. (2004). Self-reported emotional intelligence, burnout and engagement among staff in services for people with intellectual disabilities. *Psychological Reports, 92*, 386-390.

This study examined the relationship among dimensions of self-reported emotional intelligence, engagement and burnout, using the Trait-Meta Mood Scale, Maslach Burnout Inventory and Utrecht Work Engagement Scale in a sample of Spanish professional who work at institutions for people with intellectual disabilities. The results showed that Emotional Clarity was significantly correlated with all Engagement dimensions (.20 Vigor, .30 Dedication, .36 Absorption) and with Personal Accomplishment (.32). These findings extend previous research with college students in which Clarity and Repair to moods subscales were relevant predictors of well-being indexes and interpersonal functioning and suggest that Trait-Meta Mood Scale subscales also show significant relationships with emotional functioning and work related variables in a professional sample.

Durán, A., Extremera, L., Rey, L., Fernández-Berrocal, & Montalbán, F. (2006). Predicting academia burnout and engagement in educational settings: Assessing the incremental validity of perceived emotional intelligence beyond perceived stress and general self-efficacy. *Psicotema, 18*, 148-164.

This study examines the role of Perceived Emotional Intelligence (PEI) (measured by the Spanish version of the Trait Meta-Mood Scale) and general self-efficacy as predictors of burnout and engagement dimensions. The unique contribution of PIE dimensions on the burnout and engagement scores I explored, controlling for the influence of

demographic characteristics, perceived stress and self-efficacy. Data were collected from a sample of 373 Spanish undergraduate students (means age = 21.87 years) and analyzed using hierarchical regressions. Results indicate the relevance of PEI as an individual resource and support the hypothesis that this construct accounted for non-overlapping variance on academic burnout and engagement above and beyond classic constructs predicting these criterion measures such as perceived stress and general self-efficacy.

Freaney, Y. & Tiernan, J. (2006). Employee engagement: An overview of the literature on the proposed antithesis to burnout. *Irish Journal of Psychology*, 27, 130-141.

Two trends have emerged in burnout research that have resulted in a broadening of the topic. First, the concept of burnout has been expanded to embrace all professions, whereas it was previously considered to exist only in the human services. Second, in line with the growth of positive psychology, there has been a shift in focus toward its antithesis, namely engagement, which can be defined as a positive affective-motivational state of fulfilment in employees. As a new construct, the body of literature on this subject is limited. However, this paper offers a comprehensive review of the empirical findings that are available to date. It examines the origins of research on engagement and goes on to explore the likely antecedents and consequences of this construct. In doing so it highlights the value of engagement not only as a state of well-being but also as a predictor of high performance.

Freaney, Y.M. & Tiernan, J. (2009). Exploration of the facilitators of and barriers to work engagement in nursing. *International Journal of Nursing Studies*. (in press)

Engagement is couched as the opposite to burnout and while there have been numerous studies that have supported the relationship between organizational antecedents and employee engagement, nurse engagement is still inadequately understood. Recent papers in the nursing literature have called for more research on this construct to be conducted with nurses so that nurse leaders can be better informed about the impact of engagement on outcomes for the organization. Aim: To explore nurses' experiences of their work environments and to reveal factors in the workplace that may facilitate or act as barriers to nurse engagement. Methods and participants: A qualitative methodology was employed with the data from focus groups with a total of 20 nurses working in both general and psychiatric nursing. Results: Facilitators of and barriers to engagement centre around six areas of organizational life, namely; workload, control, reward, fairness, community and values. Conclusion: Interventions aimed at fostering engagement are called for and through future research in the area of engagement, it is believed that nurses will gain more positive experiences from their work and subsequently a greater sense of well-being.

Gan, Y. Yang, M., Zhou, Y. & Zhang, Y. (2007). The two-factor structure of future-oriented coping and its mediating role in student engagement. *Personality and Individual Differences*, 43, 851-863.

The objectives of the current studies are to explore the factor structure of future-oriented coping and its mediating role in student engagement. In study 1, 254 college students completed the Future-Oriented Coping Inventory, Self-rating Depression Scale, and the Optimism-Pessimism dimension of the Chinese Personality Assessment Inventory. In study 2, 171 college students completed the Future-Oriented Coping Inventory, the Utrecht Work Engagement Scale-Student Version, and the Stress Perception Indicator. Results indicated a clear 2-factor structure of future-oriented coping: proactive coping and preventive coping. Compared to preventive coping, proactive coping had significantly higher correlations with depression and optimism. Proactive coping fully mediated the relationship between stress and engagement whereas preventive coping partially mediated this relationship.

González-Romá, V., Schaufeli, W.B., Bakker, A. & Lloret, S. (2006). Burnout and engagement: Independent factors or opposite poles? *Journal of Vocational Behavior*, 68, 165-174.

Burnout researchers have proposed that the conceptual opposites of emotional exhaustion and cynicism (the core

dimensions of burnout) are vigor and dedication (the core dimensions of engagement), respectively (Maslach & Leiter, 1997; Schaufeli et al., 2002). We tested this proposition by ascertaining whether two sets exhaustion-vigor and cynicism-dedication items were scalable on two distinct underlying bipolar dimensions (i. e., energy and identification, respectively). The results obtained by means of the non-parametric Mokken scaling method in three different samples ($N_s = 477, 507, \text{ and } 381$) supported our proposition: the core burnout and engagement dimensions can be seen as each others opposites along two distinct bipolar dimensions dubbed energy and identification.

Gorgievski, M., Bakker, A. & Schaufeli, W. (in press). Work engagement and workaholism: Comparing the self-employed and employees on payroll. *The Journal of Positive Psychology*.

This study among self-employed individuals ($n = 262$) and employees on payroll ($n = 1900$) tested to what extent workaholism and work engagement predict work performance. After controlling for measurement inequivalence, results of structural equation modelling techniques showed that the self-employed score higher on engagement and working excessively than salaried employees, but not on working compulsively. In addition, work engagement related positively to task performance and innovativeness for both groups. However, engagement only predicted contextual performance for salaried employees. Workaholism had both positive and negative relationships with performance. Working excessively was positively related to innovativeness for both groups, and to contextual performance for the self-employed. Working compulsively suppressed this positive effect of excessive working on innovativeness in both groups, and on contextual performance for the self-employed. In contrast to our expectations, working compulsively related positively to contextual performance for employees

Gorter, R.C., te Brake, J.H.M., Hoogstraten J. & Eijkman M.A.J. (2008). Positive engagement and job resources in dental practice. *Community Dentistry & Oral Epidemiology*, 36, 47-54.

The aim of this study is to determine the level of engagement among dentists, and subsequently, to investigate which dental job resources are positively correlated with engagement. By stratifying on gender, age, and region, a representative sample of 848 general dental practitioners was drawn at random, plus an extra group of 95 female dentists for gender comparison purposes. Engagement was assessed using the Utrecht Work Engagement Scale (UWES), consisting of three subscales: Vigor, Dedication; and Absorption. Job resources were measured using the Dentists' Experienced Job Resources Scale (DEJRS). 632 dentists (67%) responded, 76% male and 25% female. Mean age: 44.6 years ($SD = 9.0$). Dedication and Absorption mean scores were higher among dentists when compared with manual norm scores - based upon a variety of professions - whereas Vigor mean scores were comparable to manual norm scores. All DEJRS subscales and the full scale showed statistically significant positive correlations with the UWES subscales. Conclusion: Dentists showed relatively high mean scores on an engagement measure when compared with manual norm scores. No gender differences in mean scores were found. Job resources most valued were "Immediate results / Aesthetics". The job resources "Idealism / Pride" and "Patient care" showed most predictive value with regard to engagement among dentists. In order to prevent burnout, it is recommended to raise dentists' awareness of the importance to create sufficient time and space for stimulating aspects in their work.

Hakanen, 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, 497-487.

This study focuses on job demands, job resources, and work engagement among 1919 Finnish dentists employed in the public sector. Based on the Job Demands - Resources model, it was first predicted that the inverse relationship between job demands (e.g. workload, physical environment) and work engagement would be weaker when dentists have many resources (e.g. variability in the required professional skills, peer contacts). Second, using conservation of resources theory it was hypothesized that job resources are most beneficial in maintaining work engagement under conditions of high job demands. The data were based on a postal questionnaire with a response rate of 71%. The dentists were split in two random groups in order to cross-validate the results. A set of hierarchical regression

analyses resulted in 17 out of 40 significant interactions (40%). Four out of 20 possible interaction effects could be cross-validated showing e.g., that variability in professional skills mitigated the negative effect of qualitative workload on work engagement, and in addition, boosted work engagement when qualitative workload was high. The main conclusion is that job resources are useful in coping with the high demands in dentistry and help dentists stay engaged.

Hakanen, J.J., Bakker, A.B. & Schaufeli, W. .B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology*, 43, 495-513.

Based on the Job Demands - Resources model, it was assumed that there are two parallel processes involved in work-related well-being among teachers, namely the energetical process (i.e., job demands → burnout → ill health) and a motivational process (i.e., job resources → engagement → organizational commitment). In addition, some cross-links between both processes were hypothesized. Structural equation modelling was used to simultaneously test the hypotheses in a sample of Finnish teachers (N = 2,038). The results confirmed both processes, although the energetical process seems to be more prominent. More specifically, (1) burnout mediated the effect of high job demands on ill-health; (2) work engagement mediated the effects of job resources on organizational commitment; (3) burnout mediated the effects of lacking resources on poor engagement. The robustness of these findings is underscored by the fact that they were obtained in one half of the sample (using random selection) and cross-validated in the other half.

Hakanen, J., Schaufeli, W.B. & Ahola, K. (2008). The Job Demands-Resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work & Stress*, 22, 224-241.

By using a full panel design in a representative sample of Finnish dentists (N = 2,555), the present study aimed to test longitudinally the motivational and health impairment processes as proposed in the Job Demands-Resources (JD-R) model. The second aim was to investigate whether home resources and home demands have an additional influence on both processes over time. The hypotheses were tested with cross-lagged analyses based on two waves over a three-year follow-up. The results supported both the motivational process and the health impairment process. Job resources influenced future work engagement, which, in turn, predicted organizational commitment, whereas job demands predicted burnout over time, which, in turn, predicted future depression. In addition, job resources had a weak negative impact on burnout. Home demands and home resources did not influence the motivational or health impairment process over time. The results support the central role of work characteristics for health and well-being. By integrating both human thriving and ill-health in the same model, the JD-R model may help to bridge the gap between "negative" and "positive" psychology.

Hakanen, J.J., Perhomeini, L. & Toppinen-Tanner, S. (2008). Positive gain spirals at work: From job resources to work engagement, personal initiative and work-unit innovativeness. *Journal of Vocational Behaviour*, 73, 78-91.

The present cross-lagged panel study aimed to investigate the energizing power of job resources and related gain spirals. Drawing on Hobfoll's Conservation of Resources (COR) theory's rarely tested assumptions of cumulative resource gains and gain spirals a reciprocal process was expected: (1) job resources lead to work engagement and work engagement leads to personal initiative (PI), which, in turn, has a positive impact on work-unit innovativeness, and (2) work-unit innovativeness leads to PI, which has a positive impact on work engagement, which finally predicts future job resources. The study was based on a two-wave 3-year panel design among 2555 Finnish dentists. Structural equation modeling was employed to study cross-lagged associations. The results mainly confirmed our hypotheses: positive and reciprocal cross-lagged associations were found between job resources and work engagement and between work engagement and PI. In addition, PI had a positive impact on work-unit innovativeness over time.

Halbesleben, J.R.B. (2003). Assessing the construct validity of alternative measures of burnout: Investigating the Oldenburg Burnout Inventory and the Utrecht Engagement Scale. *Paper presented at the Southern Management Association Conference in Clearwater Beach, FL, November 15.*

While the most commonly employed burnout measure has been the Maslach Burnout Inventory, researchers have been troubled by some of the psychometric limitations of that scale. The purpose of this paper to develop evidence for the construct validity of two alternative measures of burnout. To that end, a review of burnout and its measurement are presented, including a discussion of the definition and measurement of burnout's theoretical opposite, engagement. The results of a study designed to investigate the construct validity of two alternatives to the MBI are then presented, with accompanying discussion of implications and directions for future research.

Halbesleben, J.R.B. & Wheeler, A.R. (2008). The relative roles of engagement and embeddedness in predicting job performance and intention to leave. *Work & Stress, 22, 242-256.*

Both work engagement and job embeddedness have seen dramatic growth in research interest over the past few years. Briefly, work engagement can be defined as a positive, fulfilling state of mind, most commonly characterized by vigour, dedication, and absorption. Job embeddedness, in contrast, captures components of an individual's attachment to their job and can be said to consist of links, perceptions of person-environment fit, and the sacrifices involved in quitting. Despite some strong similarity in the constructs in their theoretical bases, there has been no attempt to distinguish them empirically. Thus, the primary research question driving this study was whether work engagement and job embeddedness were empirically distinct constructs. Using a sample of US employees from a wide variety of industries and occupations (n=587), their supervisors, and their closest co-worker, we found via confirmatory factor analysis that engagement and embeddedness were unique constructs. Moreover, using usefulness analysis, we found that engagement and embeddedness each shared unique variance with in-role performance and intention to leave. We discuss the implications of these findings relative to work on motivation and attachment and develop practical implications from our findings as well as directions for future

Hallberg, U., Schaufeli, W.B. & Johansson, G. (2007). Type A behaviour and work situation: Associations with burnout and work engagement. *Scandinavian Journal of Psychology 48, 135-142.*

In research on burnout, and – more recently – work engagement, studies on organizational predictors outweigh studies on individual contributors. The objective of the present study was to investigate the effects of individual ('Type A') behavior patterns on burnout and work engagement. Building on the Job Demand-Resource (JD-R) model, we proposed that the first component of Type A behavior – achievement striving – would be related to work engagement and the second component – irritability/impatience – to burnout. We also investigated if interactions between individual behavior patterns and work characteristics (demands and resources) would affect outcomes. Hierarchical regressions in a sample of Information and Communication Technology (ICT) and management consultants (N=329) mainly supported our propositions, implying that the principles of the JD-R model also apply to individual dispositions.

Hallberg, U., & Schaufeli, W.B. (2006). "Same same" but different: Can work engagement be discriminated from job involvement and organizational commitment? *European Journal of Psychology, 11, 119-127.*

The aim of the present study was to investigate whether work engagement (measured by the Utrecht Work

Engagement Scale; UWES) could be empirically separated from job involvement and organizational commitment. In addition, psychometric properties of the Swedish UWES were investigated. Discriminant validity of the UWES was tested through inspection of latent inter-correlations between the constructs, confirmatory factor analyses, and patterns of correlations with other constructs (health complaints, job- and personal factors, and turnover intention) in a sample of Information Communication Technology-consultants (N=186). Conclusion: work engagement, job involvement and organizational commitment are empirically distinct constructs and thus reflect different aspects of work attachment. The internal consistency of the Swedish UWES was satisfactory, but the dimensionality was somewhat unclear.

Hansez, I. & Chmiel, N. (2010). Safety behaviour: Job Demands, Job Resources and Perceived Management Commitment to safety. *Journal of Occupational Health Psychology*, xx, xx. (Submitted)

The job demands-resources model posits that job demands and resources influence outcomes through job strain and work engagement processes. We test whether the model can be extended to effort-related 'routine' safety violations and 'situational' safety violations provoked by the organization. In addition we test more directly the involvement of job strain than previous studies which have used burnout measures. Structural equation modeling provided, for the first time, evidence of predicted relationships between job strain and 'routine' violations and work engagement with 'routine' and 'situational' violations, thereby supporting the extension of the job demands-resources model to safety behaviors. In addition our results showed that a key safety-specific construct 'perceived management commitment to safety' added to the explanatory power of the job demands-resources model. A predicted path from job resources to perceived management commitment to safety was highly significant, supporting the view that job resources can influence safety behavior through both general motivational involvement in work (work engagement) and through safety-specific processes.

Harter, J.K., Schmidt, F.L. & Hayes, T.L. (2002). Business-unit-level relationships between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87, 268-279.

