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Changes in personal work goals in relation to the psychosocial work environment: A two-year follow-up study

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Abstract

Associations between changes in the psychosocial work environment and changes in personal work goals were investigated in a two-wave, two-year longitudinal study. Psychosocial work environment was studied within the context of the Effort–Reward Imbalance model (Siegrist, 1996) including the dimensions of effort, reward, and effort–reward imbalance. The participants consisted of 423 young Finnish managers (24–36 years at the baseline). The participants’ most important personal work goals were categorized into seven content categories of competence, progression, well-being, job change, job security, organization, and finance at both measurement times. The ANCOVAs showed that there were differences especially in changes in the career opportunities factor of reward between participants whose goals changed during the study. First, participants who engaged in job change goals reported a decrease in reward, whereas participants who engaged in competence or organizational goals reported an increase in reward. Second, participants who disengaged from job change goals reported an increase in reward and a reduction in effort–reward imbalance. Finally, participants who disengaged from job security goals reported a reduction in reward and an increase in effort–reward imbalance. The study highlighted the central role of career opportunities in goal pursuit, which can also bear implications on the occupational well-being of employees.

Keywords: psychosocial work environment, personal work goals, goal contents, effort, reward, effort–reward imbalance

Changing Psychosocial Work Environment as the Context of Personal Work Goals

Introduction

The impact of the psychosocial work environment on occupational health and well-being has been indicated by a large body of occupational stress research (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 present study provides a new perspective to the current occupational stress theories by extending the investigation to future-oriented, work-related aspirations of managers (i.e., personal work goals) over a two-year period (2006–2008). Previous personal goal research has already shown that the contents of personal life goals (Salmela-Aro & Nurmi, 2004) and appraisals of personal work goals (e.g., Harris, Daniels, & Briner, 2003; Maier & Brunstein, 2001; Pomaki, Maes, & ter Doest, 2004) accounted for individual differences in occupational well-being. Moreover, the psychosocial work environment contributed to the contents of personal work goals (Hyvönen, Feldt, Tolvanen, & Kinnunen, 2010), which in turn associated with occupational well-being indicators of burnout and work engagement in recent cross-sectional studies (Hyvönen, Feldt, Salmela-Aro, Kinnunen, & Mäkikangas, 2009; Hyvönen et al., 2010).

The added value of the present study stems from investigating the contents of self-articulated goals, which have previously drawn less research attention than goal appraisals (Nurmi, Salmela-Aro, & Aunola, 2009; Pomaki et al., 2004; Salmela-Aro & Nurmi, 2004) or, for example, the preset measures of goal orientation in different performance contexts (e.g., Brett & VandeWalle, 1999; for a review, see DeShon & Gillespie, 2005). To our knowledge, no previous research has specifically addressed the contents of personal work goals in a longitudinal study. Thus, the mixed methods approach (e.g., Creswell & Plano Clark, 2007) of this study can shed new light on the relationship between changes in the contents of ideographic goals as well as on how psychosocial factors, which describe possible stressors of the work context within which participants set their goals, are associated with goal pursuit. Our target group comprised 433 employees, all of whom were in managerial

positions and age 36 years or younger at the onset of the study in 2006. This study can therefore yield potentially valuable information about the psychosocial factors at work guiding interests and development in the early phases of careers in management. Due to the key position of managers in organizations, research of their goals can also stimulate further understanding of leadership and organizational behavior (Bateman, O'Neill, & KenworthyU'Ren, 2002), as well as of their occupational well-being, which have been found to impact also the well-being of subordinates (e.g., van Dierendonck, Haynes, Borrill, & Stride, 2004; for a review, see Skakon, Nielsen, Borg, & Guzman, 2010).

Psychosocial work environment

An occupational stress model, the effort–reward imbalance (ERI) model by Siegrist (1996), was utilized to investigate the primary psychosocial stressors in the work environment. The model is based on the reciprocal relationship between costs and gains in the workplace. Employees invest effort fulfilling the demands and responsibilities, such as interruptions, work load, and overtime. In return for their effort, the employees expect rewards, such as money, esteem, job security, and career opportunities. The model also accounts for the lack of reciprocity between efforts and rewards, which is represented as an imbalance of effort and reward at work. The lack of reciprocity might be present in situations where employees have fewer employment options (e.g., due to skills deficits or a poor job market), but also, for instance, when an employee has strategic ambitions, such as career progression (Siegrist et al., 2004). According to the ERI model, individual factors, namely overcommitment to work, could predispose the employee to investing an exceedingly high amount of effort into work, especially in a demanding work environment (e.g., De Jonge, van der Linden, Schaufeli, Peter, & Siegrist, 2008; Siegrist et al., 2004). Overcommitment is seen as the “inability to withdraw from work” (e.g., Siegrist et al., 2004).

The ERI model proposes that a prolonged lack of reciprocity can be detrimental to health, which has been supported by various research findings (for reviews, see Stansfeld & Candy, 2006;

Tsutsumi & Kawakami, 2004; van Vegchel et al., 2005): For instance, a recent study among employees aged 35–44 years indicated that a higher effort–reward imbalance related to a lower heart rate variability, which is connected to an increased risk of coronary heart disease (Loerbroeks et al., 2010). Furthermore, the ERI model has also been investigated in relation to indicators of work-related well-being, demonstrating that the components of the model contribute towards explaining variance in burnout symptoms (e.g., Dai, Collins, Yu, & Fu, 2008; Willis, O'Connor, & Smith, 2008), perceived work stress (Calnan, Wadsworth, May, Smith, & Wainwright, 2004), as well as vigor and dedication at work (Kinnunen, Feldt, & Mäkikangas, 2008). In terms of job attitudes, for instance, lower reward associated with lower job satisfaction (e.g., Calnan, Wainwright, & Almond, 2000), and higher effort-reward imbalance with stronger turnover intentions (Kinnunen et al., 2008).

