

Age-related differences in the relations between individualised HRM and organisational performance: a large-scale employer survey

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The current study aimed to investigate the relationship between individualised HRM practices and several measures of organisational performance, including the moderating role of employee age in these relationships. A large-scale representative study among 4,591 organisations in the Netherlands showed support for the relationships between individualised HR practices with organisational performance. Employee age moderated the relationships between the use of individualised practices and sickness absence and turnover, such that organisations with a high percentage of older workers benefited from work schedule practices, and organisations with high percentage of younger workers benefited from development practices.

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As organisations increasingly stress the importance among employees to be responsible for their own careers (Greenhaus *et al.*, 2010), a growing number of employees have begun to negotiate individual work arrangements with their employers (Rousseau, 2005). Moreover, this trend of individualisation has occurred along with a decrease in collective agreements for employees (De Leede *et al.*, 2004; Glassner and Keune, 2012). Accordingly, academic interest has begun to focus on how employees proactively shape their careers and negotiate individual agreements (Rousseau, 2005; Grant and Parker, 2009; Bal *et al.*, 2012). Studies on idiosyncratic deals, or i-deals, have shown that individuals who proactively negotiate individual agreements become more highly motivated, committed and performing (e.g. Hornung *et al.*, 2008; Anand *et al.*, 2010; Rosen *et al.*, 2013). However, research from an organisational perspective on the increasing individualisation of work is lacking (Taskin and Devos, 2005). This is surprising, given the strong increase in interest on outcomes of individual employee negotiation. It is currently unknown whether this individualisation of HRM actually improves organisational performance.

Studies on the effects of individualisation on the employee level have shown that relationships with outcomes are inconsistent and differ greatly among studies (Hornung *et al.*, 2008, 2010; Bal *et al.*, 2012). We argue that individualisation is primarily beneficial when it is in line with other aspects in the organisation (Delery and Doty, 1996; De Leede *et al.*, 2007), and in particular the number of older workers in an organisation is crucial in determining the effects of individualisation of HRM (Bal *et al.*, 2012, 2013; Kooij *et al.*, 2013). Because workforces are aging throughout the world (Wang and Shultz, 2010), the need for retention of older workers in organisations has become a prominent area of research (Wang and Shultz, 2010). At the same time, it has become more difficult to retain older workers (as well as their expertise and

knowledge) because many older workers leave the workforce early (Wang and Shultz, 2010). Because of the increasing age diversity in the workplace (Schlick *et al.*, 2013), it is imperative that organisations implement practices that allow older workers to maintain their productivity, as performance may be decreasing after the age of 40–45 (Ng and Feldman, 2008). Individualised HRM may facilitate younger and older workers to negotiate individualised agreements to increase or maintain their performance, and hence contribute to overall performance of the organisation.

The objective of this study is to test the effectiveness of individualisation on organisational performance, specifically whether the effectiveness of individualisation depends on the age composition of the organisation. First, we investigate whether the availability and actual use of individualised HRM contributes to organisational performance. Second, the study aims to determine the conditions under which individualisation has the greatest effect on organisational performance by investigating the moderating role of employee age in the organisation. Based on the notion that older workers have different work-related needs from younger workers, we expected differences in the relationships of various types of individualised HRM with organisational performance (Bal *et al.*, 2012; Kooij *et al.*, 2013).

This study contributes to research on individualisation of work arrangements by being the first to investigate the effects of individualisation on organisational-level rather than on individual-level outcomes (Hornung *et al.*, 2008). Demonstrating that individualisation contributes to the bottom line not only furthers our understanding of individualised HRM, but it also investigates the effects of individualisation in a society where collective agreements are slowly disappearing (De Leede *et al.*, 2004). Moreover, the study contributes by investigating the conditions under which individualisation is most effective. We look at the role of the age composition within the organisation, and through this we open up new pathways for research on HRM. Finally, this study contributes to previous research on individualisation through the investigation of a large-scale employer sample (including numerous organisations in different sectors) and thereby obtaining a comprehensive perspective on how individualised HRM influences organisational outcomes.

THEORY AND HYPOTHESES

The individualisation of HRM has become increasingly common in organisations as a result of globalisation, the information economy and the democratisation of the workplace (Taskin and Devos, 2005). Employees are becoming more proactive in looking for opportunities to negotiate individual agreements with their employers (Rousseau *et al.*, 2006; Grant and Parker, 2009), while at the same time organisations are also expecting employees to become more proactive. Consequently, organisations increasingly provide employees with the individual opportunity to negotiate agreements about work arrangements. This differs from the traditional HRM approach, which is fundamentally based on equal treatment of all employees (Boxall and Macky, 2009).