Based on 7,939 business units in 36 companies, this study used meta-analysis to examine the relationship at the business-unit level between employee satisfaction – engagement and the business-unit outcomes of customer satisfaction, productivity, profit, employee turnover, and accidents. Generalizable relationships large enough to have substantial practical value were found between unit-level employee satisfaction – engagement and these business-unit outcomes. One implication is that changes in management practices that increase employee satisfaction may increase business-unit outcomes, including profit.

Note (W.S.): This study employs a 12-item engagement inventory to measure employee engagement – the Gallop Workplace Audit, which is included in the article.

Heuven, E., Bakker, A.B., Schaufeli, W.B., & Huisman, N. (2006). The role of self-efficacy in performing emotion work. *Journal of Vocational Behavior*, 69, 222-235.

This study used a sample of 154 cabin attendants to examine the role of self-efficacy in the performance of emotion work. On the basis of the literature, we hypothesized that self-efficacy would have a moderating influence on the relationship between emotional job demands (i.e. feeling rules and emotionally charged interactions with passengers) and emotional dissonance, and on the relationship between emotional dissonance and well-being (emotional exhaustion and work engagement). In addition, we predicted that emotional dissonance mediates the relationship between emotional job demands and well-being. The results of a series of hierarchical multiple regression analyses generally supported these hypotheses. Results confirmed that emotionally charged interactions with passengers are related to emotional exhaustion and engagement through their influence on emotional dissonance. Furthermore, self-efficacy buffers the relationship between emotional job demands and emotional dissonance, and the relationship between emotional dissonance and work engagement (but not exhaustion).

Hofslett Kopperud, K. & Vittersø, J. (2008). Distinctions between hedonic and eudaimonic well-being: Results from a day reconstruction study among Norwegian jobholders. *The Journal of Positive Psychology*, 3, 174-181.

The study suggests that hedonic and eudaimonic well-being can be studied by theoretical and empirical analysis of subjective feelings. In this approach, pleasure is the hallmark of hedonism, and engagement serves as the core feeling of eudaimonia. The Day Reconstruction Method was used to investigate the assumption that overall life satisfaction predicts hedonic feelings but not eudaimonic feelings during a workday. Perceived job control was hypothesized to predict eudaimonic feelings but not hedonic feelings. Questionnaire data from 120 Norwegian jobholders were analyzed, providing support for the hypothesis. Moreover, pleasure was found to be relatively unrelated to engagement, and perceived control was basically unrelated to life satisfaction. The results are discussed against the background that hedonism and eudaimonia are two independent parts of a multidimensional concept of well-being.

Note (W.S.): This study operationalizes engagement with two bipolar adjective scales: “uninteresting-interesting”, and “tame-challenging” ($\alpha = .77$).

Huhtala, H. & Parzefall, M.-R. (2007). A review of employee well-being and innovativeness: an opportunity for a mutual benefit. *Creativity and innovation management*, 16, 299-306.

By drawing on the Job Demands and Resources Model, this review article develops a conceptual framework to advance theoretical understanding of the relationship between job-related demands and resources, employee well-being and innovativeness. In conditions characterized by too high levels of demands, employees may suffer from burnout. When job resources are high, they are likely to feel engaged with their work. Burnout in turn can be seen as an inhibitor of innovativeness, and work engagement as an antecedent to innovativeness, mediating the effects of resources and demands at work on innovativeness. We further argue that innovativeness can function as a resource or a demand, depending on how it is managed. In addition to understanding the dual role of innovativeness, the identification of job-specific demands and resources is central to supporting employee well-being and, subsequently, innovativeness. The implications of the proposed conceptual framework for academic researchers and managers are discussed.

Hyvönen, K., Feldt, T., Salmela-Aro, K., Kinnunen, U. & Mäkikangas, A. (2009). Young managers' drive to thrive: A personal work goal approach to burnout and work engagement. *Journal of Vocational Behavior*, 75, 183-196.

This study approaches young managers' occupational well-being through their work-related goal pursuit. The main aim was to identify content categories of personal work goals and investigate their associations with background factors, goal appraisals, burnout, and work engagement. The questionnaire data consisted of 747 young Finnish managers (23–35 years; $M = 31$ years) who were mostly men (85.5%). Seven work-related content categories were found on the basis of qualitative data analysis: (1) competence goals (30.5%), (2) progression goals (23.7%), (3) well-being goals (15.2%), (4) job change goals (13.7%), (5) job security goals (7.4%), (6) organizational goals (5.6%), and (7) financial goals (3.9%). ANCOVA analyses, where goal appraisals and significant background factors were controlled for, indicated that organizational goals were related to low burnout and the highest level of work engagement, whereas well-being and job change goals were related to higher burnout and lower work engagement. The study shows that the contents of young managers' work-related goals can contribute to the understanding of individual differences in occupational well-being.

Inoue, A., Kawakami, N., Ishizaki, M., Shimazu, A., Tabata, M., Akiyama, M., Kitazume, A. & Kuroda, M. (2009). Organizational justice, psychological distress, and work engagement in Japanese workers. *International Archives of Occupational and Environmental Health*, 83, 29-38.

Purpose To investigate the cross-sectional association between organizational justice (i.e., procedural justice and interactional justice) and psychological distress or work engagement, as well as the mediating roles of other job stressors (i.e., job demands and job control, or their combination, effort–reward imbalance [ERI], and worksite support).

Methods A total of 243 workers (185 males and 58 females) from a manufacturing factory in Japan were surveyed using a self-administered questionnaire including the Organizational Justice Questionnaire, Job Content Questionnaire, Effort–Reward Imbalance Questionnaire, K6 scale, Utrecht Work Engagement Scale, and other covariates. Multiple mediation analyses with the bootstrap technique were conducted.

Results In the bivariate analysis, procedural justice and interactional justice were significantly and negatively associated with psychological distress; they were significantly and positively associated with work engagement. In the mediation analysis, reward at work (or ERI) significantly mediated between procedural justice or interactional justice and psychological distress; worksite support significantly mediated between procedural justice or interactional justice and work engagement.

Conclusion The effects of organizational justice on psychological distress seem to be mediated by reward at work (or ERI) while those regarding work engagement may be mediated by worksite support to a large extent, at least in Japanese workers.

Jackson, L.T.B., Rothman, S.R. & Van de Vijver, F.J.R. (2006). A model of work related well-being for educators in South-Africa. *Stress & Health*, 22, 263-274.

The aims of this study were to assess the validity and internal consistency of constructs in a model of work-related well-being and to test a structural model of their relationships. The Maslach Burnout Inventory – General Survey, Utrecht Work Engagement Scale, a Job Demands-Resources Scale, a Health Questionnaire, and an Organizational Commitment Scale were administered to a stratified random sample of 1177 educators in North-west Province (South Africa). A good fit was found for a model in which burnout (exhaustion and mental distance) mediated the relationship between job resources and organizational commitment. Job resources contributes strongly to low burnout and high work engagement. These results suggest that both positive and negative aspects of work-related well-being (i.e. burnout and work engagement) can be integrated into one model.

Karatepe, O.M. & Olugbade, O.A. (2009). The effect of job and personal resources on hotel employees' work engagement. *International journal of Hospitality Management*, 28, 504-512.

Our study developed and tested a research model, which predicted the impacts of job (supervisor support) and personal resources (trait competitiveness and self-efficacy) on work engagement. Respondents were full-time employed frontline employees of the five- and four-star hotels of Abuja, the capital city of Nigeria. We used path analysis in LISREL 8.30 for testing the study hypotheses. The results demonstrated that trait competitiveness predicted three dimensions of work engagement better than did self-efficacy. That is, trait competitiveness enhanced frontline employees' feelings of vigor, dedication, and absorption, while self-efficacy significantly and positively influenced only absorption. Unexpectedly, supervisor support had no significant effects on three dimensions of work engagement. The results further revealed that frontline employees who had elevated levels of competitiveness and adequate supervisor support in the workplace had higher self-efficacy beliefs. Implications of the empirical findings and limitations are discussed in our study.

Kim, H.J., Shin, K.H. & Swanger, H. (2008). Burnout and engagement: A comparative analysis using the Big Five personality dimensions. *International Journal of Hospitality Management*, 28, 96-104.

This study focuses on job burnout, job engagement, and their relationships with the Big Five personality dimensions: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The data were collected from employees (managerial/supervisory positions and non-supervisory positions) working for quick-service

restaurants. Engagement, the emerging new concept, is perceived to be situated at the opposite end of the continuum of burnout, but the results of this study indicate they may be, rather, two distinctive concepts driven by different personality dimensions. The most critical personality trait affecting burnout is neuroticism and the most eminent traits predicting engagement are conscientiousness and neuroticism. This study does not validate the effects of positive personality traits such as extraversion and agreeableness on burnout and they are found to be weakly related to employees' work engagement, as well.

Klusmann, U., Kunter, M., Trautwein, O., Lüdtke, O. & Baumert, J. (2008). Engagement and emotional exhaustion in teachers: Does the school context make a difference?. *Applied Psychology: An International Review*, 57, 127-151.

Focusing on the teaching profession, this study examines the association between school-specific demands and resources, on the one hand, and engagement and exhaustion, on the other. Individual-level data obtained from 1,939 secondary teachers as well as school-level data from their principals and students, based on 198 German schools, were subjected to multilevel analysis. School-level characteristics accounted for only a small amount of the variance in teachers' emotional exhaustion. In contrast, teachers' engagement differed considerably between schools. For the two outcome variables, engagement and exhaustion, specific patterns of predictive effects were observed at the school level: when controlling for individual teacher characteristics, the principal's support in educational matters predicted higher levels of engagement, whereas disciplinary problems in the classroom predicted higher emotional exhaustion. Although school-level data were associated with engagement and exhaustion, results suggest paying particular attention to individual differences between teachers that might predispose them to develop either more engagement or emotional exhaustion.

Note (W.S.). Engagement was assessed by four sub-scales from the Occupational Stress and Coping Inventory (Schaarschmidt & Fischer, 1997): significance of work, career ambitions, exertion, perfectionism.

Korunka, C., Kubicek, B., Schaufeli, W.B. & Hoonakker, P. (2009). Burnout and work engagement: Do age, gender, or occupation level matter? Testing the robustness of the Job Demands-Resources Model. *Journal of Positive Psychology*, 4, 243-255.

This study focuses on work engagement and its negative antipode, burnout, as well as their antecedents and consequences. According to the Job Demands-Resources (JD-R) model two different processes have to be distinguished: a motivational process that links job resources with turnover intention through work engagement, and an energetic process that links job demands and health complaints via the mediating role of burnout. The robustness of the JD-R model was tested in a heterogeneous occupational sample ($N = 846$). Structural equation modeling analyses led to a slightly modified model with only exhaustion being indicative of burnout and vigor, dedication along with absorption being indicative of engagement. The results provide evidence for the dipartite structure of the JD-R model. Multi-group analyses reveal the model to be invariant across age and gender. Although strengths of path coefficients and factor loadings differed among white and blue collar workers, the basic structure of the model was also confirmed among these subgroups. Therefore the findings underscore the robustness of the JD-R model.

Koyuncu, M., Burke, R.J. & Fiksenbaum, L. (2006). Work engagement among women managers and professionals in a Turkish bank: Potential antecedents and consequences. *Equal Opportunities International*, 25, 299-310.

This research examined potential antecedents and consequences of work engagement in a sample of women managers and professionals employed by a large Turkish bank. Data were collected from 286 women, a seventy-two percent response rate, using anonymously completed questionnaires. Engagement was assessed by three scales developed by Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002); Vigor, Dedication and Absorption.

Antecedents included personal demographic and work situation characteristics as well as work life experiences; consequences included measures of work satisfaction and psychological well-being. The following results were observed. First, worklife experiences, particularly, Control, Rewards and Recognition and Value fit, were found to predict all three engagement measures. Second, engagement, particularly Dedication, predicted various work outcomes (e.g., job satisfaction, intent to quit). Third, Engagement, particularly vigor, predicted various psychological well-being outcomes. Questions of causality cannot be addressed since data were collected at only one point in time. Longitudinal studies are needed to determine the effects of work life experiences on engagement. Implications – Organizations can increase levels of work engagement by creating work experiences (e.g., control, rewards and recognition) consistent with effective human resource management practices.

Langelaan, S., Bakker, A.B., Van Doornen, L.J.P. & Schaufeli, W.B. (2006). Burnout and work engagement: Do individual differences make a difference? *Personality and Individual Differences*, 40, 521-532.

The central aim of the present study among 572 Dutch employees was to examine whether burnout and its positive antipode – work engagement – could be differentiated on the basis of personality and temperament. We expected burnout to be characterized by high neuroticism and low extraversion, and engagement by low neuroticism and high extraversion. Additionally, we predicted that burnout would correlate negatively with the temperamental traits (strength of excitation, strength of inhibition, and mobility), whereas work engagement would correlate positively. Discriminant analysis was used to distinguish burned-out and engaged employees from their non-burned-out and non-engaged counterparts, respectively. Results showed that high neuroticism is the core characteristic of burnout, whereas work engagement is characterized by low neuroticism in combination with high extraversion and high levels of mobility. Thus, personality and temperament make a difference as far as burnout and work engagement are concerned.

Langelaan, S., Bakker, A.B., Schaufeli, W.B., Van Rhenen & Van Doornen, L.J.P. (2006). Do burned-out and engaged employees differ in HPA-axis functioning? *Scandinavian Journal of Work Environment and Health*, 32, 339-348.

Objectives: The central aim of the present study was to examine differences in Hypothalamic-Pituitary-Adrenal (HPA) axis functioning between 29 burned-out, 33 engaged and 26 healthy reference managers, as identified with the Maslach Burnout Inventory – General Survey (MBI-GS) and the Utrecht Work Engagement Scale (UWES). Methods: All managers were employed at a large Dutch telecom company. Salivary cortisol was sampled on three consecutive workdays and one non-workday to determine the cortisol awakening response (CAR). Salivary dehydroepiandrosterone-sulfate (DHEAS), a cortisol counterbalancing product of the HPA-axis, was measured on these days at one hour after awakening. The Dexamethasone Suppression Test (DST) was used to investigate the feedback sensitivity of the HPA-axis. Results: Morning cortisol levels were higher on workdays than on the non-workday, but this effect did not differ between the three groups. The burned-out, engaged and reference group did not differ either in cortisol and DHEAS levels, slope of the CAR, and cortisol/DHEAS ratio. The engaged group showed a stronger cortisol suppression in response to the DST than the two other groups, suggesting higher feedback sensitivity among engaged managers. Conclusion: Burned-out and engaged managers only differ marginally in HPA-axis functioning.

Langelaan, S., Houtveen, J.H., Bakker, A.B., Schaufeli, W.B., Van Rhenen, W., & Van Doornen, L.J.P. (2006). Burnout, work engagement and the 24-hr ambulatory assessment of cardiac sympathetic and parasympathetic activity. (Manuscript submitted for publication).

Burnout has been related to cardiovascular disease. This relationship may be mediated by a stress-related disruption in cardiac autonomic activity. The aim of the present study was to assess cardiac autonomic activity (sympathetic and parasympathetic) during a working day in burned-out managers. Thirty burned-out, 29 healthy control and 29

engaged managers (most psychologically contrasting group) were identified using the Maslach Burnout Inventory – General Survey (MBI-GS) and the Utrecht Work Engagement Scale (UWES). Twenty-four hour ambulatory measurements were carried out during a regular workday and the subsequent night. Pre-Ejection-period (PEP) and Respiratory Sinus Arrhythmia (RSA) were used as measures of cardiac sympathetic and parasympathetic activity, respectively. Contrary to expectations, the burned-out, engaged and control group did not differ in cardiac sympathetic and cardiac parasympathetic activity, or heart rate. Thus, burnout does not seem to be associated with an unfavourable cardiac autonomic profile. Implications for theory and future research are discussed.

Lorente, L., Salanova, M., & Martinez, I. (2009). How Self-efficacy predicts Work Engagement and Team Performance among Construction Workers: A Social Cognitive Perspective *Journal of Occupational Health Psychology*. (submitted for publication).

The main objective of this study is to test whether self-efficacy predicts work engagement and team performance through job and personal resources. Following the predictions of Albert Bandura's Social Cognitive Theory and the Job-Demands Resources Model, we expect the relationship between self-efficacy and team performance will be fully mediated by resources and work engagement. A total of 228 Spanish construction workers attended a semi-structured interview and filled a questionnaire with the main study variables. Structural equation modeling supports the research model; that is, the predicting role that self-efficacy plays in the perception of resources (i.e., mental and emotional competences, job control and supervisor social support) which, in turn, leads to work engagement and team performance. Furthermore, the results also show a direct relationship between self-efficacy and team performance. This study emphasizes the role that self-efficacy plays in the prediction of positive processes like work engagement and performance. Theoretical and practical implications of the study are discussed mainly from the Social Cognitive Theory perspective.