Personal goals within the work context

The theoretical framework of personal work goals is derived from previous research on personal action that has included personal action constructs (PAC, Little, 2007) such as personal projects (Little, 1983) and personal strivings (Emmons, 1986). These PAC units of analyses can be considered as “middle level” constructs in personality research, where evolutionary and personality trait theories feed into PAC theories, which together shape a person’s identity and life narratives (e.g., Little, 2007; see also McAdams, 1995; McAdams & Pals, 2006; McGregor, McAdams, & Little, 2006). Personal goals can range from immediate plans to goals that last through an individual’s life span (Little, 2007). Personal goals can be distinguished from goal orientation that is often considered as a personal disposition (e.g., learning goal, performance-prove, performance-avoid orientations) which can impact the person’s choice of goal contents (Brett & VandeWalle, 1999).

Personal goals have been investigated, for example, by categorizing them on the basis of goal contents into categories, such as interpersonal, academic, work, intrapersonal, recreational, health, maintenance, and other (Little, 1983; Little & Gee, 2007). Another typical approach to goal analysis is to examine participants’ goal appraisals on dimensions, such as importance, commitment, difficulty, or

conflict (for a review, see Austin & Vancouver, 1996). More recently, the consideration of relational aspects of personal goals has also raised interest, for instance, in terms of analyzing the nature of social ties related to goals (Salmela-Aro & Little, 2007). Our study pursued a closer analysis of participants' responses to an open-ended question regarding their work goal. A similar approach has been used by Bateman and colleagues (2002) to investigate the contents of multiple work goals of 75 top corporate leaders. Of the ten work goal categories identified, the majority of goals related to the leadership role and organizational functioning (e.g., financial, customer, and operational goals; see Bateman et al., 2002). However, the personal goals category was the largest single category (18% of all goals) and referred to goals outside the business environment (e.g., career aspirations, wealth, and family). Thus, goals at work also incorporate hopes and wishes peripheral to work since boundaries between work and home are becoming increasingly blurred (Jones, Burke, & Westman, 2006).

In this two-year follow-up study, we expected to find the same goal content categories as were identified in the baseline study by Hyvönen et al. (2009) with the same, albeit a larger sample of young managers (N = 747). In this previous study, the contents of the most important personal work goals were coded into eight categories: competence (professional development and training; 28%), career progression (promotion and advancement; 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 included job security (continuing working, a permanent employment contract; 6.8%), organization (success and performance of the project, team, department, or company; 5.1%), finance (pay rise, bonus; 3.6%), and additional 8.3% of managers with no work goal mentioned. The goals varied from shorter term (e.g., finishing a project) to long-term goals (e.g., getting promoted within the next three years). Similar personal work goals have been identified by Wiese and Salmela-Aro (2008) in a study with 131 employees from a range of professional fields and employment positions. As opposed to the top leaders' work goals (Bateman et al., 2002), the goals focusing on the management and leadership tasks were less common among the young managers (i.e., organizational

goals; 5.1%) who were still working mainly in lower or middle management positions. Instead, the young managers' goals reflected to a large extent career establishment that according to Super (1969, 1985, 1990) incorporates periods of stabilization, consolidation, and advancement.

The present study: Personal work goals in the interface of person–environment interactions

The social ecological model of well-being (e.g., Little, 2000, 2007) posits that personal goals reflect the continuous balancing of stable and dynamic personal and environmental features. Well-being and human flourishing is enhanced through the sustained pursuit of core goals in life. Since personal goals are influenced by social, cultural, and historical life contexts (e.g., Baltes, 1997; Freund & Riediger, 2006; Heckhausen & Schulz, 1995), which may change over time, previous personal goal research has also noted changes in goals across the life span. Opportunities and restrictions of a particular life stage channel personal goals, which can reflect the age-graded developmental tasks (Nurmi, 1992; Salmela-Aro, 2009; Salmela-Aro, Aunola, & Nurmi, 2007).

Brandtstädter (2009) has approached goal pursuit and adaptation as assimilative and accommodative processes, describing how a person adapts to the discrepancy between the factual circumstances (or real-self) and desired outcomes (or ideal-self). In brief, a person might strive to change the situation to the desired outcome (assimilation), or accommodation could be necessary by adapting personal goals to the prevailing situation. Goal reconstructions could be fundamental in adapting to the changing challenges of the work environment and reflect “career adaptability” which highlights the adaptive processes required in career development (Savickas, 1997). Therefore, we expected that the personal work goals of many of the participants have changed during the two-year follow-up period, reflecting the ongoing negotiation of the opportunities and demands of life contexts.

Within the occupational domain, the psychosocial stressors in the work environment have been found to contribute to the contents of personal work goals in cross-sectional analyses based on this dataset (Hyvönen et al., 2010). More specifically, perceiving the work environment as more strenuous (i.e., reporting high effort, low reward, or high effort–reward imbalance) was associated with job

change and well-being goals. These personal work goals were also related to the lowest level of occupational well-being (Hyvönen et al., 2009; Hyvönen et al., 2010). Thus, in line with personal goal theories (e.g., Brandtstädter, 2009; Little, 2007) and research (e.g., Hyvönen et al., 2010), reducing resources in the work context could instigate goal changes, for instance towards job change goals, in order to improve adaptation and occupational well-being.

The most favorable work environments (the highest level of reward and low effort–reward imbalance), in turn, were associated with organizational goals, which also related to the highest level of occupational well-being in a cross-sectional study with this dataset (Hyvönen et al., 2010). These findings paralleled, firstly, previous research on favorable psychosocial work environment and positive occupational well-being outcomes (e.g., Dai et al., 2008; Kinnunen et al., 2008), and secondly, research on goal appraisals indicating that favorable conditions for goal attainment at work predicted positive job attitudes (job satisfaction and organizational commitment) among new employees who were committed towards their goals in an 8-month follow-up study (Maier & Brunstein, 2001). Thus, favorable changes in the psychosocial work environment (i.e., a reduction of psychosocial stressors) could be related to engaging in goals focused on the performance of the organization (i.e., organizational goals) reflecting the resources available that can be directed towards the managers' leadership task at hand.

