

**This is an electronic reprint of the original article.
This reprint *may differ* from the original in pagination and typographic detail.**

Author(s): Hyvönen, Katriina; Feldt, Taru; Tolvanen, Asko; Kinnunen, Ulla

Title: The role of goal pursuit in the interaction between psychosocial work environment and occupational well-being

Year: 2010

Version:

Please cite the original version:

Hyvönen, K., Feldt, T., Tolvanen, A., & Kinnunen, U. (2010). The role of goal pursuit in the interaction between psychosocial work environment and occupational well-being. *Journal of Vocational Behavior*, 76, 406-418.
<https://doi.org/10.1016/j.jvb.2009.10.002>

All material supplied via JYX is protected by copyright and other intellectual property rights, and duplication or sale of all or part of any of the repository collections is not permitted, except that material may be duplicated by you for your research use or educational purposes in electronic or print form. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone who is not an authorised user.

Running head: WORK GOALS IN RELATION TO THE ERI MODEL AND WELL-BEING

The role of goal pursuit in the interaction between psychosocial work environment and
occupational well-being

Katriina Hyvönen

University of Jyväskylä, Finland

Taru Feldt

University of Jyväskylä, Finland

Asko Tolvanen

University of Jyväskylä, Finland

Ulla Kinnunen

University of Tampere, Finland

This paper is based on a research project supported by the Finnish Work Environment Fund (Grant No. 105363). Address correspondence concerning this article: Katriina Hyvönen, University of Jyväskylä, Department of Psychology, P.O. Box 35, FI-40014 University of Jyväskylä, Finland. Phone: +358-14-260 2482; Fax: +358-14-260 2841; E-mail: katriina.hyvonen@jyu.fi

Abstract

The relation of the core components of the Effort-Reward Imbalance model (ERI; Siegrist, 1996) to goal pursuit was investigated. Goal pursuit was studied through categories of goal contents – competency, progression, well-being, job security, organization, finance, or no work goal – based on the personal work goals of managers (Hyvönen, Feldt, Salmela-Aro, Kinnunen, & Mäkikangas, 2009). The study focused on the contribution of the ERI components (effort, reward, effort-reward imbalance, OVC) to goal contents, as well as on the mediating and moderating effects of goal contents between the ERI components and occupational well-being (burnout, work engagement) among young Finnish managers ($N = 747$, age range 23–35 years). First, multinomial regressions showed that effort, reward, and effort-reward imbalance contributed to the membership of the goal categories. Secondly, hierarchical GLM (General Linear Model) indicated that the goal categories mediated the relationship between the ERI components and occupational well-being. Effort, reward, and effort-reward imbalance had an indirect effect through goal categories on burnout and work engagement, but overcommitment only on burnout. In addition, the goal categories moderated the relationship between reward and work engagement. Taken together, psychosocial work environment contributes to the contents of personal work goals, which also function as mediators, particularly between the work environment and occupational well-being.

Keywords: goal contents, effort, reward, ERI, overcommitment, burnout, work engagement, managers.

The role of goal pursuit in the interaction between psychosocial work environment and occupational well-being

In spite of research advances with respect to the relation between psychosocial work environment and occupational health and well-being (for reviews, see Cooper, Dewe, & O'Driscoll, 2001; Kahn & Byosiere, 1992; Stansfeld & Candy, 2006; Tsutsumi & Kawakami, 2004; van Vegchel, de Jonge, Bosma, & Schaufeli, 2005), the question of the role of personal work goals has so far remained open in this process (Hyvönen, Feldt, Salmela-Aro, Kinnunen, & Mäkikangas, 2009; Pomaki & Maes, 2002; Pomaki, Maes, & ter Doest, 2004). Previous research suggests, however, that the effect of personal goal processes on health and well-being at work should not be overlooked, since both goal contents (Hyvönen et al., 2009; Salmela-Aro & Nurmi, 2004) and goal appraisals (e.g., Harris, Daniels, & Briner, 2003; Maier & Brunstein, 2001; Pomaki et al., 2004) have shown to account for individual differences in occupational well-being. It is possible, therefore, that psychosocial work environment plays a strategic role behind goal pursuit and also contributes to the orientation of personal work goals as well as to occupational well-being.

This study aims to clarify the role of work goals in the traditional psychosocial work environment–occupational well-being process. The study adopts a theoretical framework from Little's social ecological model of well-being (e.g., Little, 1983, 2000, 2007), which is now applied and tested within the occupational domain. Little (e.g., 2007) theorized that well-being is the product of the negotiation of personal and contextual features, which can be stable or dynamic in nature, in order to pursue the core projects in life. Psychosocial work environment and personal features are approached through a reasonably new theory – the Effort-Reward Imbalance model (ERI; Siegrist, 1996) – comprising effort, reward, and effort-reward-imbalance (contextual features) and overcommitment (personal feature). Firstly, we look at the contribution of the ERI components to the contents of personal work goals. Secondly, we investigate the mediating and moderating role of goal contents between the ERI components and occupational well-being (burnout, work engagement) among young Finnish managers who are under the age of 36.

The Effort-Reward Imbalance (ERI) Model and Well-being

Especially for managers, work demands are more psychological than physical challenges in the modern work environment (Kinnunen, Feldt, & Mäkikangas, 2008). These psychosocial demands of the workplace can be construed through the ERI model (e.g., Siegrist, 1996; Siegrist, Siegrist, & Weber, 1986; Siegrist et al., 2004). The model is based on a social exchange theory according to which the costs and gains of social exchanges direct our behavior with others. In the workplace, this means that employees invest effort in their work and, in turn, expect rewards. Efforts represent job demands and responsibilities on the part of the employee (e.g., interruptions, overtime, obligations imposed by the employer). Rewards include salary, as well as approval, job security, and career opportunities. Therefore, this model incorporates distal labor market conditions in addition to the immediate job conditions (Siegrist, 1996).

Effort-reward imbalance describes the perceived mismatch of spent efforts and received rewards in the workplace (e.g., Peter & Siegrist, 1997; Siegrist, 1996; Siegrist et al., 2004). A situation where an employee is investing overtime hours into completing projects with tight deadlines, but has poor career prospects and fears of being laid off, would be an example of a harmful imbalance. An extended period of harmful imbalance can cause strain reactions that may contribute to various physical and psychological illnesses (for reviews, see Stansfeld & Candy, 2006; Tsutsumi & Kawakami, 2004; van Vegchel et al., 2005), such as increasing risks of cardiovascular mortality (e.g., Kivimäki et al., 2002), poorer general mental health (e.g., Stansfeld, Bosma, Hemingway, & Marmot, 1998), and psychological distress (Shimazu & de Jonge, 2009).

Although an employee would typically aim towards a balance between efforts and rewards, an employee's overcommitment (OVC) to work can be seen as a risk factor for the harmful imbalance of effort and reward (Siegrist, 1996). OVC describes a motivational pattern that includes strong ambition and commitment towards work in addition to the need to control and gain esteem from others, that is, essentially the "inability to withdraw from work" (Siegrist et al., 2004). Furthermore, OVC has shown to be a reasonably stable personal feature (de Jonge, van der Linden,

Schaufeli, Peter, & Siegrist, 2008) and additionally high neuroticism has been associated with higher OVC (Vearing & Mak, 2007). In terms of background factors, higher educational level has been related to higher scores of OVC (Siegrist et al., 2004), and managers and professionals have reported higher efforts and OVC than manual workers (Rydstedt, Devereux, & Sverke, 2007). Therefore, the investigation of OVC is also clearly applicable to managers. OVC is seen as an intrinsic (personal) feature, whereas efforts and rewards are extrinsic (contextual) features (Siegrist, 1999).

Research evidence has recently been connecting the ERI components with indicators of work-related well-being, such as burnout and work engagement used in the present study. The psychological syndrome of burnout is typically described as exhaustion, cynicism, and reduced professional efficacy caused by prolonged job stress (e.g., Maslach, Jackson, & Leiter, 1996; Maslach & Leiter, 2008). The core component of the syndrome, exhaustion, refers to the depletion of emotional and physical resources in doing one's work. Cynicism describes a negative or distant attitude towards one's work in general, and it can be characterized as dysfunctional coping, in which employees detach themselves from their work. Reduced professional efficacy represents feelings of incompetence and ineffectiveness in regard to both the social and non-social aspects of occupational achievements.