Lorente, L., Salanova, M., Martinez, I. & Schaufeli, W.B. (2008). Extension of the Job Demands-Resources model in the prediction of burnout and engagement among teachers over time. *Psicothema*, 20, 254-360.

Our objective was to extend the Job Demand-Resources Model (Schaufeli and Bakker, 2004) by including personal resources, job demands and job resources to predict burnout (exhaustion, cynicism, depersonalization) and work engagement (vigor and dedication). The sample comprised 274 teachers from 23 secondary schools of the Valencian Community (Spain). Hierarchical multiple regression analyses, using a two waves longitudinal design with a one-year time lag, show significant relationships when controlling by the baseline level at T1: (1) quantitative overload at T1; exhaustion and dedication at T2; (2) role conflict at T1 and cynicism at T2, (3) role ambiguity at T1 and dedication at T2. Personal resources at T1 significantly predicted burnout and engagement at T2, but not when controlling by baseline levels of burnout and engagement at T1. Practical implications and directions of future research are discussed.

Llorens, S., Schaufeli, W.B., Bakker, A. & Salanova, M., (2007). Does a positive gain spiral of resources, efficacy beliefs and engagement exist? *Computers in Human Behavior*, 23, 825-841.

The present study among 110 Spanish university students expands previous research on work engagement by investigating the causal relationships between two potentially important resources in the use of Information and Communication Technology (i.e., time control and method control), efficacy beliefs and engagement. More specifically, two questions are addressed: (1) do personal resources mediate the relationship between task resources and work engagement?; (2) does engagement increase personal and task resources? Results show that efficacy beliefs play a mediating role between task resources and engagement. Engagement increases efficacy beliefs, which, in turn, increase task resources over time. These findings suggest a positive gain spiral in which efficacy beliefs play a central role.

Llorens, S., Bakker, A.B., Schaufeli, W.B. & Salanova, M. (2006). Testing the robustness of the Job Demands-resources model. *International Journal of Stress Management*, 13, 378-391.

According to the Job Demands-Resources (JD-R) model, job demands and resources evoke two relatively independent processes: a health impairment process and a motivational process, respectively. This hypothesis was tested in two field studies among 654 Spanish and 477 Dutch employees working with ICT. Results of SEM analyses provided partial evidence for the JD-R model. In both countries, job demands were important predictors of burnout, whereas job resources were the most important predictors of work engagement. In their turn, burnout and engagement both explained unique variance in organizational commitment. However, unexpectedly, job resources were also negatively related to burnout. Furthermore, multi-group analyses showed that these structural paths were invariant over countries, although the strength of the relationships differed significantly between Spain and The Netherlands. The theoretical and practical implications, as well as perspectives for future research are discussed.

Luthans, F. & Peterson, S.J. (2002). Employee engagement and manager self-efficacy. *Journal of Management Development*, 21, 376-387.

Although technology still dominates, human resources and how they are managed is receiving increased attention in the analysis of gaining competitive advantage. Yet, many complex questions remain. This study first examines the theoretical understanding of employee engagement. Then an empirical investigation is made of the role that a wide variety of managers' (n = 170) psychological state of self-efficacy plays in the relationship between their employees' (average of about 16 per manager) measured engagement and a multiple measure (self, subordinates and peers) of the managers' effectiveness. Results of the statistical analysis indicate that the manager's self-efficacy is a partial mediator of the relationship between his or her employees' engagement and the manager's rated effectiveness. Overall, these findings suggest that both employee engagement and manager self-efficacy are important antecedents that together may more positively influence manager effectiveness than either predictor by itself. Implications for effective management development and practice are discussed.

Macey, W.H. & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology*, 1, 3–30.

The meaning of employee engagement is ambiguous among both academic researchers and among practitioners who use it in conversations with clients. We show that the term is used at different times to refer to psychological states, traits, and behaviors as well as their antecedents and outcomes. Drawing on diverse relevant literatures, we offer a series of propositions about (a) psychological state engagement; (b) behavioral engagement; and (c) trait engagement. In addition, we offer propositions regarding the effects of job attributes and leadership as main effects on state and behavioral engagement and as moderators of the relationships among the 3 facets of engagement. We conclude with thoughts about the measurement of the 3 facets of engagement and potential antecedents, especially measurement via employee surveys.

Mauno, S., Kinnunen, U. & Ruokolainen, M. (2007). Job demands and resources as antecedents of work engagement: A longitudinal study. *Journal of Organizational Behavior*, 70, 149-171.

By utilizing a 2-year longitudinal design, the present study investigated the experience of work engagement and its antecedents among Finnish health care personnel (nD409). The data were collected by questionnaires in 2003 (Time 1) and in 2005 (Time 2). The study showed that work engagement—especially vigor and dedication—was relatively frequently experienced among the participants, and its average level did not change across the follow-up period. In addition, the experience of work engagement turned out to be reasonably stable during the 2-year period. Job resources predicted work engagement better than job demands. Job control and organization-based self-esteem proved to be the best lagged predictors of the three dimensions of work engagement. However, only the positive

effect of job control on dedication remained statistically significant after controlling for the baseline level of work engagement (Time 1).

Mauno, S., Kinnunen, U., Makikangas, A. & Natti, J. (2005). Psychological consequences of fixed-term employment and perceived job insecurity among health care staff. *European Journal of Work and Organizational Psychology*, 14, 209-237.

The present study sought to clarify the roles of fixed-term employment and perceived job insecurity in relation to an employee's job attitudes (job satisfaction, turnover intentions) and well-being (work engagement, job exhaustion). Specifically, we examined which of the two situations, high subjective job insecurity and a permanent job (i.e., violation hypothesis) or high subjective job insecurity and a fixed-term job (i.e., intensification hypothesis), would lead to the most negative job attitudes and well-being. Data from 736 employees in one Finnish health care district were collected by questionnaires. The results supported the violation hypothesis: Under conditions of high perceived job insecurity permanent employees had lower levels of job satisfaction and work engagement as well as a higher level of job exhaustion than fixed-term employees, whereas under conditions of a low level of perceived job insecurity there were no differences between permanent and fixed-term employees in this respect. Generally, employees with fixed-term contracts had more positive job attitudes and well-being than their permanent counterparts. Thus, permanent employees with perceived job insecurity showed the most negative job attitudes and well-being.

May, D.R., Gilson, R.L. & Harter, L.M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, 77, 11-37.

Building on Kahn's (1990) ethnographic work, a field study in a U.S. Midwestern insurance company explored the determinants and mediating effects of three psychological conditions -- meaningfulness, safety and availability -- on employees' engagement in their work. Results from the revised theoretical framework revealed that all three psychological conditions exhibited significant positive relations with engagement. Meaningfulness displayed the strongest relation. Job enrichment and role fit were positively linked to psychological meaningfulness. Rewarding co-worker and supportive supervisor relations were positively associated with psychological safety, whereas adherence to co-worker norms and self-consciousness were negatively associated. Psychological availability was positively related to resources available and negatively related to participation in outside activities. Finally, relations of job enrichment and work role fit with engagement was partially mediated by psychological safety.

Note (W.S.). *The operationalization of engagement in this study -- with physical, emotional, and cognitive aspects of engagement -- closely resembles the UWES-dimensions of vigor, dedication, and absorption, respectively.*

Miles, P., Van den Bos, K. & Schaufeli, W.B. (2008). *On the unique qualities of procedural fairness: Evidence for different fairness interaction effects on employee well-being* (Manuscript submitted for publication).

This study among 291 employees of a consultancy firm shows that, compared to other types of fairness judgments, procedural fairness judgments may have quite different effects on how people react to variations in personal uncertainty and outcome concerns on employee well-being, including measures of absence frequency and work engagement. More specifically, findings reveal that, compared to interactional and outcome fairness judgments, procedural fairness judgments show stronger interaction effects with uncertainty concerns, suggesting that the recently developed Uncertainty Management model may be more relevant for procedural fairness concerns than for other fairness concerns. Furthermore, building on earlier studies that showed that procedural fairness perceptions may be strongly linked to self-serving attributional processes, the current paper is the first to demonstrate that procedural and interactional fairness may produce different interactions between outcome fairness and employee well-being on absence frequency. That is, as predicted, when outcome fairness was low, interactional fairness was associated with less absence frequency (normal fairness effect) whereas high procedural fairness was related to

more absence frequency (reversal of the normal fairness effect).

Miles, P., Schaufeli, W.B. & Van den Bos, K. (in press). When strong groups are weak: How group cohesion moderates the effect of absence tolerance on voluntary absence. *Journal of Vocational Behavior*.

This study within a commercial production organization and a non-profit social welfare organization (N=377 and N=582, respectively) investigates how group cohesiveness and absence tolerance separately and in tandem impact company registered absenteeism rates. Although results indicate that group cohesiveness alone is not significantly related with absenteeism, as predicted, results do support the hypotheses that absence tolerance is positively related with voluntary absenteeism and interacts with group cohesion to produce absenteeism. In both organizations results show that in highly cohesive groups, absence intolerance is related to low levels of absence, whereas tolerance towards absence in cohesive groups is related to high levels of absence. In line with earlier studies we found this interaction effect in two organizations; one with multilevel analyses and the other, complimenting previous research, with linear regression analyses. Additionally, in both organizations this effect was found this effect with regard to all absence spells (not merely low vs high), altogether attesting to the robustness and generalizability of our findings.

Miles, P., Van den Bos, K. & Schaufeli, W.B. (in press). How fair treatment sometimes can be worse than unfair treatment: Procedural and interactional fairness enhancing the negative effects of unfair outcomes and personal uncertainty on employee well-Being. *Journal of Organizational Behavior*.

In this study among 291 employees of a consultancy firm we both replicate and extend earlier work on procedural and interactional fairness. More specifically, we replicate earlier studies by showing that procedural and interactional fairness buffer the effects of outcome unfairness and personal uncertainty on employee well-being (normal effects of treatment fairness) and we show that both procedural and interactional fairness may also yield reversed effects: Perceived procedural and interactional fairness reliably enhanced (not weakened) the effects of outcome unfairness and uncertainty on health complaints and absenteeism. The results are unique for at least three reasons: (1) Although earlier studies revealed that procedural fairness perceptions can strengthen the negative impact of unfair outcomes on employee well-being, this study is the first to suggest that interactional fairness is capable of yielding similar effects; (2) our results suggest that normal and reversal effects may occur on different dependent variables for procedural fairness than for interactional fairness, indicating a possible different nature by which the two fairness types influence reactions to different unfavorable conditions; and (3) this study is the first to find both normal and reversed effects of procedural and interactional fairness on the same dependent variables (health complaints and absenteeism).

Miles, P., Van den Bos, K. & Schaufeli, W.B. (in press). As long as you are nice to me: Interactions between interactional fairness and outcome fairness on work engagement. *Journal of Vocational Behavior*.

This study among a Dutch wholesale organization investigated the effects of procedural and interactional fairness and how they interact with outcome fairness on work engagement. Data were collected with 377 respondents. Our results are the first to show direct effects of both procedural and interactional fairness on work engagement. Additionally, outcome fairness significantly moderated the effects of interactional fairness on engagement, whereas this was not the case for procedural fairness. Building and extending on earlier fairness studies, interactional fairness most profoundly impacted engagement when employees experienced unfair outcomes, such that high interactional fairness was related to the highest levels of engagement, whereas low interactional fairness with the lowest levels of engagement. These findings revealed that both procedural and interactional fairness positively impact work engagement, although interactional fairness appears to have a larger potential to buffer the negative effects of outcome unfairness on work engagement. Theoretical and practical implications are discussed.

Miles, P., Van den Bos, K. & Schaufeli, W.B. (in press). When unfair procedures work: Interactive effects of procedural fairness and internal attributions on employee well-being. *Organizational Behavior and Human Decision Processes*.

This study among 582 employees of a Dutch social welfare organization builds on earlier studies suggesting that procedural fairness perceptions may be strongly linked to self-serving attributional processes. Results reported here support the hypothesis that, in the face of unfavorable conditions, the combination of a strong orientation toward making internal attributions and high perceived procedural fairness is more likely to negatively impact employee well-being (reversal of the normal effect of treatment fairness). We simultaneously show that perceived interactional fairness together with strong internal attributions is more likely to positively impact employee well-being (normal effect of treatment fairness). Moreover, these differential effects of procedural and interactional fairness were found in an organizational context under three unfavorable conditions (distrust, outcome unfairness, and personal uncertainty) and observed on five different employee well-being measures (registered absence, workaholism, engagement, turnover intention and health complaints), thus attesting to the robustness and ecological validity of the findings.

Moliner, C., Martinez-Tur, V. Ramos, J., Pieró, J-M & Cropanzano, R. (2008). Organizational justice and extrarole customer service: The mediating role of well-being at work. *European Journal of Work & Organizational Psychology*, 17, 327-238.

The purpose of this article is to propose and test a model of extrarole customer service (ERCS). We propose that organizational justice (distributive, procedural, interpersonal, and informational) promotes well-being at work (low burnout and high engagement). Well-being at work, in turn, engenders more effective ERCS. Thus, well-being at work is considered a mediator of the relationships from organizational justice to ERCS. This fully mediated model was compared to an alternative fully direct model. The sample consisted of 317 contact employees who were working in the Spanish service sector. The results of structural equation modelling supported the importance of the mediating role of the positive side of well-being at work (engagement) in the relationship between organizational justice and ERCS. The article concludes with a discussion of the theoretical and managerial implications.

Montgomery, A., Peeters, M.C.W., Schaufeli, W.B. & Den Ouden, M. (2003). Work-home interference among newspaper managers: Its relationship with burnout and engagement. *Anxiety, Stress & Coping*, 16, 195-211.

Managers are increasingly concerned about managing the conflicts experienced in fulfilling the responsibilities of work and family. The problem of balancing these domains arises from work to home interference, which reflects a mutual incompatibility between the demands of the work role and the demands of the home life. The central idea underlying the theoretical model of this study, is that work and home demands lead to work strain and decreased feelings of engagement, while work and home resources lead to increased feelings of engagement and reduced burnout. Work to home interference mediates these relationships. An innovation of the present study was to assess both home demands and positive aspects of work to home interference. Data were collected from 69 newspaper managers. Results indicated that negative interference mediated between demands and outcomes, and positive interference mediated between resources and outcomes. This study highlights the importance of measuring positive concepts in terms of constructing a more balanced picture of work and home interference.

Mostert, K. & Rothmann, S. (2006) Work-related well-being in the South African Police Service. *Journal of Criminal Justice*, 34, 479-491.

The objective of this study was to assess whether background variables, job stress, and personality traits could predict the work-related well-being (burnout and work engagement) of police members. A cross-sectional survey design was used. Stratified random samples (N = 1,794) were taken of police members of eight provinces in South Africa. The Maslach Burnout Inventory-General Survey, Utrecht Work Engagement Scale, Police Stress Inventory, and Personality Characteristics Inventory were administered. The results showed that age, gender, and race explained a small percentage of the variance in exhaustion, cynicism, and vigor/dedication. Stress because of job demands and a lack of resources predicted exhaustion and cynicism. Emotional stability and conscientiousness inversely predicted exhaustion and cynicism, while emotional stability, conscientiousness, and extraversion predicted vigor and dedication. Stress because of job demands predicted only a small percentage of the variance in vigor and dedication.

Parzefall, M.-R. & Hakanen, J. (2010). Psychological contract and its motivational and health-enhancing properties. *Journal of Managerial Psychology*, 25, 4-21.

Purpose – It has been hypothesized that perceived contract fulfilment is positively associated with affective commitment, leading also to reduced turnover intentions, and with mental health, and that these relationships are fully mediated by work engagement. Employing the job demands resources (JDR) model, the purpose of this study is to examine the motivational and health-enhancing properties driven by perceived employer psychological contract fulfilment.

Design/methodology/approach – The hypotheses were tested in a sample of 178 Finnish employees using structural equation modelling.