Besides changes in the prevailing psychosocial work environment, also other changes, such as an unemployment period, changing jobs, or getting a promotion could instigate changes in the work environment and personal work goals. Therefore, these career events were also taken into consideration in the present study. In the previous study by Hyvönen et al. (2010), overcommitment had less contribution towards goal contents and thus, we focused on effort, reward, and effort–reward imbalance in the present investigation. More specifically, our research questions and expectations were as follows:

1. To what extent have personal work goals changed during the two-year follow-up period (2006–2008)? We expected to find the same seven goal categories – competence, progression, well-

being, job change, job security, organization, and finance – as were found two years earlier (see Hyvönen et al., 2009) (H1a). However, we also expected to see changes in personal work goals of the participants reflecting the ongoing negotiation of the opportunities and demands in the young managers' life contexts (H1b).

2. Is there an association between changes in the psychosocial work environment (effort, reward, and effort–reward imbalance) and changes in personal work goals? On the basis of previous theory (e.g., Little, 2007) and research (Hyvönen et al., 2010), we hypothesized that unfavorable changes in the work environment (low reward, high effort, and high effort–reward imbalance) will be associated with engaging in job change or well-being goals (H2a). We further expected that favorable changes in the work environment (high reward and low effort–reward imbalance) will be associated with engaging in organizational goals (H2b).

Method

Participants and procedure

The questionnaire study was conducted with two measuring points (Spring 2006 and 2008). In January 2006, the sample was taken from the membership registers of two Finnish national labor unions (the Union of Salaried Employees and the Union of Professional Engineers). The original sample included 1,904 members who were all younger than 36 years and whose professional title referred to a management position. Questionnaires were posted to the home addresses and 933 questionnaires were returned. Of the respondents, 186 were not in management or in employment (e.g., they were on maternity leave, studying, or had been unemployed for over 3 months) and therefore, these respondents were excluded from the final sample. The response rate was 43.4% in 2006 (for more detail, see Hyvönen et al., 2009). During the data collection in 2006, 126 participants had indicated that they no longer wished to participate in the research and therefore the follow-up questionnaires in 2008 were sent to 621 participants. In total, 433 questionnaires were returned, which yielded a response rate of 69.7%. That is, of the original sample ($n = 747$) in 2006, 58.0% of participants responded also in the

follow-up study in 2008. Of the 433 respondents, 7 respondents were unemployed and 3 respondents had not responded to the study variables, and thus were omitted from the final sample ($n = 423$).

In 2006, the average age of the participants was 31 years (range 24–35 years, $SD = 3.2$ years) and a large majority of participants were men (83.9%). Of the participants, 7.8% were in upper, 49.4% in middle, and 42.8% in lower management. A large majority of the participants had a permanent employment contract (93.3%). Of the participants, 30.3% had experienced periods of unemployment or lay-offs during the period following their graduation up to 2006. Between 2006 and 2008, 7.0% of participants had experienced career disruptions (unemployment or lay-offs) and 28.9% ($n = 118$) of participants reported that they had changed jobs on their own initiation. In addition, 34.8% ($n = 142$) of participants had been promoted since 2006.

Attrition analyses

The attrition analysis showed that the respondents did not differ in terms of gender from nonrespondents in 2006 (see also Hyvönen et al., 2009). 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. In 2008, the respondents ($n = 433$) did not differ from the nonrespondents ($n = 314$) in terms of gender, $\chi^2(1) = 3.79$, *ns*; managerial level, $\chi^2(2) = 0.62$, *ns*; employment contract, $\chi^2(1) = 0.09$, *ns*; or career disruptions before 2006, $\chi^2(1) = 0.76$, *ns*. No significant differences emerged in relation to effort, $t(744) = -0.24$, *ns*; reward, $t(745) = 0.73$, *ns*; or effort–reward imbalance, $t(744) = -0.53$, *ns*. However, the χ^2 -test indicated that participants with job security goals and those with no work goals in 2006 were slightly underrepresented among the respondents who participated in 2008 and overrepresented among the respondents who had only participated in 2006, $\chi^2(7) = 17.2$, $p < .05$.

Measures

Personal work goals were inquired about with an open-ended question: “Write down your most important personal goal that relates to your work or career” (Hyvönen et al., 2009; Hyvönen et al.,

2010). In 2006, three independent coders thematically categorized the participants' responses using a generic and data-driven qualitative analysis that did not rely on preset categories (e.g., Creswell & Plano Clark, 2007). Seven content categories of goals were found: competence, progression, well-being, job change, job security, organization, and finance. In addition to these, a category was formed which consisted participants who had either not mentioned a work goal or mentioned a goal unrelated to work or career (i.e., the "no work goal" category). Each participant could be in only one of the eight goal categories (for further detail about the different stages of coding, see Hyvönen et al., 2009). A fourth independent coder applied the categorization outlined by the first three coders and the intercoder agreement of the goal categories was 92%. The AC₁ coefficient was .92 (CI = 0.88, 0.94), indicating an excellent intercoder agreement (Gwet, 2008). The same goal categories were also found in 2008 and no new categories emerged. In 2008, the intercoder agreement of the goal categories was 94% between two coders and the AC₁ coefficient .94 (CI = 0.90, 0.96). Of the two coders, one coder had been involved in the coding in 2006, but the other coder had not. These two coders decided the most suitable categories for the remaining 6% of goals together, which had been coded into different categories during the first stage of independent coding in 2008.

Effort, reward, and effort-reward imbalance were measured by a scale 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 ranged from 1 to 5: 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 ($M = 3.16$; $SD = 0.98$) in 2006 and .90 ($M = 3.05$; $SD = 1.00$) in 2008.

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). Similar rating procedure was used as described above for the effort scale, and a higher mean score of reward indicates more rewards received at work. The Cronbach’s alphas for reward were .86 ($M = 4.04$; $SD = 0.73$) in 2006 and .88 ($M = 4.13$; $SD = 0.73$) in 2008.

