

## Motivating Employees to Work Beyond Retirement: A Multi-Level Study of the Role of I-Deals and Unit Climate

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**ABSTRACT** The present study investigates what role I-deals (i.e. the idiosyncratic deals made between employees and their organization) play in the motivation of employees to continue working after retirement. We hypothesized two types of I-deals (i.e. development and flexibility I-deals) to be positively related to motivation to continue working. More specifically, we drew from continuity and personality theory to argue that the motivation to continue working is enhanced by I-deals, because they fulfil people's needs for personalized work arrangements. Moreover, drawing from activity and disengagement theory it was hypothesized that two types of unit climate (i.e. accommodative and development climates) would moderate these relationships. Specifically, it was predicted that I-deals would be positively related to motivation to continue working under conditions of low accommodative or high development climate. Results of a multi-level study among 1083 employees in 24 units largely supported the above expectations; flexibility I-deals related positively to motivation to continue working, and unit climate moderated the relation between development I-deals and motivation to continue working.

**Keywords:** accommodative climate, development climate, development I-deals, flexibility I-deals, motivation to continue working, retirement

### INTRODUCTION

While various studies have examined the motivation of employees to retire early (Beehr et al., 2000; Shultz et al., 1998), very few studies have focused on the motivation of employees to continue working beyond retirement age (Armstrong-Stassen, 2008). Consequently, not much is known about why people want to stay in the workforce after

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reaching the formal age of retirement. This is a particularly important question, given that the proportion of older workers is growing rapidly in many countries (United Nations, 2007). The baby boom generation is becoming older and birth rates have decreased, resulting in a workforce that will increasingly be composed of older workers. Therefore, organizations have to put more effort into retention of older workers, even beyond their formal retirement age. However, to do so, we first need to know why people would be willing to continue working.

Most prior research focused on the individual (work- and non-work-related) reasons people have for leaving or staying in the workforce after their legal retirement age (e.g. Von Bonsdorff et al., 2009; Wang et al., 2008). These studies typically show that individuals with good health, high work attachment, and a poor financial situation are more likely to stay employed (e.g. Armstrong-Stassen and Ursel, 2009; Gobeski and Beehr, 2009; Weckerle and Shultz, 1999). Moreover, studies have shown that organizational factors, such as high organizational support, may influence people's decision to continue working (Armstrong-Stassen and Ursel, 2009; Wang and Shultz, 2010). Investigating organizational factors is important, because it is difficult for organizations to directly influence the health of employees and because pensions systems give individuals the financial possibility to stop working after they reach their retirement age (Wang and Shultz, 2010). Consequently, many organizations need new tools to motivate employees to continue working.

One possibility for developing such new tools can be distilled from the recent research of Armstrong-Stassen and Ursel (2009), showing that organizational support is important in people's intention to remain in the workforce. Other research showed that appropriate HR-practices can also increase older workers' motivation to stay (Armstrong-Stassen, 2008). In line with these findings, we argue that there are tools organizations can use to increase motivation. In particular, we will focus on the recent trends of individualization of working arrangements (Rousseau, 2005), by arguing that individual agreements made between an employee and the organization (i.e. I-deals; Rousseau, 2005) are particularly important for the enhancement of employee motivation to continue working, as these indicate organization support. I-deals are defined as 'voluntary, personalized agreements of a nonstandard nature negotiated between individual employees and their employers regarding terms that benefit each party' (Rousseau et al., 2006, p. 978; see also Hornung et al., 2008; Rousseau, 2005). Based on personality development theory (Caspi et al., 2005; Van Lieshout, 2000), we expect that I-deals will be beneficial in motivating employees to continue working after retirement.

However, HRM theory on the role of climate (Bowen and Ostroff, 2004; Johns, 2006) suggests that the effectiveness of I-deals for motivating to continue working might be contingent upon the work-unit climate (Armstrong-Stassen, 2008; Rousseau, 2005). Yet, in spite of this, and perhaps somewhat surprisingly, little research has investigated both I-deals and climate factors. It is thus not known if the effects of individual arrangements are enabled or hindered by the existence of a certain unit climate and this is especially the case for the motivation to continue to work (Bowen and Ostroff, 2004; Kooij, 2010) to moderate the relationship of I-deals with motivation to continue working. We will argue that if the social environment supports the implementation and execution of I-deals, employee motivation to continue working

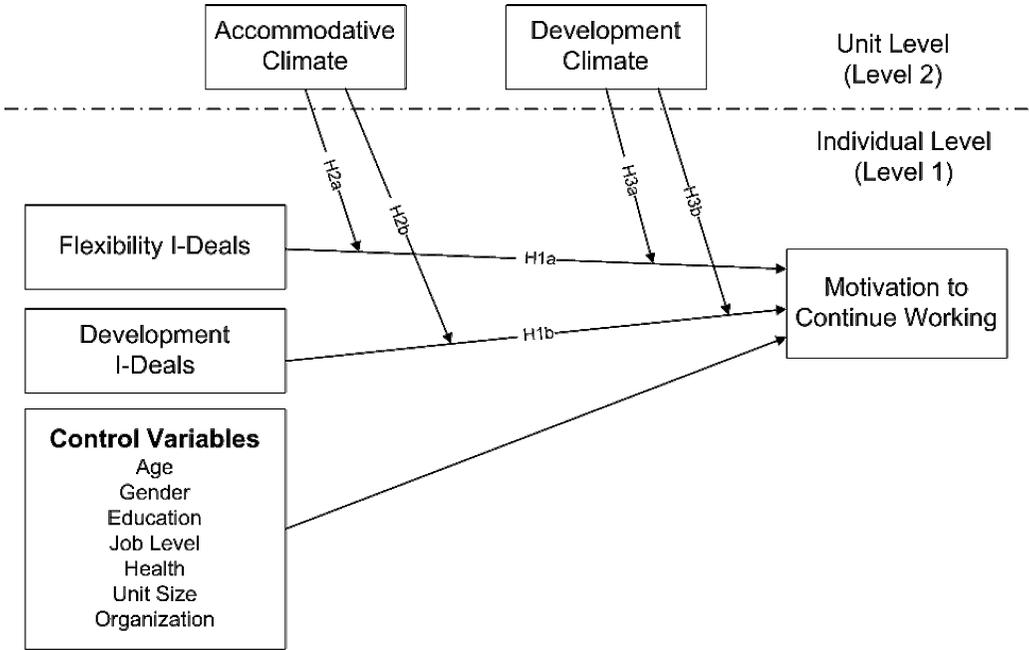


Figure 1. Research model of the current study

is further strengthened (Hornung et al., 2008). In essence, we thus expect that a corresponding climate is necessary for I-deals to work.

In sum, we first hypothesize I-deals to enhance motivation to continue working, after which we will hypothesize that these relations of I-deals are particularly strong under a supportive unit climate (see Figure 1). The current study contributes to previous research on motivation to continue working after retirement in at least four ways. First, previous empirical studies have primarily focused on predictors of early retirement (Topa et al., 2009; Wang et al., 2008), whilst ignoring the reasons why people want to continue working after retirement age. This study addresses employees' motivation to continue working *after* their retirement. Second, the study builds on previous research which has shown that organizational support may increase retention of older workers (Armstrong-Stassen, 2008; Armstrong-Stassen and Ursel, 2009), by being the first study to investigate how *individual* agreements between employees and their organization contribute to higher motivation to continue working. An individualized approach to employees is imperative in contemporary organizations, because of the need to innovate in response to rapid environmental changes (Rousseau et al., 2006). Third, this article introduces new pathways for research on I-deals by integrating the impact of unit climate with the effects of I-deals on continue working, thereby expanding the scarce knowledge regarding the impact of social context on the effectiveness of I-deals (Hornung et al., 2009; Lai et al., 2009). Fourth, we will investigate our cross-level hypotheses in a two-level design (unit-level and individual-level) containing 24 units and 1083 individuals by means of multi-level analyses, thereby rigorously testing our hypotheses (Takeuchi et al., 2009).

## MOTIVATION TO CONTINUE WORKING AFTER RETIREMENT

Scientific interest in working after retirement is increasing, as shown by the number of recent publications (Armstrong-Stassen, 2008; Beehr and Bennett, 2007; Wang and Shultz, 2010). Drawing in against the popular stereotype of employees looking forward to retire, contemporary research argues that working after retirement may fulfil important human needs for employees (Wang and Shultz, 2010). Organizations may also benefit from the knowledge and experience of their older workers when they remain longer in the organization (Greller and Stroh, 2004). Despite being potentially beneficial for both employees and organizations, little is known about how organizations can motivate their employees to work beyond retirement age. What is known, is that organizations can play an important role in motivating employees to work beyond retirement age by such HR interventions as offering interesting jobs (Gobeski and Beehr, 2009), supporting employees (Armstrong-Stassen and Ursel, 2009), and enhancing job satisfaction among employees (Wang et al., 2008).

Underlying these prior investigations lay two main theoretical explanations of why employees want to stay, and therefore also of how they could be motivated to stay after retirement, in the workforce. First, continuity theory (Atchley, 1989) proposes that although people experience changes as they become older, such as decreasing health and physical capabilities, many aspects of people's lives remain the same. For instance, when people approach retirement age, interests and vocational preferences are unlikely to change dramatically (Gobeski and Beehr, 2009). In other words, this perspective assumes that an individual remains largely the same person after legal retirement age. Therefore, it has been argued that people with high work attachment remain highly motivated to continue working, even though they have reached legal retirement age. This has been supported by the meta-analysis of Topa et al. (2009) which found that intention to retire at a later age was positively associated with higher work involvement (see also Adams et al., 2002). Thus, the first reason why employees might continue working is that they remain the same persons and therefore will be motivated to continue working after retirement if they valued working before retirement. This perspective indicates that it is important to start motivating people *before* they are near their retirement age in order to retain them in the workforce.

