

## Work & Stress

Publication details, including instructions for authors and  
subscription information:

<http://www.tandfonline.com/loi/twst20>

### When I'm 64: Psychological contract breach, work motivation and the moderating roles of future time perspective and regulatory focus

Annet H. de Lange <sup>a b</sup>, P. Matthijs Bal <sup>c</sup>, Beatrice I.J.M. Van der  
Heijden <sup>d e f</sup>, Nicole de Jong <sup>b</sup> & Wilmar B. Schaufeli <sup>g</sup>

<sup>a</sup> Department of Work and Organizational Psychology, Behavioural  
Science Institute, Radboud University, Nijmegen, the Netherlands

<sup>b</sup> Department of Social and Organizational Psychology, University  
of Groningen, the Netherlands

<sup>c</sup> Department of Work & Organizational Psychology, Erasmus  
University, the Netherlands

<sup>d</sup> Institute for Management Research, Radboud University,  
Nijmegen, the Netherlands

<sup>e</sup> Open Universiteit, the Netherlands

<sup>f</sup> University of Twente, the Netherlands

<sup>g</sup> Department of Social and Organizational Psychology, Utrecht  
University, the Netherlands

Available online: 01 Dec 2011

To cite this article: Annet H. de Lange, P. Matthijs Bal, Beatrice I.J.M. Van der Heijden, Nicole de Jong & Wilmar B. Schaufeli (2011): When I'm 64: Psychological contract breach, work motivation and the moderating roles of future time perspective and regulatory focus, *Work & Stress*, 25:4, 338-354

To link to this article: <http://dx.doi.org/10.1080/02678373.2011.632610>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

## When I'm 64: Psychological contract breach, work motivation and the moderating roles of future time perspective and regulatory focus

Annet H. de Lange<sup>a,b\*</sup>, P. Matthijs Bal<sup>c</sup>, Beatrice I.J.M. Van der Heijden<sup>d,e,f</sup>,  
Nicole de Jong<sup>b</sup> and Wilmar B. Schaufeli<sup>g</sup>

*<sup>a</sup>Department of Work and Organizational Psychology, Behavioural Science Institute, Radboud University, Nijmegen, the Netherlands; <sup>b</sup>Department of Social and Organizational Psychology, University of Groningen, the Netherlands; <sup>c</sup>Department of Work & Organizational Psychology, Erasmus University, the Netherlands; <sup>d</sup>Institute for Management Research, Radboud University, Nijmegen, the Netherlands; <sup>e</sup>Open Universiteit, the Netherlands; <sup>f</sup>University of Twente, the Netherlands; <sup>g</sup>Department of Social and Organizational Psychology, Utrecht University, the Netherlands*

There is an increasing need for managers to understand what motivates younger versus older workers to continue work within their company. We believe that this two-wave study among 90 Dutch employees is the first to examine: (1) the cross-lagged relationships between breach of psychological contract (which includes transactional and relational obligations) and intrinsic work motivation, and (2) the moderating role of the age-related variables future time perspective and regulatory focus. Regulatory focus concerns the orientation (either promotion-focused or prevention-focused) by which an individual pursues their goals. Based on psychological contract theory, we expected and found that relational contract breach predicts lower work motivation. Furthermore, based on lifespan developmental and regulatory focus theory, we assumed that this relationship would be stronger when workers experienced an open future time perspective and a promotion focus rather than a prevention focus. The results showed that future time perspective indeed had a strengthening, and prevention focus a reducing moderating effect in the relationship between psychological contract breach and work motivation. However, no significant effects for promotion focus were found. These findings indicate that age-related processes such as future time perspective and regulatory focus are important variables to include in future psychological contract research.

**Keywords:** longitudinal research; psychological contract; contract breach; time perspective; regulatory focus; work motivation; age

### Introduction

In view of the ageing of the workforce, at least in Western societies (Alley & Crimmins, 2007; De Lange et al., 2010a), we are facing a scenario that presents critical challenges for numerous stakeholders (e.g., managers, career counsellors, politicians, and employees) across industries and countries (Burkhauser & Quinn, 1997). Work organizations will have to rely increasingly on the contribution of older

---

\*Corresponding author. Email: A.delange@psych.ru.nl

employees, and managers need to understand what motivates younger versus older workers to continue work within their company. The psychological contract between employees and their employers concerns an important element in relation to ageing and work (Ng & Feldman, 2009). Rousseau (1995, p. 9) defined psychological contract as “the individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organization”. Based on the principles of social exchange theory (Cropanzano & Mitchell, 2005; Guest, 1998), psychological contract theory states that if employees perceive that their organization has not fulfilled its obligations, they will react with anger and frustration (Robinson & Morrison, 2000). More specifically, psychological contract breach is defined as the belief of an employee that the organization has failed to deliver its obligations (Lambert, Edwards, & Cable, 2003; Morrison & Robinson, 1997).

Earlier research has revealed significant age differences in relations between psychological contract breach and work-related outcomes like job satisfaction, commitment and job turnover (Bal, De Lange, Jansen, & Van der Velde, 2008), and pointed to possible underlying age-related changes, such as a changing time perspective (perceptions of the individual’s future), that may explain these effects (Bal, Jansen, Van der Velde, De Lange, & Rousseau, 2010). Although older workers have attracted considerable research interest during the past decades, few empirical studies have explicitly examined the moderating effects of age-related variables in longitudinal relations between psychological contract breach and intrinsic work motivation (Bal et al., 2008; Kanfer & Ackerman, 2004).

Age-related psychological contract research can provide scientific as well as practical information to retain and activate our ageing workforce to continue working longer. Therefore, in this study we aim to address the moderating effects of the age-related variables future time perspective and regulatory focus in cross-lagged relations between psychological contract breach and intrinsic work motivation. Before addressing our specific hypotheses, we will explain the main concepts and theories in greater detail.

### ***Psychological contract***

Psychological contracts reflect a broad meaning of the employment relationship such that it captures both explicit and implicit obligations between employee and organization (Rousseau, 1995). Moreover, extant research has shown that psychological contract breach strongly relates to job attitudes, intentions, and behaviours (Zhao, Wayne, Glibkowski, & Bravo, 2007). As a result, psychological contract is currently one of the most influential employment concepts; especially in relation to ageing at work (Bal et al., 2008).