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 were used to assess effort, compared to 11 items to assess reward, the correction factor in this study was 0.4545. The sum score of effort is then divided by the corrected sum score of reward. A score close to “0” indicates favorable conditions, where received rewards 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 (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 0.83 ($SD = 0.39$) in 2006 and 0.80 ($SD = 0.40$) in 2008.

Background variables measured in 2006 included gender (male/female), managerial level (upper/middle/lower), employment contract (permanent/fixed-term), and career disruptions before 2006 (no/some periods of unemployment or lay-offs since graduation). On the basis of a previous cross-sectional study with this sample of participants (Hyvönen et al., 2009; Hyvönen et al., 2010), these background variables were related to the outcome measures used, and therefore, were also controlled for in this study. Career events measured in 2008 incorporated information about the work-related experiences of participants between 2006 and 2008 and included three dichotomous variables: career disruptions 2006–2008 (no/some periods of unemployment or lay-offs); job changes on one’s own initiation 2006–2008 (no/yes); and promotions 2006–2008 (no/yes).

Analyses

Spearman correlation coefficients were calculated for categorical variables (gender, managerial level, employment contract, career disruptions before 2006, career disruptions 2006–2008, job changes 2006–2008, promotions 2006–2008) and Pearson correlation coefficients for continuous variables (effort, reward, ERI-ratio). The changes in the most important personal work goals (i.e., competence, progression, well-being, job change, job security, organization, and finance) were investigated by forming two goal change groups for each goal category: 1) Participants who had not mentioned the goal in 2006, but mentioned it in 2008 (i.e., engaged in the goal); 2) Participants who mentioned the goal in 2006, but not in 2008 (i.e., disengaged from the goal). Thus, the further analyses excluded those participants who mentioned similar goals at both measurement points and those participants who had not mentioned a work goal. Separate analyses were performed for the two types of goal change groups in order to compare the differences between the goal categories.

The two goal change groups were investigated in relation to changes in the investigated ERI components (effort, reward, ERI-ratio, esteem, career opportunities, and job security) by means of the Analyses of Covariance (ANCOVA) where all background variables could be controlled for and partial eta-squares (η^2) reported. In order to compare the degree of change in the ERI components, difference scores were computed to describe the change between 2006 and 2008. The difference scores (i.e., the dependent variables in ANCOVA analyses) were formed by deducting the mean score of an ERI component in 2006 from the mean score in 2008 (e.g., reward in 2006 was deducted from reward in 2008). The goal categories in 2008 were the between–subjects factors when calculating the differences in the degree of change in the ERI components among the participants who engaged in a goal, whereas the goal categories in 2006 were the between–subjects factors when calculating the differences among the participants who disengaged from a goal. Bonferroni pairwise comparisons were calculated to detect which goal categories differed from each other in the degree of change in relation to the investigated ERI component.

Results

Descriptive results

Table 1 depicts the intercorrelations among background variables, effort, reward, and ERI-ratio. Female gender, lower managerial levels, and having a fixed-term employment contract were related to lower effort and ERI-ratio in 2006, but only lower managerial levels were related to lower effort in 2008. Job changes 2006–2008 related to lower reward in 2006 and to lower effort and ERI-ratio in 2008. In addition, experiencing career disruptions 2006–2008 correlated with lower effort and ERI-ratio in 2008. Furthermore, promotions 2006–2008 correlated with higher effort and reward in 2008. Of the background variables, career disruptions before 2006 had no association with any of the ERI components. Nevertheless, career disruptions before 2006 were controlled for in the further analyses because of its associations with personal work goals in a previous study (see Hyvönen et al., 2009).

– Insert Table 1 about here –

Changes in personal work goals

The distribution of personal work goals in 2006 and 2008 is shown in Table 2. In line with our expectations (H1a), we found the same goal categories in 2008 as in the first study phase in 2006. The sizes of the categories also remained similar in both study phases except for the category with organizational goals which almost doubled in size. Our expectation regarding goal change (H1b) received also support since the majority of participants (67%; $n = 285$) changed their most important personal work goal during the follow-up period. As can be seen also in Table 2, the percentages of participants with similar goals in both study phases were fairly low ranging from 12.5% (participants with no work goal) to 45.5% (participants with competence goals). These participants were omitted from further analyses which concentrated on investigating changes in personal work goals. Thus, there were 273 participants who engaged in various other personal work goals in 2008 and 264 who disengaged from their original goals mentioned in 2006 after the participants who had not mentioned a person work goal at either occasion were also excluded.

– Insert Table 2 about here –

Changes in the ERI components and personal work goals

The results of ANCOVAs can be seen in Table 3 showing the relationships between goal change groups and changes in the ERI components in addition to adjusted means and standard deviations from both study phases. These analyses were adjusted for covariates of background variables (gender, managerial level, employment contract, career disruptions before 2006, career disruptions 2006–2008, job changes 2006–2008, and promotions 2006–2008). Among participants who engaged in goals, the goal categories in 2008 significantly associated with the degree of change in reward. In addition, among the participants who disengaged from goals, the goal categories in 2006 significantly associated with the degree of change in effort, reward, and ERI-ratio.

First, our expectation H2a received partial support. Unfavorable changes in the work environment (i.e., a decrease in reward) was observed among participants engaging in job change goals in 2008 who significantly differed from participants who engaged in competence or organizational goals in 2008. That is, participants who engaged in competence or organizational goals reported an increase in reward, a finding which was also partly in line with our expectations (H2b) regarding favorable changes in relation to organizational goals.

Second, favorable changes in the work environment, that is, an increase in reward and a reduction in ERI-ratio, characterized participants disengaging from job change goals as the most important personal work goal in 2006. These participants significantly differed from participants disengaging from job security goals that were linked to a reduction in reward and an increase in ERI-ratio. The degree of positive change in reward among participants who disengaged from job change goals was also significantly higher than among participants who disengaged from competence goals as the most important personal work goal in 2006: Only a slight reduction in reward was observed among participants who disengaged from competence goals. Bonferroni comparisons did not detect significant

differences between the goal categories in the degree of change in effort among participants who disengaged from goals in 2008, although the F -value reached a level of significance (see Table 3).