Work engagement, in turn, aims to capture employees' positive work-related states of vigor, dedication, and absorption at work (e.g., Bakker & Demerouti, 2008; Schaufeli & Bakker, 2004; Schaufeli, Salanova, González-Romá, & Bakker, 2002). Vigor describes high energy and mental resilience towards work. Dedication refers to the employee's feelings of pride, meaningfulness, and enthusiasm about the work. The absorption component describes being fully concentrated and immersed in work as well as losing the sense of time while working. There is already evidence from a longitudinal study regarding the motivational process of job resources (e.g., autonomy, social support, and opportunities for professional development) predicting higher levels of work engagement (Hakanen, Schaufeli, & Ahola, 2008). As opposed to job resources, job demands (e.g.,

high workload, poor working environment) can instigate health impairment processes resulting in higher levels of burnout (Hakanen et al., 2008; for a review see, Halbeslegen & Buckley, 2004).

Previous studies have established links between higher ERI and burnout (e.g., Dai, Collins, Yu, & Fu, 2008; Willis, O'Connor, & Smith, 2008), and particularly with emotional exhaustion, as well as with lower job satisfaction (for a review, see van Vegchel et al., 2005). Similarly, OVC has been associated with higher burnout (e.g., Dai et al., 2008; Willis et al., 2008) and with lower job satisfaction (Calnan, Wainwright, & Almond, 2000). Among managers, higher ERI related to turnover intentions and lower vigor and dedication, which are the core constructs of work engagement (Kinnunen et al., 2008).

Personal work goals and occupational well-being

Personal work goals in the present study draw upon the work of Little (e.g., 1983, 2000, 2007) on “personal projects” and his social ecological model of adaptation and well-being. Personal projects focus on the intentional action of an individual and relate to the similar research tradition (for reviews, see Austin & Vancouver, 1996; Karoly, 1993) shared, for example, with “personal strivings” (e.g., Emmons, 1986) and “life tasks” (e.g., Cantor, Norem, Niedenthal, Langston, & Brower, 1987). Personally salient projects can range from immediate goals to life-long plans, which are sensitive to the person’s life context and personal characteristics (Little, 2007). We focus specifically on personal work- and career-related goals (“personal work goals”), which can reveal the cognitive, affective, and behavioral orientations of an individual, and attach meaning to behavior in the workplace (Pomaki et al., 2004). Moreover, goals guide selection and therefore also channel development (Baltes, 1997; Salmela-Aro, 2009).

The two primary approaches for analyzing personal goals are through the appraisals or the contents of goals. The analysis of goal *appraisals* addresses the cognition and affect in relation to goals. This approach focuses on evaluations of goals in regard to certain characteristics such as relevance, importance, attainability, and emotional salience (e.g., Ford, 1992). The *contents* of personal goals describe the person’s orientation towards the future, reflecting wants, wishes,

concerns, and intentions. Goal contents also reflect age-related developmental tasks, since personal goals are positioned within the current life situation through opportunities, demands, and restrictions (Nurmi, 1992; Salmela-Aro, 2001; Salmela-Aro, 2009; Salmela-Aro, Aunola, & Nurmi, 2007).

The current study is directed towards the contents of personal work goals among 747 young Finnish managers, and more specifically, focuses on the eight goal categories identified in a previous study (see Hyvönen et al., 2009). Young managers' most important personal work goals related to competence (professional development and training; 28%), career progression (21.7%), well-being (self-concerns, managing stress, job satisfaction, motivation; 13.9%), and job change (finding a new job or setting up a company; 12.6%). The smaller goal categories oriented towards job security (continuing working, securing a permanent employment contract; 6.8%), organization (focusing on the success of the team, department, or organization; 5.1%), and finance (pay rise, bonus; 3.6%). In addition, 8.3% of managers did not mention a work goal. The goal categories resembled the work-related goal categories found in a study by Wiese and Salmela-Aro (2008) with a smaller sample employees ($n = 131$) working in a range of professional fields and positions.

Only a few previous studies have considered the contribution of goal processes to the person-environment interactions (Pomaki et al., 2004; ter Doest, Gebhardt, & Koelewijn, 2006). These studies tested the effects of goal appraisals (Pomaki et al., 2004) and perception of goal facilitation at work (ter Doest et al., 2006) on well-being in the context of the job demands-control-support model (e.g., J-DC, Karasek, 1979; J-DCS, Johnson & Hall, 1988; Karasek & Theorell, 1990), a work stress model resembling the ERI model. The studies found that both goal processes (goal appraisals and facilitation) had unique explanatory power on job attitudes and well-being over and above the main effect of work conditions. These studies emphasize the need to consider the effect of goal processes in occupational well-being, whereby the more dynamic relationships between work environment and the individual can be taken into account (Pomaki & Maes, 2002; Pomaki et al., 2004).

Convincing evidence regarding the well-being associations of personal goal contents originates from the research focusing on developmentally appropriate personal goals. Accordingly, focusing on and achieving major developmental tasks has found to predict positive affect outcomes (e.g., Salmela-Aro, Aunola, & Nurmi, 2008; Salmela-Aro & Nurmi, 1997a). Personal goals can indicate the progress in life transitions, which in turn facilitates setting and attaining new goals (Nurmi, 1992; Salmela-Aro et al., 2007). Within the occupational context, early adulthood (broadly 25–40 years) relates to “career establishment” (e.g., Super, 1969, 1985, 1990; see also Savickas, 1997). In a previous study, the personal work goals that reflected orientation towards managerial leadership tasks and establishing one’s career (i.e., organizational, competence, and progression goals) were associated with lower burnout and higher work engagement (see Hyvönen et al., 2009). Work characteristics could play a critical role in the pursuit of these personal work goals. For instance, employees have reported more positive job attitudes (Maier & Brunstein, 2001; ter Doest et al., 2006) and better well-being (ter Doest et al., 2006) in work environments perceived as supportive of goal attainment. Among managers, goal attainment was linked with higher subjective well-being, whereas enduring goal conflicts were found to hinder the attainment of new goals (Kehr, 2003).

In the previous study of young managers, well-being goals (e.g., self-concerns, motivation, job satisfaction) were connected to lower occupational well-being (Hyvönen et al., 2009). Further evidence suggests that a strong orientation towards self-focused goals is associated with a higher incidence of symptoms of depression (e.g., Salmela-Aro & Nurmi, 1997b; Salmela-Aro, Nurmi, Saisto, Halmesmäki, 2001) and in addition among employees with higher burnout (Salmela-Aro & Nurmi, 2004). These types of goals are directed to developing self, personality, health, or life, and can represent the person’s concerns, rumination, and attachment to the past (e.g., Little & Gee, 2007; Salmela-Aro, Pennanen, & Nurmi, 2001).

The work environment behind well-being, as well as job change goals, which were also associated with a lower level of occupational well-being in the previous study (Hyvönen et al.,

2009), could be characterized by conditions that overload the individual or offer less rewards for work contributions. According to Little's (2000, 2007) model, well-being and job change goals could exemplify situations where the employee is struggling to balance the personal and contextual features in order to achieve their core goals: For instance, an overcommitted manager in unstable and stressful job conditions could be more inclined to feel burdened and become concerned for his or her own well-being (i.e., become oriented towards well-being goals).

The present study

In this study, we combined the two research traditions – work stress and goal pursuit – in order to shed new light on the role of personal work goals in relation to the links between psychosocial work environment and occupational well-being. In line with our theoretical model (see Figure 1), we investigate whether personal work goals mediate the relationship between the ERI components and occupational well-being as suggested by Little's model of well-being (e.g., 2000, 2007). Personal goals could also moderate the relationship between the ERI components and occupational well-being. This moderation process follows the notion of the reactivity model (e.g., Bolger & Zuckerman, 1995; Kammeyer-Mueller, Judge, & Scott, 2009): For instance, it is possible that some goals (e.g., goals related to career establishment) buffer against the effect of high effort and low reward in the workplace on well-being. To sum, our research questions were:

[Insert Figure 1 about here]

1. Do the ERI components (effort, reward, effort-reward imbalance, OVC) contribute to the contents of personal work goals? The goal contents of young managers' most important work or career goal has been coded in a previous study into goal categories of competence, progression, well-being, job change, job security, organization, finance, or no work goal (Hyvönen et al., 2009). On the basis of previous theory (Little, 2000, 2007) and research (e.g., Kehr, 2003; Maier & Brunstein, 2001), we expected that a favorable work environment (low effort, high reward, low effort-reward imbalance) is associated with goals related to managerial leadership tasks and career establishment (e.g., competence and progression goals). In contrast, we assumed that an

unfavorable work environment (high effort, low reward, high effort-reward imbalance) increases the likelihood of goals related to well-being and changing jobs. We also expected higher overcommitment to be related to well-being goals.