The second theoretical reason stems from personality research (e.g. Caspi et al., 2005; Van Lieshout, 2000, 2006), where it is argued that with increasing age, individual differences increase. Personality differences among young people are relatively small (Bal et al., 2011; Ebner et al., 2006). However, the personality of an individual is shaped over time (Caspi et al., 2005). Therefore, preferences, dislikes, attitudes, and inclinations are likely to develop over the course of one's life and career and to follow different trajectories for each individual (Nelson and Dannefer, 1992; Van Lieshout, 2000). Consequently, this perspective not only argues that people want to continue working for very different reasons, it also argues that the importance of such differences will increase when people advance through their careers.

The second perspective thus indicates that only an individualized approach will enhance motivation among employees to continue working after retirement (Wang and Shultz, 2010), and following this reasoning it can be expected that individual-focused

agreements between the employee and the organization are important to enhance employee motivation to continue working (Rousseau, 2005; Rousseau et al., 2006). Yet, while the first perspective has received considerable attention in earlier studies (e.g. Gobeski and Beehr, 2009), little research has addressed the second perspective. To provide a first step towards addressing this gap in contemporary knowledge, this study specifically investigates the second theoretical perspective on motivation to continue working, by introducing I-deals as crucial factors.

## THE ROLE OF I-DEALS IN MOTIVATION TO CONTINUE WORKING

I-deals are idiosyncratic negotiated agreements between an individual employee and the organization, rather than that the terms of employment are a priori fully set by the employer (Rousseau et al., 2006). The content of I-deals is heterogeneous among employees, meaning that employees may have negotiated different I-deals with the same employer. When the content of an individual arrangement becomes the standard for all employees in an organization, it is regarded as an HR-practice rather than an I-deal (Rousseau, 2005). I-deals benefit both employee and employer; the employer may offer I-deals to attract or retain employees, and the employees' contract terms become more aligned towards personal preferences (Rousseau et al., 2009).

Theoretically, the effects of I-deals on employee outcomes have been explained using social exchange theory, and in particular the norm of reciprocity (Blau, 1964; Gouldner, 1960). According to social exchange theory, when an employee and an employer commit to each other in an exchange relationship, reciprocal obligations between the two parties drive the behaviours of the two parties. I-deals serve as a basis for reciprocity between the employee and the organization, because the mutual obligations that have been agreed upon strengthen the employment relationship. More specifically, the organization negotiates with the employee a certain arrangement, and in return, the employee becomes more attached to the organization (Hornung et al., 2008; Ng and Feldman, 2009), has a more favourable relationship with the organization (Rousseau et al., 2009), and contributes to a higher degree (Hornung et al., 2008).

Accordingly, we propose that negotiation of I-deals with employees constitutes a crucial organizational intervention to increase employee motivation to continue working. As stated above, according to the second theoretical perspective stemming from personality research (e.g. Caspi et al., 2005; Van Lieshout, 2000, 2006), people increasingly differ in their preferences for work arrangements. This implies that appropriate interventions to influence workers' motivation to continue working will not only consist of general HR-practices, but also of opportunities to negotiate I-deals (Armstrong-Stassen and Ursel, 2009; Bal and Kooij, 2011). I-deals facilitate employees to arrange their work in line with their personal situation. For instance, when an employee engages in family care for an older parent, flexibility I-deals ensure that a balance is maintained between obligations of work and private life. Because a better person–organization fit is established through I-deals, people may be able and motivated to continue working for a longer time as they have experienced that the organization is willing to 'deal' with their individual needs (Hornung et al., 2008). Moreover, I-deals have a symbolic value to the employee, since it is a proof that the organization takes an

interest in its employees, thus increasing organizational attachment in the long run (Ng and Feldman, 2009).

I-deals vary in content, but previous research has shown that the most prevalent I-deals are aimed at either flexibility in work schedule or developmental opportunities (i.e. training and career development; Hornung et al., 2008; Rosen et al., 2011). In contrast to the common assumption that I-deals are a single concept, a distinction can be made between 'hard' I-deals (i.e. flexibility in work hours), and 'soft' I-deals (i.e. development; Hornung et al., 2008). Hard I-deals are stable, concrete agreements which have broadly shared meaning, and are objectively measurable (e.g. working hours). For these hard I-deals, fixed metrics (i.e. number of hours worked) can be used to implement and track the negotiated I-deal. On the other hand, development I-deals are softer as they are more particularistic and abstract in the sense that the perception of development is different in meaning for each employee (Rousseau et al., 2009). The soft I-deals thus derive their value from the relationship between the giver and receiver (Rousseau et al., 2009). They are more subjective in nature and therefore are likely to need a supportive environment to be effective (Rousseau, 2005). Below, we will address how both types of I-deals relate to motivation to continue working.

First, flexibility I-deals may enhance motivation in line with the work adjustment model; through negotiation of personalized work schedules and flexibility in tasks, greater correspondence is achieved between the employees' abilities and the requirements of the job (Baltes et al., 1999). Through adaptation of the job requirements towards individual abilities, employees are able to fulfil their job role for a longer time, and hence, greater attachment is achieved through which motivation to continue working is enhanced. For instance, employees can achieve a better work-family balance in the long run through flexibility I-deals as these types of I-deals give them the opportunity to more flexibly divide their time between work and family obligations.

Second, development I-deals motivate and reward high performance (Hornung et al., 2008). Through development, including training and special opportunities for skill development, employees may enhance their own performance and commitment to the organization, and therefore will be motivated to continue working in the organization. Through development, employees can engage in interesting and challenging new tasks in their work, even when they get older. Correspondingly, Hornung et al. (2008) found positive relations between development I-deals and commitment to the organization. In sum, both types of I-deals can be expected to be positively related to motivation to continue working:

*Hypothesis 1:* (a) Flexibility I-deals and (b) development I-deals are positively related to motivation to continue working after retirement.

## THE ROLE OF UNIT CLIMATE IN CONTINUING WORKING

Even though previous researchers of both I-deals (Rousseau et al., 2006), and working after retirement (Armstrong-Stassen and Schlosser, 2008) have pointed towards the importance of investigating contextual factors that influence effects of I-deals on working after retirement, there have been no empirical investigations yet. This is surprising, given

that prior research into the effects of HR-interventions has indicated that for management practices, such as I-deals, to have an effect, an appropriate organizational climate is necessary (Bowen and Ostroff, 2004; Ngo et al., 2009). For instance, the implementation of development practices needs a climate consisting of support, commitment, and justice to positively contribute to performance and retention (Armstrong-Stassen, 2008; Kuvaas, 2008). Moreover, research has suggested that employee behaviour is particularly influenced by the values and norms that are prevalent in that part of the organization that is most proximal to the employee (Naumann and Bennett, 2000). We therefore expect that successful implementation and execution of I-deals is determined by whether the unit climate fits to the I-deals.

Unit climate is the separate geographical entity within a larger organization (Takeuchi et al., 2009) and is defined as the shared perceptions, by employees within the unit, of the policies, practices, and procedures that a unit rewards, supports, and expects (Naumann and Bennett, 2000; Schulte et al., 2006). Unit climate is primarily shaped by colleagues, HR practices, organizational culture, and leadership from managers within the units (Bowen and Ostroff, 2004; Schulte et al., 2006). Unit climate is different from I-deals, such that the latter refers to idiosyncratic agreements actually made between an individual employee and employer, whereas climate consists of shared views, feelings, and opinions of people within a unit about, for instance, how older workers are treated in general (Armstrong-Stassen and Schlosser, 2008; Rousseau, 2005).

We distinguish two types of unit climate in relation to continued working, namely older workers' accommodative and development climate (Armstrong-Stassen and Schlosser, 2008; Kooij, 2010). These two types of climate are based on two dominant streams in the aging literature, namely disengagement theory and activity theory (Charles and Carstensen, 2010). *Disengagement theory* proposes that with increasing age, older people withdraw from their role in society and work as they symbolically prepare for retirement and, ultimately, death (Adams, 1999; Cumming and Henry, 1961; Kanfer and Ackerman, 2004); this view has been challenged by researchers in the field of gerontology (Atchley, 1989; Havighurst, 1961; Oerlemans et al., 2011), who advocate *activity theory*. This theory proposes that into old age, people remain active in many areas such as emotional relationships and work (Charles and Carstensen, 2010; Havighurst, 1961; Kanfer and Ackerman, 2004). This perspective holds that aging workers, unlike the popular belief, may desire to remain active in work, even after their retirement (Gobeski and Beehr, 2009). According to this view, organizations can, and should, therefore use the experience and knowledge of younger and older workers alike.