Since the reward component of the ERI scale is formed from three sub scales (esteem, career opportunities, and job security), further ANCOVAs were calculated to test the associations between the goal categories and the specific reward factors. Of the reward factors, changes in career opportunities showed the strongest associations with changes in personal work goals. First, among participants who engaged in goals, the goal categories in 2008 significantly associated with the degree of change in career opportunities, $F(7,268) = 3.35, p < .01$, partial $\eta^2 = .08$, whereas no significant associations were found with the degree of change in esteem, $F(7,268) = 1.33, ns$, or in job security, $F(7,268) = 1.70, ns$. Bonferroni comparisons yielded the same results for career opportunities as for the total mean score of reward: Participants who engaged in job change goals reported a significantly higher degree of change in career opportunities (reported a decrease in career opportunities) than participants who engaged in competence or organizational goals who, in turn, reported an increase in career opportunities.

Second, among participants who disengaged from goals, the goal categories in 2006 significantly associated with the degree of change in esteem, $F(7,268) = 2.33, p < .05$, partial $\eta^2 = .06$, and career opportunities, $F(7,268) = 2.71, p < .01$, partial $\eta^2 = .07$; but no significant association was found with the degree of change in job security, $F(7,268) = 1.57, ns$. Again, Bonferroni post hoc analysis showed the same significant pairwise comparisons for career opportunities as for the total mean score of reward: Participants who disengaged from job change goals reported a significantly higher degree of change in career opportunities (reported an increase in career opportunities) than participants who disengaged from competence or job security goals which were linked to a reduction in career opportunities. However, Bonferroni comparisons did not detect significant differences between the goal categories in the degree of change in esteem among participants who disengaged from goals in 2006, although the F -value reached a level of significance.

– Insert Table 3 about here –

Discussion

The present study shed light on the relations between the psychosocial work environment and personal work goals over a two-year follow-up period and provided support for the following expectations. The same categories of personal work goals were found in 2008 as in 2006 without any new goal categories emerging, but the personal work goals were also observed to change. The clearest results on the association between changes in psychosocial work environment and personal work goals were seen in regard to a reduction in reward – and particularly in terms of a reduction in career opportunities – observed among participants who engaged in job change goals, as opposed to the participants who engaged in competence or organizational goals who reported an increase in reward.

Furthermore, favorable changes were reported in the psychosocial work environment, including an increase especially in the career opportunities factor of the reward component as well as a reduction in effort–reward imbalance among participants who disengaged from job change goals. This finding was highlighted in relation to the participants who disengaged from competence goals and particularly in relation to those participants who disengaged from job security goals who reported a notable reduction in reward and an increase in effort–reward imbalance. These results indicating that work characteristics measured within the context of the ERI model (Siegrist, 1996) associate with the goals employees pursue at work over the two-year follow-up period can be considered also important from the perspective of occupational well-being. For example, on the basis of previous cross-sectional analyses with this dataset, the contents of personal work goals also associate with occupational well-being indicators of burnout and work engagement (Hyvönen et al. 2009; Hyvönen et al., 2010). Therefore, occupational well-being could be addressed by taking the pursuit of personal work goals in the interface of environmental and person interactions into account.

Prominent personal work goals among young managers

The personal work goals across the different goal categories changed as was expected on the basis of previous theories proposing that the contextual features – with changing demands and opportunities – are manifested in the pursuit of personal goals (e.g., Little, 2007; Salmela-Aro, 2009). However, the most prominent personal work goals were those towards competence and progression. Around 40% of the participants in these categories focused on competence or career advancement also at the time of the follow-up study. These goals could reflect vocational development related to career establishment in young adulthood (e.g., Super, 1969, 1985; see also Savickas, 1997). Especially for young managers, the pursuit of a career can be a primary goal in their current life context and they may feel that career decisions are central to their future life design: For example, work-related personal goals become a central focus of this age group in addition to goals related to family and health (Salmela-Aro et al., 2007). The assimilation processes (Brandtstädter, 2009), for instance persistence towards professional development, could therefore be particularly typical in young adulthood. Furthermore, competence and progression goals have been linked to reasonably good rewards and occupational well-being when compared to, for example, well-being and job change goals (Hyvönen et al., 2010). There might be less pressure to change these goals as a result of psychosocial stressors at work. In accord with the social ecological model (Little, 2000, 2007), these participants might represent the employees in managerial positions in young adulthood working in an environment where the pursuit of personally salient, age-relevant goals can be sustained, which is also manifested in advantageous occupational well-being.

A noteworthy observation was also that the number of participants who mentioned organizational goals almost doubled during the follow-up period ($n = 24$ in 2006, and $n = 43$ in 2008). Through increasing work experience and career progression, young managers can gain a wider perspective of their responsibilities and role within the organization. That is, the increasing number of goals towards performance and success of the team or organization could signify that more participants have reached a level where they at present feel satisfied with their competence and professional

position. In a previous cross-sectional study with this sample of young managers, organizational goals have in fact been associated with the most favorable work environment as well as with the highest level of occupational well-being (Hyvönen et al., 2010).