The psychological contract can be measured using multiple dimensions which are defined as cognitions of different types of obligations at an individual level (De Vos, Buyens, & Schalk, 2003; Rousseau, 1995). Traditionally, two types of obligations have been distinguished: transactional and relational ones (Rousseau & Parks, 1993). *Transactional* obligations refer to specific short-term employer obligations consisting of monetary or materialistic aspects (Coyle-Shapiro & Conway, 2005). *Relational* obligations concern long-term exchanges that maintain the employee-employer relationship and are less specific in nature than transactional obligations (e.g., personal support and meaningful work; Zhao et al., 2007).

In the current study, we follow this distinction and include transactional as well as relational obligations. Moreover, in line with earlier research, we distinguish between *perceived obligations*, which constitute the psychological contract, and the *fulfilment* of these obligations (Conway & Briner, 2005), and include two subscales to measure psychological contract breach (cf. Lambert et al., 2003; Robinson, 1996).

When psychological contract breach occurs, employees may lose trust in their organization (cf. Bal et al., 2008). Although it has been suggested that moderators (e.g., fairness of judgment) may influence the impact of psychological contract breach (Robinson & Morrison, 2000), experiencing breach is generally assumed to elicit negative affective reactions, such as feelings of anger and betrayal (Robinson & Morrison, 2000). These negative reactions are in line with the affective events' theory of Weiss and Cropanzano (1996), which states that a negative event in the workplace will cause negative emotional reactions, leading to a decrease of intrinsic work motivation over time (Morrison & Robinson, 1997; Weiss & Cropanzano, 1996; Zhao et al., 2007). In contrast, positive events may result in positive job attitudes, and hence increase motivation.

Notwithstanding the promising outcomes of research aimed at a better understanding of possible effects of psychological contract breach, the available empirical research has some important limitations (Bal et al., 2008; Zhao et al., 2007). First, to our knowledge no study to date has investigated intrinsic work motivation as an outcome variable in relation to psychological contract breach. Moreover, most studies have been based on cross-sectional designs; only 18% of the reviewed studies in the meta-analysis by Bal et al. (2008) used a longitudinal design.

The advantage of using a complete longitudinal panel design is that cross-lagged causal relationships can be examined, and that the stability of measures across time is controlled for (De Lange, Taris, Kompier, Houtman, & Bongers, 2003). Accordingly, we aim to overcome limitations of earlier research by testing the relations across time, and expect that:

*Hypothesis 1.* Psychological contract breach (concerning transactional and relational obligations) is negatively related to intrinsic work motivation across time.

### ***Ageing and intrinsic work motivation***

Kooij, De Lange, Jansen, Kanfer, and Dikkers (2011) point to the popular notion of a normative age-related decline in work-related growth motivation and intrinsic motivation (i.e., people doing an activity because they find it interesting and derive spontaneous satisfaction from the activity itself) (Deci, Connell, & Ryan, 1989; Porter & Lawler, 1968). With age, work motivation seems to shift from extrinsic (e.g., competition or money) to more intrinsic work motivation (cf. De Lange, Van Yperen, Van der Heijden, & Bal, 2010b; Kooij, De Lange, Jansen, & Dikkers, 2008). More specifically, older workers are assumed to be less interested in learning and less concerned about job enjoyment compared to their younger colleagues (Baltes, Staudinger, & Lindenberger, 1999).

To further understand the relations between ageing and intrinsic work motivation, earlier reviews (Kooij et al., 2008; Sterns & Miklos, 1995) have suggested that chronological or calendar age serves as a proxy measure for many age-related

processes. However, age-related moderators have not been measured or controlled for in previous research. In order to better understand *why* and *how* ageing can influence the relations of psychological contracts with outcomes, it is therefore important to include theoretically meaningful age-related moderators.

The current study addresses the aforementioned limitations of earlier research by conducting a new two-wave complete panel study, and by formulating novel theory-guided hypotheses that are based on lifespan developmental theory and regulatory focus theory. More specifically, we aim to examine possibly moderating effects of the age-related variables future time and retirement perspective, and regulatory focus in the relationship between contract breach and intrinsic work motivation. After an outline on the relationship between psychological contract breach and age, we will discuss the core concepts time perspective and regulatory focus, and related theories (i.e., socioemotional selectivity and regulatory focus theory) in greater detail.

### ***Psychological contract breach and age***

It has been suggested that psychological contract breach affects job attitudes differently for older compared to younger workers (Bal et al., 2008). The recent meta-analysis by Bal et al. (2008) of  $k = 60$  studies indicated that contract breach relates strongly and negatively to positive job attitudes, such as trust and organizational commitment, with the relationship being significantly less negative for older workers. However, as regards the impact upon job satisfaction the opposite pattern for the interaction effect with age was found; that is, older workers reacted more negatively compared to their younger counterparts (Bal et al., 2008).

As an explanation for these moderating age effects, Bal et al. (2008) suggested age-related processes that operate during the lifespan. That is, biological, family or mental changes across time may explain what is important for employees, and how they perceive their work and career. Although age has often been studied as a covariate or a confounder, a limited amount of studies provide answers for *why* and *how* age affects associations between psychological contract breach and motivation (De Lange et al., 2010a; Kanfer & Ackerman, 2004). Based on lifespan developmental theory (Lang & Carstensen, 2002) and regulatory focus theory (Higgins, 1998), we will examine the moderating role that time perspective and regulatory focus play in the relationship between psychological contract breach and work motivation.

### ***The role of time perspective***

Socioemotional selectivity theory (Carstensen, 2006) focuses on the motivational consequences of a changing “temporal horizon”, and hypothesizes that individuals will select goals in accordance with their perceptions of the future as being limited or open-ended (Lang & Carstensen, 2002). According to this theory, younger people perceive time as open-ended (holding a “time since birth” perspective) and will therefore be especially motivated by growth or knowledge-related goals (new information or social interactions) that may be useful in the more distant future. In contrast, older people perceive time as a constraint (holding a “time till death” perspective), and will therefore be more motivated by achieving short-term emotion-related goals, such as deepening one’s existing relations. Socioemotional selectivity theory has received empirical support in many experimental studies

(cf. Lang & Carstensen, 2002), but has rarely been tested in an actual work setting (cf. for few exceptions Cate & John, 2007; Davis, Kraus, & Capobianco; Zacher & Frese, 2009), and never in relation to intrinsic work motivation.