The climates for older workers in organizations can be classified along these theoretical dimensions of the aging process: drawing from disengagement theory it can be expected that an accommodative climate encourages gradual withdrawal from work demands to prepare aging workers for retirement (see, e.g. Dikkers et al., 2004; Friede et al., 2008; Kooij, 2010; Ngo et al., 2009; Remery et al., 2003). In line with the logic of activity theory, a development climate stresses continuous development of employees, such that employees and their organizations improve their functioning and performance (Armstrong-Stassen and Schlosser, 2008; Kraimer et al., 2011). It reflects the degree to which, according to unit employees' shared perceptions, jobs for older workers are designed to promote continuous learning and provide flexibility for acquiring new

knowledge and skills (Armstrong-Stassen and Schlosser, 2008). It is similar to Kraimer et al.'s (2011) very recent investigation of organizational support for development, although the latter refers to development the organization offers, while the current focus is on the climate within a *unit*.

We expect that accommodative and development climate are particularly relevant with respect to the effectiveness of I-deals and the motivation to continue working, because the unit environment largely influences whether older workers are encouraged to withdraw from work or whether they are encouraged to develop themselves (Wang et al., 2008). This distinction has also been made in previous research; Yeatts et al. (2000) distinguished a depreciation model (cf. an accommodative climate) and a conservation model (cf. development climate), which may coexist, depending on how managers in a unit enforce the two climates. Consequently, the effects of I-deals on motivation to continue working may be contingent upon the climate in a unit, such that it strengthens (development climate) or inhibits (accommodative climate) the effectiveness of I-deals.

When an accommodative climate is prevalent, workers are in general encouraged to disengage from their work when they become older, turning them possibly into more passive and less valued employees rather than treating them as fully active and contributing coworkers (Greller and Stroh, 2004). Many employers may have the stereotypical view that older workers are looking forward to retirement, while in fact many older workers would be willing to work after retirement (Greller and Stroh, 2004; Posthuma and Campion, 2009). Hence, when an accommodative culture prevails, it limits individual deals for continued working. Consequently, high accommodative climate reduces the positive relations of I-deals with motivation to continue working. In an accommodative climate, employees feel the pressure to disengage and retire early, rather than to stay in the workforce. This diminishes the positive relation of negotiated I-deals with motivation to continue working. Hence, even though individuals may have negotiated I-deals, a higher accommodative climate hinders the realization of such I-deals for the older employees and indicates to younger employees that their I-deals will become equally less effective in the future. Therefore:

*Hypothesis 2:* Accommodative climate moderates the relationship between (a) flexibility I-deals and (b) development I-deals and motivation to continue working after retirement, with a weaker relationship when accommodative climate is high.

In contrast to Hypothesis 2, we expect that when a development climate is present relations between I-deals and motivation to continue working become more positive. Theoretically, consistency in the HRM system creates a strong situation, where employees know what the expectations of the organization are, increasing their ability and motivation to perform (Bowen and Ostroff, 2004; Riordan et al., 2005). When various aspects of the climate in an organization, HR practices, and managerial behaviour are in line with each other, employees will feel more committed to perform well. Schulte et al. (2009) found that consistency in organizational climate was indeed related to more positive outcomes. Likewise, if I-deals and unit climate are consistent, such that they both encourage employees to develop themselves, employee motivation will be enhanced. In

an older workers' development climate, employees are encouraged to develop themselves through learning new things and by using their experience, knowledge, and capacities (Armstrong-Stassen and Schlosser, 2008). In such a climate, older workers are seen as valuable members of the organization, who contribute equally to organizational effectiveness, and are encouraged to stay active in the organization through development and learning. Such a climate will make it possible to unleash the positive potential of I-deals, by broadening the scope of the opportunities for older workers and indicating to younger workers that they will remain important when they get older. Therefore, we expect that a development climate will enhance the relationships of I-deals with motivation to continue working. In sum, we expect the following:

*Hypothesis 3:* Development climate moderates the relationship between (a) flexibility I-deals and (b) development I-deals and motivation to continue working after retirement, with a stronger relationship when development climate is high.

## METHOD

### Participants and Procedure

Participants worked at two health-care organizations in the south of The Netherlands. The organizations provided elderly care, and jobs included primarily care, nursing, and treatment. In The Netherlands, during the study, the topic of postponing retirement received increased attention by both government and organizations. At the time of the study, 67 per cent of the population between 15–65 years in The Netherlands is employed (Dutch Central Bureau for Statistics; CBS, 2010). This percentage is higher for men than women (74 vs. 60 per cent). The percentage of employed women decreases with age: between 35–45 years, 74 per cent is employed; between 45–55 years, 69 per cent; and between 55–65 years, 36 per cent. The percentage of employed men is consistently higher than the percentage of employed women, yet also decreases with age: between 35–45 years, 91 per cent is employed; between 45–55 years, 88 per cent; and between 55–65 years, 61 per cent.

The two organizations consisted in total of 24 units (14 units in organization A, and 10 units in organization B), which until 2005/2006 operated as smaller separate organizations. The units consisted of geographically separate locations of the health-care organizations; 2000 employees were invited to fill out an anonymous paper-and-pencil questionnaire in October 2009. The research was part of an employee satisfaction survey, which was directly distributed to employees by unit managers to increase participation. Employees had the possibility to fill out the questionnaire during working time, and return it through post-boxes at the locations. Confidentiality was guaranteed by the researchers; it was stated that individual responses would never be reported and remained the property of the researchers. In total, 1083 employees filled out the questionnaire (response rate 54 per cent). Their mean age was 42 years. There were few employees older than 60, because of existing early retirement options for older workers, through which retirement was possible at the age of 62. Among the respondents, 10 per cent had a supervisory position, 82 per cent had finished vocational education, and 18

per cent had obtained a college degree or higher. Seventy-one per cent of the respondents were medical staff, 27 per cent worked as support staff, and 2 per cent were higher-level managers. On average, respondents worked for 11 years ( $SD = 8.42$ ) for the organization or a predecessor of the current organization. Statistical comparisons showed that the samples are representative for the total population working for the organizations.<sup>[1]</sup> The 1083 employees worked in 24 separate units, with on average 94 employees working in each unit, ranging from 29 to 307 employees within a unit.

## Measures

We used existing and validated scales to measure the constructs under study. Unless stated otherwise, all measures were assessed using a 5-point scale (1 = strongly disagree; 5 = strongly agree). All surveys were in Dutch, and scales were translated and back-translated by a native English speaker (Brislin, 1970).

I-deals were measured with scales from Hornung et al. (2008). Respondents rated the extent to which they had 'asked for and successfully negotiated individual arrangements different from their peers' in terms of flexibility and development. Flexibility I-deals included three items: 'flexibility in starting and ending the working day', 'individually customized work schedule', and 'flexibility in work-related tasks'. Reliability for this scale was 0.82. Development I-deals were measured with four items: 'training opportunities', 'special opportunities for skill development', 'career development', and 'challenging performance goals'. Reliability for this scale was 0.89.

Older workers' accommodative and developmental climates were assessed with scales developed by Kooij (2010), which were based on previous research on supportive climates (Armstrong-Stassen and Schlosser, 2008; Dikkers et al., 2004). Accommodative climate items were constructed based on research on accommodative practices, cultures, and stereotypes about older workers (Abraham and Hansson, 1995; Dikkers et al., 2004; Friede et al., 2008; Gaillard and Desmette, 2008), and focus on accommodating older workers in a process of gradual withdrawal from the workforce. Items for development climate were based on previous research on this topic (Armstrong-Stassen and Schlosser, 2008; Maurer et al., 2003), and focus on encouragement to use skills and knowledge of older workers, and to develop older workers.

Accommodative climate was assessed with four items: 'In this unit, older workers are accommodated (e.g. through extra leave and special arrangements for older workers)'; 'In this unit, older workers are encouraged to retire early'; 'My direct supervisor encourages older workers to carry out less demanding tasks'; and 'My direct supervisor encourages older workers to retire early'. Reliability for the scale was 0.85.

Development climate was assessed with six items; three items aiming at the unit and three items aiming at the direct supervisor: 'In this unit, older workers are developed and encouraged to learn new things'; 'In this unit, the existing experience, knowledge and capacities of older workers are used'; 'In this unit, older workers are encouraged to maintain and polish their skills'; 'My supervisor encourages older workers to develop and to learn new things'; 'My supervisor uses the existing experience, knowledge and capacities of older workers'; and finally 'My supervisor encourages older workers to maintain and polish their skills'. Reliability for this scale was 0.72.

Because unit climate is assumed to be a construct that is shared by members of a unit, ANOVA, ICC1, and ICC2 were calculated for these scales to assess whether the data met the statistical criteria for aggregating the measures (Van Mierlo et al., 2009). Between-unit variance was significant for both accommodative climate ( $F(1059, 23) = 2.24, p < 0.001$ ) and development climate ( $F(1059, 23) = 3.04, p < 0.001$ ). Moreover, ANCOVA with unit size as covariate produced similar results, both of these analyses indicating significant differences in both accommodative and development climate among the units. ICC1 and ICC2 for accommodative climate were 0.05 and 0.65, respectively. Moreover, ICC1 and ICC2 for development climate were 0.06 and 0.76, respectively. Furthermore, we calculated  $r_{wgS}$  (LeBreton and Senter, 2008), which obtained a mean of 0.84 and a median of 0.86 for accommodative climate, and a mean of 0.86 and a median of 0.89 for development climate. The ICC1s are lower than recommended (LeBreton and Senter, 2008), yet researchers have argued that low scores for ICC1 are not problematic when the sample is large, and when the other statistics fulfil their statistical criteria (Van der Voorde et al., 2010). Moreover, many studies have reported similar ICC scores for related constructs, such as De Jong et al. (2005), Snape and Redman (2010), Van der Voorde et al. (2010), and Zhang et al. (2011). Because between-unit variance scores ( $F$ -tests) were significant, ICC2s were beyond the cut-off scores of 0.50, and  $r_{wgS}$  were beyond 0.80 (LeBreton and Senter, 2008; Van Mierlo et al., 2009) we decided that there was enough evidence to justifiably aggregate the data for these two scales to the unit level by taking the mean within each unit (Klein et al., 2000).