2. Do work goal contents mediate the relationship between the ERI components (effort, reward, effort-reward imbalance, OVC) and occupational well-being (burnout, work engagement)? In accord with Little's model of well-being (e.g., 2000, 2007), we expected that goal contents function as mediators between the ERI components and occupational well-being. Furthermore, previous research has also supported the relationships between psychosocial work environment and occupational well-being (e.g., Dai et al., 2008; Kinnunen et al., 2008; Willis et al., 2008), as well as between goal processes and well-being (Hyvönen et al., 2009; Pomaki et al., 2004; Salmela-Aro & Nurmi, 2004).
3. Do work goal contents moderate the relationship between the ERI components (effort, reward, effort-reward imbalance, OVC) and occupational well-being (burnout, work engagement)? The reactivity model proposes that individual factors – such as goal contents in the present study – can function as moderators between stressors and occupational well-being outcomes (e.g., Bolger & Zuckerman, 1995; Kammeyer-Mueller et al., 2009), but no specific assumptions can be made regarding the role of goal contents due to the lack of research in this particular area.

Method

Participants and Procedure

The questionnaire study was conducted in Spring 2006. The original sample consisted of all members of two Finnish national labor unions (the Union of Salaried Employees and the Union of Professional Engineers) who were less than 36 years old and whose professional title referred to management position. These criteria were met by 1,904 union members. Questionnaires were posted to the home addresses of the participants and in total 933 questionnaires were returned. Of the respondents, 186 were currently not in management or in employment (e.g., maternity leave, studying, or unemployed over 3 months) and therefore, these respondents were excluded from the

final sample. The response rate was 43.4%. The attrition analysis showed that the participants did not differ in terms of gender from nonrespondents ($n = 971$), $\chi^2(1) = 0.70$, *ns*. The data of the nonrespondents' age was only available for the members of the Union of Salaried Employees; these respondents ($n = 331$) did not differ from nonrespondents ($n = 379$) in age, $t(708) = 1.53$, *ns*.

The average age of the participants was 31 years (range 23–35 years, $SD = 3.2$ years). A large majority of participants were men (85.5%), and 8.5% of participants were in upper management, 48.8% in middle management, and 42.7% in lower management. The majority of participants were engineers (67.4%) and other participants were technicians (6.1%) or had other professional qualifications (24.6%). Only 1.9% of participants had no professional qualification. The main employment fields included technology (metal and electronics; 27.8%), the building industry (12.8%), forestry (8.8%), information technology (8.2%), and the chemical industry (6.8%). Of the participants, 35.6% were working in fields other than those listed, such as consultancy, food industry, customer service, sales, and logistics. A large majority of the participants had a permanent employment contract (93.3%). Of the participants, 31.3% had experienced periods of unemployment or lay-offs since graduation.

Measures

Personal work goals were inquired about by posing an open-ended question: “Write down your most important personal goal that relates to your work or career” (see Hyvönen et al., 2009, for more detail). The participants' responses were thematically categorized by three coders using a generic and data-driven qualitative analysis that did not rely on preset categories. Seven content categories were found (listed in descending order of size): competence goals (28%; $n = 209$); progression goals (21.7%; $n = 162$); well-being goals (13.9%; $n = 104$); job change goals (12.6%; $n = 94$); job security goals (6.8%; $n = 51$); organizational goals (5.1%; $n = 38$); and financial goals (3.6%; $n = 27$). In addition to these aforementioned seven goal content categories, an eighth group with participants who had either not mentioned a work goal or mentioned a goal unrelated to work or career were assigned to the “no work goals” category (8.3%; $n = 62$). Each participant could be

in only one of the eight goal categories. A fourth independent coder applied this categorization agreed on by the first three coders and the intercoder agreement of the goal content categories was 92% . This categorization has been utilized in the following data analyses.

Effort, reward, effort-reward imbalance, and OVC were measured by the questionnaire developed by Siegrist et al. (2004). The good construct and discriminant validity of the Finnish version of the ERI scale has been reported previously by Kinnunen et al. (2008). Effort was assessed with 5 items describing the demands in the workplace (e.g., “I have constant time pressure due to a heavy work load”). If the respondent answered the question affirmatively, they were asked to rate the impact of effort from not at all distressed to very distressed. The scale was: 1) does not apply; 2) does apply, but I am not at all distressed; 3) does apply, and I am somewhat distressed; 4) does apply, and I am distressed; 5) does apply, and I am very distressed. A higher mean score of effort indicates more effort invested at work. The internal consistency (Cronbach’s alpha) for effort was .88 ($M = 3.14$; $SD = 0.98$).

Reward was assessed with 11 items describing esteem (5 items, e.g., “I receive the respect I deserve from my superiors”), career opportunities (4 items, e.g., “Considering all my efforts and achievements, my salary/income is adequate”), and job security (2 items, e.g., “My job security is poor”, reverse scored). The same rating and scoring procedure was used as described above for the effort scale, and a higher mean score of rewards indicates more rewards received at work. The Cronbach’s alpha for reward was .86 ($M = 4.05$; $SD = 0.74$).

The imbalance of effort and reward is described as an ERI-ratio. The ERI-ratio is calculated by first multiplying the sum score of reward with a correction factor (see Niedhammer, Tek, Starke, & Siegrist, 2004; Siegrist et al., 2004). Because 5 items of effort were used, as opposed to 11 items of reward, the correction factor in this study was 0.4545. The corrected sum score of reward is then divided by the sum score of effort. A score close to “0” indicates favorable conditions, where received returns outweigh the effort invested at work. In turn, a score over “1” indicates unfavorable conditions, where more effort is spent than rewards expected or received in return. As

recommended by previous studies (see Niedhammer et al., 2004; Siegrist et al., 2004), a continuous variable of the ERI-ratio was used for the analyses. The mean of the ERI-ratio was 0.82 ($SD = 0.40$).

OVC included 6 items (e.g., “As soon as I get up in the morning I start thinking about work problems”). The items were scored on a 4-point scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). The higher the score, the more overcommitment the participant reported. The Cronbach’s alpha for OVC was .72 ($M = 2.25$; $SD = 0.57$).

Burnout was measured with the Bergen Burnout Indicator 15 (BBI-15; Näätänen, Aro, Matthiesen, & Salmela-Aro, 2003). The scale has 15 items and includes 3 dimensions: emotional exhaustion (5 items; e.g., “I am snowed under with work”), cynicism (5 items; e.g., “I frequently question the value of my work”), and reduced professional efficacy (5 items; e.g., “My expectations to my job and to my performance have reduced”). Items were answered on a 6-point scale ranging from 1 (*completely disagree*) to 6 (*completely agree*). BBI-15 has a strong positive correlation ($r = .79$) with the Maslach Burnout Inventory (Schaufeli, Leiter, Maslach, & Jackson, 1996), and the construct validity of the Finnish version of the scale has been reported by Näätänen et al. (2003). The Cronbach’s alpha for burnout was .89 ($M = 2.66$; $SD = 0.79$).

Work engagement was assessed using the Utrecht Work Engagement Scale with 9 items (UWES-9; Schaufeli, Bakker, & Salanova, 2006). The scale has three dimensions, comprising vigor (3 items; e.g., “At my work, I feel bursting with energy”), dedication (3 items; e.g., “My job inspires me”), and absorption (3 items; e.g., “I am immersed in my work”). Responses were given on a 7-point scale from 1 (*never*) to 7 (*every day*). The construct validity of the short version (vs. the 17- item scale) of the UWES has proven to be better with this sample of young Finnish managers, as well as with other Finnish occupational groups (Seppälä et al., 2009). The Cronbach’s alpha was .91 ($M = 5.41$; $SD = 1.05$).

The *background variables* included gender (male/female), managerial level (upper/middle/lower), employment contract (permanent/fixed-term), and career disruptions (some/no periods of unemployment or lay-offs since graduation). On the basis of the previous study

with this sample of managers, these background variables were related to the outcome measures used, and therefore, these variables were also controlled for in the following analyses (Hyvönen et al., 2009).

Analyses

We calculated Spearman correlation coefficients for study variables on a binomial scale and Pearson correlation coefficients for continuous variables. For the correlations, dichotomous variables of goal categories were computed, where “1” indicated membership for that category and “0” indicated not being in the category. We calculated multinomial regression analyses to predict the membership to the eight goal categories on the basis of the ERI components (effort, reward, ERI-ratio, OVC). Because of multicollinearity, two separate analyses were calculated for the effect of the ERI components to estimate odds ratios (OR) and 95% confidence intervals (CI): First, only the effort and reward components were investigated, and the second analysis included ERI-ratio and OVC. In both analyses, the background variables were adjusted for.

The mediating and moderating effects of goal contents between the ERI components and occupational well-being were estimated using the GLM (General Linear Model) with hierarchical partition of the sum of squares. In this procedure, the analysis of the mediating effect of goal contents is based on the following assumption: The different mean levels of the ERI components facilitate personal work goals that can be considered favorable or unfavorable according to their level of occupational well-being (burnout, work engagement). Proceeding from this, the mean differences of the ERI components in the goal categories can linearly predict the mean differences in burnout and work engagement. That is, the same rank order of goal categories can be observed both in the independent and dependent variables, but with different weight on the means of the categories. The methodological advantage of this analysis relates to investigating the mediated effect of multiple categorical variables (eight goal categories) on burnout and work engagement, where the direct effect of the ERI components is separated from the mediating and moderating

effects of the eight goal categories. Again, due to multicollinearity of the ERI components, effort and reward were in separate analyses with ERI-ratio and OVC.