According to Carstensen, Isaacowitz, and Charles (1999), the perception of reaching retirement contributes to making experiences more positive. More specifically, as people grow older, they become better in regulating their emotions after a negative event like a psychological contract breach (Bal et al., 2008). Furthermore, younger workers have the latitude to react more strongly to contract breaches since they have many alternatives, such as leaving the organization, while alternatives are rarer for older workers. Similarly, people with an open future time perspective perceive more opportunities in the future, and therefore allow themselves to react more strongly to contract breaches. Accordingly, we formulate the following hypothesis:

*Hypothesis 2.* An open future time perspective strengthens the negative associations between psychological contract breach (concerning both transactional and relational obligations) and work motivation across time.

### ***The role of regulatory focus***

Another relevant age-related moderator to examine in relation to psychological contract breach and work motivation is regulatory focus. According to the regulatory focus theory of Higgins (1997, 1998) there are two motivational or self-regulatory systems, labelled as promotion and prevention, which focus on different underlying needs (growth and development versus safety and security). To adapt to changes in biological, psychological and social functioning, people strive towards maximization of gains (promotion) and minimization of losses (prevention) (Bajor & Baltes, 2003; Baltes et al., 1999; Higgins, 1997, 1998).

This motivational process becomes more salient with age, because of the loss of biological, mental, and social resources across the lifespan (Heckhausen, 1997). Concretely, according to the Selection Optimization with Compensation (SOC) model of Baltes et al. (1999), successful developmental regulation can be characterized by maximizing gains and minimizing losses through selecting outcomes, optimizing resources to reach those (desirable) outcomes, and compensating for the age-related loss of outcome-relevant means (Baltes et al., 1999).

Another important theory in this context is the Lifespan Theory of Control (Heckhausen, Wrosch, & Schulz, 2010), which was developed to address how individuals actively choose goals in accordance with principles of developmental optimization, and proposed a greater reliance on secondary control strategies with age. Secondary control strategies are needed when the original goal has become unattainable, and can help change the self to further minimize losses and maintain current levels of functioning (Heckhausen et al., 2010). An example of such a strategy is to change one's preferences from extrinsically (competition with younger workers; promotions, etc.) to more intrinsically rewarding job features, such as enjoyment and interest (see also Kanfer & Ackerman, 2004; Rhodes, 1983).

According to these lifespan theories and regulatory focus theory, the allocation of resources for so-called "growth or promotion" goals will decrease with age, whereas maintenance and regulation of "loss or prevention" goals will increase with age.

There is growing evidence that a person's regulatory focus indeed changes across the lifespan (Ebner, Freund, & Baltes, 2006; Lockwood, Chasteen, & Wong, 2005), presenting evidence for a relatively stronger prevention focus among older adults compared to a relatively stronger promotion focus for younger adults.

Applied to the work setting, it has been suggested that older employees focus more on the protection of their current job and employment relationship (especially in the light of less career options and natural age-related losses; implying a prevention focus), whereas younger employees focus more on career-related aspects of their employment relationship (implying a promotion focus) (Schalk, 2004). More specifically, workers with a prevention focus are expected to be more focused on upholding the relationship with their employer (Higgins, 1998; Molden, Lee, & Higgins, 2008), and thus in case of psychological contract breach they are more likely to attribute the breach to external circumstances, rather than to the deliberate intention of the employer. Consequently, they react less strongly to contract breaches. On the other hand, younger workers with a promotion focus (and more career options) are expected to respond stronger to a PC breach that forms an obstacle in obtaining their growth goals. In line with these ideas, the following hypotheses are formulated:

*Hypothesis 3a.* A prevention regulatory focus weakens the negative association between psychological contract breach (concerning transactional and relational obligations) and work motivation across time.

*Hypothesis 3b.* A promotion regulatory focus strengthens the negative association between psychological contract breach (concerning transactional and relational obligations) and work motivation across time.

## Method

### *Sample and procedure*

In November 2008, a survey was sent to all employees of a Dutch health care service company (Time 1). After the first measurement, a reorganization of the company was announced. Some departments had to be reorganized and received new supervisors, and there was the risk of needing to downsize the company. As a result, we were able to examine the effects of an unexpected reorganization, and have collected a true baseline measurement before the reorganization was announced. To capture the short-term effects of this reorganization, we chose a relatively short time lag of three months to collect the follow-up measurement. The second measurement took place early February 2009 (Time 2). At Time 1, 78.2% of the respondents reported that they fully trusted their employer, whereas at Time 2 this percentage had significantly decreased to 64% ( $t = -2.96, p < .01$ ). Furthermore, at Time 2, 13.3% of the complete panel reported to have experienced actual changes in their jobs (in their tasks, colleagues, direct supervisors, or experiencing more job insecurity). As a consequence, the time lag was theoretically meaningful as differences in the perceived psychological contract could be expected over time.

The survey was distributed among 170 employees, of whom 130 (77%) responded at the first measurement (Time 1), and 98 (58%) at the second one (Time 2). A panel of 90 employees (53%) responded on both measurement occasions. Non-response analysis revealed that the drop-outs did not differ significantly from our panel in terms of their demographic characteristics, their psychological contract as well as



intrinsic work motivation. Of the complete panel, 35 (39%) were woman, and 55 (61%) were men. The age of the employees ranged from 22 to 61 years old ( $M = 44$ ;  $SD = 11$ ), while their average job tenure was 13 years ( $SD = 11$ ).

### Measures

*Intrinsic work motivation* was measured with a 12-item scale developed by Van Yperen (2006; based on Vallerand, 1997). An example item was: "I work for the joy that I get from acquiring new knowledge". Participants rated on a seven-point scale to what extent they agreed with the specific statement (response categories varied from: 1 "strongly disagree" to 7 "strongly agree"). The internal consistency (Cronbach's alpha) of this scale was very good (alphas varied from .94 at Time 1 to .93 at Time 2).