Motivation to continue working was measured with the three-item scale from Armstrong-Stassen (2008) which was supplemented with one item. Four items measured the extent to which the respondent was motivated to work after the retirement age, which is 63 years within the health-care sector in The Netherlands. The items include: 'Barring unforeseen circumstances, I would remain working as long as possible'; 'If I were completely free to choose, I would prefer to continue working after my retirement age'; 'I expect to continue working as long as possible after my retirement age'; and finally 'I am highly motivated to continue working after my retirement age' (i.e. the supplemented item). Armstrong-Stassen (2008) found a Cronbach's alpha of 0.85. Reliability for the current scale was 0.96.

### Control Variables

In the analyses, we controlled for the effects of age, gender, education, job level, health, unit size, and organization. We controlled for these factors, since they may influence the decision whether or not to continue working after retirement (Adams, 1999; Adams et al., 2002; Armstrong-Stassen, 2008; Talaga and Beehr, 1995; Topa et al., 2009). For instance, Adams (1999) found that age was negatively related to retirement intentions; older workers planned to retire at a later age. Age was measured as a continuous variable ( $M = 42.03$ ;  $SD = 11.56$ ). We also controlled for gender as it has also been found to correlate with retirement decisions (Reitzes et al., 1998; Talaga and Beehr, 1995). Gender was measured as follows: 1 = male, 2 = female. Financial status has been found to be related to retirement (Wang et al., 2008) and, given that we could not obtain data on each employee's financial situation directly due to privacy concerns, we assessed it

with two proxies: educational level and job level. Both proxies are associated with income and financial status (Wolff and Moser, 2009). Educational level was measured as the highest completed form of education on a 7-point scale, ranging from 1 = primary school, to 7 = university degree or higher. Job level was measured by asking whether the employee had a supervisory position (0 = no; 1 = yes). We also controlled for health by asking respondents how healthy they were compared to their colleagues (1 = much less to 5 = much more). Finally, we controlled for organization (a dummy variable) and unit size (i.e. the number of employees working in the unit), which we collected through company records.

## Analysis

The study provided data at the 'person level' (e.g. I-deals), as well as at the higher 'unit level' (i.e. the climate scales). The person-level data were nested within the units and the two organizations. Because these observations are interdependent, ordinary least square regression analysis does not suffice which means that higher level structured analysis is required (Hox, 2002). The best way to analyse such data is by means of multi-level analysis using the hierarchical linear modelling approach, with individuals nested in units, and controlling for organization (Hox, 2002). To test the model, MLWin 2.20 was used (Rasbash et al., 2000). The independent variables were grand-mean centred, and we used random intercept modelling. A staged approach was used to build equations for the dependent variables. First, an intercept-only model was created, after which control variables, independent variables, and cross-level interactions were added to the equations in separate models. For significant interactions, following recommendations of Preacher et al. (2006) for calculation of interaction effects with cross-level interactions, we calculated regions of significance for the moderator effects to ascertain at which values of the moderator the slopes were significantly different from the mean slope. Moreover, we calculated and plotted simple slopes for one standard deviation below and above the mean of the moderator (Aiken and West, 1991; Preacher et al., 2006).

To assess whether multi-level analysis was the appropriate statistical technique for the current study, an intercept-only model was compared with a model with a fixed random part for level 2, which is similar to an ordinary least squares regression analysis (Hox, 2002). The deviance statistics for the intercept-only model were significantly lower than the fixed level 2 random part model ( $\Delta -2 \times \log = 4.892$ ,  $df = 1$ ,  $p < 0.05$ ). The percentage of the total variance explained in motivation to continue working at level 2 was 3 per cent. Although not a very high percentage, the analyses indicated that a model including the level 2 predictors fits the data significantly better. Therefore, it was deemed appropriate to conduct multi-level analyses (Klein et al., 2000).

## RESULTS

We conducted two tests for the possible existence of common method variance (CMV; Lindell and Whitney, 2001). First, we conducted a confirmatory factor analysis (CFA) to assess the factor structure of the five multi-item measures under study. For the CFA, we used the disaggregated items of the climate scales and used Lisrel 8.72 (SEM; Jöreskog

Table I. Results of scale analyses using confirmatory factor analysis

<i>Model</i>	$\chi^2$	<i>df</i>	$\Delta\chi^2$	$\Delta df$	<i>RMSEA</i>	<i>SRMR</i>	<i>NNFI</i>	<i>GFI</i>	<i>CFI</i>
5-factor	893.36***	173	Baseline model		0.062	0.051	0.96	0.93	0.97
4-factor <sub>a</sub>	1,289.66***	178	396.30***	5	0.075	0.060	0.94	0.90	0.95
4-factor <sub>b</sub>	1,400.08***	178	503.72***	5	0.079	0.061	0.94	0.89	0.95
3-factor	1,736.66***	180	843.30***	7	0.089	0.069	0.92	0.87	0.93
1-factor	8,006.04***	183	7,112.68***	10	0.200	0.170	0.61	0.59	0.66

*Notes:* 5-factor: flexibility I-deals, development I-deals, accommodative climate, development climate, motivation to continue working.

4-factor<sub>a</sub>: I-deals (flexibility and development), accommodative climate, development climate, motivation to continue working.

4-factor<sub>b</sub>: flexibility I-deals, development I-deals, climate (accommodative and development), motivation to continue working.

3-factor: I-deals, unit climate, motivation to continue working.

1-factor: all items loading on one factor.

\*\*\*  $p < 0.001$ .

and Sörbom, 2005). The results of the CFA are shown in Table I. A 5-factor model (flexibility I-deals, development I-deals, accommodative climate, development climate, and motivation to continue working) reached good fit ( $\chi^2 = 893.36$ ,  $df = 173$ ,  $p < 0.001$ ;  $RMSEA = 0.062$ ;  $SRMR = 0.051$ ;  $NNFI = 0.96$ ;  $GFI = 0.93$ ;  $CFI = 0.97$ ). Standardized coefficients of the factor loadings were significant and above 0.60. The fit of the 5-factor model was significantly better than an alternative 4-factor model where I-deals were constrained to load on one factor ( $\Delta\chi^2 = 396.30$ ,  $\Delta df = 5$ ,  $p < 0.001$ ). Moreover, the 5-factor model fit was also significantly better than another alternative 4-factor model in which the two climate measures were constrained to load on one factor ( $\Delta\chi^2 = 503.72$ ,  $\Delta df = 5$ ,  $p < 0.001$ ), as well as to a 3-factor model (I-deals, Unit Climate, Motivation to Continue Working;  $\Delta\chi^2 = 843.30$ ,  $\Delta df = 7$ ,  $p < 0.001$ ). Finally, our 5-factor model fitted significantly and substantially better than a 1-factor model, in which all items loaded on one general factor ( $\Delta\chi^2 = 7112.68$ ,  $\Delta df = 10$ ,  $p < 0.001$ ). In sum, the expected factor structure was valid, and results demonstrated that the five measures indeed represented different constructs.

Second, we used the marker variable approach to determine if there was a possible influence of CMV. We used information reported by our respondents on a construct which was theoretically unrelated to at least one other scale in the questionnaire as a marker variable (Lindell and Whitney, 2001), i.e. work engagement (Schaufeli and Bakker, 2004). We expected that work engagement would not be related to accommodative climate, which was the case ( $r = -0.02$ , ns). Because work engagement may be expected to be related to other variables under study, it provides a conservative test for common method variance. Common method variance is more likely to be present if the significant zero-order correlations for the variables in the study decrease their level of significance when the marker variable is partialled out. Conducting these analyses revealed that there were no statistically significant changes in the zero-order correlations when partialling out the marker variable from the correlation matrix. These results

strengthen the conclusion that CMV was not a major concern in our dataset. Combining the results from the CFA and CMV analyses we concluded that our measurement model was robust. We therefore proceeded to conduct our main analyses.

## Descriptive Statistics

Table II presents the means, standard deviations, and correlations among the variables under study, with the individual scales at level 1, and unit size and the two climate scales measured at level 2. Flexibility I-deals ( $r = 0.13$ ,  $p < 0.01$ ) and development I-deals ( $r = 0.09$ ,  $p < 0.01$ ), correlated positively with motivation to continue working. Age was neither significantly related to accommodative climate ( $r = -0.04$ , ns), nor to development climate ( $r = -0.02$ , ns). Finally, accommodative climate was positively correlated with development climate ( $r = 0.38$ ,  $p < 0.01$ ), indicating that there was some coexistence of both accommodative and development climates in the organization.

## Hypothesis Testing

Table III presents the results of the multi-level analyses. Model 4 shows that health was positively related to motivation to continue working ( $\gamma = 0.124$ ,  $p < 0.05$ ) and that flexibility I-deals are, as predicted by Hypothesis 1, positively related to motivation to continue working ( $\gamma = 0.083$ ,  $p < 0.01$ ). Although the correlation between development I-deals and motivation to continue working was significant, development I-deals were not significantly related to motivation to continue working in the multi-level analyses ( $\gamma = 0.034$ , ns). Therefore, Hypothesis 1a was supported and Hypothesis 1b was rejected.