Research on effectiveness of HRM has focused primarily on the universalistic outcomes of high-performance HRM (Delery and Doty, 1996; Boxall and Macky, 2009), based on the assumption that HR practices have a universal effect on motivation and performance among all employees. This high-performance approach to HRM (*e.g.* Kehoe and Wright, 2013) postulates that the more HRM is available in organisations, the higher firm performance will be. However, as Kaufman and Miller (2011) argued, this statement may be oversimplified. A contingency approach, which stresses the idea that HRM should be in line with the goals and the context

of the organisation (Delery and Doty, 1996), may be necessary to understand the consequences of HRM.

Individualised HRM goes beyond the contingency approach by introducing a perspective based on the individual employee rather than the goals of the organisation. While there is some research that shows that HRM should be aligned with the needs of employees (Kinnie *et al.*, 2005; Bal *et al.*, 2013), there is no research that specifically focuses on the *individual* employee as the basis of HRM. The trend of individualisation in organisations is a reflection of a broader societal trend of individualism (Oyserman *et al.*, 2002), indicated by the decline of collective social structures, and a stronger focus on the individual's responsibility for their own welfare and well-being. This has also affected the traditional system of collective bargaining (De Leede *et al.*, 2004), with collective agreements as the basis for HRM practices slowly decreasing (Glassner and Keune, 2012). In response to the decrease in employee protective collective agreements and a decentralisation of bargaining to the individual employee level (De Leede *et al.*, 2004), individualisation has grown significantly as the basis for organisational strategic HRM, and thus individualised HRM has become more common in organisations. Consequently, organisations increasingly allow their managers to make individual agreements with the employees.

We define individualised HRM as an HR system where managers have the opportunity and actually use the opportunity to individually negotiate agreements about work arrangements with individual employees. In the current study, we approach individualised HRM as HR programmes that are implemented as HR practices in an organisation (Arthur and Boyles, 2007). Hence, instead of a standardised approach based on equal treatment of employees, individualised HRM refers to the extent that managers and employees are empowered to negotiate arrangements that fit the specific needs and preferences of the individual employee (De Leede *et al.*, 2004). Individualised HRM includes customised work arrangements or i-deals on issues such as working hours, rewards, training and career development (Rousseau, 2005; Hornung *et al.*, 2009).

Individualised HRM is not a new phenomenon in organisations (Rousseau, 2005), but individual deals have traditionally been negotiated under the radar and thus outside of the organisation's control and agreement. This may have contributed to perceptions of unfairness and cronyism (Brick *et al.*, 2006). Individualised HRM, however, concerns the organisation's explicit approval of individual negotiations of employees with managers as a strategic means of achieving the goals of the organisation (De Leede *et al.*, 2004; Rousseau, 2005). Moreover, individualised HR should be in line with existing law and collective agreements, which every organisation has to adhere to.

Individualised HRM is similar, yet different, from i-deals, or idiosyncratic deals employees negotiate with their employers (Rousseau, 2005; Rousseau *et al.*, 2006). I-deals are negotiations of individual employees with their organisations, and primarily initiated by the employee, while individualised HRM refers to a formalised approach by the organisation to customise work arrangements. Individualised HRM thus makes individualisation of work arrangements available to *all* employees, contributing to higher fairness (Greenberg *et al.* 2004).

We make a further distinction between the *availability* and actual *use* of individualised HRM. This is in line with the strategic HR literature, which distinguishes between HR practices that are available to line managers from the actual use of these practices (*e.g.* Arthur and Boyles, 2007). We apply the same logic to individualised HRM: in the former case, organisations provide leeway for line managers to negotiate if and when employees ask for individual agreements (*i.e.* availability), whereas in the latter, line managers actually use this leeway to

negotiate agreements with employees. Both availability and actual use may influence positive outcomes, although via distinct theoretical processes.

First, the effects of *availability* of individualised HRM on organisational performance can be explained with signalling theory. Signalling theory (Casper and Harris, 2008) proposes that because employees have incomplete information about the organisation's intentions, they use signals from the organisation to draw conclusions about an organisation's intentions and actions. As such, the availability of individualised HRM functions as 'signals' of the organisation's benevolent intentions towards employees (e.g. Takeuchi *et al.*, 2009). Social exchange theory (Blau, 1964) proposes in turn that employees will reciprocate these good intentions through increased commitment to the organisation, and consequently higher performance and retention (Bal *et al.*, 2013).