Findings – The hypotheses were supported. Perceived psychological contract fulfilment had both motivational (psychological contract ! work engagement ! affective commitment ! reduced turnover intentions) and health-enhancing (psychological contract ! work engagement ! mental health) effects.

Originality/value – The findings highlight the centrality of perceived psychological contract fulfilment to employees, and the importance of work engagement as a positive affective-cognitive state at work.

Parker, S.L., Jimmieson, N.L. & Amiot, C.E. (2009). Self-determination as a moderator of demands and control: implications for employee strain and engagement. *Journal of Vocational Behavior*.

Does job control act as a stress-buffer when employees' type and level of work self-determination is taken into account? It was anticipated that job control would only be stress-buffering for employees high in self-determined and low in non-self-determined work motivation. In contrast, job control would be stress-exacerbating for employees who were low in self-determined and high in non-self-determined work motivation. Employees of a health insurance organization (N = 123) completed a survey on perceptions of role overload, job control, work self-determination, and a range of strain and engagement indicators. Results revealed that, when individuals high in self-determination perceived high job control, they experienced greater engagement (in the form of dedication to their work). In addition, when individuals high in non-self-determination perceived high job demands, they experienced more health complaints. A significant 3-way interaction demonstrated that, for individuals low in non-self-determination, high job control had the anticipated stress-buffering effect on engagement (in the form of absorption in their work). In addition, low job control was stress-exacerbating. However, contrary to expectations, for those high in non-self-determination, high job control was just as useful as low job control as a stress-buffer. The practical applications of these findings to the organizational context are discussed.

Peeters, M., Watez, C., Demerouti, E. & Recht, W. de (2009). Work-family culture, work family interference and well-being at work. *Career Development International*, 14, 700-713.

Purpose – The purpose of this paper is to examine whether work-family (WF) interference functions as an explaining mechanism in the link between work-family culture and well-being, hereby distinguishing between a negative and a positive process. The negative, energy depleting process initiates from a hindrance work-family culture and ends up

to burnout through the experience of work-family conflict. The positive, motivation generating process initiates from a supportive work-family culture and ends up to work engagement through work-family enrichment.

Design/methodology/approach – The paper employs a quantitative study among employees from three different organizations (n = 516). Findings – Work-family conflict fully mediates the relationship between a hindrance WF-culture and the exhaustion dimension of burnout and partially mediates the relationship between a hindrance WF-culture and the cynicism dimension of burnout. With regard to the mediational role of work-family enrichment the results also confirm the paper's hypothesis. Work-family enrichment partially mediates the relationship between a supportive WF-culture and work engagement. Interestingly, analyses of some alternative mediational paths reveal some additional findings. Specifically, a supportive work-family culture relates to work engagement through the perception of less work-family conflict. Moreover, a supportive culture is also related to less feelings of burnout through work-family enrichment.

Petrou, P., Demerouti, E., Peeters, M. & Schaufeli, W. (2010). Crafting a job on a daily basis: Contextual antecedents and the effect on work engagement. Manuscript submitted for publication. *Academy of Management Journal*.

This study examines job crafting which is redefined as “resources seeking”, “challenges seeking” and “demands reducing”. Ninety five employees from several organizations completed a 5-day diary survey. The combination of high day-level work pressure and high day-level autonomy (active jobs) predicted higher day-level resources seeking and lower day-level demands reducing. Day-level resources and challenges seeking positively predicted day-level work engagement and day-level demands reducing negatively predicted engagement. Furthermore, job crafting was related to type of and attitude to recurrent organizational changes. Findings suggest that job crafting occurs daily, is predicted by the work context and is linked to engagement.

Pitt-Catsouphes, M. & Matz-Costa, C. (2008). The multi-generational workforce: Workplace flexibility and engagement. *Community, work & family*, 11, 215-229.

This paper explores the perceptions of employees of different ages regarding the flexibility they need at work (flexibility fit) and their engagement with work. Using 49,209 observations representing 183,454 employees in 22 different companies, we estimated a hierarchical linear model (HLM) to explain variation in employee engagement as a function of flexibility fit and age. Although flexibility fit was a powerful positive predictor of engagement for all employees, it was a more powerful predictor of engagement for employees ages 45 and older. The positive moderating effect of flexibility fit provides employers with guidance about how to maintain the engagement of workers of all ages, but especially older workers who want to extend their participation in the labor force.

Prins, J.T., van der Heijden, F.M., Hoekstra-Weebers, J.E. Bakker, A.B., Jacobs, B. & Gazendam-Donofrio, S.M. (2010) Burnout, engagement and resident physicians' self-reported errors. *Psychology, Health & Medicine* 6, 654-667.

Burnout is a work-related syndrome that may negatively affect more than just the resident physician. On the other hand, engagement has been shown to protect employees; it may also positively affect the patient care that the residents provide. Little is known about the relationship between residents' self-reported errors and burnout and engagement. In our national study that included all residents and physicians in The Netherlands, 2115 questionnaires were returned (response rate 41.1%). The residents reported on burnout (Maslach Burnout Inventory-Health and Social Services), engagement (Utrecht Work Engagement Scale) and self-assessed patient care practices (six items, two factors: errors in action/judgment, errors due to lack of time). Ninety-four percent of the residents reported making one or more mistake without negative consequences for the patient during their training. Seventy-one percent reported performing procedures for which they did not feel properly trained. More than half (56%) of the residents stated they had made a mistake with a negative consequence. Seventy-six percent felt they had fallen short in the quality of care they provided on at least one occasion. Men reported more errors in

action/judgment than women. Significant effects of specialty and clinical setting were found on both types of errors. Residents with burnout reported significantly more errors ($p < 0.001$). Highly engaged residents reported fewer errors ($p < 0.01$). Overall residents disclosed that in their perception they regularly make errors throughout their residency. Steps should be taken to help residents minimize the number of perceived errors made. Therefore, it is important to prevent residents from developing burnout and to keep residents engaged in their work.

Richardson, A.M., Burke, R.J. & Martinussen, M. (2006). Work and health outcomes among police officers: The mediating role of police cynicism and engagement. *International Journal of Stress Management*, 13, 555-574.

This study examined the relationship between personality variables (Type A), job demands and job resources, and police cynicism and engagement and also examined the mediating role of cynicism and work engagement in prediction both work and health related outcomes among police officers. The participants were 150 Norwegian police officers, and data were collected using questionnaires. Results showed that Type A behavior was related to both cynicism and engagement. As predicted, both job demands and lack of job resources were related to cynicism, and job resources were positively related to engagement. A series of regression analyses indicated direct relationships between Type A behavior, job demands and health complaints with no mediating effect of cynicism. Work engagement particularly mediated the effects of individual characteristics, job demands and resources on organizational commitment and self-efficacy. However, direct links between demands and resources and organizational commitment were also found, as well as direct links between Type A behavior, work demands and self-efficacy.

Richman, A.L., Civian, J., Shannon, L.L., Hill, E.J. & Brennan, R.T. (2008). The relationship of perceived flexibility, supportive work-life policies, and use of formal flexible arrangements and occasional flexibility to employee engagement and expected retention. *Community, Work & Family*, 11, 183-197.

This study examines the relationship of perceived workplace flexibility and supportive work-life policies to employee engagement and expectations to remain with the organization (expected retention). It also explores the association of formal and occasional (informal) use of flexibility with these outcomes. Data are from a multiorganization database created by WFD Consulting of studies conducted between 1996 and 2006. Results revealed that perceived flexibility and supportive work-life policies were related to greater employee engagement and longer than expected retention. Employee engagement fully mediated the relationship between perceived flexibility and expected retention and partially mediated the relationship between supportive work-life policies and expected retention. Both formal and occasional use of flexibility were positively associated with perceived flexibility, employee engagement, and expected retention. These analyses provide evidence that workplace flexibility may enhance employee engagement, which may in turn lead to longer job tenure.

Rodríguez-Muñoz, A., Baillien, E., De Witte, H., Moreno-Jiménez, B. & Pastor, J.C. (2009). Cross-lagged relationships between workplace bullying, job satisfaction and engagement: Two longitudinal studies. *Work & stress*, 23, 225-243.

Workplace bullying has been defined as a stressor that has negative consequences. However, the direction of the bullying-well-being relationship has been largely based on cross-sectional findings, which does not permit conclusions in terms of causality. The purpose of this research was to investigate the cross-lagged relationships between bullying and job-related well-being. We hypothesized that Time 1 bullying predicted Time 2 job-related well-being over time (normal causation model). In addition, we compared alternative models (baseline or stability, reversed, and reciprocal models). Our hypothesis was examined in two longitudinal studies with full two-wave panel designs in Belgian employees. In Study 1 (N=312), the time lag was six months, and in Study 2 (N=369), the time lag was two years. Results of structural equation modelling (SEM) analyses partially supported our hypothesis. Specifically, it was found that Time 1 bullying predicted Time 2 dedication in Study 1, and Time 2 job satisfaction in

Study 2. There was no significant cross-lagged effect of job-related well-being on bullying at work. Overall, these findings suggest that bullying can be considered as a cause, rather than a consequence of job-related well-being.

Rodríguez-Sánchez, A.M., Schaufeli, W.B., Salanova, M. & Cifre, E.(2008). Flow experiences among Information and Communication Technology Workers. *Psychological Reports*, 102, 29-39.

The use of technologies is more common in our daily lives, working with technologies might be associated with positive experiences such as flow. However, little empirical research exists on flow experiences in technology settings. The main aim of this study was to confirm the three dimensional construct of flow, i.e., absorption, enjoyment and intrinsic interest, among 517 Information and Communication Technology (ICT) users (234 students - with a mean age of 23 (SD = 3.8) - from different areas of study, mainly Law, Public Administration, Chemistry and Psychology, and 283 employees - with a mean age of 33 (SD = 7.8) - of 21 different companies from various sectors of production namely public administration, industrial production and services). Results show that, as expected, flow is a three dimensional psychological construct, what is invariant among samples of technology users. Practical and theoretical implications as well as future research are discussed.

Rothman, I. (2003). Burnout and engagement: A South African Perspective. *South African Journal of Industrial Psychology*, 29, 16-25.

Work wellness, and more specifically burnout and engagement are important areas of research and intervention in South Africa. However, few studies have been conducted regarding the factorial validity, construct validity and item bias of measuring instruments of burnout and work engagement. Furthermore, few studies have been conducted regarding causal models of burnout as well as interventions to prevent and/or manage burnout in a multicultural context. Little is known about the causes of work engagement and interventions to increase it. Research should be conducted to validate measuring instruments of burnout, work engagement and predictors thereof in multicultural contexts. Research is also needed regarding the effectiveness of interventions to manage work engagement and to prevent and/or manage burnout.

Saks, A.M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 27, 600-619.

A survey was completed by 102 employees (60% female, average age 34, average work experience 12 years) working in a variety of jobs and organizations. Results indicate that there is a meaningful difference between job and organization engagements and that perceived organizational support predicts both job and organization engagement; job characteristics predicts job engagement; and procedural justice predicts organizational engagement. In addition, job and organizational engagement mediated the relationships between the antecedents and job satisfaction, organizational commitment, intentions to quit, and organizational citizenship behavior. This was the first study to make the distinction between job and organization commitment and to measure a variety of antecedents and consequences of job and organizational engagement.

Note (W.S.): Job engagement is assessed with a five-item scale (see appendix) that closely resembles the absorption scale of the UWES, whereas organization commitment (6 items) resembles affective commitment, Both types of engagement are correlated .62.

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, 1217-1227.

This study examines the mediating role of service climate in the prediction of employee performance and customer loyalty. Contact employees (N=342) from 114 service units (58 hotel receptions and 56 restaurants) provided information about organizational resources, engagement and service climate. Furthermore, customers (N=1,140) from these units informed on employee performance and customer loyalty. Structural Equation Modeling is consistent with a full mediation model in which organizational resources and work engagement predicted service climate, which in turn predicted employee performance and then to customer loyalty. Further analyses revealed a potential reciprocal effect between service climate and customer loyalty. Finally, implications from the study are discussed together with limitations and suggestions for future research.

Salanova, M., Bakker, A.B. & Llorens, S. (2006). Flow at work: Evidence for an upward spiral of personal and organizational resources. *Journal of Happiness Studies*, 7, 1-22.

The present 2-wave study among 258 secondary school teachers investigates the relationships between personal and organizational resources on the one hand, and work-related flow on the other hand. On the basis of Hobfoll's (1988) Conservation of Resources Theory, Bandura's (1997) Social Cognitive Theory and Frederickson's (1998) 'broaden and build' theory of positive emotions, we formulated two hypotheses: (1) personal resources (i.e. efficacy beliefs) and organizational resources (i.e. social support climate and clear work goals) facilitate work related flow (work absorption, work enjoyment, and intrinsic work motivation); and (2) work-related flow has a positive influence on personal and organizational resources. The results of a series of structural equation modeling analyses offer clear support for both hypotheses.

Salanova, M, Llorens, S., Cifre, E., Martínez, I & Schaufeli, W.B. (2003). Perceived collective efficacy, subjective well-being and task performance among electronic work groups: An experimental study. *Small Groups Research*, 34, 43-73.

This study investigates the effects of e-groups on well-being and performance, using a collective approach and an objective performance indicator. Furthermore, it includes collective efficacy as a moderator, and negative (anxiety) as well as positive (engagement) well-being. A lab experiment with an interval of two weeks was performed among 143 students, who were randomly distributed across 18 groups using a chat-internet program and 10 groups working face-to-face. Half of the groups performed under time pressure. Results confirm the moderating role of perceived collective efficacy on well-being and task performance. All groups working under time pressure and low in collective efficacy, show an increase in collective anxiety. Chat-internet groups under time pressure show an increase in collective engagement, but only when they feel high in collective efficacy. Finally, task performance was poorer in chat-groups, working under time pressure and with low levels of collective efficacy, than in the other groups.

Salanova, M., Llorens, S., Peiró, J.M. & Schaufeli, W.B. (2008). *How positive emotions predict self-efficacy: The mediating role of job engagement* (Manuscript submitted for publication).

Following Positive Occupational Psychology (POP), this study investigates how positive emotions predict self-efficacy via engagement. According to Social Cognitive Theory (Bandura, 2001) positive emotional states may play a role in self-efficacy, however, in order to be effective, these emotions need to be appraised cognitively. It is hypothesized that engagement might act as an affective-cognitive state that mediates the effect of positive emotions on self-efficacy beliefs. Results using Structural Equation Modeling in several field studies (both cross-sectional and longitudinal) composed by 1,275 Spanish employees working with 'things' (N=474), with 'people' (N= 483) and with 'data' (N= 318,.) and in a longitudinal laboratory study (N= 140 students working in 28 groups) confirm our main hypothesis. That is, positive emotions enhance engagement, which in their turn, enhance self-efficacy. The

implications for the emerging Positive Occupational Psychology are discussed.

Salanova, M., Llorens, S. & Schaufeli, W.B. (2008). *Upward spirals of efficacy beliefs: A longitudinal and multi-sample study* (Manuscript submitted for publication).

In this prospective study, a structural model of upward spirals of efficacy beliefs was examined. Specifically, it was tested how efficacy beliefs (i.e., self-efficacy and perceived collective efficacy) affect task engagement both directly and indirectly, through its impact on positive emotions over the time. Based on Bandura's Social-Cognitive Theory, both types of efficacy beliefs were tested simultaneously, i.e., teacher's self-efficacy and perceived collective efficacy among students. Two longitudinal studies with independent samples were carried out: Study 1, was a 2-wave field study among 242 teachers of secondary schools. Study 2 included two longitudinal lab experiments among university students, who worked in groups: (1) a 2-wave laboratory study among 143 students performing two collective tasks; (2) 3-wave laboratory study among 100 students performing three collective tasks. Our findings show that (both types of) efficacy beliefs are linked directly as well as indirectly through positive emotions to task engagement. Furthermore, results suggest an upward positive spiral where efficacy beliefs increase over time because engagement and positive emotions (i.e., most notably enthusiasm). Theoretical as well as practical implications regarding Social-Cognitive Theory are discussed.

Salanova, M., Lorente, L., Chambel, M.J. & Martinez, I.M. (2009). *Linking Transformational Leadership to Extra-Role Performance: The Mediating Role of Self-Efficacy and Work Engagement*. (Manuscript submitted for publication).