In the hierarchical GLM analyses, the first block of variables consisted of the effects of four background factors (gender, managerial level, employment contract, career disruptions) on burnout and work engagement. The second block included the direct effects of the independent variables (ERI components) on burnout and work engagement. For this, new additional variables were calculated for each independent variable by subtracting the mean score of the goal category from the mean score of each participant (i.e., eliminating the group-level differences in the independent variable). The third block consisted of the mediating effects of the goal categories when the original scores of the ERI components were entered, thus showing the effect of the group-level differences in order to explain their variance in burnout or work engagement. In the fourth block, the effect of goal categories on burnout and work engagement was included. The fifth and last block consisted of the moderating effects of goal categories (i.e., the interaction terms between the goal categories and the ERI components). The interaction terms were calculated by multiplying the independent variable with the goal category. Traditionally, it has been thought that to test mediation, a significant association is required between the independent and dependent variables (e.g., Baron & Kenny, 1986). More recently, however, it has also been argued that mediation can exist without this significant association (see MacKinnon & Fairchild, 2009), which was taken into consideration in the present study. All the statistical analyses were performed with the SPSS 15.0 for Windows.

Results

Descriptive Results

The intercorrelations between all the study variables are presented in Table 1. The goal categories (except for progression and financial goals) showed significant correlations with the ERI components and indicators of occupational well-being, as was expected. Competence and organizational goals were associated with higher reward and work engagement, and in addition to these associations, organizational goals were also connected to lower ERI-ratio. Job security goals

were associated with lower levels of effort, effort-reward imbalance, OVC, and burnout. In contrast, well-being and job change goals were connected to lower reward and work engagement as well as to higher ERI-ratio and burnout. Additionally, well-being goals were related to higher effort and OVC. Not mentioning a work goal was only associated with lower work engagement. Competence goals had a weak positive correlation with female gender. Job security goals were associated with lower managerial levels, fixed-term contracts, and career disruptions. Organizational goals, in turn, were associated with higher managerial levels.

[Insert Table 1 about here]

The components of the ERI model and personal work goals

Two multinomial regression analyses were performed to investigate whether the components of the ERI model (effort, reward, ERI-ratio, OVC) predicted the membership to the eight goal categories of personal work goals, when adjusted for gender, managerial level, employment contract, and career disruptions. In these analyses, other groups were compared to the category comprising organizational goals. This goal category was chosen as a reference group, because in a previous study organizational goals have shown to relate to the highest level of occupational well-being with this sample of managers (Hyvönen et al., 2009). The first multinomial regression with effort and reward as predictors of the membership to the goal categories showed significant associations, $\chi^2(49) = 161.60, p < .001$. As seen in Table 2, reward was a more significant contributor than effort: A 1 *SD* decrease in reward was associated with an increased likelihood of naming goals related to progression, well-being, job change, job security, finance, or no work goal. A 1 *SD* increase in effort was associated only with an increased likelihood of setting well-being goals.

[Insert Table 2 about here]

The second multinomial regression analysis, in which ERI-ratio and OVC were investigated, also yielded significant associations, $\chi^2(49) = 144.38, p < .001$ (see Table 3). An increase in ERI-ratio also increased the likelihood of naming goals related to progression, well-being, job change, or

no work goal. OVC, instead, was not a significant contributor. Table 2 and 3 also show the contribution of background variables on the membership of goal categories. These results resembled the correlations between the background variables and goal categories in Table 1.

[Insert Table 3 about here]

Mediating and moderating effects of personal work goals

The results of the GLM with hierarchical partition of the sum of squares in relation to burnout and work engagement are shown in Table 4, which also includes the means and standard deviations of the ERI components, burnout, and work engagement displayed for each goal category. The ERI components had a direct and an indirect effect through the goal categories on burnout. In terms of work engagement, only reward and ERI-ratio had a direct and an indirect effect on work engagement. Effort was found to have an indirect effect through goal categories on work engagement, but not a direct effect.

[Insert Table 4 about here]

The mediating effects of goal contents in linear prediction can be observed when ranking the goal categories according to the mean scores of the ERI components. The indirect effect is explicated particularly towards the end points in the range of the category means. The highest level of reward as well as low levels of effort, ERI-ratio, and OVC among participants with organizational goals linearly predicted low burnout and the highest work engagement. In addition, the lowest levels of effort, ERI-ratio, and OVC among participants with job security goals linearly predicted the lowest burnout, but they had only an average level of work engagement. Instead, higher levels of effort and ERI-ratio and lower rewards among participants with well-being, job change, or no work goals linearly predicted higher burnout and lower work engagement. Additionally, the highest level of OVC among participants with well-being goals was connected to the highest level of burnout.

In other goal categories, the means were less often ranked towards the extremes: Average levels of effort, ERI-ratio and OVC, as well as reasonably good rewards, were reported by

participants with competence and progression goals in conjunction with a slightly better-than-average level of burnout and good work engagement. Furthermore, lower levels of effort, ERI-ratio, and OVC, as well as an average level of reward, were connected to low burnout and average work engagement among participants with financial goals.

In terms of the moderating effects of goal contents on burnout and work engagement, only one interaction out of four reached a significant level after the mediated effect of goal categories was adjusted for. The moderating effect of goal categories was found between reward and work engagement, $F(7, 694) = 2.13, p < .05$. In further analyses, categories were contrasted with each other in pairs to investigate which goal categories moderated the relationship between reward and work engagement. Several comparisons between the category with financial goals and other goal categories (competency, progression, job change, and job security goals) became significant. Accordingly, a 1 *SD* decrease in reward was associated with increased work engagement among those participants with financial goals, whereas a 1 *SD* increase in reward was associated with reduced work engagement among those participants with financial goals. This direction was the opposite for the other aforementioned categories: That is, a 1 *SD* decrease in reward was associated with reduced work engagement and a 1 *SD* increase in reward was associated with higher work engagement among participants with competency, progression, job change, and job security goals. Figure 2 depicts an example of this interaction where financial goals are compared to competency goals.

[Insert Figure 2 about here]

Discussion

Our aim was to investigate the role of personal work goals in the relationship between the ERI components and occupational well-being in light of Little's model of well-being (e.g., 2000, 2007) adapted to the occupational domain (see Figure 1). In line with our expectations, the present study provided valid evidence for the contribution of the psychosocial work environment (effort, reward, effort-reward imbalance) to the orientation of goals represented as goal content categories

of competence, progression, well-being, job change, organization, finance, and no work goals. The goal contents were also shown to serve as mediators, especially between the features of the work environment and occupational well-being (burnout, work engagement). The contribution of the studied personal feature (OVC) to the goal contents, on the other hand, received less support, since goal contents were only found to have a mediating effect between OVC and burnout. In addition, moderating effects of goal contents were observed in relation to reward and work engagement.

The work environment behind personal work goals and occupational well-being

The contribution of the work environment (effort, reward, ERI) to the contents of personal work goals was highlighted in addition to the role of goal contents as mediators between work environment and occupational well-being (burnout, work engagement). The small group of managers oriented towards the performance and success of the organization (organizational goals) stood out as perceiving their work environment as offering the highest rewards, such as esteem, career prospects, and adequate payment. Managers with organizational goals also experienced low effort-reward imbalance that, according to the ERI model (e.g., Siegrist, 1996; Siegrist et al., 2004), indicates favorable work conditions where effort invested is reciprocated by good rewards.

The results regarding the mediating effects of goal contents reiterated these findings by indicating a further connection between organizational goals and higher occupational well-being. Thus, our findings complimented previous research, where facilitative and favorable work environments for goal attainment were connected with positive well-being outcomes (Maier & Brunstein, 2001; ter Doest et al., 2006). Accordingly, it appears that a favorable work environment (low ERI-ratio) does not only promote occupational well-being among managers (Kinnunen et al., 2008), but as the present study shows, also contributes to pursuing goals beneficial to the performance of the organization.

The findings also drew the attention towards managers who had named well-being goals (e.g., related to self-concerns, work stress, job satisfaction, motivation) and those with job change goals (e.g., related to changing job/career, self-employment), as well as towards managers who had

not named a personal work goal. Managers in these goal categories experienced the features of their work environment as significantly less favorable, characterized by low reward and by a deficit of reciprocity (higher ERI-ratio). Rewards for managers appear to play a more pertinent role in work goal pursuit, since effort only contributed to the managers' orientation towards well-being goals. Again, mediating effects of goal contents were observed linearly in higher burnout and lower work engagement among managers with well-being, job change, or no work goals.