Second, the effects of the *use* of individualised HRM on organisational performance can be explained using the norm of reciprocity, which is also related to social exchange theory (Gouldner, 1960; Blau, 1964). 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 their behaviour. Individualised HRM serves as a basis for reciprocity between the employee and the organisation because the mutual obligations that have been agreed upon strengthen the employment relationship. More specifically, the organisation negotiates individual deals with employees, and in return, employees become more attached to the organisation (Hornung *et al.*, 2008; Ng and Feldman, 2010) and contribute to a higher degree (Hornung *et al.*, 2008). Hence, the use of individualised HRM in organisations is expected to be positively related to organisational performance. In this study, we adopt a broad conceptualisation of organisational performance that includes three distinct performance indicators: operational performance growth, sickness absence and voluntary employee turnover (Peretz and Fried, 2012).

Individualised HRM practices may entail various types of agreements, but previous research has shown that the most common agreements are aimed at development (*i.e.* training and career development), flexibility in work schedules (*i.e.* working hours) and financial agreements (*i.e.* salary; De Leede *et al.*, 2004, 2007; Rosen *et al.*, 2013). Hence, in this study, we differentiate among development, work schedules and pay arrangements practices, and we expect that these three practices will be differentially related to types of organisational performance. Development practices motivate and reward high performance (Hornung *et al.*, 2008, 2011). Through development, including training and special opportunities for skill development, employees may enhance their own performance. In line with the AMO-model (Appelbaum *et al.*, 2000), development provides employees with the abilities and motivation to perform. Hence, development practices motivate employees to perform but also to stay within the organisation. In line with the norm of reciprocity, when employees receive development, they become more committed to the organisation and hence more likely to stay. Thus, we expect that development practices are related to organisational performance as well as turnover.

Individualised work schedule practices will enhance employee motivation in line with the work adjustment model; through negotiation of personalised work schedules, greater correspondence is achieved between the employees' abilities and the requirements of the job (Baltes *et al.*, 1999). When job requirements are adapted to individual abilities, employees are better able to fulfil their job role; for example, flexible work schedule practices allow employees to arrange their work hours to better align with their personal situation. Consequently, employees are better able to do their job without dropping out (e.g. through burnout), and hence work schedule practices are expected to contribute to lower employee sickness absence.

Previous research has shown that flexible work arrangements indeed tend to reduce absenteeism in organisations (De Menezes and Kelliher, 2011).

Finally, individualised pay practices reflect the economic conditions of a job (Rosen *et al.*, 2013) and signal to employees that the current organisation values and wants to retain them. Pay practices also increase contract unreplicability (Rosen *et al.*, 2013) because the financial benefits of a job can be easily compared with other jobs and hence decrease the likelihood that employees will turnover. Thus, financial practices are expected to be related to lower employee turnover because employers are likely to offer special compensation packages or incentives to their valued employees in order to retain them. In sum, both availability and use of individualised HRM in organisation are expected to be positively related to types of organisational performance. To summarise the arguments above, our first three hypotheses are:

Hypothesis 1: Availability and use of individualised development practices are positively related to (a) performance growth and negatively related to (b) employee turnover.

Hypothesis 2: Availability and use of individualised work schedule practices are negatively related to sickness absence.

Hypothesis 3: Availability and use of individualised pay practices are negatively related to employee turnover.

EMPLOYEE AGE AND EFFECTIVENESS OF INDIVIDUALISED HRM

We argue that the effectiveness of individualised HRM is dependent upon the context and in particular the composition of the employee population (Bal *et al.*, 2013; Kooij *et al.*, 2013). Social exchange theory predicts that the strengths of the effects of social exchanges between employee and organization are determined by the utility employees attach to resources. Accordingly, previous studies have shown that individualised agreements are more likely to produce positive outcomes when they are in line with employee needs (Anand *et al.*, 2010; Bal *et al.*, 2012). We argue that the relationship between the use of individualised HRM and organisational performance will depend upon the extent to which it fits the needs of older workers. We expect this to be the case for *use* of individualised HRM rather than *availability* because the utility of individualised HRM is manifested particularly when workers have actually negotiated agreements with their organisation (Rousseau, 2005).

Lifespan psychology has shown that aging is associated with changes in needs and preferences (Baltes and Baltes, 1990; Kooij *et al.*, 2011). Socioemotional selectivity theory (Carstensen and Mikels, 2005; Carstensen, 2006) has been used extensively in understanding how older people differ from younger people in motivation and behaviour, as well as in explaining the impact of age on work behaviours (Kooij *et al.*, 2011). Socioemotional selectivity theory states that in young adulthood, time is perceived as expansive (Carstensen, 2006). Young people have an open future time perspective and prepare for a long and unknown future, and therefore primarily focus on growth and knowledge-related goals. Older people, however, increasingly experience time as running out. For them, the experience of approaching the end their careers and life causes a shift towards present-related emotional goals over knowledge goals and a focus on emotional well-being (Carstensen and Mikels, 2005). Because younger people have broader time horizons, they prepare for a long and unknown future by learning and seeking growth opportunities. Older people, however, increasingly experience time as running out, and hence perceive less future

in their organisation, causing them to prioritise present-related goals over future-oriented goals.