*Psychological contract breach* was measured with a difference score of the employer fulfilment and the obligations scales of Coyle-Shapiro and Conway (2005), both containing eight items. Obligations were measured by indicating the extent to which employees felt that their organization was obliged to provide transactional or relational obligations (Coyle-Shapiro & Conway, 2005). Fulfilment was assessed by indicating the extent to which employees felt their employer had actually fulfilled these obligations (De Vos et al., 2003). Psychological contract subscales for expected and fulfilled transactional and relational obligations were included. The items comprised statements that the participants could rate on a five-point scale measuring to what extent they agreed with it (ranging from: 1 "not at all" to 5 "to a very great extent"). The final breach score was calculated by subtracting the expected obligation score from the fulfilled obligation score (Robinson, 1996). We reversed these scores such that a higher score referred to a more serious psychological contract breach. Reliability for the difference scores of transactional breach was .86 at T1 and .88 at T2, and for relational breach .67 at T1 and .68 at T2.

*Transactional obligations* were measured with five items, an example being: "To what extent do you believe your organization is obliged to pay increases to maintain standards of living?" The internal consistencies (Cronbach's alpha) of the transactional expected obligations' subscale (.73 at Time 1 and .83 at Time 2) as well as the fulfilled obligations' scale were good (.83 at Time 1 and .79 at Time 2).

*Relational obligations* were measured with three items. An example item was: "To what extent do you believe your organization is obliged to provide you with the freedom to do your job well?" The internal consistencies (Cronbach's alpha) of the relational expected obligations' subscale (.71 at Time 1 and .67 at Time 2) as well as fulfilled obligations' subscale were acceptable (.72 at Time 1 and .66 at Time 2).

*Future time perspective.* Seven items of the Carstensen and Lang's future time perspective scale (2002) were used to measure perceived general time and opportunities left in life (Zacher & Frese, 2009). Participants could rate on a seven-point scale to what extent they agreed with the specific statement (ranging from 1 "absolutely not" to 7 "absolutely"). Example items are: "Many opportunities

await me in the future”, and “My future is filled with possibilities”. Cronbach’s alphas varied from .85 at Time 1 to .79 at Time 2.

*Regulatory focus.* Lockwood, Jordan, and Kunda’s (2002) promotion focus (7 items; alpha was .85 in both measures) and prevention focus scales (9 items; alpha was .78 at Time 1 and .82 at Time 2) were included. This is one of the most employed general regulatory focus measures in an applied work context, and has been linked to calendar age (Lockwood et al., 2005). A sample item of promotion focus was: “I frequently imagine how I will achieve my hopes and aspirations”, and a sample item of prevention focus was: “In general, I am focused on preventing negative events in my life”. Response categories were based on a nine-point scale (1 “not at all true for me” to 9 “very true for me”).

*Covariates.* Based upon previous research by Fouad (2007), indicating a relationship between gender and career choices, we included gender as a covariate. In addition, previous research has shown that education and organizational tenure have an influence on work-related outcomes (Ricketta, 2005), so we controlled for these two demographic variables in our analyses as well.

### *Statistical analyses*

First, a confirmatory factor analysis was conducted. Since the number of items measuring work motivation, regulatory focus, future time perspective, and psychological contract breach was too large for single assessment of the factor structure, we assessed the discriminant validity of the measures following the procedure recommended by Anderson and Gerbing (1998). This involved separate confirmatory factor analyses of each proposed scale at T1 and T2, in which a constrained one-factor model was compared to an unconstrained two-factor model. Moreover, discriminant validity was assessed through separate confirmatory factor analyses of scales with their related constructs (e.g., transactional contract breach with relational breach). Discriminant validity was achieved for all of measures, with Chi-squares being significantly lower ( $p < .01$  and  $p < .001$ ) for the unconstrained two-factor models. Moreover, and in line with previous research (Coyle-Shapiro & Conway, 2005), we also found evidence for the empirical distinction between transactional and relational breach.

By means of multiple hierarchical regression analyses (using SPSS 16.0 software), the added value (in terms of additional explained variance) of the main effects and the interaction effects were tested. In order to minimize the likelihood of multicollinearity, the independent variables were standardized (Aiken & West, 1991) before computing the interaction terms. Following Aiken and West (1991), simple slopes were calculated for the moderators at one standard deviation below and above the mean to investigate patterns of the included multiplicative interactions.

## **Results**

### *Preliminary analyses*

A table that presents the correlations, means and standard deviations of the variables under study is available on request from the first author. This table shows that the

correlations were in the expected direction. For example, Time 1 relational psychological contract breach appeared to be negatively related to Time 1 intrinsic work motivation ( $r = -.49$ ,  $p < .01$ ). As expected, the auto-correlations were quite high. For example, Time 1 and Time 2 intrinsic work motivation was  $r = .74$  ( $p < .01$ ).

### *Age-related moderators*

As expected, age appeared to be negatively related to Time 1 future time perspective ( $r = -.67$ ,  $p < .01$ ). Furthermore, age was negatively related to the corresponding Time 2 measures;  $r$  is  $-.60$  ( $p < .01$ ) for future time perspective. Furthermore, the relationships appeared to be linear; no curvilinear patterns were found. Age appeared not to be related to prevention focus (for Time 1:  $r = .18$ ; *ns*, and for Time 2  $r = -.14$ ; *ns*), yet age was significantly negatively related to Time 1 ( $r = -.21$ ;  $p < .05$ ) and Time 2 promotion focus ( $r = -.38$ ;  $p < .05$ ). In other words, future time perspective and promotion focus can indeed be regarded as age-related variables.

### *Testing of hypotheses*

We conducted multiple hierarchical regression analyses to test Hypothesis 1, which stated that psychological contract breach is negatively related to intrinsic work motivation across time. Table 1 shows the regression coefficients (betas) and the explained variances (R squares) for the full model, and shows that neither of the two types of Time 1 psychological contract breach scales were related to Time 2 work motivation (transactional breach:  $\beta = .07$ , *ns*; relational breach:  $\beta = -.20$ , *ns*) after controlling for Time 1 motivation. Therefore, Hypothesis 1 was rejected.