Well-being and job change goals could reflect the managers' intention to improve their adjustment and well-being in the workplace as suggested by Little's model of well-being (e.g., 2000, 2007). Better adjustment could be sought by focusing upon the effect of the stressors of the work environment, particularly among managers with well-being goals (e.g., better time management, reducing overtime hours) who also perceived their efforts at work to be at the highest level. On the other hand, a complete change of the work environment could be the strategy to improve occupational well-being among managers with job change goals. The work environment behind job change goals was characterized, in addition to high ERI, by the lowest level of rewards, a finding which unveils a link between unfavorable work environment and future plans to leave the organization. This finding also echoes previous research where higher ERI among managers was associated with stronger intentions to leave the organization (Kinnunen et al., 2008).

The managers with no work goal, those who had left the question regarding their most important work or career goal unanswered (and four managers who had either an irrelevant goal or specifically mentioned that they had no work goal), represent a more heterogeneous group. Various reasons could lie behind nonresponse, and it is plausible that some of these managers felt too overloaded to participate, as suggested by previous research (Barr, Spitzmüller, & Stuebing, 2008). It should be noted that these managers had responded to other parts of the survey, and therefore, the nonresponse to the question regarding personal work goals could also indicate uncertainty regarding their future professional direction. Behind this nonresponse, however, appears to be a less favorable work environment. This opens an interesting question regarding the noncommittal approach to goal

pursuit at work and possible reasons leading to it, such as perceptions of low rewards and high effort-reward imbalance in the workplace.

Although our findings on goal contents underscore the goal categories ranked towards the high and low ends of the ERI scales, additional interpretations regarding the work environment behind other goal categories arise. For example, reasonably favorable work environments were reported by over half of the managers whose goals reflected typical career establishment tasks (e.g., Super, 1990; Dix & Savickas, 1995) of competence, progression, as well as job security. These goals were also related to a good level of occupational well-being. Furthermore, an intriguing observation was made in relation to the smallest category of goals, financial goals, which were found to moderate the relationship between reward and work engagement. Among managers with financial goals, lower rewards were associated with higher work engagement than when compared to a situation with high rewards. Predominantly, this direction was the opposite for the other goal categories. This direction could suggest that, once the managers who are oriented towards the financial aspects of the job perceive that they have a fair level of rewards at work, financial goals offer less incentive in terms of boosting energy towards work. Perceiving work mainly as providing financial means rather than enjoyment has in earlier studies also been linked with lower job and life satisfaction (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). Another plausible explanation for this finding could be the item contents of the reward scale. Only 1 out of 11 items of the reward scale (Siegrist et al., 2004) corresponds to measuring the employee's satisfaction in regard to their current pay. The situations, where managers with financial goals perceive themselves to be receiving high rewards, could reflect good career prospects and a supportive work environment rather than satisfaction with their current financial rewards.

Overcommitment and personal work goals

As opposed to the other ERI components, OVC was not found to contribute to the orientation of managers' work goals when other goal categories were contrasted with organizational goals. Nevertheless, the mediating effect of goal contents was observed between OVC and burnout:

For instance, the highest OVC among managers with well-being goals was reported in conjunction with the highest level of burnout. As in earlier studies (e.g., Dai et al., 2008; Willis et al., 2008), OVC was found to have a direct effect on burnout. However, in the present study there was no relationship with work engagement.

Little's expanded social ecological model (2000, 2007) could illuminate these findings with respect to the contribution of OVC to goal contents. The model takes account "free traits" that refer to shaping and adjusting personal dispositions in order to meet contextual requirements (Little, 1996; Little, 2000; Little & Joseph, 2007). This may be done strategically in order to strive towards core goals: For example, an introverted employee can become an enthusiastic speaker in an important business meeting. With reference to Little's model (e.g., 2007), OVC might be best described as a free trait. While OVC has been thought to represent a reasonably stable personal characteristic, it is also considered as a coping pattern reinforced by a demanding work environment (de Jonge et al., 2008; Siegrist et al., 2004). Therefore, it might be that OVC has a closer connection with goal appraisals than with goal contents. For example, when the pressures of the work environment increase, the managers with more difficulties in detaching from work-related activities could experience their goal as being more straining and time-consuming, but nonetheless would persevere with their personally salient work goal.

Study limitations and future recommendations

The main constraints of this study lie within the cross-sectional design and common method variance of questionnaire surveys. Reciprocal causality between the goal processes and well-being has already been proposed by Little (e.g., 2007). For example, a more supportive work environment may generate a higher level of energy to follow certain goals, while the goals can in turn direct behavior in terms of choosing a certain type of work environment. Therefore, it would be unfounded to assume causal relationships between work environment and goal pursuit, and future studies should be conducted to shed light on their longitudinal relationships.

In addition to these study limitations, future research endeavors should address the effect of goal appraisals: For example, positive goal appraisals, or alternatively conflicting goals, could either buffer or enhance the effect of goal contents on occupational well-being. In this study, only OVC was investigated as a work-related personal feature and therefore it would be valuable to address the interplay between more stable personality traits and different goal processes (e.g., goal appraisals and contents). Previous research has already indicated that, for example, neuroticism was associated with personal project related stress among students (Little, Lecci, & Watkinson, 1992).

Conclusions

The theoretical contributions of our study pertained to testing Little's (e.g., 2000, 2007) social ecological model of well-being in the occupational context and focusing specifically on the orientation of personal work goals. The practical implications of the study highlighted in our findings relate to the effect of work environment on the goal pursuit of young managers. A rewarding work environment with reciprocity of efforts invested and rewards received (ERI-ratio) appears to be instrumental in promoting goals that are beneficial to the organization as well as to occupational well-being. In contrast, the managers reporting less favorable work environments had goals, which reflected concerns regarding well-being or intentions to leave the organization. Furthermore, lower levels of occupational well-being were also more prevalent among these managers.

References

- Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120*, 338–375.
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International, 13*, 209–223.
- Baltes, P. B. (1997). On the incomplete architecture of human ontogeny. Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist, 52*, 366–380.

- Barr, C. D., Spitzmüller, C., & Stuebing, K. K. (2008). Too stressed out to participate? Examining the relation between stressors and survey response behavior. *Journal of Occupational Health Psychology, 13*, 232–243.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.
- Bolger, N., & Zuckerman, A. (1995). A framework for studying personality in the stress process. *Journal of Personality and Social Psychology, 69*, 890–902.
- Calnan, M., Wainwright, D., & Almond, S. (2000). Job strain, effort-reward imbalance and mental distress: A study of occupations in general medical practice. *Work & Stress, 14*, 297–311.
- Cantor, N., Norem, J. K., Niedenthal, P. M., Langston, C. A., & Brower, A. M. (1987). Life tasks, self-concept ideals, and cognitive strategies in a life transition. *Journal of Personality and Social Psychology, 53*, 1178–1191.
- Cooper, C. L., Dewe, P. J., & O’Driscoll, M. P. (2001). *Organizational stress: A review and critique of theory, research, and applications*. Thousand Oaks, CA: Sage Publications.
- Dai, J. M., Collins, S., Yu, H. Z., & Fu, H. (2008). Combining job stress models in predicting burnout by hierarchical multiple regressions: A cross-sectional investigation in Shanghai. *Journal of Occupational and Environmental Evidence, 50*, 785–790.
- De Jonge, J., van der Linden, S., Schaufeli, W., Peter, R., & Siegrist, J. (2008). Factorial invariance and stability of the effort-reward imbalance scales: A longitudinal analysis of two samples with different time lags. *International Journal of Behavioral Medicine, 15*, 62–72.
- Dix, J. E., & Savickas, M. L. (1995). Establishing a career: Developmental tasks and coping responses. *Journal of Vocational Behavior, 47*, 93–107.
- Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being.

Journal of Personality and Social Psychology, 51, 1058–1068.

- Ford, M. E. (1992). *Motivating humans. Goals, emotions, and personal agency beliefs*. Newbury Park, CA: Sage Publications.
- Hakanen, J. 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 and Stress*, 22, 224–241.
- Halbesleben, J. R., Buckley, & M. R. (2004). Burnout in organizational life. *Journal of Management*, 30, 859–879.
- Harris, C., Daniels, K., & Briner, R. B. (2003). A diary study of goals and affective well-being at work. *Journal of Occupational and Organizational Psychology*, 76, 401–410.
- 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.
- Johnson, J. V. & Hall, E. M. (1988). Job strain, work place social support, and cardiovascular disease: A cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health*, 78, 1336–1342.
- Kahn, R. L., & Byosiere, P. (1992). Stress in organizations. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 3, p. 571–650). Palo Alto, CA: Consulting Psychologists Press.
- Kammeyer-Mueller, J. D., Judge, T. A., & Scott, B. A. (2009). The role of core self-evaluations in the coping process. *Journal of Applied Psychology*, 94, 177–195.
- Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24, 285–311.
- Karasek, R. A. & Theorell, T. (1990). *Healthy work: Stress, productivity, and the reconstruction of working life*. New York: Basic Books.
- Karoly, P. (1993). Mechanisms of self-regulation: A systems view. *Annual Review of Psychology*,

44, 23–52.