Moreover, the lifespan selection, optimisation and compensation (SOC)-model of Baltes (1997; Baltes & Baltes, 1990) proposes that throughout life, people experience gains and losses in physical and mental capabilities, and they are in general focused on maximising the benefits of these changes while minimising their losses (Kanfer and Ackerman, 2004). To minimise losses in outcomes due to the losses in abilities aging people experience, they select fewer goals and refrain from learning so that they do not have to spread their diminished resources over too many goals and can thus remain healthy and productive contributors in the organisation (Baltes and Baltes, 1990; Baltes, 1997). Hence, the SOC-model also predicts that while younger workers have higher growth needs, there is a decline in these needs over the lifespan. Older workers cope with age-related losses, such as declines in health, physical capabilities and memory, and become more focused on maintaining what they have and minimising the effects of the losses they experience.

In sum, these lifespan theories suggest that while younger workers are generally more focused on building their careers, learning and growth, older workers employ strategies to cope with age-related losses. Hence, the utility of different types of individualised HR practices will accordingly vary depending on the age of the workers. Individualised pay arrangements and development will be more important for younger workers because these facilitate career growth and learning. Individualised work schedules, however, will be more important for older workers because they facilitate a more flexible way of coping with age-related losses and the demands at work. Thus, the possibility for older workers to negotiate an individualised work schedule with their employer enables them to remain productive and prevents them from higher sickness absence. We expect therefore that in organisations with many older workers, use of individualised work schedules will be more strongly related to performance and sickness absence.

In contrast, we expect individualised development and pay practices to be more important among younger workers (Ebner *et al.*, 2006). Younger workers primarily tend to seek to optimise resources or maximise economic gains and career development, enhancing their status and advancement within their organisation and career (Maurer *et al.*, 2003). Recent meta-analytic work has indeed shown that growth and extrinsic work motives are more important for younger workers than for older workers (Kooij *et al.*, 2011). Extending this logic, we propose that the use of development and pay agreements are more important for younger workers, and hence in organisations with many younger workers, individualised development and pay practices will be more strongly related to performance growth and turnover. Based on the above, we propose the following hypotheses:

Hypothesis 4: Employee age moderates the relationship between use of individualised development practices and (a) performance growth and (b) employee turnover, such that the relation is weaker for organisations with a high percentage of older workers.

Hypothesis 5: Employee age moderates the relationship between use of individualised work schedule practices and sickness absence, such that the relation is stronger for organisations with a high percentage of older workers.

Hypothesis 6: Employee age moderates the relationship between use of individualised pay practices and employee turnover, such that the relation is weaker for organisations with a high percentage of older workers.

METHODS

Sample and procedure

The Netherlands Employers Work Survey (NEWS; Oeij *et al.*, 2011) is a study of employment arrangements in organisations in the Netherlands and was carried out in 2010. NEWS is a representative survey among more than 5,000 for-profit as well as non-profit organisations counting two or more employees. Because the current study was part of a larger study on employer policies and conditions, the survey included various other questions. Therefore, the likelihood of respondents being aware of the aims of the current study would be minimal. The sample selected was a stratified sample based on sector and organisation size. Organisations were approached by mail and telephone to participate in the research at the establishment level. This means that for larger organisations with multiple (regional) establishments, respondents were approached at a lower hierarchical level where they could more accurately judge the actual use of individualised HRM practices. The focus of the current study is thus on the establishment level.

Respondents (company owners, management team members or HR managers) were able to participate through filling out either a paper-and-pencil or a digital questionnaire. It was deemed appropriate to ask company owners or HR managers to act as organisational representatives and to fill out the survey because they would be aware of the policies of their organisation, as well as the extent to which individualised HRM practices would be actually used (Arthur and Boyles, 2007). Moreover, on average the establishments consisted of 161 employees, because of which it is likely that HR managers were able to accurately assess availability and use of HR practices. If they were unaware of the use of individual agreements in their organisation, it would be likely that the existence of these individual agreements was in fact cronyism or favouritism rather than organisationally approved individualised HRM (Rousseau *et al.*, 2006). The initial response was from 5,518 establishments (37 per cent response rate). Three thousand three hundred seventeen (60 per cent) represented independent companies that were not part of a larger firm. One thousand four hundred seventeen responses were based on establishments of Dutch companies or multinational companies (with a foreign owner), and 784 were based on separate head offices of Dutch or multinational companies. There is no indication that one particular organisation was overrepresented in the data set. After deleting participants with missing responses, we obtained a final response of 4,591 organisations (31 per cent response rate). Thirty-eight per cent of the respondents were director or owner, 36 per cent were HR managers, 14 per cent establishment managers and 12 per cent had another function in the organisation. Seventy-one per cent of the organisations were for-profit firms, 22 per cent non-profit and 7 per cent had both for-profit and non-profit activities.