To test Hypothesis 2, which stated that future time perspective strengthens the negative association between psychological contract breach and work motivation across time, we added the main as well as interaction effects of future time perspective and the psychological contract breach dimensions in our analyses. Table 1 shows the results of our hierarchical regression analysis for Time 2 Work motivation, and reveals a significant interaction effect between contract breach for relational obligations and future time perspective for Time 2 work motivation ( $\beta = -.30$ ,  $p < .05$ ). Figure 1 shows that the relationship between relational contract breach and work motivation is negative for high future time perspective ( $\beta = -.47$ ,  $p < .05$ ), while the relationship was non-significant for those with low future time perspective ( $\beta = .13$ , *ns*). No significant results were found for transactional breach ( $\beta = .09$ , *ns*). To summarize, Hypothesis 2 was partially supported.

Table 1 further shows that prevention focus moderated the association between relational breach and work motivation ( $\beta = .28$ ,  $p < .05$ ). Simple slope analysis (as shown in Figure 2) revealed that the relationship was negative for low prevention focus employees ( $\beta = -.46$ ,  $p < .001$ ), while the relationship was non-significant for high prevention focus employees ( $\beta = .12$ , *ns*). The interaction between prevention focus and psychological transactional breach also appeared to be non-significant ( $\beta = -.09$ , *ns*). Therefore, Hypothesis 3a is partially supported. Finally, promotion focus neither moderated the relation of transactional breach ( $\beta = .00$ , *ns*),

Table 1. Results of regression analysis for Time 2 work motivation.

	B	SEB	$\beta$
<b>Step 4</b>			
Constant	2.00	.43	4.69***
Time 1 work motivation	.57	.09	.63***
<i>T1, T2 PC breach: different obligations</i>			
Time 1 psych. contract – transactional obligations breach	.06	.08	.07
Time 1 psych. contract – relational obligations breach	-.17	.10	-.20
Time 2 psych. contract – transactional obligations breach	.13	.13	.14
Time 2 psych. contract – relational obligations breach	.02	.16	.02
<i>T1 moderators</i>			
Time 1 future time perspective	.08	.10	.08
Time 1 promotion focus <sup>1</sup>	.01	.09	.01
Time 1 prevention focus	-.04	.08	-.04
<i>Interactions</i>			
PC breach transactional * future time perspective	.10	.13	.09
PC breach relational * future time perspective	-.30	.13	-.30*
PC breach transactional * promotion focus	.00	.13	.00
PC breach relational * promotion focus	.17	.12	.18
PC breach transactional * prevention focus	-.09	.10	-.09
PC breach relational * prevention focus	.29	.12	.28*

Note:  $R^2 = .70$ ;  $\Delta R^2 = .05$ ;  $F = 5$ , 95\*\*\* for step 4. PC = psychological contract. The covariates were controlled for in preliminary analyses (these variables did not alter the findings).

<sup>1</sup> Additional analyses, including only promotion focus without controlling for future time perspective and its interactions, did not alter the non-significant findings for promotion focus.

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

nor the relation of relational breach ( $\beta = .18$ , *ns*) with work motivation. Therefore, Hypothesis 3b is rejected.

## Discussion

The aims of this study were to examine: (1) the associations between psychological contract breach and intrinsic work motivation, and (2) the possibly moderating influence of the age-related concepts future time perspective and regulatory focus. Our results revealed that psychological contract breach was not related to changes in work motivation over time.

However, as we expected, future time perspective as well as a prevention focus played a moderating role in the relationship between contract breach of relational obligations and work motivation, such that having an open time perspective strengthens the negative associations between contract breach and motivation across time. Moreover, people with a high prevention focus reacted less strongly to

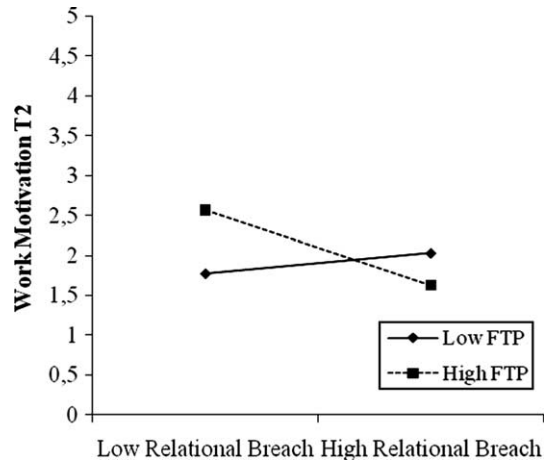


Figure 1. Interaction of psychological contract breach (relational obligations) and future time perspective with dependent variable Time 2 work motivation. FTP = Future Time Perspective.

relational contract breach than people with a low prevention focus. Finally, we found no significant effects for either promotion focus (rejecting Hypothesis 3b) or contract breach as regards transactional obligations.

This study contributes to the psychological contract literature by including previously neglected age-related moderators (see also Bal et al., 2008). As Schalk (2004) pointed out, fluctuations in psychological contract content can occur over time because demands are dependent upon circumstances. The outcomes of our study indicate that including age-related processes, like future time perspective and regulatory focus, is important in order to better understand *why* and *how* age effects occur. Given the relatively small sample size and the fact that we controlled

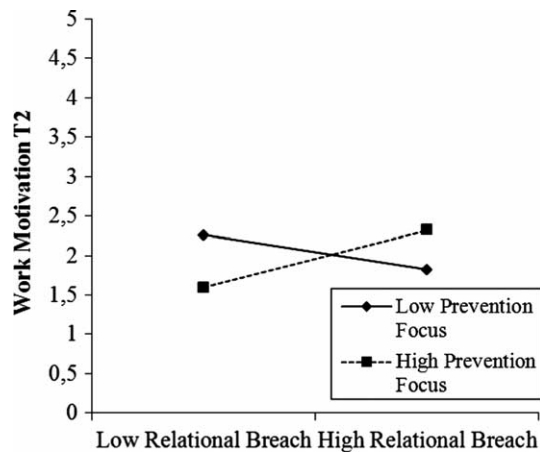


Figure 2. Interaction of psychological contract breach (relational obligations) and prevention focus with dependent variable Time 2 work motivation.

for auto-correlation of work motivation it is unlikely that our study results are due to artefacts.

A possible explanation for the lack of significant results as regards the impact of promotion focus might be related to specific characteristics of our sample. It is possible that a selection bias may have resulted in an underestimation of the actual effects and a restriction of range in the promotion focus scores among the older workers.