- Kinnunen, U., Feldt, T., & Mäkikangas, A. (2008). Testing the effort-reward imbalance model among Finnish managers: the role of perceived organizational support. *Journal of Occupational Health Psychology, 13*, 114-127.
- Kivimäki, M., Leino-Arjas, P., Luukkonen, R., Riihimäki, H., Vahtera, J., & Kirjonen, J. (2002). Work stress and risk of cardiovascular mortality: Prospective cohort study of industrial employees. *British Medical Journal, 325*, 857–861.
- Kehr, H. M. (2003). Goal conflicts, attainment of new goals, and well-being among managers. *Journal of Occupational Health Psychology, 8*, 195–208.
- Little, B. R. (1983). Personal projects: A rationale and method for investigation. *Environment and Behavior, 15*, 273–309.
- Little, B. R. (1996). Free traits, personal projects and idio-tapes: Three tiers for personality psychology. *Psychological Inquiry, 7*, 340–344.
- Little, B. R. (2000). Free traits and personal contexts: Expanding a social ecological model of well-being. In W. B. Walsh, K. H. Craik, & R. H. Price (Eds.), *Person-environment psychology: New directions and perspectives* (2nd ed., pp. 87–116). Mahwah, NJ: Lawrence Erlbaum Associates.
- Little, B. R. (2007). Prompt and circumstance: The generative contexts of personal projects analysis. In B. R. Little, K. Salmela-Aro, & S. D. Phillips (Eds.), *Personal project pursuit. Goals, action, and human flourishing* (pp. 3–49). Mahwah, NJ: Lawrence Erlbaum Associates.
- Little, B. R., & Gee, T. L. (2007). The methodology of personal project analysis: Four modules and a funnel. In B. R. Little, K. Salmela-Aro, & S. D. Phillips (Eds.), *Personal project pursuit. Goals, action, and human flourishing* (pp. 51–93). Mahwah, NJ: Lawrence Erlbaum Associates.
- Little, B.R., & Joseph, M. F. (2007). Personal projects and free traits: Mutable selves and well-

- beings. In B. R. Little, K. Salmela-Aro, & S. D. Phillips (Eds.), *Personal project pursuit. Goals, action, and human flourishing* (pp. 375–400). Mahwah, NJ: Lawrence Erlbaum Associates.
- Little, B. R., & Lecci, L., & Watkinson, B. (1992). Personality and personal projects: Linking Big Five and PAC units of analysis. *Journal of Personality, 60*, 501–525.
- MacKinnon, D. P., & Fairchild, A. J. (2009). Current directions in mediation analysis. *Current Directions in Psychological Science, 18*, 16–20.
- Maier, G. W., & Brunstein, J. C. (2001). The role of personal work goals in newcomers' job satisfaction and organizational commitment: A longitudinal analysis. *Journal of Applied Psychology, 86*, 1034–1042.
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach burnout inventory manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., & Leiter, M. P. (2008). Early predictors of job burnout and engagement. *Journal of Applied Psychology, 93*, 498–512.
- Niedhammer, I., Tek, M.-L., Starke, D., & Siegrist, J. (2004). Effort-reward imbalance model and self-reported health: Cross-sectional and prospective findings from the Gazel cohort. *Social Science & Medicine, 58*, 1531–1541.
- Nurmi, J.-E. (1992). Age differences in adult life goals, concerns, and their temporal extension: A life course approach to future-oriented motivation. *International Journal of Behavioral Development, 15*, 487–508.
- Näätänen, P., Aro, A., Matthiesen, S. B., & Salmela-Aro, K. (2003). *Bergen Burnout Indicator 15*. Helsinki: Edita.
- Peter, R., & Siegrist, J. (1997). Chronic work stress, sickness absence, and hypertension in middle managers: General or specific sociological explanations. *Social Science & Medicine, 45*, 1111–1120.
- Pomaki, G., & Maes, S. (2002). Predicting quality of work life: From work conditions to self-

regulation. In E. Gullone & R. A. Cummins (Eds.), *The universality of subjective well-being indicators* (pp. 151–173). Dordrecht, the Netherlands: Kluwer Academic.

Pomaki, G., Maes, S., & ter Does, L. (2004). Work conditions and employees' self-set goals: Goal processes enhance prediction of psychological distress and well-being. *Personality and Social Psychology Bulletin*, *30*, 685–694.

Rydstedt, L. W., Devereux, J., Sverke, M. (2007). Comparing and combining the demand-control-support model and the effort reward imbalance model to predict long-term mental strain. *European Journal of Work and Organizational Psychology*, *16*, 261–278.

Salmela-Aro, K. (2001). Personal goals during the transition to young adulthood. In J.-E. Nurmi (Ed.), *Navigating through adolescence: European perspectives* (pp. 59–84). New York: RoutledgeFalmer.

Salmela-Aro, K. (2009). Personal goals and well-being during critical life transitions: The four C's – channeling, choice, co-agency and compensation. *Advances in Life Course Research*, *14*, 63–73.

Salmela-Aro, K., Aunola, K., & Nurmi, J.-E. (2007). Personal goals during emerging adulthood: A 10-year follow-up. *Journal of Adolescent Research*, *22*, 690–715.

Salmela-Aro, K., Aunola, K., & Nurmi, J.-E. (2008). Trajectories of depressive symptoms during emerging adulthood: Antecedents and consequences. *European Journal of Developmental Psychology*, *5*, 439–465.

Salmela-Aro, K., & Nurmi, J.-E. (1997a). Goal contents, well-being, and life context during transition to university: A longitudinal study. *International Journal of Behavioral Development*, *20*, 471–491.

Salmela-Aro, K., & Nurmi, J.-E. (1997b). Positive and negative self-related goals and subjective well-being: A prospective study. *Journal of Adult Development*, *4*, 179–188.

Salmela-Aro, K., & Nurmi, J.-E. (2004). Employees' motivational orientation and well-being at work: A person-oriented approach. *Journal of Organizational Change Management*, *17*,

471–489.

- Salmela-Aro, K., Nurmi, J.-E., Saisto, T., & Halmesmäki, E. (2001). Goal reconstruction and depressive symptoms during the transition to motherhood: Evidence from two cross-lagged longitudinal studies. *Journal of Personality and Social Psychology, 81*, 1144–1159.
- Salmela-Aro, K., Pennanen, R., & Nurmi, J.-E. (2001). Self-focused goals: What they are, how they function, and how they relate to well-being. In P. Schmuck & K. M. Sheldon (Eds.), *Life goals and well-being: Towards a positive psychology of human striving* (pp. 148–166). Seattle: Hogrefe & Huber Publishers.
- Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *Career Development Quarterly, 45*, 247–259.
- 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.
- 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.
- Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). The MBI-General survey. In C. Maslach, S. E. Jackson, & M. Leiter (Eds.), *Maslach Burnout Inventory Manual* (3rd ed., pp. 19–26). Palo Alto, CA: Consulting Psychologists Press.
- Schaufeli, W. B., Salanova, M., González-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.
- Seppälä, P., Mauno, T., Feldt, T., Hakanen, J., Kinnunen, U., Tolvanen, A., & Schaufeli, W. (2009). The construct validity of the Utrecht Work Engagement Scale: Multisample and longitudinal evidence. *Journal of Happiness Studies, 10*, 459–481.
- Shimazu, A., & de Jonge, J. (2009). Reciprocal relations between effort-reward imbalance at

work and adverse health: A three wave panel study. *Social Science & Medicine*, 68, 60– 68.

Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology*, 1, 27–41.

Siegrist, J. (1999). Occupational health and public health in Germany. In P. M. Le Blanc, M. C. W. Peeters, A. Büssing, & W. B. Schaufeli (Eds.) *Organizational psychology and health care: European contributions* (pp. 35–44). Munich: Rainer Hampp Verlag.

Siegrist, J., Siegrist, K., & Weber, I. (1986). Sociological concepts in the aetiology of chronic disease: the case of ischaemic heart disease. *Social Science & Medicine*, 22, 247–253.

Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I., & Peter, R. (2004). The measurement of effort-reward imbalance at work: European comparisons. *Social Science & Medicine*, 58, 1483–1499.