Within the framework of the Social Cognitive Theory by A. Bandura (1997, 2001), the current study aims to gain insight into the psychological mechanisms (i.e., motivational power of self-efficacy) that underlie how transformational leaders influence employee extra-role performance (as assessed by leaders). The sample comprises dyads of 280 nurses from different health services and their 17 supervisors. Structural equation modelling analyses were consistent with a mediation model in which transformational leadership predicted extra-role performance through self-efficacy and work engagement. Moreover a direct relationship between transformational leadership and work engagement was found. Therefore, transformational leadership style influences levels of self-efficacy and work engagement, which in turn, positively predict employees' extra-role performance. Finally, theoretical and practical implications are discussed together with limitations and suggestions for future research.

Salanova, M., Llorens, S. (2009). *Exposure to information and communication technology and its relationship to work engagement*. *Ciencia & Trabajo*, 11, 32.

This paper tests the hypothesis that the positive appraisal of exposure mediates the impact of technology exposure (i.e., frequency of use and technology training) on work engagement (i. e., vigor, dedication and absorption) in a sample of 645 Spanish workers who work with Information and Communication Technology. The Structural equation Modeling results show that the positive appraisal partially mediates the impact of technology exposure on work engagement. The greater the exposure, the better the appraisal and the higher work engagement. Interestingly, we observed a direct but negative relationship between frequency of use and work engagement. Therefore, the greater the use of technology without mediation via appraisal, the lower the levels of work engagement. Study limitations and practical implications are discussed.

Salanova, M., Llorens, S. & Schaufeli, W.B. (2008). *Do gain spirals of efficacy beliefs, positive emotions and activity engagement exist? A longitudinal and multi-sample study* (Manuscript submitted for publication).

In this prospective study, a structural model of spirals of efficacy beliefs, positive emotions and activity engagement

was examined. Specifically, it was tested how efficacy beliefs (i.e., self-efficacy and perceived collective efficacy) affect activity engagement both directly and indirectly, through its impact on positive emotions over the time. Based on Bandura's Social-Cognitive Theory, both types of efficacy beliefs were tested simultaneously, i.e., teacher's self-efficacy and task perceived collective efficacy. Two longitudinal studies with independent samples were carried out: Study 1, was a 2-wave field study among 242 teachers of secondary schools. Study 2 included two longitudinal lab experiments among university students, who worked in groups: (1) a 2-wave laboratory study among 143 participants performing two collective tasks; (2) 3-wave laboratory study among 100 participants performing three collective tasks. Our findings show that (both types of) efficacy beliefs are linked directly as well as indirectly through positive emotions to activity engagement. Furthermore, results suggest an gain spiral where efficacy beliefs increase over the time because engagement and positive emotions (i.e., most notably enthusiasm). Theoretical findings as well as practical implications are discussed on the bases of Social-Cognitive (SCT), Conservation Of Resources (COR) and Broaden-And-Build (B-A-B) theories.

Salanova, M., Martinez, I.M., Bresó, E. & Schaufeli, W.B. (2009). How obstacles and facilitators predict academic performance: The mediating role of academic burnout and engagement. *Anxiety, Stress & Coping*, 26, 1-18.

The objective of this study is to analyze the mediating role that student well-being (i.e., burnout and engagement) plays in the relationship between obstacles and facilitators in their academic environment on the one hand and their future academic performance on the other hand. The sample was composed of 527 university students, who filled out a questionnaire and whose academic performance (GPA) during the following year was taken from the university's records. Structural equations modeling showed that, as expected, engagement fully mediated the relationship between facilitators and next year's academic performance. However, contrary to expectations, burnout did not predict future performance, although it was associated with the presence of obstacles and the absence of facilitators. Our results illustrate that positive psychological states (i.e., engagement) are more important in explaining performance than negative states (i.e., burnout).

Salanova, M., & Schaufeli, W.B. (2008). A cross-national study of work engagement as a mediator between job resources and proactive behavior: A cross-national study. *International Journal of Human Resources Management*, 19, 226-231.

This study investigates the mediating role of work engagement (i.e., vigor and dedication) among job resources (i.e., job control, feedback and variety) and proactive behavior at work. This mediating role was investigated, using Structural Equation Modeling in two independent samples from Spain (n= 386 technology employees) and The Netherlands (n= 338 telecom managers). Results in both samples confirmed that work engagement fully mediates the impact of job resources on proactive behavior. Subsequent multi-group analyses revealed that the strengths of the structural paths were invariant across both national samples. Theoretical and practical implications for Human Resources Management are discussed.

Salmela-Aro, K. & Nurmi, J.E. (2007). Self-esteem during university studies predicts career characteristics 10 years later. *Journal of Vocational Behavior*, 70, 463-477.

To examine how self-esteem measured during university studies would impact on the characteristics of the work career 10 years later, 297 university students completed the Rosenberg's self-esteem inventory four times while at university and various career-related questionnaires 10 years later. Latent Growth Curve Modeling showed that a high overall level of self-esteem predicted being in permanent employment 10 years later, having a high salary, and reporting a high level of work engagement, and job satisfaction, and a low level of burnout. By contrast, low self-esteem predicted unemployment, feelings of exhaustion, cynicism and reduced accomplishment at work, and low levels of work engagement and job satisfaction.

Salmela-Aro, K., Tolvanen, A. & Nurmi, J.-E. (2009). Achievement strategies during university studies predict early career burnout and engagement. *Journal of Vocational Behavior*, 75, 162-172.

To examine whether individuals' achievement strategies measured during university studies would have an impact on work burnout and work engagement measured 10, 14 and 17 years later, 292 university students completed the SAQ strategy questionnaire three times while at university, and the work burnout inventory three times and work engagement inventory twice during their early career. The results showed that optimism increased during university, while task-avoidance did not change. Moreover, high and increasing optimism during university predicted a high level of work engagement and low level of burnout 10, 14 and 17 years later. By contrast, a high level of task-avoidance during university predicted a low level of work engagement and high level of burnout during the early career.

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, 293-315.

This study focuses on burnout and its positive antipode — engagement. A model is tested in which burnout and engagement have different predictors and different possible consequences. Structural equation modeling was used to simultaneously analyze data from four independent occupational samples (total N = 1698). Results confirm the hypothesized model indicating that: (1) burnout and engagement are negatively related, sharing between 10 per cent and 25 per cent of their variances; (2) burnout is mainly predicted by job demands but also by lack of job resources, whereas engagement is exclusively predicted by available job resources; (3) burnout is related to health problems as well as to turnover intention, whereas engagement is related only to the latter; (4) burnout mediates the relationship between job demands and health problems, whereas engagement mediates the relationship between job resources and turnover intention. The fact that burnout and engagement exhibit different patterns of possible causes and consequences implies that different intervention strategies should be used when burnout is to be reduced or engagement is to be enhanced.

Schaufeli, W.B., Bakker, A.B. & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66, 701-716.

This article reports on the development and psychometric properties of a short self-report questionnaire to measure work engagement – a positive, work-related state of fulfilment that is characterized by vigor, dedication, and absorption. Data was collected in 27 studies carried out in ten different countries (total N = 14,521). Results indicate that the original 17-item Utrecht Work Engagement Scale (UWES) can be reduced to a nine-item short version. In addition, the results of covariance structure modeling show that compared to the one-factor model a three-factor model distinguishing between vigor, dedication, and absorption fits slightly better to the data of employees in a wide range of occupations across countries. Furthermore, the subscales of the UWES-9 have good internal consistencies and test-retest reliabilities. The relationship between work engagement and its presumed opposite, burnout, was also explored. Results of a second-order factor analysis show that a two-factor model with a reduced burnout factor (including exhaustion and cynicism) and an expanded engagement factor (including vigor, dedication, absorption, and professional efficacy) fits best to the data. It is concluded that the UWES-9 has acceptable psychometric properties, and can be used in studies on positive organizational behavior.

Schaufeli, W.B., Bakker, A.B. & Van Rhenen (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of*

Organizational Behavior, 30, 893-917.

The present longitudinal survey among 201 telecom managers supports the Job Demands-Resources (JD-R) model that postulates a health impairment process and a motivational process. As hypothesized, results of structural equation modeling analyses revealed that: (1) increases in job demands (e.g., overload) and decreases in job resources (e.g., feedback) predict burnout, (2) increases in job resources predict work engagement, and (3) burnout (positively) and engagement (negatively) predict duration and frequency of registered sickness absenteeism, respectively. Finally, results suggest an upward spiral; initial levels of work engagement predict an increase in job resources, which, in its turn, further increases engagement levels.

Schaufeli, W.B., Martínez, I., Marques Pinto, A. Salanova, M. & Bakker, A.B. (2002). Burnout and engagement in university students: A cross national study. *Journal of Cross- Cultural Psychology*, 33, 464-481.

This study examines burnout and engagement -- the hypothesized 'opposite' of burnout -- in university students from Spain (N = 623), Portugal (N = 727), and The Netherlands (N = 311). Confirmatory factor-analyses showed that the expected three-factor structures of the adapted versions of the Maslach Burnout Inventory (MBI) for students (including Exhaustion, Cynicism, and Reduced Efficacy) and the Utrecht Work Engagement Scale (UWES) for students (including Vigor, Dedication, and Absorption) fitted to the data of each sample. However, a rigorous test revealed that most factor loadings of the MBI were not invariant across all samples. Results with the UWES were slightly better indicating invariance of factor loadings of Absorption in all samples and of Vigor in two of the three samples. Furthermore, as hypothesized, the burnout and engagement subscales were negatively correlated. Finally, irrespective of country, Efficacy and Vigor were positively related to academic performance; i.e. the number of passed exams relative to the total number of exams in the previous term.

Schaufeli, W.B., & Salanova, M. (2007). Work engagement: An emerging psychological concept and its implications for organizations. In Gilliland, S.W., Steiner, D.D. & Skarlicki, D.P. (Eds.), *Research in Social Issues in Management (Volume 5): Managing Social and Ethical Issues in Organizations* (pp. 135-177). Greenwich, CT: Information Age Publishers.

In this chapter we introduce an emerging psychological concept – work engagement – and discuss its relevance for optimal functioning of employees in organizations. The appearance of this concept coincides with the rise of the so-called positive psychology that focuses on human strengths and optimal functioning. Work engagement is characterized by high levels of energy and vigor, dedication and enthusiasm while working, and being pleasantly absorbed or immersed in work activities. Based on various empirical studies, we discuss the viability of this new concept, as well as its implications for Human Resource Management and occupational health in current organizations. After setting the stage, the validity of work engagement as a psychological concept is addressed. We start with defining the construct and its measurement as well as discussing its causes and consequences. Also, the collective nature of engagement in teams is considered. The first part closes with a model of employee well-being that integrates positive aspects (engagement) and negative aspects (burnout). The second part focuses on the practical implications of work engagement for modern organizations. More particularly, we discuss how to increase work engagement, and what role organizational strategies such as personnel assessment and evaluation, job (re)design, leadership, and training can play.

Schaufeli, W.B., & Salanova, M. (2007). Efficacy or inefficacy, that's the question: Burnout and work engagement, and their relationship with efficacy beliefs. *Anxiety, Stress & Coping*, 20, 177-196.

This article challenges the traditional view that lack of efficacy – as measured with the corresponding reversed

efficacy scale of the Maslach Burnout Inventory (MBI) – is a constituting dimension of burnout. Instead, it is argued that in addition to exhaustion and cynicism, inefficacy – as measured with a newly developed scale – is a characteristic of burnout. Moreover, MBI-efficacy is supposed to be an element of work engagement, a construct that is considered as the positive antithesis of burnout, and that consists of vigor, dedication, and absorption. Structural Equation Modeling was carried out in two samples of university students from Spain ($n = 239$) and The Netherlands ($n = 235$) as well as in a sample of Spanish workers from various jobs ($n = 342$) and among Information and Communication Technologies (ICT) workers ($n = 283$). The analyses largely confirmed our expectations: (1) compared to efficacy beliefs inefficacy beliefs are stronger related to both other burnout components; (2) the alternative three-factor burnout model that includes exhaustion, cynicism and inefficacy fits slightly better to the data than the traditional model that includes efficacy; (3) a model with inefficacy loading on burnout and efficacy loading on engagement fits the data. Furthermore, research findings differed only slightly across all four samples. It is concluded that in future research instead of a reversed efficacy scale, an inefficacy scale should be used to assess burnout.

Schaufeli, W.B., Salanova, M., Gonzalez-Romá, V. & Bakker, A.B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71-92.

This study examines the factorial structure of a new instrument to measure engagement, the hypothesized ‘opposite’ of burnout in a sample of university students ($N=314$) and employees ($N=619$). In addition, the factorial structure of the Maslach Burnout Inventory – General Survey (MBI-GS) is assessed and the relationship between engagement and burnout is examined. Simultaneous confirmatory factor-analyses in both samples confirmed the original three-factor structure of the MBI-GS (exhaustion, cynicism, and professional efficacy) as well as the hypothesized three-factor structure of engagement (vigor, dedication, and absorption). Contrary to expectations, a model with two higher-order factors – ‘burnout’ and ‘engagement’ – did not show a superior fit to the data. Instead, our analyses revealed an alternative model with two latent factors including: (1) exhaustion and cynicism (‘core of burnout’); (2) all three engagement scales plus efficacy. Both latent factors are negatively related and share between 22% and 62% of their variances in both samples. Despite the fact that slightly different versions of the MBI-GS and the engagement questionnaire had to be used in both samples the results were remarkably similar across samples, which illustrates the robustness of our findings.

Schaufeli, W.B., Shimazu, A. & Taris, T.W. (accepted for publication). Being driven to work excessively hard: The evaluation of a two-factor measure of workaholism in The Netherlands and Japan. *Journal of Cross-Cultural Research*.

Based on a conceptual analysis a two dimensional self-report questionnaire for assessing workaholism (work addiction) is proposed, including: (1) working excessively hard and (2) working compulsively. Using independent explorative and confirmative samples that include employees from The Netherlands ($N = 7,594$) and Japan ($N = 3,352$), a questionnaire is developed and psychometrically evaluated. Results show that both scales (5 items each) are internally consistent and that the hypothesized two-factor structure fits to the data of both countries. Furthermore, convergent validity was shown with measures of excess working time and discriminant validity was shown with measures of burnout and work engagement. Workaholics who work excessively hard and compulsively have a high relative risk on burnout (most notably exhaustion) and a low relative risk on work engagement (most notably vigor). It is concluded that the two-dimensional measure – dubbed the Dutch Workaholism Scale (DUWAS) – is useful tool in future (cross-cultural) research on workaholism.

Schaufeli, W.B., Taris, T.W., & Van Rhenen, W. (2008). Workaholism, burnout and engagement: Three of a kind or three different kinds of employee well-being? *Applied Psychology: An International Review*, 57, 173-203.

The present study investigated in a sample of 587 telecom managers whether workaholism, burnout, and work engagement – the supposed antipode of burnout – can be distinguished empirically. These three concepts were measured with existing, validated multi-dimensional questionnaires. Structural equation modeling revealed that a slightly modified version of the hypothesized model that assumed three distinct yet correlated constructs – burnout, engagement and workaholism – fitted the data best. Correlational and multiple regression analyses revealed that these three concepts retained unique hypothesized patterns of relationships with variables from five clusters representing (1) long working hours, (2) quality of social relationships, (3) perceived health, (4) job characteristics, and (5) work outcomes, respectively. In sum, our analyses provided converging evidence that workaholism, burnout and engagement are three different kinds of employee well-being rather than three of a kind.

Schaufeli, W.B., Taris, T.W., & Bakker, A.B. (2006). Dr. Jekyll and Mr. Hide: On the differences between work engagement and workaholism. In R. Burke (Ed.), *Research companion to working time and work addiction* (pp. 193-252). Edward Elgar: Northampton, UK.