Age differences in responses to unexpected structural changes in the company can be explained by a lack of opportunities or felt limitations of older workers to be able to leave the current company and to get a new job with another company. Such moves are not available for older employees, but readily available for younger workers. As a result older workers may feel trapped, which can be an alternative explanation of the findings regarding depleted work motivation among older workers who perceive high relational contract breach.

Moreover, reaching retirement has an influence on how people perceive negative events (e.g., contract breach; Carstensen et al., 1999). As people grow older, a positive effect on memory and attention has been suggested, expressing itself in positivity bias and negativity avoidance, thus resulting in a stronger focus on positive experiences in life (Xing & Isaacowitz, 2006). Finally, we found overall stronger effects of relational psychological contracts compared to transactional psychological contracts. This finding is in line with previous studies (see also Turnley, Bolino, Lester, & Bloodgood, 2003; Zhao et al., 2007), and may be explained by the fact that transactional obligations are often part of the written contract between the employee and the organization, and therefore less likely to be broken, whereas relational obligations are inherently subjective in nature. Moreover, breach of transactional obligations might be related to outcomes other than work motivation, such as having a voice, citizenship behaviours, and lawsuits (Zhao et al., 2007).

### *Limitations and future research*

Although the longitudinal nature of the study design and the results that we obtained are strengths of this study (Coyle-Shapiro & Kessler, 2002), there are also some limitations that should be acknowledged. First, the time lag between the measurements was relatively short, spanning a period of only three months. It may be possible that the effects across time were influenced by the rather strong auto-correlations that are associated with such a short time lag. On the other hand, given the reorganization that was announced in the participating company, it was reasonable to expect that, within this three-month period, the character and strength of contract breach changed. Ad hoc analyses revealed that the older workers reported a significant decrease in their felt trust in the organization, and that younger as well as older workers perceived relatively high job insecurity at Time 2. Although, we cannot directly link these results to the announced reorganization, this does call for future research to include organizational change type of data and to ask more in-depth questions on the reported effects.

We focused on the evaluation of the psychological contract (breach), rather than on the *type* of contract with the organization (cf. Bal & Kooij, 2011). Further research could include richer information on for example, the content of psychological

contracts, and to which extent the workers reported strong versus weak breach, frequency, and character of breaches (see also Morrison & Robinson, 1997). For example, there may be a so-called threshold on order for breaches to affect outcomes (Rigotti, 2009). Workers may accept a certain number of breaches, or breaches of certain aspects of their psychological contract, before they hit their “boiling point” and become more affected in terms of work motivation and work behaviours. Future research should therefore include more waves, and more information about the nature of the breaches to unravel these threshold effects.

Following the line of reasoning of Zhao et al. (2007), the reversed correlations of psychological contract fulfilment were used, thus creating a measure for psychological contract breaches. However, an important question concerns whether psychological contract fulfilment and breach are indeed at opposite ends of the same continuum (Bal et al., 2008; Conway & Briner, 2005). Further, the operationalization of the psychological contract consists of two different dimensions (De Vos et al., 2003). As our results revealed, some dimensions may be breached whereas others are not. It would therefore be interesting to study further both the structure and the relationships between the different dimensions of psychological contract breach and fulfilment.

As both predictors and outcome variables in the current study were measured using self-reports, a common-method bias may exist (Coyle-Shapiro & Neuman, 2002). For future research it could, for example, be interesting to ask participants to keep a diary of perceived breaches (cf. Conway & Briner, 2002), in order to minimize method variance and to better understand why and how people perceive contract breach.

Furthermore, the regulatory focus scale of Lockwood et al. (2002) has recently been criticized as being more related to the avoidance and approach concepts than the original Higgins’ regulatory focus concept (Summerville & Roese, 2008). Future research may therefore also include other work-related regulatory focus scales like the recent validated scale of Wallace, Johnson, and Frazier (2009).

Moreover, it is important to study other individual differences than age (such as dispositional characteristics) in relation to psychological contract breach. For instance, Coyle-Shapiro and Neuman (2004) dealt with the impact of exchange and creditor ideology (i.e., two dispositional characteristics that are related to the exchange relationship) on perceptions of the psychological contract. More specifically, individuals with a high level of *exchange* ideology will pay more attention to what they themselves are obliged to provide to their employer. On the other hand, individuals with a high level of *creditor* ideology will pay more attention to what the employer is obliged to provide, and what obligations are fulfilled. Therefore, a creditor ideology plays a moderating role in relations between employers and employees perceived obligations and fulfilments (Coyle-Shapiro & Neuman, 2004).

Finally, we were not able to test alternative explanations such as perceptual changes or fewer job options for older workers. In cases of there being fewer alternatives, older workers may perceive their employment relationship as more enjoyable (e.g., cognitive-dissonance effect; Festinger, 1957). Specifically, since older workers focus more on the positive aspects of their jobs and aim to prevent further losses, they may react less strongly to psychological contract breach compared to their younger colleagues, whereas younger workers with a promotion focus will be

focused on obtaining further growth, and will therefore react more strongly to contract breach.

Despite the limitations of our study, we believe that our approach incorporating a lifespan developmental perspective on the relationship between contract breach and job attitudes revealed interesting results. Nevertheless, we call for more empirical research aimed at testing the generalizability of our research findings across other countries and occupational settings.

### ***Practical implications***

Many organizations are struggling with retaining and motivating their ageing workers (Kanfer & Ackerman, 2004). As previous studies have shown, older workers respond differently to organizational treatment than younger workers (Bal et al., 2008). Particularly, older workers appear to respond less “negatively” to a breach of their psychological contract with respect to different work outcomes (Bal et al., 2008). However, as contract breach has a clear negative influence on job attitudes and (work) behaviour, organizations should try to prevent this as much as possible.

One way to prevent contract breaches is by providing realistic expectations to employees (Rousseau, 1995), for instance, by using more effective communication strategies. As Guest and Conway (2002) proposed, effective communication is associated with clearer and less frequently breached organizational promises and commitments [see Guest & Conway (2002) for more specific recommendations].