Measures

Individualised HR practices were measured in line with previous research on HRM as well as i-deals (e.g. Casper and Harris, 2008; Hornung *et al.*, 2008, 2009). *Availability of individualised HRM* was measured by asking respondents the extent to which in their organisation different agreements could be made with individual employees. Responses could be provided on a five-point scale (1 = not available at all; 5 = available to a great extent). Availability was measured with one-item scales for development (development/education of employees), work schedules (working hours of employees) and pay arrangements (salary of employees). *Use of individualised HRM* was measured by asking respondents to indicate the extent to which in their organisation supervisors actually negotiated individualised agreements with employees

(1 = not at all; 5 = to a very great extent). Use of individualised HRM was measured with the same items as availability. One-item scales were used because of restrictions on survey length. Even though the reliability of one-item scales could not be assessed in this study, the scales have strong practical relevance to the participants, as individualised HRM was widely acknowledged to be an important topic (Bal *et al.*, 2012).

Organisational performance was conceptualised broadly as the effectiveness of the organisation to perform, ensure employee well-being and retention. It was measured using three indicators. *Performance growth* ($\alpha = 0.72$) was measured through three items referring to performance growth during the last 2 years. We chose performance growth because many organisations from various sectors took part in the study, and objective indicators such as sales rates, profits or ROI are not applicable to every organisation (such as non-profit organisations; Peretz and Fried, 2012). Ratings of organisational performance growth have been estimated as valid and reliable indicators of organisational performance (Gong *et al.*, 2009; Ngo *et al.*, 2009). The items were: 'Over the last two years, the labour productivity in our organisation has . . .', 'The quality of our products and/or services has . . .' and 'the satisfaction of the customers of our organisation has . ..'. Answers could be provided on a five-point scale ranging from 1 = strongly decreased to 5 = strongly increased. *Sickness absence* was measured by asking respondents the percentage of sickness absence during the previous year (2009), excluding pregnancy leave. The mean percentage (M) was 3.51 per cent, [standard deviation (SD) = 3.67]. *Employee turnover* (M = 5.06 per cent, SD = 13.35) was measured by asking the number of contracts that were voluntarily ended by employees themselves during the last year. This number was divided by the total number of employees with a permanent contract in the organisation to obtain the percentage of employee turnover. The moderator *employee age* was measured by indicating the percentage of employees older than 45 years in the organisation (M = 39.6 per cent, SD = 24.78). Forty-five years is generally considered to be the age after which employees are regarded as older workers and from that age experience increasing problems with their (physical) abilities to do their jobs (Kooij *et al.*, 2008; Ng and Feldman, 2008). While there is no strong theoretical cut-off point for distinguishing younger and older workers, age causes gradual changes in how people experience their work (Kooij *et al.*, 2011). In the meta-analysis of Ng and Feldman (2008) on the relationship between age and job performance, it was estimated that the relationship of age with job performance was positive until the age of 40, after which it became negative. Moreover, in the review of Kooij *et al.* (2008), it was shown that the effect of chronological age on work motivation changed after the age of 40–45. Hence, there is a general consensus that after the age of 40–45, people experience age-related changes and perceive changes in their motivation in their work as a result of aging. Moreover, research shows that after the age of 40–45, people have higher risk for work-related diseases (Alavinia *et al.*, 2009).

Control variables

In the analyses, we controlled for a range of factors that could possibly influence the outcome variables (see also Gong *et al.*, 2009; Ngo *et al.*, 2009). Education was measured (using dummy coding) by the percentage of employees who had lower education (M = 30.84 per cent, SD = 31.09 per cent), vocational education (M = 40.46 per cent, SD = 28.54 per cent) and higher education (M = 28.73 per cent, SD = 31.42 per cent). Gender was measured as the percentage of male employees (M = 58.38 per cent, SD = 30.67 per cent). Moreover, we controlled for the percentage of employees with a temporary contract (M = 10.49 per cent, SD = 14.78 per cent) and the percentage of employees working part time (M = 37.89 per cent, SD = 31.74 per cent) to rule out alternative explanations, such as that turnover rates are influenced by the percentage of employees with a temporary contract. Furthermore, we controlled for sector (using dummy

coding; industry/agricultural: 26 per cent; service: 47 per cent; government: 4 per cent; education: 9 per cent; health care: 8 per cent; other sectors: 6 per cent). Finally, we controlled for organisation size because larger firms may have more resources and market power (Gong *et al.*, 2009). Organisation size ($M = 162$, $SD = 546.98$) was measured by the number of employees working for the organisation. For multinational organisations, respondents indicated the number of employees within the Netherlands.