Stansfeld, S. A., Bosma, H., Hemingway, H., & Marmot, M. G. (1998). Psychosocial work characteristics and social support as predictors of SF-36 health functioning: The Whitehall II Study. *Psychosomatic Medicine*, 60, 247–255.

Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health – a meta-analytic review. *Scandinavian Journal of Work, Environment, & Health*, 32, 443–462.

Super, D. E. (1969). Vocational development theory: Persons, positions, and processes. *Counseling Psychologist*, 1, 2–9.

Super, D. E. (1985). Coming of age in Middletown: Careers in the making. *American Psychologist*, 40, 405–414.

Super, D. E. (1990). A life-span, life-space approach to career development. In D. Brown, L. Brooks, & Associates (Eds.), *Career choice and development: Applying contemporary theories to practice* (2nd ed., pp. 197–261). San Francisco: Jossey-Bass.

ter Doest, L., Maes, S., Gebhardt, W. A., & Koelewijn, H. (2006). Personal goal facilitation through work: Implications for employee satisfaction and well-being. *Applied Psychology: An International Review*, 55, 192–219.

- Tsutsumi, A., & Kawakami, N. (2004). A review of empirical studies on the model of effort–reward imbalance at work: reducing occupational stress by implementing a new theory. *Social Science & Medicine*, *59*, 2335–2359.
- Van Vegchel, N., de Jonge J., Bosma, H., Schaufeli, W. (2005). Reviewing the effort–reward imbalance model: drawing up the balance of 45 empirical studies. *Social Science & Medicine*, *60*, 1117–1131.
- Vearing, A., & Mak, A. S. (2007). Big five personality and effort-reward imbalance factors in employees’ depressive symptoms. *Personality and Individual Differences*, *43*, 1744–1755.
- Wiese, B. S., & Salmela-Aro, K. (2008). Goal conflict and facilitation as predictors of work–family satisfaction and engagement. *Journal of Vocational Behavior*, *73*, 490–497.
- Willis, T. A., O’Conner, D. B., Smith, L. (2008). Investigating effort-reward imbalance and work-family conflict in relation to morningness-eveningness and shift work. *Work & Stress*, *22*, 125–137.
- Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B. (1997). Jobs, careers, and callings: People’s relations to their work. *Journal of Research in Personality*, *31*, 21–33.

Table 1
Correlation Coefficients for Study Variables (N =708–747)

Variables (range)	1 ¹	2 ¹	3 ¹	4 ¹	5 ²	6 ²	7 ²	8 ²	9 ²	10 ²
1. Gender (1=male, 2=female)	–									
2. Managerial level (1=upper, 3=lower)	-.02	–								
3. Employment contract (1= permanent, 2=fixed-term)	.05	.38***	–							
4. Career disruptions (1=no, 2=yes)	-.01	.13***	.07	–						
5. Effort (1–5)	-.11**	-.17***	-.22***	-.09*	–					
6. Reward (1–5)	-.06	-.06	-.04	-.05	-.33***	–				
7. ERI-ratio	-.07	-.10**	-.17***	-.05	.81***	-.76***	–			
8. OVC (1–4)	.05	-.17***	-.17***	-.09*	.54***	-.28***	.49***	–		
9. Burnout (1–6)	.04	-.08*	-.10**	-.03	.50***	-.54***	.59***	.64***	–	
10. Work engagement (1–7)	.10**	-.08*	-.01	-.09*	-.04	.38***	-.21***	-.05	-.35***	–
11. Competence goals ³	.07*	-.05	-.02	-.02	-.02	.10**	-.04	.02	-.07	.16***
12. Progression goals ³	-.02	.01	.01	-.05	-.02	.05	-.03	-.04	-.06	.04
13. Well-being goals ³	-.05	.04	.04	.06	.11**	-.07*	.10**	.09*	.16***	-.11**
14. Job change goals ³	.06	-.06	-.06	-.05	.04	-.15***	.10**	.03	.12**	-.15***
15. Job security goals ³	-.05	.09*	.10**	.17**	-.14***	.00	-.12**	-.10**	-.11**	-.01
16. Organizational goals ³	.03	-.11**	-.05	-.06	-.05	.13***	-.09*	-.02	-.05	.13**
17. Financial goals ³	-.04	.05	.03	.01	-.04	-.02	-.03	-.03	-.03	-.01
18. No work goals ³	-.05	.06	-.01	-.03	.06	-.06	.07	.01	.01	-.10**

Note. ¹ Spearman correlation. ² Pearson correlation. ³ Dichotomous variables of goal categories (0 = no and 1 = yes, goal mentioned).

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2

Results of Multinomial Regression Analysis Predicting Membership to Goal Categories Based on Background Variables, Effort, and Reward (with Organizational Goals as the Reference Category; 5.1%; n = 38)

Study variables	Competence (28%; n = 209) OR (95% CI)	Progression (21.7%; n = 162) OR (95% CI)	Well-being (13.9%; n = 104) OR (95% CI)	Job change (12.6%; n = 94) OR (95% CI)	Job security (6.8%; n = 51) OR (95% CI)	Finance (3.6%; n = 27) OR (95% CI)	No work goal (8.3%; n = 62) OR (95% CI)
Female (vs. male)	0.88 (0.35, 2.23)	0.61 (0.23, 1.61)	0.46 (0.15, 1.38)	0.80 (0.29, 2.24)	0.23* (0.06, 0.94)	0.30 (0.06, 1.61)	0.29 (0.08, 1.11)
Upper management	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Middle management	3.55** (1.38, 9.17)	4.43** (1.57, 12.51)	2.34 (0.80, 6.87)	4.34* (1.33, 14.13)	3.40 (0.63, 18.47)	1.36 (0.28, 6.48)	4.60* (1.07, 19.70)
Lower management	4.53** (1.56, 13.28)	6.67** (2.11, 21.15)	5.24** (1.61, 17.05)	3.76* (1.02, 13.94)	5.91* (1.02, 34.19)	4.65 (0.96, 22.45)	11.24** (2.44, 51.86)
Fixed-term contract (vs. permanent contract)	1.55 (0.19, 12.79)	0.92 (0.10, 8.39)	2.08 (0.24, 18.40)	3.11 (0.35, 27.30)	7.45 (0.87, 63.70)	0 ^a	0 ^a
Career disruptions (vs. no disruptions)	1.70 (0.70, 4.14)	1.41 (0.56, 3.52)	2.43 (0.95, 6.21)	1.22 (0.46, 3.26)	4.97** (1.76, 14.00)	1.81 (0.56, 5.85)	1.29 (0.46, 3.65)
Effort	1.21 (0.82, 1.78)	1.18 (0.79, 1.75)	1.60* (1.05, 2.45)	1.11 (0.73, 1.70)	0.72 (0.44, 1.19)	0.87 (0.50, 1.51)	1.23 (0.77, 1.95)
Reward	0.62 (0.36, 1.05)	0.54* (0.32, 0.93)	0.52* (0.30, 0.91)	0.35*** (0.20, 0.60)	0.47* (0.26, 0.88)	0.44* (0.23, 0.85)	0.43** (0.24, 0.77)

Note. OR = odds ratio, CI = confidence interval. ^a Not a reliable result due to a low representation of sample. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3

Results of Multinomial Regression Analysis Predicting Membership to Goal Categories Based on Background variables, ERI-ratio, and OVC (with Organizational Goals as the Reference Category; 5.1%; n = 38)

Study variables	Competence (28%; n = 209) OR (95% CI)	Progression (21.7%; n = 162) OR (95% CI)	Well-being (13.9%; n = 104) OR (95% CI)	Job change (12.6%; n = 94) OR (95% CI)	Job security (6.8%; n = 51) OR (95% CI)	Finance (3.6%; n = 27) OR (95% CI)	No work goal (8.3%; n = 62) OR (95% CI)
Female (vs. male)	0.93 (0.37, 2.33)	0.69 (0.26, 1.80)	0.46 (0.16, 1.35)	1.05 (0.38, 2.86)	0.29 (0.07, 1.17)	0.37 (0.07, 1.96)	0.36 (0.10, 1.36)
Upper management	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Middle management	3.73** (1.45, 9.58)	4.69** (1.67, 13.16)	2.48 (0.85, 7.21)	5.06** (1.58, 16.25)	3.99 (0.74, 21.47)	1.60 (0.34, 7.56)	4.69* (1.10, 19.99)
Lower management	4.84** (1.68, 13.92)	7.18*** (2.31, 22.35)	5.57** (1.74, 17.82)	4.66* (1.29, 16.87)	7.64* (1.35, 43.32)	5.90* (1.25, 27.85)	12.09*** (2.67, 54.78)
Fixed-term contract (vs. permanent contract)	1.61 (0.19, 13.30)	0.95 (0.10, 8.71)	2.15 (0.24, 18.96)	3.46 (0.40, 30.12)	7.91(0.93, 67.29)	0 ^a	0 ^a
Career disruptions (vs. no disruptions)	1.74 (0.71, 4.24)	1.44 (0.58, 3.59)	2.50 (0.98, 6.39)	1.29 (0.49, 3.43)	5.25** (1.87, 14.76)	1.93 (0.60, 6.21)	1.37 (0.48, 3.86)
ERI-ratio	1.53 (0.88, 2.66)	1.80* (1.03, 3.15)	1.93* (1.09, 3.43)	2.49** (1.40, 4.40)	1.19 (0.59, 2.39)	1.53 (0.74, 3.15)	2.28** (1.26, 4.15)
OVC	1.09 (0.71, 1.66)	0.94 (0.61, 1.46)	1.24 (0.79, 1.96)	0.88 (0.55, 1.40)	0.87 (0.51, 1.49)	0.93 (0.51, 1.70)	0.85 (0.51, 1.40)