An ongoing debate about the nature of workaholism centers around the question: Is it “good” or is it “bad”? We argue that workaholism – working excessively and compulsively – is inherently negative. What has been labeled “good” workaholism can be captured by the recently emerged concept of work engagement, which is characterized by vigor, dedication and absorption. This article investigates the discriminant validity of (“bad”) workaholism and (“good”) work engagement. Results from an Internet-based survey among 2,164 Dutch employees showed that: (1) the two workaholism scales (Working Excessively and working compulsively) are highly interrelated and can be distinguished from the scale measuring work engagement; (2) various indicators of overwork are stronger related to the work excess component than to the compulsive component of workaholism, or to work engagement; (3) workaholism is negatively related to employee well-being, whereas associations with engagement are positively; (4) both workaholism and work engagement are positively related to job performance, although the patterns of associations vary with the type of performance. Taken together, it seems that workaholism and work engagement are two distinct constructs. Our results suggest that the more engaged employees are, the harder they work, the better they feel and the better they perform. Although workaholism is also related to working hard and performing well, it is additionally associated with poor well-being. In this sense workaholism is “bad” and work engagement is “good”.

Seppälä, P., Mauno, S., Feldt, T., Hakanen, J., Kinnunen, U., Tolvanen, A. & Schaufeli, W.B. (in press). The construct validity of the Utrecht Work Engagement Scale: Multisample and longitudinal evidence. *Journal of Happiness Studies*.

This study investigated the factor structure and factorial group invariance and time invariance of the original 17-item and a recently developed short 9-item version of the Utrecht Work Engagement Scale (UWES). Furthermore, the study explored the rank-order stability of work engagement. The data were drawn from five different studies, of which one was a longitudinal study with a three-year follow-up and two measurement points, utilizing five divergent occupational samples (N = 9,404). Confirmatory factor analysis supported the theoretically based correlated three-factor structure of both versions of the UWES. The structure of the UWES-17, however, was not invariant either across the five samples or two measurement times. In contrast, the structure of the UWES-9 remained relatively invariant across the investigated samples and over time, thus indicating its good construct validity. Moreover, in line with the theoretical expectation, Structural Equation Modeling showed that the rank-order stabilities of the work engagement factors were high over the three-year period. Accordingly, work engagement seems to be a relatively stable state of mind.

Shimazu, A., Schaufeli, W.B., Kosugi, S., Suzuki, A., Nashiwa, H., Kato, A., Sakamoto, M., Irimajiri, H., Amano, S., Hirohata, K., Goto, R. & Kitaoka-Higashiguchi, K. (2008). Work engagement in Japan: Development and validation of the Japanese version of the Utrecht Work

Engagement Scale. *Journal of Applied Psychology: An international Review*, 57, 510-523.

The purpose of this study was to develop and validate the Japanese version of Utrecht Work Engagement Scale (UWES-J). Employees from three independent samples completed the questionnaire (N = 2,334). Confirmatory factor analyses using the multiple-group method revealed that, instead of the original three-factor model, a one-factor model that assumes that all engagement items load on one single factor fitted to the data. Moreover, the one-factor structure was invariant across all three samples. Internal consistency of the scale were sufficiently high ($\alpha = .92$) and the test-retest reliability with an interval of two months was .66. A series of second-order confirmative factor analyses to examine construct validity confirmed the hypothesized model, indicating that work engagement was positively related to job satisfaction whereas it was negatively related to strain and burnout. However, like in previous studies, professional efficacy, a component of burnout, loaded on the engagement factor. These results, in general, suggest the reliability (internal consistency and stability), factorial invariance, and construct validity of the UWES-J in three independent samples.

Simpson, M.R. (2009). Engagement at work: A review of the literature. *International Journal of Nursing Studies*, 46, 1012-1024.

Objectives: Engagement at work has emerged as a potentially important employee performance and organizational management topic, however, the definition and measurement of engagement at work, and more specifically, nurse engagement, is poorly understood. The objective of this paper is to examine the current state of knowledge about engagement at work through a review of the literature. This review highlights the four lines of engagement research and focuses on the determinants and consequences of engagement at work. Methodological issues, as identified in the current research, and recommendations for future nurse-based engagement research are provided.

Design: A systematic review of the business, organizational psychology, and health sciences and health administration literature about engagement at work (1990–2007) was performed.

Data sources: The electronic databases for Health Sciences and Health Administration (CINAHL, MEDLINE), Business (ABI INFORM), and Psychology (PsycINFO) were systematically searched.

Review methods: Due to the limited amount of research that has examined engagement among the nursing workforce, published research that included varying employee types were included in this review. The selection criteria for this review include those studies that were: (1) written in English and (2) examined engagement at work in employee populations of any type within any work setting.

Results: The literature review identified four distinct lines of research that has focused on engagement within the employee work role. Of the 32 engagement-based articles referenced in this paper, a sample of 20 studies report on the examination of antecedents and/or consequences of engagement at work among varying employee types and work settings. Key findings suggest organizational factors versus individual contributors significantly impact engagement at work. A common implication in this body of research was that of the performance-based impact.

Conclusions: The study of nurses' work engagement and its relationship to nurses' organizational behavior, including work performance and healthcare organizational outcomes can be achieved by first building upon a conceptually consistent definition and measurement of work engagement. Future research is needed to provide nurse leaders with a better understanding of how nurse work engagement impacts organizational outcomes, including quality of care indicators.

Simpson, M.R (2009). Predictors of work engagement among medical-surgical registered nurses. *Western Journal of Nursing Research*, 31, 44-65.

This descriptive, cross-sectional study examines the relationship of job satisfaction, turnover cognitions, job search behavior, and nurse demographics to work engagement among a sample of 167 registered nurses employed on medical and/or surgical units within six hospitals. Professional status, interaction, and thinking of quitting together explain 46%, $F(3,160) = 47.546$, $p < .001$, of the variance in work engagement. Additionally, the job satisfaction components of professional status and interaction are shown to significantly moderate the relationship between thinking of quitting and work engagement ($t = 1.96$, $p < .05$). Results suggest improvements in work environment processes that are consistent with professional status and interaction at work, such as integration of a professional

nursing practice model and development and positioning of transformational leaders at every level of the organization, are needed.

Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior (2003): A new look at the interface between non-work and work. *Journal of Applied Psychology*, 88, 518-528.

This study examines work-related outcomes of recovery during leisure time. A total of 147 employees completed a questionnaire and a daily survey over a period of 5 consecutive work days. Multilevel analyses showed that day-level recovery was positively related to day-level work engagement and day-level proactive behavior (personal initiative, pursuit of learning) during the subsequent work day. The data suggest considerable daily fluctuations in behavior and attitudes at work, with evidence that these are related to prior experience and opportunity for recovery in the non-work domain.

Sonnentag, S., Mojza, E.J., Binnewies, C. & Scholl, A. (2008). Being engaged at work and detached at home: A week-level study on work engagement, psychological detachment, and affect. *Work & Stress*, 22, 257-276.

Although earlier research has shown that work engagement is associated with positive outcomes for the employee and the organization, this paper suggests that employees also need time periods for temporarily disengaging (i.e., psychological detaching) from work. We hypothesized that work engagement and psychological detachment from work during off-job time predict high positive affect and low negative affect and that psychological detachment is particularly important when work engagement is high. Over the course of four working weeks, 159 employees from five German organizations from various industries completed surveys twice a week, at the beginning and the end of four consecutive working weeks. Hierarchical linear modelling showed that a person's general level of work engagement and the week-specific level of psychological detachment from work during off-job time jointly predicted affect at the end of the working week. As expected, work engagement moderated the relationship between psychological detachment and positive affect. These findings suggest that both engagement when being at work and disengagement when being away from work are most beneficial for employees' affective states.

Storm, K. & Rothmann, I. (2003). A psychometric analysis of the Utrecht Work Engagement Scale in the South African police service. *South African Journal of Industrial Psychology*, 29, 62-70.

The objectives of this research were to validate the Utrecht Work Engagement Scale (UWES) for the South African Police Service (SAPS) and to determine its construct equivalence and bias in different race groups. A cross-sectional survey design was used. Stratified random samples (N = 2396) were taken of police members of nine provinces in South Africa. The UWES and a biographical questionnaire were administered. Structural equation modeling confirmed a 3-factor model of work engagement, consisting of Vigor, Dedication, and Absorption. These three factors have acceptable internal consistencies. Exploratory factor analysis with target rotation showed equivalence on the three factors for different race groups in the SAPS. No evidence was found for uniform or non-uniform bias of the items of the UWES for different race groups.

Taris, T.W. & Schreurs P.J.G. (2009). Explaining worker strain and learning: How important are emotional job demands? *Anxiety, Stress & Coping*, 22, 245-262.

This study examined the added value of emotional job demands in explaining worker well-being, relative to the effects of task characteristics, such as quantitative job demands, job control, and coworker support. Emotional job demands were expected to account for an additional proportion of the variance in well-being. Cross-sectional data

were obtained from 11,361 female Dutch home care employees. Hierarchical stepwise regression analysis demonstrated that low control, low support and high quantitative demands were generally associated with lower well-being (as measured in terms of emotional exhaustion, dedication, professional accomplishment and learning). Moreover, high emotional demands were in three out of four cases significantly associated with adverse well-being, in these cases accounting for an additional 1.6% of the variance in the outcome variables. In three out of eight cases the main effects of emotional demands on well-being were qualified by support and control, such that high control and high support either buffered the adverse effects of high emotional demands on wellbeing or increased the positive effects thereof. All in all, high emotional demands are as important a risk factor for worker well-being as well-established concepts like low job control and high quantitative job demands.

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, 277-293.

Within the Job Demands-Resources model, the presence of job demands (e.g., work pressure) and the absence of job resources (e.g., social support) relate to burnout through a psychological energetic process, whereas the presence of job resources associates with work engagement through a motivational process. Although various mechanisms have been suggested to understand these processes, empirical evidence for these mechanisms is scarce within the JD-R framework. This study examines the role of basic need satisfaction, as defined within Self-Determination Theory, in the relationships between job demands, job resources, and employees' exhaustion and vigour, the main components of burnout and engagement, respectively. Structural equation modelling in a heterogeneous sample of 745 employees of the Dutch-speaking part of Belgium confirmed that satisfaction of basic psychological needs partially explained the relationships from job demands to exhaustion and from job resources to vigour. It fully accounted for the relationship between job resources and exhaustion. We conclude that the current study adds to the research pointing at need satisfaction as a promising underlying mechanism for employees' thriving at work.

Van der Linden, D., Taris, T.W., Beckers, D.G.J. & Kindt, K.B. (2007). Reinforcement theory and occupational health. BAS and BIS on the job. *Personality and Individual Differences*, 42, 1127-1138.

Reward and punishment sensitivity are central constructs that play a major role in individual differences in personality. Yet, few studies have tested the relevance of these constructs for occupational health research. Therefore, we examined the relationship between reward sensitivity and punishment sensitivity with occupational well-being. In a sample of 245 teachers we found that beyond job characteristics, reward sensitivity was mainly associated with positive indicators of well-being (job satisfaction, involvement). Punishment sensitivity statistically predicted stress and fatigue. In addition, reward and punishment sensitivity significantly interacted with job characteristics, suggesting that they play a role in the way employees react to favourable or unfavourable working conditions. Results indicate that reward and punishment sensitivity, as defined in the Reinforcement Sensitivity Theory of Personality, are relevant constructs in occupational studies.

Note (W.S.): "Involvement" has been operationalized by using the UWES.

Vansteenkiste, M., Neyrinck, B., Niemiec, C.P., De Witte, H. & Van den Broek, A. (2007). On the relationship between work value orientations, psychological need satisfaction and job outcomes: A self-determination theory approach. *Journal of Occupational and Organizational Psychology*, 80, 251-277.

Using self-determination theory, two studies found that holding extrinsic, relative to intrinsic, work value orientation was associated with less positive outcomes (i.e. less satisfaction with, dedication to and vitality while on the job) and more negative outcomes (i.e. higher emotional exhaustion, short-lived satisfaction after successful goal-attainments,

and turn-over). These relationships were not limited to job outcomes, but also emerged using indicators of employees' general mental health. Moreover, income level did not moderate these relationships. Study 2 found that holding an extrinsic, relative to an intrinsic, work value orientation was detrimental to employees' job outcomes because these orientations thwarted the satisfaction of the basic psychological needs for autonomy, competence and relatedness at work.

Vinje, H.F. & Mittelmark, M.B. (2007). Job engagement's paradoxical role in nurse burnout. *Nursing and Health Sciences*, 9, 107-111.

Interviews were undertaken with 11 community health nurses and qualitative analysis sought to illuminate the ways in which job engagement was connected to their health and functioning. High job engagement followed from nurses' deep feeling of calling to the nursing profession and contributed to a strong sense of duty and strict self-demand regarding one's own and other's levels of performance. In nine cases, perceived failures to live up to their own performance demands contributed to nurses' near-burnout. This triggered extensive introspection and reflection, leading to positive coping and avoidance of burnout. The nurses coped by using their well-honed skills in introspection and reflection, which they had practiced habitually all their careers, to help them determine which personal and professional changes were required to maintain job engagement and satisfaction. Paradoxically, job engagement can not only promote thriving on the job, but also contribute to negative processes leading to poor functioning.

Wefald, A.J. & Downey, R.G. (2009). Construct dimensionality of engagement and its relation with satisfaction. *The Journal of Psychology*, 143, 91-111.

Engagement—a persistent and positive affective-motivational state of fulfilment characterized by vigor, dedication, and absorption (W. B. Schaufeli, M. Salanova, V. González-Roma, & A. B. Bakker, 2002)—has become a popular subject among academic and industry researchers. Following suggestions in the recent literature calling for further examination of the underlying factors comprising the construct of engagement, the authors investigated the factor structure of W. B. Schaufeli et al.'s measure of engagement and academic engagement's relation to academic satisfaction. Previous researchers found a 3-factor structure of engagement that comprises vigor, dedication, and absorption. The authors administered to a sample of university students a questionnaire on their level of engagement in academic work and various other measures. The results did not confirm the 3-factor structure. The present authors found engagement and satisfaction to be highly related constructs.

Wiese, B.S. & Salmela-Aro, K.S. (2008). Goal conflict and facilitation as predictors of work-family satisfaction and engagement. *Journal of Vocational Behavior*, 73, 490-497.

In a study of working adults (N = 131; Mean age = 43.52 yrs; 62 males) in Germany and Finland, the mean level of goal facilitation was found to be significantly higher than that of goal interference. Hence, many individuals seem to be rather successful in constructing a personal goal system that is functional in terms of supportive links. As hypothesized, goal conflict and facilitation were associated with work-related outcomes, especially with work satisfaction. The associations with family-related outcomes were less pronounced when the focus was exclusively on either supportive or interfering goal relationships. However, when the intraindividual relation between goal conflict and goal support was taken into account, we found that the relative dominance of facilitation was clearly positively associated with both work-related and family-related indicators of positive functioning.

Xanthopoulou, D., Bakker, A.B., Kantas, A. & Demerouti, E. (in press). *The measurement of burnout and work engagement: A comparison of Greece and The Netherlands. New Review of Social Psychology.*

This study examines the factorial structure of the instruments that measure burnout (Maslach- Burnout Inventory - General Survey / MBI-GS) and work engagement (The Utrecht Work Engagement Scale / UWES) in a sample of Dutch (N = 162) and Greek (N = 206) employees. Confirmatory factor analyses in both samples supported the superiority of the proposed three-factor structure of both the MBI-GS (exhaustion, cynicism and reduced professional efficacy) and UWES (vigor, dedication and absorption). Alternative two-factors and one-factor models did not show a better fit to the data. In addition, results show that the factor loadings and covariations of the MBI-GS dimensions (but not of the UWES) are invariant across countries. Finally, consistent with our hypothesis, Greek employees report higher levels of exhaustion and cynicism than Dutch employees. Unexpectedly, Greek employees also score significantly higher on professional efficacy and absorption. We discuss several possible explanations for these latter findings.

Xanthopoulou, D., Bakker, A.B., Demerouti, E. & Schaufeli, W.B. (2009). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Organizational and Occupational Psychology*, 82, 183-200.

This study investigates how daily fluctuations in job resources are related to employees' levels of personal resources and work engagement, and objective financial performance. Employees (N = 42) working in 3 branches of a fast-food company completed a questionnaire and a diary booklet over 5 consecutive workdays. The diary measured job resources (autonomy, supervisory coaching, and team climate), personal resources (self-efficacy, self-esteem, and optimism), and work engagement. Data on day-level financial performance was obtained for each shift of each day that the study took place. Consistent with hypotheses, multilevel analyses revealed that day-level personal resources mediated the relationship between day-level job resources and work engagement, after controlling for general levels of personal resources and engagement. Day-level supervisory coaching had a direct relationship with day-level work engagement, which, in turn, predicted day-level financial turnover. Additional analyses revealed that previous days' level of coaching had a positive, lagged effect on next days' work engagement (through next days' optimism), and on next days' financial turnover.