Analysis

Because some of the variables were non-normally distributed, we applied log transformation to the variables education, gender, percentage of temporary employment, percentage of part-time workers, organisation size, percentage of employees above 45 years, sickness absence and employee turnover (Finch *et al.*, 1997). The hypotheses were tested using moderated hierarchical regression analyses. Independent variables were standardised before interactions were calculated (Aiken and West, 1991). In the first step, control variables were added to the model (not shown in table). For categorical variables, we created dummy variables and included these in the analyses. For education, percentage of employees with lower education was the reference group, and for sector we used industry/agricultural as reference group. Subsequently, main effects were added in the second step and in the final step the interactions. We included non-hypothesised main effects (*e.g.* of work schedule and financial practices on performance growth) as well as non-hypothesised interactions to rule out alternative explanations. Significant interactions were plotted with slopes for one SD below and above the mean of the moderator (Aiken and West, 1991). Table 1 shows the correlations among the variables.

RESULTS

Hypothesis 1 predicted that availability and use of individualised development practices would be positively related to performance growth and negatively related to employee turnover. Table 2 shows the results of the hierarchical regression analyses. Both availability ($\beta = 0.079$, $p < 0.001$) and use ($\beta = 0.058$, $p < 0.01$) of individualised development practices were positively related to performance growth. Hence, Hypothesis 1a was fully supported. Both availability and use of individualised development practices for employees are related to stronger performance growth of the organisation. However, availability of individualised development practices was not related to employee turnover ($\beta = 0.003$, *ns*), and use of development practices was also unrelated to employee turnover ($\beta = -0.031$, *ns*). Hence, Hypothesis 1b was rejected.

Hypothesis 2 predicted that availability and use of individualised work schedule practices would be negatively related to sickness-related absence. Availability ($\beta = -0.066$, $p < 0.001$) but not use ($\beta = -0.018$, *ns*) of individualised work schedule practices was negatively related to sickness absence, indicating lower sickness absence in organisations where individualised work schedules are available. Hence, Hypothesis 2 was partially supported. We also found a non-hypothesised relationship between use of work schedule practices with performance growth ($\beta = 0.067$, $p < 0.01$), indicating that organisations with more employees using individualised work schedules obtained higher performance growth.

Hypothesis 3 predicted that availability and use of individualised financial practices would be negatively related to employee turnover. This hypothesis was partially supported; availability ($\beta = -0.045$, $p < 0.05$) but not use ($\beta = 0.041$, *ns*) was related to employee turnover.

Hypothesis 4 predicted that employee age would moderate the relationship between use of individualised development practices and performance growth and employee turnover. Table 2