Hypothesis 2 predicted moderating effects of accommodative climate in the relationships between I-deals and motivation to continue working. Model 4 in Table III shows that accommodative climate did not moderate the relationship between flexibility I-deals and motivation to continue working ( $\gamma = 0.028$ , ns). Therefore, Hypothesis 2a was rejected. However, as predicted by Hypothesis 2b, accommodative climate interacted significantly ( $\gamma = -0.106$ ,  $p < 0.01$ ) with development I-deals in relation to motivation to continue working. The graphical representation of the interaction pattern for the moderator at one standard deviation below and above the mean is presented in Figure 2. The slope for low accommodative climate was positive ( $\gamma = 0.105$ ,  $p < 0.05$ ), and the slope for high accommodative climate was negative ( $\gamma = -0.109$ ,  $p < 0.05$ ). Thus, under conditions of a low accommodative climate, development I-deals contribute positively to motivation to continue working, whereas this relation was negative when accommodative climate was high. Both slopes fell outside the region of significance for moderator effects, which ranged from  $\gamma = -0.103$  to  $\gamma = 0.095$ , indicating that both slopes were significantly different from the mean slope of development I-deals with motivation to continue working. Hypothesis 2b was thus supported.

Hypothesis 3 predicted that development climate moderated the relations of I-deals with motivation to continue working. As can be seen in Model 4, development climate did not moderate the relation of flexibility I-deals with motivation to continue working ( $\gamma = -0.027$ , ns). Therefore, Hypothesis 3a was rejected. Yet, in line with Hypothesis 3b, development climate did moderate the relation of development I-deals with motivation

Table II. Means, standard deviations, reliabilities and correlations of the study variables (N = 1083, level 1; k = 24, level 2)

Variable	Level	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1 Age	1	42.04	11.56	-											
2 Gender	1	1.91	-	-0.08*	-										
3 Education	1	3.45	1.44	-0.15**	-0.28**	-									
4 Job level	1	0.10	-	0.13**	-0.26**	0.25**	-								
5 Health	1	3.09	0.52	0.03	-0.04	0.01	0.03	-							
6 Unit size	2	150	0.93	-0.02	-0.01	-0.04	0.00	0.04	-						
7 Organization	2	0.49	-	0.11**	-0.03	-0.00	0.06	0.05	0.30**	-					
8 Flexibility I-deals	1	2.78	1.04	-0.10*	-0.01	-0.06*	0.04	0.03	-0.12**	0.02	(0.82)				
9 Development I-deals	1	2.75	0.93	-0.14**	-0.06	0.05	0.14**	-0.05	-0.03	-0.01	0.45**	(0.89)			
10 Accommodative climate	2	2.67	0.11	-0.04	-0.17**	0.21**	0.02	0.05	-0.18**	-0.27**	0.04	0.02	(0.85)		
11 Developmental climate	2	3.09	0.15	-0.02	-0.04	0.14**	0.05	0.03	0.04	0.23**	-0.04	0.13**	0.38**	(0.72)	
12 Motivation to continue working	1	2.68	0.96	-0.00	-0.03	0.01	0.06	0.07*	0.01	0.07*	0.13**	0.09**	-0.03	0.02	(0.96)

Notes: Reliabilities are reported along the diagonal.  
 Gender: 1 = male; 2 = female. Job level: 0 = non-supervisory; 1 = supervisory.  
 \* p < 0.05; \*\* p < 0.01.

Table III. Multi-level analyses of motivation to continue working on I-deals and unit climate (N = 1083; k = 24)

	<i>Motivation to continue working</i>		
	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
Independent variables	$\gamma$ (SE)	$\gamma$ (SE)	$\gamma$ (SE)
Intercept	2.640 (0.059)***	2.879 (0.843)***	2.816 (0.844)***
Age	-0.025 (0.027)	-0.010 (0.027)	-0.008 (0.027)
Gender	-0.050 (0.109)	-0.051 (0.110)	-0.056 (0.109)
Education	-0.013 (0.023)	-0.004 (0.023)	-0.003 (0.023)
Job level	0.177 (0.107)	0.138 (0.108)	0.138 (0.107)
Health	0.131 (0.058)*	0.130 (0.058)*	0.124 (0.057)*
Unit size	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Organization dummy	0.126 (0.064)	0.087 (0.071)	0.115 (0.071)
Flexibility I-deals		0.093 (0.033)**	0.083 (0.033)**
Development I-deals		0.026 (0.037)	0.034 (0.037)
Accommodative (Acc.) climate		-0.268 (0.322)	-0.253 (0.320)
Development (Dev.) climate		0.155 (0.243)	0.159 (0.243)
Flexibility I-deals * Acc. climate			0.028 (0.038)
Flexibility I-deals * Dev. climate			-0.027 (0.034)
Development I-deals * Acc. climate			-0.106 (0.036)**
Development I-deals * Dev. climate			0.071 (0.033)*
-2 $\times$ log	2,789.761	2,766.371	2,746.822
$\Delta$ -2 $\times$ log	194.231*** <sup>a</sup>	23.390**	20.549***
df	7	5	4
Level 1 intercept variance	0.911 (0.041)	0.899 (0.040)	0.891 (0.040)
Level 2 intercept variance	0.030 (0.006)	0.002 (0.001)	0.001 (0.001)

Notes: <sup>a</sup> Statistical comparison with an intercept-only model 1 (not shown in the table).

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

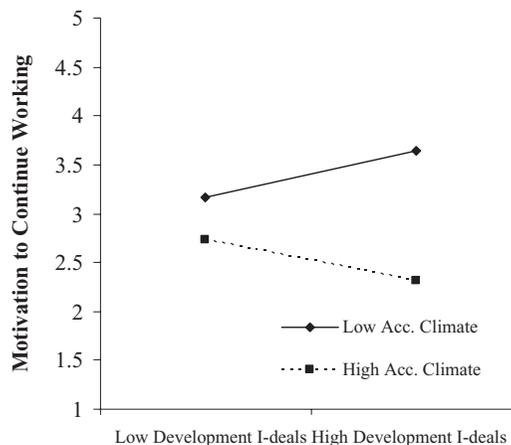


Figure 2. The interaction between development I-deals and accommodative (acc.) climate in relation to motivation to continue working after retirement age

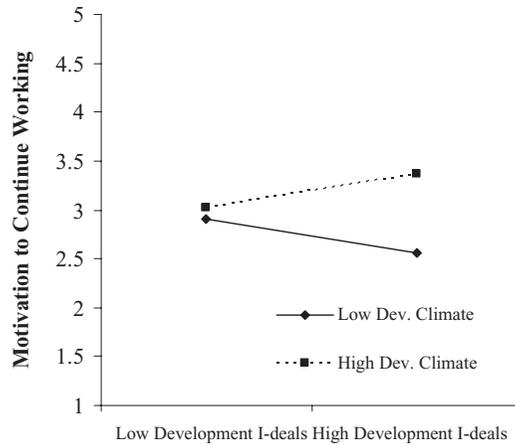


Figure 3. The interaction between development I-deals and development (dev.) climate in relation to motivation to continue working after retirement age

to continue working ( $\gamma = 0.071$ ,  $p < 0.05$ ). Figure 3 presents the interaction effect. The slope for low development climate was not significant ( $\gamma = -0.077$ , ns), and the slope for high development climate was positive and significant ( $\gamma = 0.158$ ,  $p < 0.05$ ). Thus, under conditions of high development climate, development I-deals are positively related with motivation to continue working, whereas this relation was non-significant when development climate is low. In line with these results, the regions of significance ranged from  $\gamma = -0.136$  to  $\gamma = 0.148$ , indicating that mainly at high levels of development climate the relation becomes positive and significant. Consequently, Hypothesis 2b was supported; development climate moderated the relations of development I-deals.

### Supplementary (Post-Hoc) Analyses

Since some studies on predictors of motivation to continue working have been based on older workers (Armstrong-Stassen, 2008; Armstrong-Stassen and Ursel, 2009; Weckerle and Shultz, 1999), we also tested our hypotheses in a dataset with only employees of 50 years or older included ( $n = 361$ ). We performed the same analyses as we did for the total sample. These analyses revealed that age and health were significantly related to motivation to continue working ( $\gamma = 0.063$ ,  $p < 0.001$  and  $\gamma = 0.301$ ,  $p < 0.001$ , respectively). Akin to our main analyses, flexibility I-deals were positively related to motivation to continue working ( $\gamma = 0.73$ ,  $p < 0.05$ ), and development I-deals were not ( $\gamma = -0.045$ , ns). Hence, Hypothesis 1a was supported. We also found support for Hypothesis 2b as accommodative culture did not moderate the relation of flexibility I-deals with motivation to continue working ( $\gamma = 0.075$ , ns), while it did moderate the relation between development I-deals with motivation to continue working ( $\gamma = -0.285$ ,  $p < 0.001$ ). Inspection of the interaction patterns showed a similar interaction effect as shown in Figure 2.

Our supplementary analyses also found support for Hypothesis 3b, as development climate did not moderate the relation between flexibility I-deals and motivation to

continue working ( $\gamma = 0.029$ , ns), while it did moderate the relation between development I-deals with motivation to continue working ( $\gamma = 0.101$ ,  $p < 0.05$ ). The interaction effect was comparable to the one shown in Figure 3. In sum, the analyses with employees of 50 years and older showed very similar results as the analyses of the total sample and we therefore concluded that our results are robust across age groups.