Xanthopoulou, D., Bakker, A.B., Demerouti, E. & Schaufeli, W.B. (2009). Reciprocal relationships between job resources, personal resources and work engagement. *Journal of Vocational Behavior*, 74, 235-244.

This study examined the role of job and personal resources in explaining work engagement. We hypothesized that job resources, personal resources and work engagement are reciprocal over time. The study was conducted among 163 Dutch employees, who were followed-up over the period of 2 years. Results of structural equation modelling analyses supported our hypotheses. Specifically, it was found that T1 job and personal resources predicted T2 work engagement. Additionally, T1 work engagement was an important predictor of T2 job and personal resources. The model that fitted best to the data was the reciprocal model, which showed that not only resources and work engagement but also job and personal resources were mutually related. These findings support the assumption of conservation of resources theory that various types of resources and well-being evolve into a cycle that determines employees' successful adaptation to their work environments.

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, 121-141.

In an attempt to expand the job demands-resources (JD-R) model, we examined the role of three personal resources (self-efficacy, organizational-based self-esteem and optimism) in predicting exhaustion and work engagement. We hypothesized that personal resources (1) moderate the relationship between job demands and exhaustion, (2) partially mediate the relationship between job resources and work engagement, and (3) determine how employees

perceive their work environment and well-being. Hypotheses were tested among 714 Dutch employees of an electrical engineering company. Results show that self-efficacy, optimism, and organizational-based self-esteem do not manage to offset the relationship between job demands and exhaustion. Instead, our findings suggest that these personal resources mediate the relationship between job resources and engagement/exhaustion, and influence the perception of job resources. In conclusion, the study expands the JD-R model by investigating all possible functions of personal resources in its processes. Further, the study emphasizes the crucial role that job and personal resources play in determining employee well-being.

Xanthopoulou, D., Bakker, A.B., Heuven, E., Demerouti, E., & Schaufeli, W.B. (2008). Working in the sky: A diary study on work engagement among flight attendants *Journal of Occupational Health Psychology*, 13, 345-356.

This study aims to expand the motivational process of the Job Demands-Resources (JD-R) model by examining whether colleague support (i.e. a typical job resource) predicts in-role and extra-role performance, through self-efficacy and work engagement. Forty-four flight attendants filled in a questionnaire and a diary booklet before and after consecutive flights to three intercontinental destinations. Results of multilevel analyses revealed that colleague support had positive effects on self-efficacy and work engagement, but self-efficacy did not mediate the relationship between support and engagement. However, self-efficacy predicted both in-role and extra-role performance, through work engagement. These results support the motivational process of the JD-R model, as colleague support proved to be a significant determinant of work engagement. Moreover, our findings suggest that self-efficacy beliefs may increase performance, through the enhancement of employees' work engagement.

Yi-Wen, Z., & Yi-Qun, C. (2005). The Chinese Version of the Utrecht Work Engagement Scale: An examination of reliability and validity. *Chinese Journal of Clinical Psychology*, 13, 268-270.

The objective is to introduce the Utrecht Work Engagement Scale developed by Schaufeli et al., and to examine its reliability and validity in Chinese Middle School teachers. First, 47 Chinese teachers were pre-tested using the Chinese translation of the UWES. Two items with unsatisfactory discrimination indexes were deleted. Second, 277 teachers completed a battery of structured questionnaires, including the Chinese version of the UWES, SF-36 Health Survey, COPE and the Job Characteristics Questionnaire. Reliability and validity of the Chinese version of the UWES were analyzed. Results of the CFA confirmed the hypothesized three-factor model of work engagement, consisting of Vigor, Dedication, and Absorption. All of the three subscales showed acceptable internal consistencies. Work engagement and its sub-components showed complicated relationships with general health, coping strategies, and job characteristics, which are consistent with our expectations. It is concluded that the Chinese version of the UWES is reliable and valid for application in China.

Zhang, Y., Gan, Y. & Cham, H. (2007). Perfectionism, academic burnout and engagement among Chinese college students: A structural equation modeling analysis. *Personality and Individual Differences*, 43, 1529-1540.

This study aims at identifying the association between perfectionism, academic burnout and engagement in college students. A dual-process model was tested in which negative perfectionism (doubts about actions, concerns over mistakes, et al.) were related to burnout symptoms while positive perfectionism (personal standards and organization) to engagement. A sample of Chinese undergraduates (N = 482) completed a battery of questionnaires including the Frost Multidimensional Perfectionism Scale (FMPS), the Maslach Burnout Inventory-Student Survey (MBI-SS), and the Utrecht Work Engagement Scale for Students (UWES-S). Results confirm our hypothesis by indicating that: (1) burnout and engagement were moderately and negatively correlated conceptions, with efficacy, the positively worded subscale of MBI, better loaded as an extended engagement dimension; (2) maladaptive aspects of perfectionism were mainly correlated with burnout, whereas positive perfectionism with engagement; (3) the dual-

process model fitted well to the data, with cross-links identified. Implication of the current study for school counselling was also proposed.

Zhu, W., Avolio, B.J., Walumbwa, F.O. (2009). Moderating Role of Follower Characteristics With Transformational Leadership and Follower Work Engagement. *Group Organization Management*, 34, 590-619.

This study examines whether follower characteristics moderate the relationship between transformational leadership and follower work engagement. Data were collected from 140 followers and their 48 supervisors from a diverse range of industries in South Africa. Hierarchical linear modeling results show that follower characteristics moderate the positive relationship between transformational leadership and follower work engagement. More specifically, transformational leadership has a more positive effect on follower work engagement when follower characteristics are more positive. Implications of the findings for theory, research, and practice are discussed.

In Spanish

De Lucena-Carvalho, V.A., Calvo, B.F., Martin, L.H., Campos, F.R. & Castillo, I.C. (2006). Resiliencia y el modelo Burnout-Engagement en cuidadores formales de ancianos [Resilience and the burnout-engagement model informal caregivers of the elderly]. *Psicothema*, 18, 791-796.

This paper investigates the relationship between resilience and positive/negative mental aspects of psychological well-being in formal caregivers for the elderly. The sample consisted of 265 caregivers who work in different residential homes in Extremadura and Castilla y Leon (Spain). The instruments used included the Connor-Davidson Resilience Scale, the Maslach Burnout Inventory-General Survey and the Utrecht Work Engagement Scale. The most significant findings show that caregivers with higher levels of resilience also have higher levels of professional efficacy and job engagement (vigor, dedication and absorption) and appear to be less emotionally exhausted or cynical than caregivers with lower levels of resilience. It cannot be concluded that more resilient caregivers will not get burned out, but they develop better engagement skills. As they strengthen these personal attributes, they become less vulnerable to burnout.

Extremera, N., Duran, A. & Rey, L. (2005). La inteligencia emocional percibida y su influencia sobre la satisfaccion vital, la felicidad subjetiva y el engagement en trabajadores de centros para personas con discapacidad intelectual [Perceived emotional intelligence and its influence on vital satisfaction, subjective happiness and engagement in professionals who work with mentally retarded people]. *Ansiedad y Estrés*, 11, 63-73.

This study examines the relationship among the levels of perceived emotional intelligence and vital satisfaction, subjective happiness and engagement in a sample of human service professionals who work with mentally retarded people. Data were collected by the Trait Meta-Mood Scale for perceived emotional intelligence (Salovey et al., 1995), by the Satisfaction With Life Scale (Diener et al., 1985), by the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) and by the Utrecht Work Engagement Scale (Schaufeli et al., 2002). In general, results showed that components of perceived emotional intelligence predicted better personal well-being (higher vital satisfaction and subjective happiness) and positive dimensions of engagement (dedication and absorption). Moreover, significant relationships among vital satisfaction and subjective happiness with different dimensions of engagement were found.

Martínez, I. & Salanova, M. (2003). Niveles de burnout y engagement en estudiantes universitarios. Relación con el desempeño y desarrollo profesional [Levels of burnout and engagement among university students: relationship with performance and professional development]. *Revista de Educación*, 330, 361-384.

The objective of the present paper is to analyse burnout and engagement in university students and to establish relationships with demographic variables, performance and academic development. The sample consists of 525 students of Jaume I University. The results show the existence of significant differences in the burnout and engagement dimensions with respect to age, gender and type of study. Possible predictors of performance, academic development and withdrawal are also identified.

Salanova, M., Schaufeli, W.B., Llorens, S., Pieró, J.M. & Grau, R. (2001). Desde el 'burnout' al 'engagement': ¿una nueva perspectiva? [From burnout to engagement: a new perspective?] *Revista de Psicología del Trabajo y de las Organizaciones*, 16, 117-134.

This study examines the factorial structures of the Maslach Burnout Inventory-General Survey (MBI-GS) and of an inventory that assesses engagement, the hypothesized 'opposite' of burnout. Confirmatory factor-analyses in a sample of 514 Spanish workers using information technologies, corroborated the expected three-factor structure of the MBI (i.e., exhaustion, cynicism, and reduced efficacy) as well as the hypothesized three-factor structure of engagement (i.e. vigor, dedication, and absorption). Additional hierarchical multiple regression analysis show the added value of the engagement scales to predict indicators of subjective well-being (i.e. organizational commitment, job satisfaction, and job enthusiasm) after controlling for burnout. Finally, study limitations and perspectives for future research on burnout and engagement are discussed.

Salanova, M. Grau, R., Llorens, S. & Schaufeli, W.B. (2001). Exposición a las tecnologías de la información, burnout y engagement: el rol modulador de la autoeficacia profesional [Exposure to information technologies, burnout and engagement: the moderating role of professional self-efficacy]. *Psicología Social Aplicada*, 11, 69-89.

This study hypothesizes that, instead of direct effects between technology exposure (i.e. frequency of use and training) and employee's well-being (i.e. burnout – exhaustion and cynicism – and engagement – vigor, dedication, absorption), relationships are moderated by professional self-efficacy. Based on data collected from 514 workers, who use new technologies in their jobs, we found mixed results. Consistent with the hypothesis, professional self-efficacy moderated the relationship between frequency of technology use and burnout (i.e. exhaustion and cynicism). That is, high levels of efficacy buffer negative effects of frequent use. In addition, more complex moderating patterns (i.e. three-way interactions were found): for those who received training and reported high levels of self-efficacy, frequency of use decreased engagement (i.e. vigor, dedication), whereas for those who reported low levels of self-efficacy training had not a suchlike differential effect. It is concluded that the employee's levels of professional self-efficacy are an important factor to consider in relation to the potential negative (burnout) as well as positive (engagement) effects of exposure to technology. Limitations of the study and practical implications of the study findings are discussed.

Salanova, M., Bresó, E. & Schaufeli, W.B. (2005). Hacia un modelo espiral de la autoeficacia en el estudio del burnout y engagement [Towards a spiral model of self-efficacy in burnout and engagement research]. *Estres y Ansiedad*, 11, 215-231.

In this study the Downward and Upward Spiral Model of efficacy beliefs is tested in two samples of Spanish (N=203) and Belgian (N=150) university students, respectively. Results from Structural Equations Modeling showed empirical support for the Downward Spiral Model of burnout, which is considered as a 'crisis of efficacy', and for the Upward Spiral Model of engagement, which acts to boost efficacy. Also results show empirical support for the mediating role that efficacy beliefs play in the relationship between past success and burnout/engagement on the one hand, and self-efficacy beliefs about academic success on the other hand. Moreover, using multigroup analysis it was shown that the research model was invariant of across both samples.

Salanova, M., Martínez, I., Bresó, E., Llorens, S. & Grau, R. (2005). Bienestar psicológico en estudiantes universitarios: Facilitadores y obstaculizadores del desempeño académico [Well-being among university students: Facilitators and obstacles of academic performance]. *Anales de Psicología*, 21, 170-180.

This study investigates the relationship between obstacles and facilitators in the academic environment of students, and their academic performance. A sample of 872 university students from 28 different programs was investigated. Results from quantitative (self-report questionnaires) as well as from qualitative (brainstorming and focus-group sessions) analyses confirmed a positive relationship between obstacles, burnout and the intention to leave university. On the other hand, academic facilitators were positively associated with engagement, academic self-efficacy, satisfaction, and happiness. As far as academic performance was concerned, indications were found for a gain (loss) spiral of past academic success (failure), subjective well-being (unwell-being), and future academic success (failure).

Salanova, M. & Schaufeli, W. (2004). La Ilusión por el trabajo (engagement): ¿el polo opuesto al burnout? [Work engagement: The opposite pole of burnout?] In M. Martínez et al., (Eds.) (2004). *Quemarse en el trabajo (burnout): 11 perspectivas del burnout*. Madrid: Elgido.

In this chapter, the concept of engagement is introduced. Based on about 30 publications on engagement, this psychosocial construct is defined, including its measurement and its relation with burnout and workaholism. Furthermore, research on antecedents and consequences as well as its collective nature is discussed.

Salanova, M. & Schaufeli, W.B. (2004). El engagement de los empleados : Un reto emergente para la dirección de los recursos humanos [Work engagement: An emerging challenge for Human Resources Management]. *Trabajo y Salud Social*, No 216, 109-138.

In this article we introduce a new psychosocial construct, i.e., work engagement, in order to explain optimal human functioning in organizations. Based on about twenty empirical studies, we discuss the viability of this construct, as well as its utility for Human Resource Management (HRM) in modern companies. Work engagement is a core concept in the emerging framework of Positive Psychology that despite of its 'short' life has shown to be scientifically valid and is potentially useful for HRM in companies.

In Finnish

Hakanen J.J. (2002). Työuupumuksesta työn imuun - positiivisen työhyvinvointikäsitteen ja -menetelmän suomalaisen version validointi opetusalan organisaatiossa [Validation of the Finnish version of an instrument for measuring the job engagement (UWES) in an educational organization]. *Työ ja Ihminen*, 16, 42-58.

The main aim of this study was to explore the factorial structure of the Finnish version of job engagement (UWES). The second aim was to examine the relationship between engagement and burnout (MBI-GS). In addition, the prevalence of engagement and its relationships to working conditions and other indicators of well-being and work attitudes were studied in a sample of employees of an educational organisation (N = 3365). Job engagement and burnout were both internally consistent, and their three-factor structures were confirmed. However, in the best fitting model specifying the relationship between engagement and burnout, two challenging second-order factors emerged: exhaustion and cynicism loading on the 'burnout' factor, and three engagement scales plus (reduced) professional efficacy loading on the 'engagement' factor. The directions of the associations between engagement and working conditions and other measures of well-being and work attitudes were as expected.

Hakanen J. J. (2002). Työn imu ja työuupumus - laajennetun työhyvinvointimallin kehittäminen ja testaaminen [Job engagement and burnout. Testing the Job Demands - Resources model]. *Psykologia*, 37, 291-301.

The aim of this study was to test the Job Demands - Resources model in a sample of employees of an educational organisation (N = 2404 of whom 2038 were teachers and 366 other school staff working with pupils). The hypothesized two-process model fitted to the data. However, in the best fitting model also job demands and job resources were both associated with engagement and burnout. In the best fitting model no group differences were found between men and women or between teachers and other school staff thus increasing the validity of the model.

Mauno, S., Pyykkö, M. & Hakanen, J.J. (2005). Koetaanko organisaatioissamme työn imua? Työn imun yleisyys ja selittävät tekijät kolmessa erilaisessa organisaatiossa. [Do employees experience work engagement in Finnish organizations? The prevalence and antecedents of work engagement in three different organizations]. *Psykologia*, 40, 16-30.

This study set out to examine the three dimensions of work engagement, i.e. vigour, dedication and absorption, and their prevalence and antecedents among employees in a health care organization (n = 736), an information technology concern (n = 296), and a paper mill (n = 221). Work engagement was more prevalent in the health care and IT organizations than in the traditional paper industry. Most consistently and strongly work engagement was associated with humanistic organizational culture and job control. However, some antecedents of work engagement, e.g., age, gender, labour market status, supervisor status, varied according to the organization as well as to the dimension of work engagement. Moreover, one important job demand, i.e., time pressures at work, was positively associated with work engagement in two organizations. The results suggest that work engagement and its three dimensions may have different predictors in different organizational contexts.