Changes in psychosocial work environment and personal work goals

Of the different features of the psychosocial work environment investigated, rewards from employment, and particularly career opportunities, showed the strongest associations with changes in personal work goals. The reward factor of career opportunities includes the participants' perceptions of having adequate salary and a position that matches their education and training background, as well as good future work prospects and possibilities for promotion. Attention was especially drawn towards participants with job change goals. This study suggests that a reduction in career opportunities over the two-year follow-up is linked to engaging in job change goals instead of engaging in personal work goals focused on competence and organization. This finding reiterated the results of a previous cross-sectional study with this dataset (Hyvönen et al., 2010) in which rewards contributed to focusing on job change goals. Job change goals could be a response to a reduction in resources that, according to Brandtstädter (2009), can facilitate accommodative processes towards alternative goals. In a similar vein, previous research has found that perceiving a work environment as unfavorable for attaining personal goals predicted lower organizational commitment among those employees who were committed to their goals (Maier & Brunstein, 2001). Therefore, it is possible that the participants experienced their work environment as increasingly unsupportive of the attainment of personal work goals, for instance towards competence or career progression, and began to reevaluate their options. Moreover, on the basis of previous research, these increasing psychosocial stressors at work as manifested in reducing rewards could have a direct impact on occupational well-being (e.g., Dai et al., 2008; Willis et al., 2008), as well as have an indirect effect through job change goals on higher burnout and lower work engagement (Hyvönen et al., 2010). A change towards a more favorable work environment was in turn observed among those participants who disengaged from job change goals

when compared to participants disengaging from competence or job security goals. That is, an increase in reward, and particularly in career opportunities, was reported in conjunction with a reduction in effort–reward imbalance among participants disengaging from job change goals.

The participants engaging in competence or organizational goals considered their work environment as more rewarding in the second study phase in 2008. This result was also partly in line with the cross-sectional analyses based on the same dataset (Hyvönen et al., 2010) in which organizational goals were associated with the highest level of reward and occupational well-being. Similarly, also competence goals were connected to a favorable psychosocial work environment and a good level of occupational well-being. The current study therefore provided further longitudinal evidence for the key role of rewards, and particularly of career opportunities, in the workplace being associated with goals that encourage commitment to the organization, as well as to professional development and training. This study gave less support for the role of effort in changes in personal work goals. Although statistically significant differences in changes in effort were detected among participants who disengaged from goals, no significant differences emerged in pairwise comparisons between the personal work goals. This result could refer to the point that managers have accepted the fact that their job is psychologically demanding (Kinnunen et al., 2008) and therefore career opportunities might be more pivotal in regard to personal work goals.

These changes in personal work goals – that is, disengaging from job change and/or engaging in competence or organizational goals – appear generally to be positive processes reflecting goal accommodation (Brandtstädter, 2009) and career adaptability (Savickas, 1997). A change in the psychosocial stressors of the work environment (e.g., by changing jobs or through improvements in the existing workplace) could be creating new opportunities for directing personal resources at work. Alternatively, it is possible that participants who began focusing on more performance-oriented goals perceived also the stressors at work alleviating and occupational well-being improving.

In contrast, the participants who disengaged from job security goals reported a reasonably favorable psychosocial work environment in the study baseline, but perceived unfavorable changes by the second study phase seen as a reduction in reward and an increase in effort–reward imbalance. According to the cross-sectional analyses by Hyvönen et al. (2009) with this sample of participants, participants with job security goals were also more likely to be in fixed-term employment and had experienced career disruptions. These participants might perceive that their expectation regarding career opportunities cannot be met in the current work environment, which could partly account for these changes. This finding could also reflect that continuing with the same employer was no longer considered to be advantageous. Through a qualitative inspection of the personal work goals of these participants, better opportunities or a less stressful working environment were mentioned frequently (i.e., participants shifted towards progression, well-being, and financial goals).

Limitations and directions for future research

Several limitations also restrict the inferences that can be drawn on the basis of the findings. First, in terms of the generalizability of the results, having a specific target population (i.e., young Finnish managers who were mainly men and employed in technical fields in permanent employment contracts), also impacts the extent to which these findings can be applied to other employees in other countries with different employment opportunities. For instance, organizational goals in this research refer quite specifically to leadership and managerial tasks, which were not identified as an independent category of personal work goals in the study by Wiese and Salmela-Aro (2008). The second main limitation of the research was that only the most important personal work goals were investigated, although managers are likely have multiple personal work goals (Bateman et al., 2002). Therefore, this study can highlight findings only in relation to the participants' central focus in the workplace rather than to add to knowledge regarding their more complex goal structures: Participants' personal work goals are likely to be interrelated and hierarchical in nature. Goal priorities can change at different points in the career and additionally other personal work or life goals could also be important in terms

of the work environment and occupational well-being. Third, this study cannot establish causal relationships between the psychosocial stressors at work and personal work goals, since we were only able to examine concurrent changes in psychosocial environment and work goals. It should also be noted that drawing inferences on the basis of some of these findings should be done with caution due to the small group sizes, such as the group of participants disengaging from job security goals.

One of the most informative avenues for future research would be to follow changes in the psychosocial work environment and personal work goals over a longer period of time. This should include the investigation of the interrelatedness and hierarchy of personal work and life goals in order to build a more complete picture of the relationship between work environment and goal structures.

For instance, it could be that for some participants (e.g., participants with job change goals) accumulating work stressors could jeopardize career opportunities, development and well-being in the long run. Also, organizational goals could reflect development promoted through longer work experience. In addition to important career events, other life events and transitions, such as the transition to parenthood, could have a significant impact on personal work goals among this age-group of participants and therefore should be taken into consideration. An important perspective could also be offered by dispositional goal orientation (DeShon & Gillespie, 2005) and goal appraisals: For example, goal appraisals have been found to relate to the contents of work goals (Hyvönen et al., 2009), as well as to well-being over and above the characteristics of the work environment (Pomaki et al., 2004).

In conclusion, our findings suggest that the occupational stress theory of effort–reward imbalance (Siegrist, 1996) and Little’s social ecological model (2000, 2007) can provide a theoretical backdrop for investigating the relationship between the psychosocial stressors at work and personal work goals of employees. Overall, the personal work goals changed among these participants in the early phases of their career. The associations between the psychosocial work environment and the changes in personal work goals were most apparent in relation to job change goals: Unfavorable changes in the work environment (a reduction in career opportunities) were connected to engaging in

job change goals, whereas favorable changes (an increase in career opportunities and a decrease in effort–reward imbalance) were connected to disengaging from job change goals. A further practical angle of these results suggests that particularly with adequate professional status and salary, as well as with good prospects for work and promotion, organizations could support young managers' endeavor in further professional development and training, as well as their commitment and focus on organizational goals, in the early stages of their careers.