TABLE 1 Correlations between variables in the study (N = 4591)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Education	40.46	28.54	-																				
1 % vocational education																							
2 % higher education	28.73	31.42	-0.45**	-																			
3 Gender (% men)	58.38	30.67	-0.06**	-0.19**	-																		
4 % temporary employment	10.49	14.78	0.02	-0.04**	-0.12**	-																	
5 % part-time workers	37.89	31.74	0.05**	0.12**	-0.70**	0.20**	-																
Sector																							
6 Service	0.46	-	0.09**	-0.04**	0.07**	0.16**	-0.07**	-															
7 Government	0.04	-	0.01	0.05**	0.02	-0.07**	-0.03*	-0.18**	-														
8 Education	0.09	-	-0.17**	0.37**	-0.20**	-0.02	0.19**	-0.28**	-0.06**	-													
9 Health care	0.08	-	0.09**	0.06**	-0.42**	0.00	0.38**	-0.30**	-0.09**	-													
10 Other sectors	0.06	-	-0.02	0.02	-0.15**	0.04**	0.15**	-0.23**	-0.05**	-0.07**	-0.08**	-											
11 Organisation size (number of employees)	161.63	546.98	-0.02	0.05**	-0.06**	-0.04*	0.06**	-0.06**	0.08**	0.03*	0.14**	-0.02	-										
Availability of individualised HRM																							
12 Development	3.61	0.80	0.02	0.14**	0.23	-0.02	-0.03	0.02	0.02	0.05**	-0.13**	-0.05**	-0.09**	-									
13 Work schedule	3.23	1.02	0.01	0.13**	-0.10**	0.06**	0.15**	0.08**	0.06**	-0.08**	0.03*	0.06**	0.00	0.28**	-								
14 Pay arrangements	2.83	1.09	0.05**	-0.01	0.18**	0.00	-0.19**	0.17**	-0.12**	-0.18**	-0.13**	-0.05**	-0.09**	0.26**	0.38**	-							
Use of individualised HRM																							
15 Development	3.26	0.88	-0.01	0.17**	-0.03*	0.00	0.01	0.02	0.04*	0.07**	0.03	-0.02	0.03*	0.61**	0.18**	0.14**	-						
16 Work schedule	2.97	1.02	0.01	0.07**	-0.09**	0.10**	0.13**	0.09**	0.02	-0.08**	0.06**	0.06**	0.02	0.22**	0.65**	0.26**	0.35**	-					
17 Pay arrangements	2.60	1.07	0.04*	0.01	0.17**	0.02	-0.19**	0.16**	-0.09**	-0.17**	-0.12**	-0.04**	-0.04**	0.22**	0.31**	0.72**	0.29**	0.40**	-				
18 % of employees > 45 years (age)	39.64	24.78	-0.07**	0.05**	-0.00	-0.21**	0.04**	-0.23**	0.11**	0.16**	0.04**	0.03*	0.11**	-0.05**	-0.04**	-0.15**	-0.03*	-0.05**	-0.14**	-			
19 Performance growth	3.46	0.52	0.01	0.11**	-0.10**	0.09**	0.06**	0.04**	-0.01	0.02	0.06**	-0.01	0.02	0.15**	0.13**	0.06**	0.16**	0.15**	0.08**	-0.09**	-		
20 Sickness absence	3.51	3.67	-0.08**	-0.05**	-0.04*	-0.02	0.04*	-0.17**	0.07**	0.05**	0.11**	0.01	0.14**	-0.01	-0.11**	-0.16**	0.01	-0.09**	-0.12**	0.14**	-0.02	-	
21 Employee turnover	5.06	13.35	0.04**	-0.03*	-0.07**	0.25**	0.09**	0.12**	-0.04**	-0.03*	-0.01	-0.01	-0.04**	-0.04**	0.01	-0.01	-0.02	0.05**	0.02	-0.17**	0.01	-0.02	-

* p < 0.05, ** p < 0.01, *** p < 0.001.

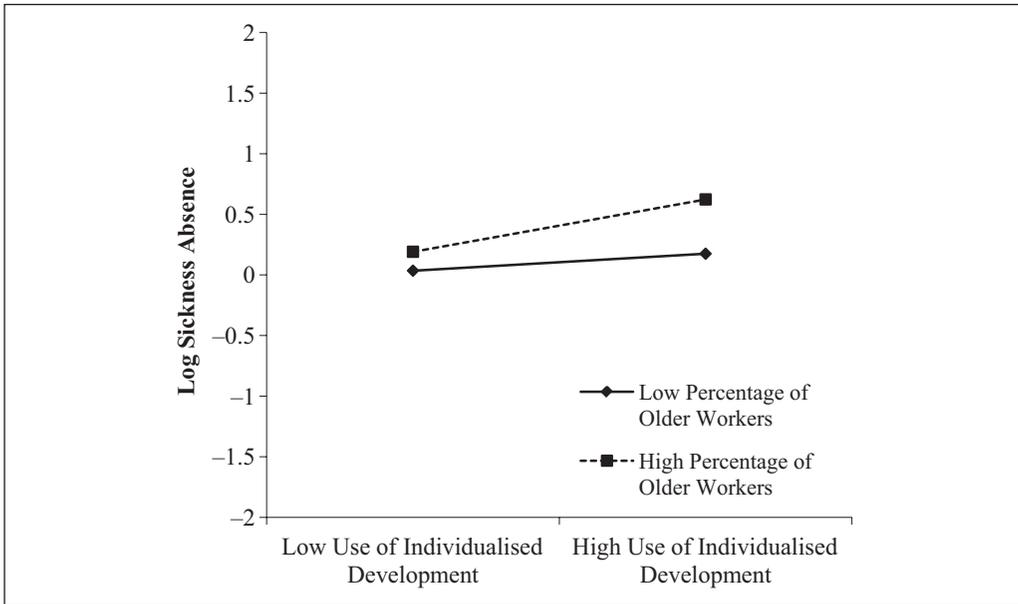
TABLE 2 Results of moderated regression analyses