## DISCUSSION

The current study investigated the role of two types of idiosyncratic deals (I-deals) and two types of unit climate in motivating employees to continue working after their retirement age. Multi-level analyses among 1083 employees of 24 health-care units showed that flexibility I-deals contribute to higher motivation to continue working irrespective of the unit work climate. However, for development I-deals to contribute to higher motivation to continue working it is necessary that unit climate is such that older workers are *not* pushed to withdraw from work and retire early (i.e. by means of a high accommodative climate), but are encouraged to develop themselves and use their knowledge and experience (i.e. by means of a low accommodative climate or a high developmental climate).

The study showed that I-deals play an important role in employee motivation to continue working beyond such factors as employee health and income related variables such as education and job level. Although previous research already indicated the importance of such variables as determinants of motivation to continue working, this study is the first to show the value of I-deals in stimulating motivation to continue working. We expect that these findings are useful for many organizations, because both organizations which are able to offer many resources to their employees as well as less wealthy organizations could entice their employees to continue working after retirement by providing them with more I-deals and creating an appropriate work climate.

This study contributes to previous studies that showed that organizational support is an important factor in the retention of older workers (Armstrong-Stassen and Ursel, 2009). These prior studies, however, did not show *how* organizations may support their employees and keep them motivated to stay even beyond retirement age. Our results indicated how, by showing that while flexibility I-deals were directly related to motivation to continue working, development I-deals only had positive effects when the organization supports the employee to use and show the skills that were obtained and learned through developmental opportunities. In an accommodative climate older workers are not encouraged to use new skills or take up new and challenging tasks, and therefore development I-deals only relate positively to motivation to continue working when an accommodative climate is absent or when a development climate is present. Although the correlations between I-deals and motivation to continue working were not very large, the results from our multi-level analyses indicate that these relations may be more complex, as they may be suppressed by a low development climate or a high accommodative climate. In line with activity theory (Havighurst, 1961) and against popular stereotypes, our findings show that older workers can be motivated to continue working if there are I-deals and an appropriate climate.

## Research Implications

The current study has at least four implications for research on continuing working and I-deals. First, the study demonstrated that organizational factors are important in the intention of an employee to continue working (Topa et al., 2009; Wang and Shultz, 2010). Possibilities for employees to negotiate I-deals enhance their motivation to continue working, because workers have different needs and wishes. Possibilities for employees to negotiate I-deals can enhance their motivation to continue working, because these deals can be adapted according to workers' individual needs and wishes (cf. personality development theory; Caspi et al., 2005). For instance, younger workers with a careerist orientation (Rousseau, 1990), or ambitious older workers who want to get another step up on the corporate ladder, might be motivated by development I-deals because it suits their needs for personal treatment and career advancement. Yet, I-deals can also motivate employees, the young and old alike, who desire a better work–life balance. Although previous studies have acknowledged the role of attachment to work to increase motivation to stay (e.g. Armstrong-Stassen, 2008), it had until now remained rather unclear how organizations can increase attachment, such that employees want to stay with the organization beyond retirement age. This study contributes to this research by showing that I-deals can increase the motivation to continue working.

Second, we contribute to the literature on I-deals by showing that research on I-deals should distinguish between different I-deals. Our results demonstrated that developmental (soft) I-deals and flexibility (hard) I-deals each have their own pattern of relationships with motivation to continue working (Hornung et al., 2008; Rousseau et al., 2009). Flexibility I-deals can be regarded as hard, objective, and universal, while development I-deals are soft, particularistic, and subjective. Viewing our results from this perspective it becomes clear that it is harder for employees to manage subjective agreements than those that are objectively measurable and that this is a likely reason why the direct environment (i.e. the work unit) plays such a crucial role in successful implementation of the 'soft' development I-deals and not of the 'hard' flexibility I-deals. Our findings support the notion that hard I-deals are more easily managed since specific agreements are made between an employee and the organization about concrete things, such as the work hours and the tasks in the job. Since hard I-deals imply that the worker is better able to do the present job, they have less effect on coworkers and are also easier to explain to coworkers, increasing the likelihood of acceptance (Rousseau et al., 2006). However, more subjective I-deals, such as agreements about career development and skill development, are more open to varying interpretations by employees and managers, and will also affect coworkers more. As our results have shown, both types of I-deals are related to the motivation to continue working, yet for development I-deals to have a real impact a suitable context is needed. Therefore, researchers should take these differential effects of I-deals into account (cf. Rosen et al., 2011) and scrutinize the individual factors that explain when specific I-deals become important.

Third, we have not only shown that the context is important for certain I-deals (i.e. development I-deals), but also revealed how this context should look by showing the role of two types of unit climate, namely accommodative and developmental climate (e.g. Kooij, 2010). As our results showed, prevalent low accommodative or a high

developmental climate within a unit will have a large influence on whether employees are motivated by I-deals to continue working. These findings contribute to the work unit climate literature (Takeuchi et al., 2009) and HR-practice literature (Snape and Redman, 2010) by not only showing that some unit work climates might be more important for soft I-deals than for hard I-deals, but also by showing that (an accommodative) work climate might actually transform HR-practices which normally should have positive effects, such as developmental I-deals, into HR-practices with negative outcomes. Consequently, our results indicate that when designing HR-practices it is important to investigate the unit climate and, vice versa, that when a unit has a particular work climate, positively meant HR-practices might actually become negative.

Fourth, our results also indicate that a multi-level approach to continued working is necessary, with inclusion of prevailing norms of behaviour for older workers within higher-level structures, such as the work unit (Rousseau et al., 2009). Although theory and research on I-deals explicitly states that the context in which I-deals are negotiated will determine the likelihood of an I-deal being successful or not (Rousseau, 2005), this has been rarely investigated (Lai et al., 2009). This study underlines that it is however important to have such a multi-level perspective, by showing the crucial role of the prevailing climate in a unit.

### **Limitations and Suggestions for Further Research**

One of the limitations of this study is that it was not possible to measure whether employees actually continued to work after their retirement. We measured intention to continue working rather than the actual behaviour of continuing working after retirement. From previous research it is known that although people may have intentions to behave in a certain way, these intentions do not necessarily lead to corresponding behaviours (Fishbein and Ajzen, 1975). At the time of the study, for older workers above 60 years old, the possibilities for continued working were historically rather limited within the health-care sector in The Netherlands, and hence very few people actually worked after their retirement age. However, given the upcoming demographic changes and expected shortages in the labour market as well as the changing labour laws and organizational HR-practices, the respondents were aware of the fact that employees in the future are expected to work longer (Remery et al., 2003). Moreover, for organizations it is important to investigate determinants of motivation to continue working sooner rather than later, since organizations will depend increasingly more on employees who are willing to continue working (United Nations, 2007). Therefore, we deemed it important to investigate the motivation to continue working among employees who still work, because in the not too distant future these employees are the ones who have to choose until which age they want to continue working. However, future research may shed more light on the relationships between age, I-deals, and working after retirement.

Another limitation is the composition of the sample. Because the study was conducted in two health-care organizations, where on average the large majority of employees are female, one must be cautious with generalizing the findings to a more gender equal or male dominated population. However, research has shown that women are likely to retire earlier than men (Reitzes et al., 1998) and official figures support this (CBS, 2010).

Therefore, it might even be more important to increase motivation to continue working among women, to be able to decrease future labour shortages. Moreover, in other sectors, I-deals may be more often used to motivate employees to postpone their retirement and continue working for some years (cf. Hornung et al., 2008). Accordingly, the role of gender and sector in relation to I-deals should be thoroughly investigated in the future.

The cross-sectional nature of our dataset was also a limitation, because it prevents rigorously testing the causality underlying the hypotheses. For instance, it could be argued that those employees who are motivated to work beyond retirement are actively looking for I-deals they can negotiate with their employer. Therefore, it is important that longitudinal or (quasi-) experimental research is conducted among employees before, during, and after they retire, to disentangle the factors that influence their decisions to fully retire or continue working. Given that this is the first study to employ a multi-level perspective on the relations of I-deals with motivation to continue working, we hope to have provided a good starting point from which such future studies can be designed.

Another limitation was that we could not directly control for the effect of financial situation in our analyses. Previous studies have shown that finances are a predictor of retirement intentions (Topa et al., 2009). Although we controlled for proxies of financial situation (through education and job level), future research should investigate the interplay between (individualized) work arrangements and finance in determining employees' motivation to continue working. Furthermore, due to the self-report nature of the study, common method variance could have posed a threat to the validity of the results, because it has been argued that relations can become inflated when the measures are rated by a single source (Lindell and Whitney, 2001), although other research has shown that the impact of CMV on moderated relationships is rather small (Evans, 1985). To test if CMV occurred in our dataset, we used the marker variable analysis technique, which showed that CMV did not influence the results to a large extent. In light of these findings, and given that it is hard to find significant interaction effects in field studies (Evans, 1985), we conclude that our theory and results are meaningful for future research. Yet, we also acknowledge that such future endeavours might benefit from obtaining data from multiple sources.