Note. OR = odds ratio, CI = confidence interval. ^aNot a reliable result due to a low representation of sample. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 4

Means and Standard Deviations of the ERI components, Burnout, and Work Engagement in the Goal Categories. Results of Hierarchical GLM Showing the Direct and Indirect Effects (via Goal Categories) of the ERI components on Burnout and Work Engagement

Variables (range)	Effort (1–5)		Reward (1–5)		ERI-ratio		OVC (1–4)		Burnout (1–6)	Work engagement (1–7)
	Mean (SD)		Mean (SD)		Mean (SD)		Mean (SD)		Mean (SD)	Mean (SD)
Competence	3.11 (0.91)		4.16 (0.70)		0.79 (0.34)		2.26 (0.55)		2.56 (0.69)	5.66 (0.96)
Progression	3.11 (1.01)		4.10 (0.74)		0.81 (0.40)		2.21 (0.55)		2.55 (0.74)	5.53 (0.90)
Well-being	3.40 (0.95)		3.98 (0.64)		0.89 (0.35)		2.37 (0.61)		2.98 (0.81)	5.17 (1.03)
Job change	3.24 (0.98)		3.75 (0.80)		0.94 (0.47)		2.29 (0.64)		2.94 (0.90)	4.98 (1.22)
Job security	2.64 (0.86)		4.09 (0.63)		0.67 (0.30)		2.03 (0.57)		2.37 (0.64)	5.42 (0.92)
Organization	2.93 (1.02)		4.43 (0.53)		0.69 (0.32)		2.17 (0.59)		2.49 (0.74)	5.92 (0.84)
Finance	2.92 (0.94)		4.03 (0.69)		0.77 (0.35)		2.16 (0.48)		2.53 (0.74)	5.38 (1.00)
No work goal	3.33 (1.10)		3.82 (0.91)		0.98 (0.54)		2.26 (0.50)		2.72 (0.89)	4.99 (1.29)
Total	3.14 (0.98)		4.05 (0.74)		0.83 (0.40)		2.25 (0.57)		2.66 (0.79)	5.41 (1.05)
<i>Burnout</i>	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect		
<i>F</i> -value	247.48***	45.00***	155.55***	7.83**	436.60***	58.12***	215.33***	9.54**		
<i>DR</i> ²	.21	.04	.13	.01	.30	.04	.15	.01		
<i>Work engagement</i>										
<i>F</i> -value	0.13, ns.	21.26***	97.85***	38.71***	19.10***	39.64***	0.63, ns.	3.07, ns.		
<i>DR</i> ²		.02	.11	.04	.02	.05				

Note. $DR^2 = R^2$ change. Background variables of gender, managerial level, employment contract, and career disruptions controlled for. ** $p < 0.01$; *** $p < 0.001$.

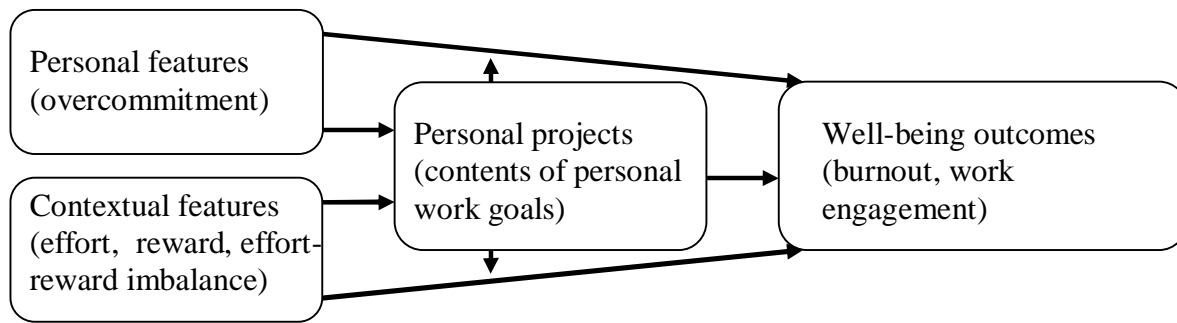


Figure 1. The theoretical model of the study showing the investigated relationships based on Little's (2000, 2007)

social ecological model of well-being and the Effort-Reward Imbalance model (Siegrist, 1996).

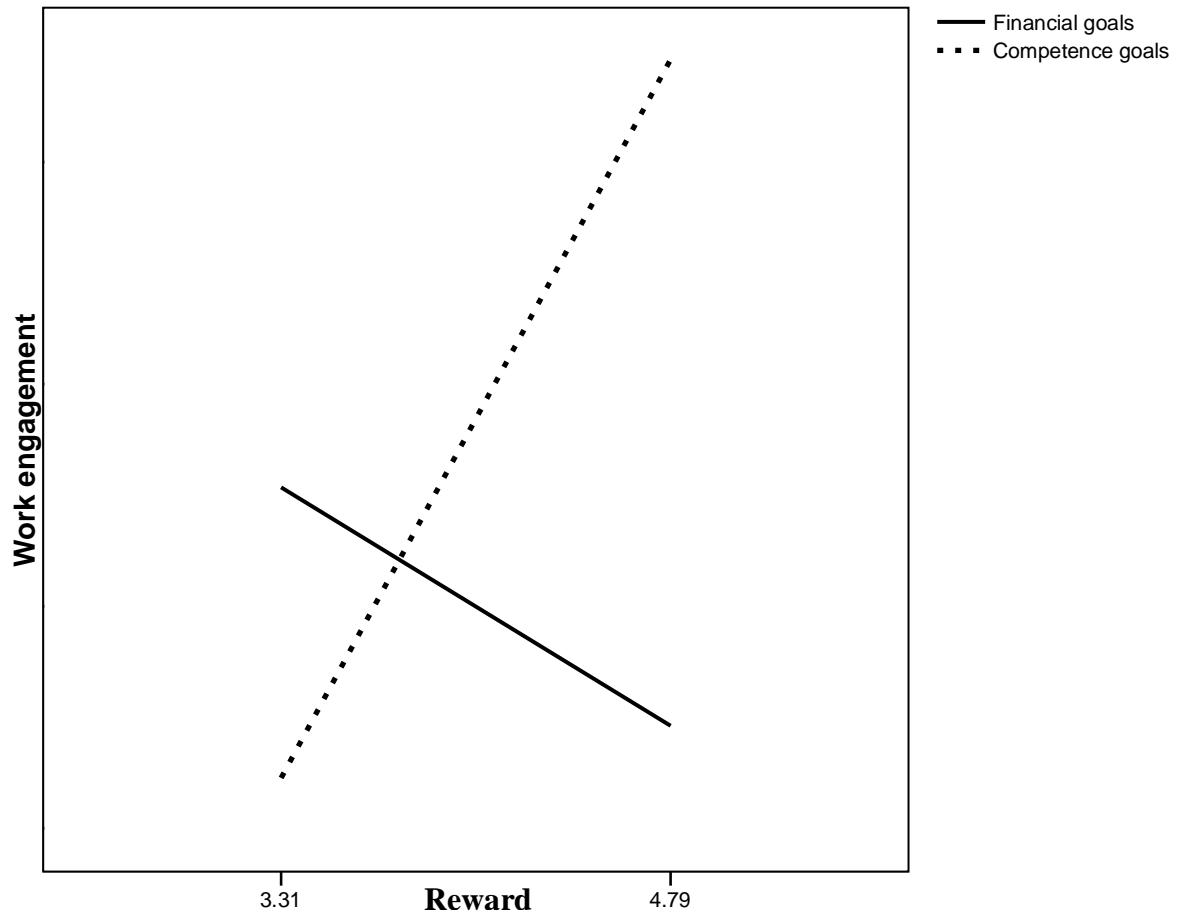


Figure 2. Showing an example of the moderating effect of financial goals between reward and work engagement.