References

- Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120*, 338-375.
- 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.
- Bateman, T. S., O'Neill, H., & KenworthyU'Ren, A. (2002). A hierarchical taxonomy of top managers' goals. *Journal of Applied Psychology, 87*, 1134-1148.
- Brandtstädter, J. (2009). Goal pursuit and goal adjustment: Self-regulation and intentional self development in changing developmental contexts. *Advances in Life Course Research, 14*, 52-62.
- Brett, J. F., & VandeWalle, D. (1999). Goal orientation and goal content as predictors of performance in a training program. *Journal of Applied Psychology, 84*, 863-873.
- Calnan, M., Wadsworth, E., May, M., Smith, A., & Wainwright, D. (2004). Job strain, effort-reward imbalance, and stress at work: Competing or complementary models? *Scandinavian Journal of Public Health, 32*, 84-93.

- 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.
- Cooper, C. L., Dewe, P. J., & O'Driscoll, M. P. (2001). *Organizational stress: A review and critique of theory, research, and applications*. Thousand Oaks: Sage Publications.
- Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. 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 & Environmental Medicine, 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.
- DeShon, R. P., & Gillespie, J. Z. (2005). A motivated action theory account of goal orientation. *Journal of Applied Psychology, 90*, 1096-1127.
- Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality & Social Psychology, 51*, 1058-1068.
- Freund, A. M., & Riediger, M. (2006). Goals as building blocks of personality and development in adulthood. In D. K. Mroczek, & T. D. Little (Eds.), *Handbook of personality development* (pp. 353-372). Mahwah, NJ: Lawrence Erlbaum Associates.
- Gwet, K. L. (2008). Computing inter-rater reliability and its variance in the presence of high agreement. *British Journal of Mathematical & Statistical Psychology, 61*, 29-48.

- Harris, C., Daniels, K., & Briner, R. B. (2003). A daily diary study of goals and affective well-being at work. *Journal of Occupational & Organizational Psychology*, *76*, 401-410.
- Heckhausen, J., & Schulz, R. (1995). A life-span theory of control. *Psychological Review*, *102*, 284-304.
- 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.
- 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.
- Jones, F., Burke, R. J., & Westman, M. (2006). Work-life balance: Key issues. In F. Jones, R. J. Burke & M. Westman (Eds.), *Work-life balance: A psychological perspective* (pp. 1-9). New York: Psychological Press.
- Kahn, R. L., & Byosiere, P. (1992). Stress in organizations. In M. D. Dunnette, & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 571-650). Palo Alto, CA: Consulting Psychologists Press.
- 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.
- Little, B. R. (1983). Personal projects: A rationale and method for investigation. *Environment and Behavior*, *15*, 273-309.

- Little, B. R. (2000). Free traits and personal context: Expanding a social ecological model of well-being. In W. B. Walsh, K. H. Craik, & R. Price (Eds.), *Person-environment psychology* (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, New Jersey: 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, New Jersey: Lawrence Erlbaum Associates.
- Loerbroks, A., Schilling, O., Haxsen, V., Jarczok, M. N., Thayer, J. F., & Fischer, J. E. (2010). The fruits of ones labor: Effort–reward imbalance but not job strain is related to heart rate variability across the day in 35–44-year-old workers. *Journal of Psychosomatic Research*, *69*, 151-159.
- 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.
- McAdams, D. P. (1995). What do we know when we know a person? *Journal of Personality*, *63*, 365-396.
- McAdams, D. P., & Pals, J. L. (2006). A new big five: Fundamental principles for an integrative science of personality. *American Psychologist*, *61*, 204-217.
- McGregor, I., McAdams, D. P., & Little, B. R. (2006). Personal projects, life stories, and happiness: On being true to traits. *Journal of Research in Personality*, *40*, 551-572.

- 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. (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.
- Nurmi, J., Salmela-Aro, K., & Aunola, K. (2009). Personal goal appraisals vary across both individuals and goal contents. *Personality and Individual Differences*, *47*, 498-503.
- Pomaki, G., Maes, S., & ter Doest, 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.
- Salmela-Aro, K. (2009). Personal goals and well-being during critical life transitions: The four C's Channelling, 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., & Little, B. R. (2007). Relational aspects of project pursuit. In B. R. Little, K. Salmela-Aro, & S. D. Phillips (Eds.), *Personal project pursuit. Goals, action, and human flourishing* (pp. 199-219). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- 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.

- Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *Career Development Quarterly*, 45, 247-259.
- Siegrist, J. (1996). Adverse health effects of high-Effort/Low-reward conditions. *Journal of Occupational Health Psychology*, 1, 27-41.
- Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I., et al. (2004). The measurement of effort–reward imbalance at work: European comparisons. *Social Science & Medicine*, 58, 1483-1499.
- Skakon, J., Nielsen, K., Borg, V., & Guzman, J. (2010). Are leaders' well-being, behaviours and style associated with the affective well-being of their employees? A systematic review of three decades of research. *Work & Stress*, 24, 107-139.
- 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. *The 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* (2nd ed., pp. 197-261). San Francisco: Jossey-Bass.

- 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 Dierendonck, D., Haynes, C., Borrill, C., & Stride, C. (2004). Leadership behavior and subordinate well-being. *Journal of Occupational Health Psychology*, *9*, 165-175.
- 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.
- 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'Connor, 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.