Another option for future research is to investigate if other types of climate are also important in determining the effectiveness of I-deals. Such research might not only draw from our findings, but also from the work of Armstrong-Stassen and Ursel (2009) who showed that climate for organizational support may be important in influencing older workers' decisions to continue working. Future studies might want to expand on our reasoning and more explicitly consider that in implementing I-deals in organizations, managers face the risk that while negotiating an I-deal with an employee, others, who do not negotiate such I-deals, may feel treated unfairly (e.g. Hornung et al., 2008; Lai et al., 2009). Therefore, an important reason why a development unit climate increases the effectiveness of I-deals might be coworker support. Although more research on this is necessary, it seems plausible that such support can be enhanced when organizations openly explain why they negotiate I-deals with employees, and to offer employees who are less likely to ask for I-deals possibilities for I-deal negotiation (Rosen et al., 2011).

Finally, although we have shown that two types of I-deals are important in long-term retention of employees, future research may unravel which other (individualized or organizational-wide) HR-practices are important antecedents of the motivation of employees to stay with their organization after retirement. For instance, previous studies have shown that relational aspects in work become more important for older workers (Bal et al., 2011) and fulfilling these salient needs by having, for example, options to transfer knowledge to younger generations, their motivation to stay could be enhanced. Additionally, future research might also look into other, more specific, options, such as the effects of sabbaticals, which are a particular type of flexibility I-deals (Davidson et al., 2010).

### **Implications for Practice**

The current study has various managerial implications. First, although many governments are changing the legal retirement age, it has been difficult for many organizations to enhance employee motivation to work longer (Remery et al., 2003; Wang and Shultz, 2010). The current study shows that organizations can motivate employees to continue working through offering possibilities for employees to individually negotiate the terms of their employment contract, including the hours they work, career development, training, and the content of their jobs. However, our results have also shown that just creating possibilities for I-deals is not sufficient for employees to be willing to work longer. This study found that 'softer', less tangible, types of these specific individualized HR-practices, need to be matched by an appropriate work climate in order to enhance the attachment to the organization and the motivation to continuing to work. More specifically, we found that a climate where employees are developed and not pushed into retirement is necessary for developmental I-deals to enhance motivation. Leaders in organizations can influence this climate, by stimulating older workers to develop themselves through courses, career counselling, and through adaptation in the content of their work. Managers can ensure a supportive climate through enabling high performance HR-practices (Takeuchi et al., 2009), which create an environment in which employees, regardless of their age, feel supported to continuously develop themselves. Furthermore, leaders can emphasize the importance of having both younger and older workers in the organization, and reduce stereotypical views about older workers' supposed wishes to withdraw from their work roles. Lastly, managers can fulfil an important role in engaging older workers in the organization by, for instance, offering mentoring roles and participation in decision making, and thus use more the knowledge and experience of older workers.

### **CONCLUSIONS**

The main conclusion of this study is that I-deals are important for employee motivation to continue working after retirement. Yet, the results also showed that there are different types of I-deals which have different effects on the motivation to continue working. More specifically, flexibility I-deals can have a positive effect on their own, but developmental I-deals need a high development climate, or a low accommodative climate, to positively affect the motivation to continue working. Based on these findings, we suggest that

organizations seeking to increase the motivation to continue working after retirement, create HR-systems in which I-deals can be negotiated and create, especially for developmental I-deals, supportive climates within each of their work units.

## NOTE

[1] Details are available from the first author.

## REFERENCES

- Abraham, J. D. and Hansson, R. O. (1995). 'Successful aging at work: an applied study of selection, optimization, and compensation through impression management'. *Journal of Gerontology*, **50B**, 94–103.
- Adams, G. A. (1999). 'Career-related variables and planned retirement age: an extension of Beehr's model'. *Journal of Vocational Behavior*, **55**, 221–35.
- Adams, G. A., Prescher, J., Beehr, T. A. and Lepisto, L. (2002). 'Applying work-role attachment theory to retirement decision-making'. *International Journal of Aging and Human Development*, **54**, 125–37.
- Aiken, L. S. and West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. San Francisco, CA: Sage.
- Armstrong-Stassen, M. (2008). 'Organisational practices and post-retirement employment experience of older workers'. *Human Resource Management Journal*, **18**, 36–53.
- Armstrong-Stassen, M. and Schlosser, F. (2008). 'Benefits of a supportive development climate for older workers'. *Journal of Managerial Psychology*, **23**, 419–37.
- Armstrong-Stassen, M. and Ursel, N. D. (2009). 'Perceived organizational support, career satisfaction, and the retention of older workers'. *Journal of Occupational and Organizational Psychology*, **82**, 210–20.
- Atchley, R. C. (1989). 'A continuity theory of normal aging'. *The Gerontologist*, **29**, 183–90.
- Bal, P. M. and 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.
- Bal, P. M., De Lange, A. H., Ybema, J. F., Jansen, P. G. W. and Van der Velde, M. E. G. (2011). 'Age and trust as moderators in the relation between procedural justice and turnover: a large-scale longitudinal study'. *Applied Psychology, An International Review*, **60**, 66–86.
- Baltes, B. B., Briggs, T. E., Huff, J. W., Wright, J. A. and Neuman, G. A. (1999). 'Flexible and compressed workweek schedules: a meta-analysis of their effects on work-related criteria'. *Journal of Applied Psychology*, **84**, 496–513.
- Beehr, T. A. and Bennett, M. M. (2007). 'Examining retirement from a multi-level perspective'. In Shultz, K. S. and Adams, G. A. (Eds), *Aging and Work in the 21st Century*. New York: Psychology Press, 277–302.
- Beehr, T. A., Glazer, S., Nielson, N. L. and Farmer, S. J. (2000). 'Work and nonwork predictors of employees' retirement ages'. *Journal of Vocational Behavior*, **57**, 206–25.
- Blau, P. M. (1964). *Exchange and Power in Social Life*. New York: John Wiley and Sons.
- Bowen, D. E. and Ostroff, C. (2004). 'Understanding HRM-firm performance linkages: the role of "strength" of the HRM system'. *Academy of Management Review*, **29**, 203–21.
- Brislin, R. W. (1970). 'Back-translation for cross-cultural research'. *Journal of Cross-Cultural Psychology*, **1**, 185–216.
- Caspi, A., Roberts, B. W. and Shiner, R. L. (2005). 'Personality development: stability and change'. *Annual Review of Psychology*, **56**, 453–84.
- CBS (2010). *CBS Statline*. Available at: <http://statline.cbs.nl/statweb/?LA=en> (accessed 14 March 2011).
- Charles, S. T. and Carstensen, L. L. (2010). 'Social and emotional aging'. *Annual Review of Psychology*, **61**, 383–409.
- Cumming, E. and Henry, W. E. (1961). *Growing Old: The Process of Disengagement*. New York: Basic Books.
- Davidson, O. B., Eden, D., Westman, M., Cohen-Charash, Y., Hammer, L. B., Kluger, A. N. et al. (2010). 'Sabbatical leave: who gains and how much?'. *Journal of Applied Psychology*, **95**, 953–64.
- De Jong, A., De Ruyter, K. and Lemmink, J. (2005). 'Service climate in self-managing teams: mapping the linkage between team member perceptions and service performance outcomes in a business-to-business setting'. *Journal of Management Studies*, **42**, 1593–620.
- Dijkers, J. S. E., Geurts, S. A. E., Dulk, L., den Peper, B. and Kompier, M. A. J. (2004). 'Relations among work-home culture, the utilization of work-home arrangements, and work-home interference'. *International Journal of Stress Management*, **11**, 323–45.