Furthermore, it is important that organizations realize the different goals and standards of employees (Kooij et al., 2008; Van der Heijden, De Lange, Demerouti, & Van der Heijde, 2009). Older workers are more concerned with their relationship with the organization, whereas younger workers are more concerned with different job aspects (Schalk, 2004). Therefore, there should be a “fit” between the organization and the employee in terms of what they expect from one another; hereby minimizing risks of contract breach. The results of the current study indicate that to keep employees motivated throughout their career, human resource policies need to focus upon facilitating employability and career success, using a life-span perspective, and paying attention to important age-related processes such as workers’ changing time perspective or regulatory focus.

### **Acknowledgements**

The authors would like to thank Ellen Wermelink and Jørgen Nielsen for their help with the data collection.

### **References**

- Aiken, L.S., & West, S.G. (1991). *Multiple regression: Testing and interpreting interactions*. San Francisco, CA: Sage Publications.
- Alley, D., & Crimmins, E. (2007). The demography of aging and work. In K.S. Shultz & G. A. Adams (Eds.), *Aging and work in the 21<sup>st</sup> century* (pp. 7–24). London: Lawrence Erlbaum.



- Bajor, J.K., & Baltes, B.B. (2003). The relationship between selection optimization with compensation, conscientiousness, motivation, and performance. *Journal of Vocational Behavior*, *63*, 347–367.
- Bal, P.M., De Lange, A.H., Jansen, P.G.W., & Van der Velde, M.E.G. (2008). Psychological contract breach and job attitudes: A meta-analysis of age as a moderator. *Journal of Vocational Behavior*, *72*, 143–158.
- Bal, P.M., Jansen, P.G.W., Van der Velde, M.E.G., De Lange, A.H., & Rousseau, D.M. (2010). The role of future time perspective in psychological contracts: A study among older worker. *Journal of Vocational Behavior*, *76*, 474–486.
- Bal, P.M., & Kooij, D. (2011). The relations between work centrality, psychological contracts, and job attitudes: the influence of age. *European Journal of Work and Organizational Psychology*, *20*, 497–523.
- Baltes, P.B., Staudinger, U.M., & Lindenberger, U. (1999). Lifespan psychology: Theory and application to intellectual functioning. *Annual Review of Psychology*, *50*, 471–507.
- Carstensen, L.L. (2006). The influence of a sense of time on human development. *Science*, *312*, 1913–1915.
- Carstensen, L.L., Isaacowitz, D.M., & Charles, S.T. (1999). Taking time seriously: A theory of sociomotional selectivity. *American Psychologist*, *54*, 165–181.
- Carstensen, L.L., & Lang, F.R. (2002). Time counts: Future time perspective, goals, and social relationships. *Psychology and Aging*, *17*, 125–139.
- Cate, R.A., & John, O.P. (2007). Testing models of the structure and development of future time perspective: Maintaining a focus on opportunities in middle age. *Psychology and Aging*, *22*(1), 186–201.
- Conway, N., & Briner, R.B. (2002). A daily diary study of affective responses to psychological contract breach and exceeded promises. *Journal of Organizational Behavior*, *23*, 287–302.
- Conway, N., & Briner, R.B. (2005). *Understanding psychological contracts at work: A critical evaluation of theory and research*. Oxford: Oxford University Press.
- Coyle-Shapiro, J.A.M., & Conway, N. (2005). Exchange relationships: Examining psychological contracts and perceived organizational support. *Journal of Applied Psychology*, *90*, 774–781.
- Coyle-Shapiro, J.A.M., & Kessler, I. (2002). A psychological contract perspective on organizational citizenship behaviors. *Journal of Organizational Behavior*, *23*, 927–946.
- Coyle-Shapiro, J.A.M., & Neuman, J.H. (2004). The psychological contract and individual differences: The role of exchange and creditor ideologies. *Journal of Vocational Behavior*, *64*, 150–164.
- Cropanzano, R., & Mitchell, M.S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, *31*, 874–900.
- Davis, M.H., Kraus, L.A., & Capobianco, S. (2009). Age differences in responses to conflict in the workplace. *International Journal of Aging and Human Development*, *68*, 339–355.
- Deci, E.L., Connell, J.P., & Ryan, R.M. (1989). Self-determination in a work organization. *Journal of Applied Psychology*, *74*, 580–590.
- De Lange, A.H., de, Taris, T.W., Jansen, P.G.W., Kompier, M.A.J., Houtman, I.L.D., & Bongers, P.M. (2010a). On the relationships among work characteristics and learning-related behavior: Does age matter? *Journal of Organizational Behavior*, *31*, 925–950.
- De Lange, A.H., Taris, T.W., Kompier, M.A.J., Houtman, I.L.D., & Bongers, P.M. (2003). “The very best of the millennium”: Longitudinal Research and the Demand-Control-(Support) Model. *Journal of Occupational Health Psychology*, *8*(4), 282–305.
- De Lange, A.H., Van Yperen, N.W., Van der Heijden, B.I.J.M., & Bal, P.M. (2010b). Dominant achievement goals of older workers and their relationship with motivation-related outcomes. *Journal of Vocational Behavior*, *77*, 118–125.
- De Vos, A., Buyens, D., & Schalk, R. (2003). Psychological contract development during organizational socialization: Adapting to reality and the role of reciprocity. *Journal of Organizational Behavior*, *24*, 537–559.