Hakanen, J.J. (2005). Työn ja kodin vaatimusten ja voimavarojen yhteydet työn imuun, työuupumukseen, työholismiin ja muun elämän hyvinvointiin [The relationships between job and home demands and resources, and work engagement, burnout, workaholism, and marital and life satisfaction]. *Työ ja ihminen* 19, 49-70.

In this study the associations of job and home demands and resources with work engagement, burnout, workaholism, as well as with marital and life satisfaction were investigated among Finnish dentists (N = 2870). The results showed that the main explanatory factors at work and at home were different for the five indicators of well-being. Work engagement was especially positively associated with the job resources, whereas burnout was positively related to job demands and lack of job resources. In addition, home resources were positively associated with work engagement, and emotional home demands with burnout. Workaholism was positively related to quantitative demands both at work and at home. Life satisfaction was positively related to work and home resources and negatively with work and home demands. Marital satisfaction was positively associated with home resources and negatively with home demands. Finally, the contextual and multidimensional nature of well-being and its predictors

are discussed.

In Dutch

Bakker, A.B. (2003). Bevlogen aan het werk: Hoe Nederland haar eigen energiebronnen kan creëren [Engaged at work; How Holland may create its own energy resources]. In K. Verhaar (Red.). *Sociale Verkenningen 4: Waarden en normen* (pp. 119-141). Den Haag: Ministerie van Sociale Zaken en Werkgelegenheid.

Bakker, A.B. (2009). Een overzicht van tien jaar onderzoek naar bevlogenheid. [Work engagement: An overview of 10 years of research.] *Gedrag en Organisatie*, 22, 336-353.

This article gives an overview of recent research on work engagement – a positive work-related state that is characterized by vigour, dedication, and absorption. I discuss the conceptualization, causes, and consequences of engagement. The overview reveals that employees are particularly engaged when they have sufficient (work-related and personal) resources to cope with their job demands. Work engagement has positive implications for job performance. Engaged employees turn out to mobilize their own resources so that they stay engaged. The findings of ten years of research are integrated in an overall model of engagement. This model offers clear starting points for positive interventions that aim to promote employee engagement.

Bal, P.M., Bakker, A.B., & Kallenberg, T. (2006). Bevlogen voor de klas [Engaged in the classroom]. *Velon. Tijdschrift voor Lerarenopleiders*, 27, 19-22.

What is needed for a teacher to feel engaged? This article identifies specific factors that contribute to teacher's engagement and it outlines the consequences that engagement has. The concept of engagement is explained and a Job Demands-Resources framework to understand engagement is offered, which includes the relationship with work performance. Finally, several suggestions are given how to increase engagement in teaching.

De Cuyper, N. & De Witte, H. (2006). Opleidingsbereidheid bij tijdelijke versus vaste werknemers in relatie tot attitudes, welzijn, en gedrag. [Willingness to follow training among temporary versus permanent workers in relation to attitudes, well-being and behavioral intentions]. *Gedrag & Organisatie*, 19, 290-306.

We investigate differences between temporary and permanent workers concerning their willingness to follow training. We moreover assess the extent to which willingness adds in explaining engagement, organizational commitment, life satisfaction and performance. Willingness to follow training courses concerns either the internal or external labour market (internal versus external willingness). Expectations are based on (1) Human Capital Theory, (2) literature on boundary-less careers and the new psychological contract; (3) ideas on temporary employment as a stepping stone to permanent employment. Results (N = 559) show that temporaries as compared to permanents reports higher willingness. They do not differ on external willingness. Furthermore, both external and internal willingness relate positively to the outcomes, except for life satisfaction. The effects of internal willingness on engagement and organizational commitment are moreover stronger among temporaries than among permanents.

De Vries, T.A., Peters, L. & Hoogstraten, J. (2004). Burnout en bevlogenheid bij fysiotherapeuten [Burnout and work engagement among physiotherapists]. *Gedrag & Gezondheid*, 32, 241-250.

This study examines the factorial structure of an instrument to measure the concept 'work engagement', that is the hypothetical opposite of burnout, in a sample of physiotherapists (N = 340) in the Netherlands. An expected model with two higher order factors, burnout and engagement, did not show a superior fit to the data. Contrary to expectations the analyses revealed an alternative model with two latent factors including: First exhaustion and depersonalization (core of burnout) and second all three engagement scales including personal accomplishment. Both factors show a low and negative relation with each other. The overall conclusion is that burnout and engagement are two separate concepts instead of two poles on a continuum.

Schaufeli, W.B. & Bakker, A.B. (2001). Werk en welbevinden: Naar een positieve benadering in de Arbeids- en Gezondheidspsychologie [Work and well-being: Towards a positive approach in Occupational Health Psychology]. *Gedrag & Organisatie*, 14, 229-253.

Despite its name Occupational Health Psychology has so far largely been preoccupied with ill-health and unwell-being instead of health and well-being at work. However, it seems that with the recent introduction of the so-called 'positive psychology' we have to rethink the object of Occupational Health Psychology. In this article, we therefore propose a new definition of work-related well-being that is not based on the absence of unwell-being. From our conceptual analysis four crucial elements emerge: (1) positive affect during work (work pleasure); (2) positive affect with regard to one's job (job satisfaction); (3) vigor (energy level); (4) identification with one's work (involvement). Hence, an employee who experiences pleasure while working, who likes his or her job, who feels vigorous and identifies with it is considered to have a high level of work-related well-being. The recently introduced concept of engagement – the assumed antipode of burnout – does not fully cover our definition of well-being since the first two elements are lacking. Although different kinds of instruments exist to measure the four elements of well-being, we argue that one single questionnaire should be developed that can be used in further research on the conceptual validity of work-related well-being.

Schaufeli, W.B. & Bakker, A.B. (2004). Bevlogenheid: Een begrip gemeten [Work engagement: The measurement of a concept]. *Gedrag & Organisatie*, 17, 89-112.

The first part of this article reviews research on work engagement, a concept that has recently been introduced as the antipode of burnout. Engaged workers are vigorous and dedicated, and are absorbed by their work. Typically, research on work engagement uses the Utrecht Work Engagement Scale (UWES). Preliminary (inter)national research suggests that this scale has sufficient psychometric properties. However, more detailed psychometric research with the UWES still stands out. For that reason, the second part of the article reports on the results of such analyses that have been conducted, using a database that includes almost 10.000 Dutch speaking (i.e., Dutch and Flemish) workers. It appears that the three subscales of the UWES (i.e. vigor, dedication and absorption) are sufficiently internally consistent and that the three-factor structure fits better to the data than the alternative one-factor structure. Nevertheless, the three subscales are highly interrelated. Although weaker than expected, the subscales of the UWES correlate negatively with those of the UBOS (Utrecht Burnout Scale), the Dutch version of the Maslach Burnout Inventory. Furthermore, scores on the UWES are significantly and positively correlated with age; men feel more engaged than women; and some professional groups (e.g., managers) score higher on work engagement than other groups (e.g., blue collar workers). However, although statistically significant, practically speaking these differences are irrelevant. Hence, no age, gender, or occupation specific norms of the UWES are presented. It is concluded that the 15-item UWES – of which also a 9-item shortened version exists – is a reliable and valid self-report instrument to measure the concept of work engagement.

Schaufeli, W.B., Taris, T., Le Blanc, P., Peeters, M., Bakker, A. & De Jonge, J. (2001). Maakt arbeid gezond? Op zoek naar de bevlogen werknemer [Does work make healthy?: The quest for the engaged worker]. *De Psycholoog*, 36, 422-428.

Traditionally, work and health psychology has focused on the adverse health effects of labor. However, this is not a one-to-one relationship: working hard does not necessarily result in ill health. This article presents the results of a qualitative study that aimed to shed more light on the defining characteristics of the "engaged" worker, i.e., those who invest extremely much time and effort in their jobs while feeling well and being committed to their jobs and to the organizations they work for. Thirty workers who were either "engaged" or burnt-out were interviewed. The results of this qualitative study are presented in the form of eight theses concerning the relationship between work and engagement. These theses – which should be considered as preliminary hypotheses – will guide our research for the coming years.

Schaufeli, W.B. & Van Rhenen, W. (2006). Over de rol van positieve en negatieve emoties bij het welbevinden van managers: Een studie met de Job-related Affective Well-being Scale (JAWS) [About the role of positive and negative emotions in managers' well-being: A study using the Job-related Affective Well-being Scale (JAWS)]. *Gedrag & Organisatie*, 19, 323-244.

Generally speaking, emotions are classified using two dimensions: arousal and pleasure. The Job-related Affective Well-being Scale (JAWS), a self-report questionnaire that is used to assess emotions at work, also uses these two dimensions. The current study among 815 managers has two aims. The first aim is to introduce and validate the Dutch version of the JAWS. It appears that the original 30-item version of the JAWS can be reduced to 12 items, without significant loss of information. Furthermore, the predictive validity of the JAWS is illustrated by the fact that positive emotions are negatively related to duration and frequency of future sickness absence of managers. Secondly, a model that assumes that positive and negative emotions play a different role in manager's well-being is successfully tested. Negative emotions play a key-role in a stress process that may lead to burnout and health complaints, whereas positive emotions play a key-role in a motivational process that may lead to employee engagement and positive attitudes towards the organization.

Smulders, P.G.W. (2006). De bevoegenheid van werknemers gemeten. *TNO Special*. September, 8-12.

In 2002 a random sample of the Dutch working population (N= 2081) filled out the UWES. Results indicate that employees whose jobs are characterized by task variety, autonomy, complexity, and supervisory support have high levels of work engagement. Primary school teachers, artists, nurses, and managers experience the highest engagement levels, whereas printers, retail employees, and workers in the food processing industry experience the lowest levels of engagement. Moreover, self-employed have the highest level of work engagement, followed by those with tenured contracts, temporary contracts and flexible contracts, respectively. Finally, older workers are more engaged than younger workers and those who work longer hours and work more overtime are more engaged than those who work less (overtime).

Stringer, S., Ouweneel, E., Le Blanc, P., Cheriakova, A. & Smulders, J. (2009). Emotionele arbeid en psychologisch welzijn van docenten. *Gedrag & Organisatie*, 22, 214 -231.

Emotional labour could have negative as well as positive effects on the employees' psychological well-being. In this cross-sectional study among 149 high school teachers, the relationship between emotional labour – in this study conceptualized as emotional demands – and emotional exhaustion and work engagement respectively was studied. First of all, it was examined whether emotional dissonance mediates the relationship between emotional demands and both emotional exhaustion and work engagement. Next, the possible moderating effect of two emotion regulation strategies, surface acting and deep acting, on the relationship between emotional dissonance and the two outcome variables was studied. The results showed that emotional dissonance partially mediated the relationship between emotional demands and emotional exhaustion. Furthermore, it was found that deep acting had a buffer effect on the negative relationship between emotional dissonance and work engagement. Finally, the implications of the results are discussed and suggestions for further research are mentioned.

Van Echtelt, P. & Smulders, P. (2003). Waarom werknemers overuren maken: Drie mechanismen getoetst [Why do employees work overtime?: The test of three mechanisms]. *Tijdschrift voor Arbeidsvraagstukken*, 19, 272-285.

The article is about what kinds of job and organizational characteristics determine working overtime. Three explanatory mechanisms are proposed: (1) the 'working as a hobby' mechanism; (2) the 'crisis' mechanism; (3) the 'time-competition' mechanism. The hypotheses are tested using the TNO Work Situation Survey 2000 and 2002, in which data on working time, and paid and unpaid overtime of about 5,000 Dutch employees are included. It appears that about 70% of the employees perform paid or unpaid overtime. Each of the three proposed mechanisms, may at least partially explain working overtime. Employees work overtime particularly when they are engaged and consider their work as being important for them ('working as a hobby'), when they are confronted with a high workload and they have to use their mobile phone very often ('crisis'), and when rivalry exists at work ('time-competition') and employees have to their work during regular working hours at their place.

Van der Heijden, F.M.M.A., Dillingh, G.S., Sprangers, F., Bakker, A.B. & Prins, J.T. (2006). Toegewijd maar oververmoeid: Werkomstandigheden van Aio's dringend aan verbetering toe [Dedicated but exhausted: Working conditions of medical residents need to be improved]. *Medisch Contact*, 61, 1792-1795.

2215 medical residents (response rate 41%) participated in this study. Dutch medical residents are quite engaged: based on the statistical norm from the general working population, 25% of the residents has a (very) high score. At the same time, however, 20.6% of them also satisfies the criteria for severe clinical burnout. Sickness absenteeism is very low with 35% of the residents who in the past year were not on sick leave for a single day. Medical residents work long hours: on average 51 hours per week, which is 7 hours more than their labour contract prescribes. The authors argue that these high burnout (exhaustion) levels constitute a serious risk factor for medical errors. Therefore, the working conditions of medical residents should be improved and their working hours should be reduced.

Van Ruysseveldt, J., De Witte, H. & Smulders, P. (2009). Bevordert een intrinsieke arbeidsoriëntatie de bevlogenheid en arbeidstevredenheid? *Gedrag & Organisatie*, 22, 177-199.

What role does an intrinsic work orientation, conceptualized as personal resource, play in the relationship between job demands and resources on the one hand and job satisfaction and work engagement on the other? This has been studied in a large, representative sample of the Dutch working population (N = 4009). Based on assumptions of the Job Demands-Resources model both main and moderating effects of an intrinsic work orientation were expected. A main effect of an intrinsic work orientation was found for work engagement, but not for satisfaction. Furthermore an intrinsic work orientation boosted the positive effect of autonomy, learning opportunities and task complexity on engagement and job satisfaction, and buffered the relationship between workload and engagement. Explanations for these findings were elaborated. Finally work characteristics were the strongest predictors of engagement and job satisfaction.

Van Ruysseveldt, J., Smulders, P. & Taverniers, J. (2008). De invloed van werkeisen en hulpbronnen op uitputting en bevlogenheid [The influence of job demands and resources on exhaustion and work engagement]. *Tijdschrift voor Arbeidsvraagstukken*, 24, 226-243..

In dit onderzoek zijn een additieve toetsing (met alleen hoofdeffecten) en een multiplicatieve toetsing (met interacties tussen alle werkkenmerken) uitgevoerd van het Job Demands-Resources-model (JD-R-model) op een omvangrijke, representatieve steekproef uit de Nederlandse beroepsbevolking (TNO Arbeidssituatie Survey, TAS 2002). De onderzochte werkeisen – werkdruk, emotionele belasting, fysieke belasting, WTI en taakcomplexiteit –

hebben een significant positief hoofdeffect en de hulpbronnen – autonomie, ontwikkelingsmogelijkheden, werkzekerheid en steun van leiding en collega's – hebben een significant negatief hoofdeffect op uitputting. De hulpbronnen hebben een significant hoofdeffect op de bevlogenheid, maar de werkeisen niet. Bovendien heeft taakcomplexiteit – in tegenspraak met de verwachtingen – een significant positief effect op bevlogenheid. Uit het onderzoek kan niet worden afgeleid dat het multiplicatieve model een duidelijke meerwaarde heeft boven het eenvoudiger additieve model. Er worden – zowel bij uitputting als bij bevlogenheid – slechts enkele significante dempende (bufferende) interactie-effecten gevonden. Wel blijken ook enkele interacties tussen werkeisen onderling en tussen hulpbronnen onderling significant (de zogenoemde versterkingshypothese).

Ybema, J.F. & Bakhuys Roozeboom, M. (2009). Hoe gezondheidsbeleid de toewijding van werknemers beïnvloed. *Gedrag en Organisatie*, 22, 354-370.

A longitudinal study with three yearly waves of data collection among 1.013 employees was used to examine whether employers' health policy improved dedication of employees. Furthermore, it was examined whether health policy improved autonomy, social support (from supervisor, from colleagues), and organizational justice (procedural, distributive), and whether health policy affects dedication through these job resources. The results showed that health policy at T1 contributed to higher dedication at T3, corrected for dedication at T1. Moreover, health policy did not improve autonomy, but it led to more social support from supervisor and colleagues and to more procedural and distributive justice at T2, corrected for these job resources at T1. The effects of health policy on dedication were partly mediated by more social support from the supervisor and by higher procedural justice. This means that employers should invest in health policy to improve the job resources and dedication of employees.