Table 1
Correlation Coefficients for Study Variables (n = 396–423)

Variables (range)	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender (1=male, 2=female) ¹												
2. Managerial level (1=upper, 3=lower) ¹	.05											
3. Employment contract (1= permanent, 2=fixed-term) ¹	.04	.15**										
4. Career disruptions before 2006 (1=no, 2=yes) ¹	-.02	.16**	.14**									
5. Career disruptions 2006–2008 (1=no, 2=yes) ¹	-.05	-.07	.28***	.11*								
6. Job changes 2006–2008 (1=no, 2= yes) ¹	-.03	-.11*	.00	.00	.19***							
7. Promotions 2006–2008 (1=no, 2=yes) ¹	-.06	-.05	-.10	-.05	-.07	-.01						
8. Effort (1–5) in 2006 ²	-.17**	-.20***	-.17***	-.09	-.08	.02	.02					
9. Reward (1–5) in 2006 ²	-.05	.00	-.01	-.07	-.06	-.14**	.08	-.33***				
10. ERI-ratio in 2006 ²	-.11*	-.14**	-.14**	-.04	-.05	.09	-.02	.80***	-.77***			
11. Effort (1–5) in 2008 ²	-.09	-.10*	-.09	-.04	-.16**	-.21***	.15**	.44***	-.12*	.34***		
12. Reward (1–5) in 2008 ²	-.07	-.04	.03	-.08	.06	.10	.14**	-.21***	.36***	-.34***	-.37***	
13. ERI-ratio in 2008 ²	-.05	-.08	-.10	.00	-.16**	-.20***	.06	.36***	-.27***	.39***	.82***	-.76***

Note: Spearman correlations for categorical variables and Pearson correlations for continuous variables

¹ Categorical variable

² Continuous variable

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

Table 2

The Distribution of Personal Work Goals in 2006 and 2008 (n = 423)

	1. Competence (n = 120; 28.4%)	2. Progression (n = 90; 21.3%)	3. Well-being (n = 58; 13.7%)	4. Job change (n = 56; 13.2%)	5. Job security (n = 23; 5.4%)	6. Organization (n = 43; 10.2%)	7. Finance (n = 18; 4.3%)	8. No work goal (n = 15; 3.5%)
2006								
1. Competence (n = 134; 31.7%)	61 (45.5%)^a	25	17	11	4	10	3	3
2. Progression (n = 94; 22.2%)	14	36 (38.3%)^a	8	18	1	11	2	4
3. Well-being (n = 56; 13.2%)	14	9	11 (19.6%)^a	11	4	4	2	1
4. Job change (n = 57; 13.5%)	14	6	9	13 (22.8%)^a	4	6	4	1
5. Job security (n = 21; 4.9%)	1	6	4	1	4 (19.0%)^a	1	2	2
6. Organization (n = 24; 5.7%)	7	3	3	0	2	7 (29.2%)^a	1	1
7. Finance (n = 13; 3.1%)	2	2	4	1	1	0	3 (23.1%)^a	0
8. No work goal (n = 24; 5.7%)	7	3	2	1	3	4	1	3 (12.5%)^a

Note: ^aThe number of participants who focused on similar personal work goals in both study phases

Table 3 *Adjusted Means and Standard Deviations at Time 1 and Time 2 for Effort, Reward, and ERI-ratio. F-values are based on Difference Scores (T2–T1) for Effort, Reward and ERI-ratio Shown for Participants who Engaged in and Disengaged from Goals.*

	<i>n</i>	Effort		Reward		ERI-ratio	
		Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
		M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
<i>Engaged in</i>							
1. Competence	59	3.14 (0.97)	2.90 (0.99)	4.06 (0.82)	4.42 (0.62)	0.84 (0.45)	0.70 (0.37)
2. Progression	54	3.12 (0.98)	2.92 (0.99)	4.08 (0.73)	4.11 (0.67)	0.81 (0.35)	0.76 (0.36)
3. Well-being	47	3.21 (0.97)	3.22 (0.98)	4.00 (0.65)	4.00 (0.75)	0.86 (0.38)	0.86 (0.36)
4. Job change	43	3.10 (1.06)	3.07 (1.05)	4.04 (0.71)	3.78 (0.88)	0.83 (0.43)	0.89 (0.52)
5. Job security	19	3.47 (0.99)	2.94 (1.04)	4.02 (0.72)	4.05 (0.77)	0.93 (0.41)	0.78 (0.39)
6. Organization	36	3.15 (0.93)	2.98 (0.95)	4.03 (0.83)	4.39 (0.51)	0.85 (0.41)	0.75 (0.37)
7. Finance	15	3.17 (1.03)	3.18 (1.30)	3.57 (0.87)	3.66 (0.97)	0.95 (0.42)	0.98 (0.60)
<i>F</i> -value		.788, <i>ns.</i>		3.01**	4 < 1,6 ^a	.31, <i>ns.</i>	
Partial η^2				.07			
<i>Disengaged from</i>							
1. Competence	73	3.13 (0.96)	2.99 (1.00)	4.11(0.70)	4.06 (0.70)	0.81 (0.37)	0.78 (0.38)
2. Progression	58	3.00 (1.01)	2.78 (1.00)	4.09 (0.75)	4.18 (0.88)	0.79 (0.34)	0.75 (0.48)
3. Well-being	45	3.48 (1.04)	3.08 (1.03)	3.96 (0.66)	4.06 (0.72)	0.92 (0.42)	0.82 (0.45)
4. Job change	44	3.46 (0.88)	3.07 (1.01)	3.68 (0.81)	4.15 (0.75)	1.01 (0.46)	0.78 (0.34)
5. Job security	17	2.82 (0.67)	3.19 (0.83)	4.35 (0.54)	3.94 (0.77)	0.67 (0.21)	0.89 (0.41)
6. Organization	17	2.59 (1.08)	2.79 (1.17)	4.57 (0.31)	4.44 (0.64)	0.58 (0.25)	0.66 (0.41)
7. Finance	10	3.03 (1.05)	3.42 (1.05)	4.12 (0.32)	4.26 (0.55)	0.74 (0.28)	0.84 (0.33)
<i>F</i> -value		2.23*		3.43**	4 > 1,5 ^a	3.09**	4 < 5 ^a
Partial η^2		.05		.08		.07	

Note: *F*-values calculated using difference scores (T2–T1) and background variables (gender, managerial level, employment contract, career disruptions before 2006, career disruptions 2006–2008, job changes 2006–2008, and promotions 2006–2008) adjusted for; ^a Bonferroni comparisons; * $p < .05$; ** $p < .01$