- Ebner, N.C., Freund, A.M., & Baltes, P.B. (2006). Developmental changes in personal goal orientation from young to late adulthood: From striving for gains to maintenance and prevention of losses. *Psychology and Aging, 21*, 664–678.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Fouad, N.A. (2007). Work and vocational psychology: Theory, research, and applications. *Annual Review of Psychology, 58*, 543–564.
- Guest, D. (1998). On meaning, metaphor and the psychological contract: A response to Rousseau. *Journal of Organizational Behavior, 19* (SI), 673–677.
- Guest, D.E., & Conway, N. (2002). Communicating the psychological contract: An employer perspective. *Human Resource Management Journal, 12*, 22–38.
- Heckhausen, J. (1997). Developmental regulation across adulthood: Primary and secondary control of age-related challenges. *Developmental Psychology, 33*, 176–187.
- Heckhausen, J., Wrosch, C., & Schulz, R. (2010). A motivational theory of lifespan development. *Psychological Review, 117*, 32–60.
- Higgins, E.T. (1997). Beyond pleasure and pain. *American Psychologist, 52*, 1280–1300.
- Higgins, E.T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. In M.P. Zanna (Ed.), *Advances in Experimental Social Psychology* (pp. 1–46). New York, NY: Academic Press.
- Kanfer, R., & Ackerman, P.L. (2004). Aging, adult development, and work motivation. *Academy of Management Review, 29*, 440–458.
- Kooij, T.A.M., De Lange, A.H., Jansen, P.G.W., & Dikkers, J.S.E. (2008). Older workers' motivation to continue to work: Five meanings of age: A conceptual review. *Journal of Managerial Psychology, 23*, 364–394.
- Kooij, T.A.M., De Lange, A.H., Jansen, P.G.W., Kanfer, R., & Dikkers, J.S.E. (2011). Age and work-related motives: Results of a meta-analysis. *Journal of Organizational Behavior, 32*, 197–225.
- Lambert, L., Edwards, J.R., & Cable, D.M. (2003). Breach and fulfillment of the psychological contract: A comparison of traditional and expanded views. *Personnel Psychology, 56*, 895–934.
- Lang, F.R., & Carstensen, L.L. (2002). Time counts: Future time perspective, goals and social relationships. *Psychology and Aging, 17*(1), 125–139.
- Lockwood, P., Chasteen, A.L., & Wong, C. (2005). Age and regulatory focus determine preferences for health-related role models. *Psychology and Aging, 23*, 376–389.
- Lockwood, P., Jordan, C.H., & Kunda, Z. (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology, 83*, 834–864.
- Molden, D.C., Lee, A.Y., & Higgins, E.T. (2008). Motivations for promotion and prevention. In J. Shah & W. Gardner (Eds.), *Handbook of motivation science* (pp. 169–187). New York, NY: The Guilford Press.
- Morrison, E.W., & Robinson, S.L. (1997). When employees feel betrayed: A model of how psychological contract violation develops. *Academy of Management Review, 22*, 226–256.
- Ng, T.W.H., & Feldman, D.C. (2009). Age, work experience, and the psychological contract. *Journal of Organizational Behavior, 30*, 1053–1075.
- Porter, L.W., & Lawler, E.E. III. (1968). *Managerial attitudes and performance*. Homewood, IL: Irwin-Dorsey.
- Rhodes, S.R. (1983). Age-related differences in work attitudes and behavior: A review and conceptual analysis. *Psychological Bulletin, 93*, 328–367.
- Rigotti, T. (2009). Enough is enough? Threshold models for the relationship between psychological contract breach and job related attitudes. *European Journal of Work and Organizational Psychology, 18*, 442–463.
- Riketta, M. (2005). Organizational identification: A meta-analysis. *Journal of Vocational Behavior, 66*, 358–384.

- Robinson, S.L. (1996). Trust and breach of the psychological contract. *Administrative Science Quarterly*, *41*, 574–599.
- Robinson, S.L., & Morrison, E.W. (2000). The development of psychological contract breach and violation: A longitudinal study. *Journal of Organizational Behavior*, *21*, 525–546.
- Rousseau, D.M. (1995). *Psychological contracts in organizations: Understanding written and unwritten agreements*. Thousand Oaks, CA: Sage Publications.
- Rousseau, D.M., & Parks, J.M. (1993). The contracts of individuals and organizations. In L.L. Cummings & B.M. Staw (Eds.), *Research in organizational behavior* (Vol. 15) (pp. 1–47). Greenwich, CT: Jai Press.
- Schalk, R. (2004). Changes in the employment relationship across time. In J.A.M. Coyle-Shapiro, L.M. Shore, M.S. Taylor, & L.E. Tetrick (Eds.), *The employment relationship: Examining psychological and contextual perspectives* (pp. 284–311). Oxford: Oxford University Press.
- Sterns, H.L., & Miklos, S.M. (1995). The aging worker in a changing environment: Organizational and individual issues. *Journal of Vocational Behavior*, *47*, 248–268.
- Summerville, A., & Roese, N.J. (2008). Self-report measures of individual differences in regulatory focus: A cautionary note. *Journal of Research in Personality*, *42*, 247–254.
- Turnley, W.H., Bolino, M.C., Lester, S.W., & Bloodgood, J.M. (2003). The impact of psychological contract fulfillment on the performance of in-role and organizational citizenship behaviors. *Journal of Management*, *29*, 187–206.
- Vallerand, R.J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. *Advances in Experimental Social Psychology*, *29*, 271–350.
- Van der Heijden, B.I.J.M., De Lange, A.H., Demerouti, E., & Van der Heijde, C.M. (2009). Age as moderator in the relationship between self- versus supervisor ratings of employability and career success. *Journal of Vocational Behavior*, *2*, 156–164.
- Van Yperen, N.W. (2006). A Novel Approach to assessing achievement goals in the context of the 2x2 framework: Identifying distinct profiles of individuals with different dominant achievement goals. *Personality and Social Psychology Bulletin*, *32*, 1432–1445.
- Wallace, C., Johnson, P., & Frazier, M. (2009). An examination of the factorial, construct, and predictive validity of the regulatory focus at Work Scale. *Journal of Organizational Behavior*, *30*, 805–831.
- Weiss, H.M., & Cropanzano, R. (1996). Affective Events Theory a theoretical discussion of the structure, causes and consequences of affective experiences at work. In B.M. Staw & L.L. Cummings (Eds.), *Research in organizational behavior: An annual series of analytical essays and critical reviews*, (pp. 1–74). Greenwich, CG: Jai Press.
- Xing, C., & Isaacowitz, D.M. (2006). Aiming at happiness: How motivation affects attention to and memory for emotional images. *Motivation and emotion*, *30*(3), 249–256.
- Zacher, H., & Frese, M. (2009). Remaining time and opportunities at work: Relationships between age, work characteristics, and occupational future time perspective. *Psychology and aging*, *24*, 487–493.
- Zhao, H., Wayne, S.J., Glibkowski, B.C., & Bravo, J. (2007). The impact of psychological contract breach on work-related outcomes: a meta-analysis. *Personnel Psychology*, *60*, 647–680.