- Ebner, N. C., Freund, A. M. and 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**, 664–78.
- Evans, M. G. (1985). 'A Monte Carlo study of the effects of correlated method variance in moderated multiple regression'. *Organizational Behavior and Human Decision Processes*, **36**, 305–23.
- Fishbein, M. and Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
- Friede, A., Kossek, E. E., Lee, M. D. and Macdermid, S. (2008). 'Human resource manager insights on creating and sustaining successful reduced-load work arrangements'. *Human Resource Management*, **47**, 707–27.
- Gaillard, M. and Desmette, D. (2008). 'Intergroup predictors of older workers' attitudes towards work and early exit'. *European Journal of Work and Organizational Psychology*, **17**, 450–81.
- Gobeski, K. T. and Beehr, T. A. (2009). 'How retirees work: predictors of different types of bridge employment'. *Journal of Organizational Behavior*, **30**, 401–25.
- Gouldner, A. W. (1960). 'The norm of reciprocity: a preliminary statement'. *American Sociological Review*, **25**, 161–78.
- Greller, M. M. and Stroh, L. K. (2004). 'Making the most of "late-career" for employer and workers themselves: becoming elders not relics'. *Organizational Dynamics*, **33**, 202–14.
- Havighurst, R. J. (1961). 'Successful aging'. *The Gerontologist*, **1**, 8–13.
- Hornung, S., Rousseau, D. M. and Glaser, J. (2008). 'Creating flexible work arrangement through idiosyncratic deals'. *Journal of Applied Psychology*, **93**, 655–64.
- Hornung, S., Rousseau, D. M. and Glaser, J. (2009). 'Why supervisors make idiosyncratic deals: antecedents and outcomes of i-deals from a managerial perspective'. *Journal of Managerial Psychology*, **24**, 738–64.
- Hox, J. (2002). *Multilevel Analysis. Techniques and Applications*. Mahwah, NJ: Erlbaum.
- Johns, G. (2006). 'The essential impact of context on organizational behavior'. *Academy of Management Review*, **31**, 386–408.
- Jöreskog, K. and Sörbom, D. (2005). *Lisrel 8.72*. Chicago, IL: Scientific Software International.
- Kanfer, R. and Ackerman, P. L. (2004). 'Aging, adult development and work motivation'. *Academy of Management Review*, **29**, 440–58.
- Klein, K. J., Bliese, P. D., Kozlowski, S. W. J., Dansereau, F., Gavin, M. B., Griffin, M. A., Hofmann, D. A., James, L. R., Yammarino, F. J. and Bligh, M. C. (2000). 'Multilevel analytical techniques: commonalities, differences, and continuing questions'. In Klein, K. J. and Kozlowski, S. (Eds), *Multilevel Theory, Research, and Methods in Organisations*. San Francisco, CA: Jossey-Bass, 512–53.
- Kooij, T. A. M. (2010). *Motivating Older Workers: A Lifespan Perspective on the Role of Perceived HR Practices*. Unpublished Dissertation, University Amsterdam, VU.
- Kraimer, M. L., Seibert, S. E., Wayne, S. J., Liden, R. C. and Bravo, J. (2011). 'Antecedents and outcomes of organizational support for development: the critical role of career opportunities'. *Journal of Applied Psychology*, **96**, 485–500.
- Kuvaas, B. (2008). 'An exploration of how the employee-organization relationship affects the linkage between perception of developmental human resource practices and employee outcomes'. *Journal of Management Studies*, **45**, 1–25.
- Lai, L., Rousseau, D. M. and Chang, K. T. T. (2009). 'Idiosyncratic deals: coworkers and interested third parties'. *Journal of Applied Psychology*, **94**, 547–56.
- LeBreton, J. M. and Senter, J. L. (2008). 'Answers to 20 questions about interrater reliability and interrater agreement'. *Organizational Research Methods*, **11**, 815–52.
- Lindell, M. K. and Whitney, D. J. (2001). 'Accounting for common method variance in cross-sectional research designs'. *Journal of Applied Psychology*, **86**, 114–21.
- Maurer, T. J., Weiss, E. M. and Barbeite, F. G. (2003). 'A model of involvement in work-related learning and development activity: the effects of individual, situational, motivational, and age variables'. *Journal of Applied Psychology*, **88**, 7070–724.
- Naumann, S. E. and Bennett, N. (2000). 'A case for procedural justice climate: development and test of a multilevel model'. *Academy of Management Journal*, **43**, 881–9.
- Nelson, E. A. and Dannefer, D. (1992). 'Aged heterogeneity: fact or fiction? The fate if diversity in gerontological research'. *The Gerontologist*, **32**, 17–23.
- Ng, T. W. H. and Feldman, D. C. (2009). 'Idiosyncratic deals and organizational commitment'. *Journal of Vocational Behavior*, **75**, 68–81.

- Ngo, H. Y., Foley, S. and Loi, R. (2009). 'Family friendly work practices, organizational climate, and firm performance: a study of multinational corporations in Hong Kong'. *Journal of Organizational Behavior*, **30**, 665–80.
- Oerlemans, W. G. M., Bakker, A. B. and Veenhoven, R. (2011). 'Finding the key to happy ageing: a day reconstruction approach to happiness among elderly'. *Journal of Gerontology: Psychological Sciences*. DOI 10.1093/geronb/gbr040.
- Posthuma, R. A. and Campion, M. A. (2009). 'Age stereotypes in the workplace: common stereotypes, moderators, and future research directions'. *Journal of Management*, **35**, 158–88.
- Preacher, K. J., Curran, P. J. and Bauer, D. J. (2006). 'Computational tools for probing interaction effects in multiple linear regression, multilevel modeling, and latent curve analysis'. *Journal of Educational and Behavioral Statistics*, **31**, 437–48.
- Rasbash, J., Browne, W., Healy, M., Cameron, B. and Charlton, C. (2000). *Mlwin (Version 2.1): Interactive Software for Multilevel Analysis*. London: Multilevel Models Project, Institute of Education, University of London.
- Reitzes, D. C., Mutran, E. J. and Fernandez, M. E. (1998). 'The decision to retire: a career perspective'. *Social Science Quarterly*, **79**, 607–19.
- Remery, C., Henkens, K., Schippers, J. and Ekamper, P. (2003). 'Managing an aging workforce and a tight labor market: views held by Dutch employers'. *Population Research and Policy Review*, **22**, 21–40.
- Riordan, C. M., Vandenberg, R. J. and Richardson, H. A. (2005). 'Employee involvement climate and organizational effectiveness'. *Human Resource Management*, **44**, 471–88.
- Rosen, C. C., Slater, D. J., Chang, C. H. and Johnson, R. E. (2011). 'Let's make a deal: development and validation of the ex post I-deals scale'. *Journal of Management*. DOI: 10.1177/0149206310394865.
- Rousseau, D. M. (1990). 'New hire perceptions of their own and their employer's obligations: a study of psychological contracts'. *Journal of Organizational Behavior*, **11**, 389–400.
- Rousseau, D. M. (2005). *I-Deals: Idiosyncratic Deals Employees Bargain for Themselves*. New York: M.E. Sharpe.
- Rousseau, D. M., Ho, V. T. and Greenberg, J. (2006). 'I-deals: idiosyncratic deals in employment relationships'. *Academy of Management Review*, **31**, 977–94.
- Rousseau, D. M., Hornung, S. and Kim, T. G. (2009). 'Idiosyncratic deals: testing propositions on timing, content, and the employment relationship'. *Journal of Vocational Behavior*, **74**, 338–48.
- Schaufeli, W. B. and Bakker, A. B. (2004). 'Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study'. *Journal of Organizational Behavior*, **25**, 293–315.
- Schulte, M., Ostroff, C. and Kinicki, A. J. (2006). 'Organizational climate systems and psychological climate perceptions: a cross-level study of climate-satisfaction relationships'. *Journal of Occupational and Organizational Psychology*, **79**, 645–71.
- Schulte, M., Ostroff, C., Shmulyian, S. and Kinicki, A. (2009). 'Organizational climate configurations: relationships to collective attitudes, customer satisfaction, and financial performance'. *Journal of Applied Psychology*, **94**, 618–34.
- Shultz, K. S., Morton, K. R. and Weckerle, J. R. (1998). 'The influence of push and pull factors on voluntary and involuntary early retirees' retirement decision and adjustment'. *Journal of Vocational Behavior*, **53**, 45–57.
- Snape, E. and Redman, T. (2010). 'HRM practices, organizational citizenship behaviour, and performance: a multilevel analysis'. *Journal of Management Studies*, **47**, 1219–47.
- Takeuchi, R., Chen, G. and Lepak, D. P. (2009). 'Through the looking glass of a social system: cross-level effects of high-performance work systems on employees' attitudes'. *Personnel Psychology*, **62**, 1–29.
- Talaga, J. A. and Beehr, T. A. (1995). 'Are there gender differences in predicting retirement decisions?'. *Journal of Applied Psychology*, **80**, 16–28.
- Topa, G., Moriano, J. A., Depolo, M., Alcover, C. M. and Morales, J. F. (2009). 'Antecedents and consequences of retirement planning and decision-making: a meta-analysis and model'. *Journal of Vocational Behavior*, **75**, 38–55.
- United Nations (2007). *World Economic and Social Survey 2007: Development in an Ageing World*. New York: United Nations.
- Van der Voorde, K., Paauwe, J. and Van Veldhoven, M. (2010). 'Predicting unit performance using employee surveys: monitoring HRM-related changes'. *Human Resource Management Journal*, **20**, 44–63.
- Van Lieshout, C. F. M. (2000). 'Lifespan personality development: self-organising goal-oriented agents and developmental outcome'. *International Journal of Behavioral Development*, **24**, 276–88.
- Van Lieshout, C. F. M. (2006). 'Lifespan development of personality and developmental outcome domains'. *European Journal of Personality*, **20**, 515–24.

- Van Mierlo, H., Vermunt, J. K. and Rutte, C. G. (2009). 'Composing group-level constructs from individual-level survey data'. *Organizational Research Methods*, **12**, 368–92.
- Von Bonsdorff, M. E., Shultz, K. S., Leskinen, E. and Tansky, J. (2009). 'The choice between retirement and bridge employment: a continuity and life course perspective'. *International Journal of Aging and Human Development*, **69**, 79–100.
- Wang, M. and Shultz, K. S. (2010). 'Employee retirement: a review and recommendations for future investigation'. *Journal of Management*, **36**, 172–206.
- Wang, M., Zhan, Y., Liu, S. and Shultz, K. (2008). 'Antecedents of bridge employment: a longitudinal investigation'. *Journal of Applied Psychology*, **93**, 818–30.
- Weckerle, J. R. and Shultz, K. S. (1999). 'Influences on the bridge employment decision among older USA workers'. *Journal of Occupational and Organizational Psychology*, **72**, 317–29.
- Wolff, H. G. and Moser, K. (2009). 'Effects of networking on career success: a longitudinal study'. *Journal of Applied Psychology*, **94**, 196–206.
- Yeatts, D. E., Folts, W. E. and Knapp, J. (2000). 'Older workers' adaptation to a changing workplace: employment issues for the 21st century'. *Educational Gerontology*, **26**, 565–82.
- Zhang, X., Cao, Q. and Tjosvold, D. (2011). 'Linking transformational leadership and team performance: a conflict management approach'. *Journal of Management Studies*, **48**, 1586–611.