Variables	Performance growth		Sickness absence		Employee turnover	
	β	β	β	β	β	β
Control variables						
Education						
- Vocational education	0.020	0.021	0.004	0.006	0.029	0.028
- Higher education	0.093***	0.093***	0.056	0.056	0.026	0.029
Gender (% men)	-0.065**	-0.066***	0.007	0.002	-0.009	-0.011
% temporary employment	0.063***	0.063***	0.069***	0.071***	0.150***	0.149***
% part-time workers	-0.014	-0.015	0.024	0.022	0.058**	0.057**
Sector						
- Service	0.022	0.021	-0.098***	-0.096***	0.068***	0.070***
- Government	-0.018	-0.018	0.000	0.001	-0.030	-0.027
- Education	0.013	0.013	-0.022	-0.026	0.000	0.002
- Health care	0.036	0.035	-0.031	-0.032	0.033	0.037
- Other sectors	-0.023	-0.023	-0.002	0.000	-0.018	-0.014
Organisation size (number of employees)	-0.014	-0.014	0.487***	0.481***	0.354***	0.351***
Availability of individualised HRM						
- Development	0.079***	0.079***	0.005	0.005	0.003	0.004
- Work schedule	0.017	0.017	-0.066***	-0.067***	0.016	0.012
- Pay arrangements	0.017	0.017	-0.020	-0.018	-0.045*	-0.044
Use of individualised HRM						
- Development	0.058**	0.059**	0.022	0.019	-0.031	-0.031
- Work schedule	0.067**	0.068**	-0.022	-0.018	0.015	0.019
- Pay arrangements	-0.016	-0.017	-0.010	-0.009	0.041	0.038
% of employees >45 years (age)	-0.081***	-0.080***	0.051***	0.063***	-0.110***	-0.109***
Interaction effects						
Use of individualised HRM \times age						
- Development \times age		-0.019		0.040**		0.021
- Work schedule \times age		-0.004		-0.073***		-0.047**
- Pay arrangements \times age		-0.006		-0.010		0.054**
F	12.14***	10.50***	108.18***	94.74***	48.49***	42.38***
ΔF	10.01*** ^a	0.68	3.47*** ^a	9.37***	12.27*** ^a	4.80**
R ²	0.06	0.06	0.36	0.37	0.20	0.21
ΔR^2	0.01	0.00	0.01	0.01	0.01	0.01

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
^a Comparison with model with control variables (not shown in table).

also shows the results of the moderation analyses. Hypothesis 4 was rejected; the interaction was not significantly related to performance growth ($\beta = -0.019$, *ns*) or to turnover ($\beta = 0.021$, *ns*). Age, however, did moderate the relation between use of development practices and sickness absence ($\beta = 0.04$, $p < 0.01$). Figure 1 shows the interaction between employee age and individualised development practices. The relation was non-significant for organisations with a low percentage of older workers ($\beta = -0.04$, *ns*), while the relation was positive for

Figure 1 The interaction between use of development practices and percentage of older workers in relation to sickness absence



organisations with high percentages of older workers ($\beta = 0.11, p < 0.05$). This indicates that the use of individualised development practices increases sickness absence in organisations with many older workers, while sickness absence is not affected among organisations with many younger workers using individualised development practices.

Hypothesis 5 predicted that employee age would moderate the relationship between the use of individualised work schedules and sickness absence. Age indeed moderated this relationship ($\beta = -0.073, p < 0.001$). Figure 2 shows the interaction pattern. In line with the hypothesis, the relationship was negative for organisations with a high percentage of older workers ($\beta = -0.17, p < 0.001$) while it was non-significant for organisations with few older workers ($\beta = -0.03, ns$). Hypothesis 5 is therefore supported. We also found that the interaction between age and use of individualised work schedules in relation to employee turnover was significant ($\beta = -0.047, p < 0.01$). The interaction pattern is shown in Figure 3. The relation was non-significant for organisations with many older workers ($\beta = -0.06, ns$), and the relation was positive for organisations with many younger workers ($\beta = 0.20, p < 0.05$). Hence, turnover increased when organisations with many younger workers used many individualised work schedule practices.

Finally, Hypothesis 6 predicted that employee age would moderate the relationship between use of individualised pay practices and employee turnover. The interaction was significant ($\beta = 0.054, p < 0.01$). Figure 4 shows the interaction. For organisations with low percentage of older workers, the relation was not significant ($\beta = -0.05, ns$), while the relation was positive for organisations with many older workers ($\beta = 0.28, p < 0.01$). Thus, Hypothesis 6 was rejected; the relation was not stronger for organisations with many younger workers but positive for organisations with many older workers.

Figure 2 *The interaction between use of work schedule practices and percentage of older workers in relation to sickness absence*

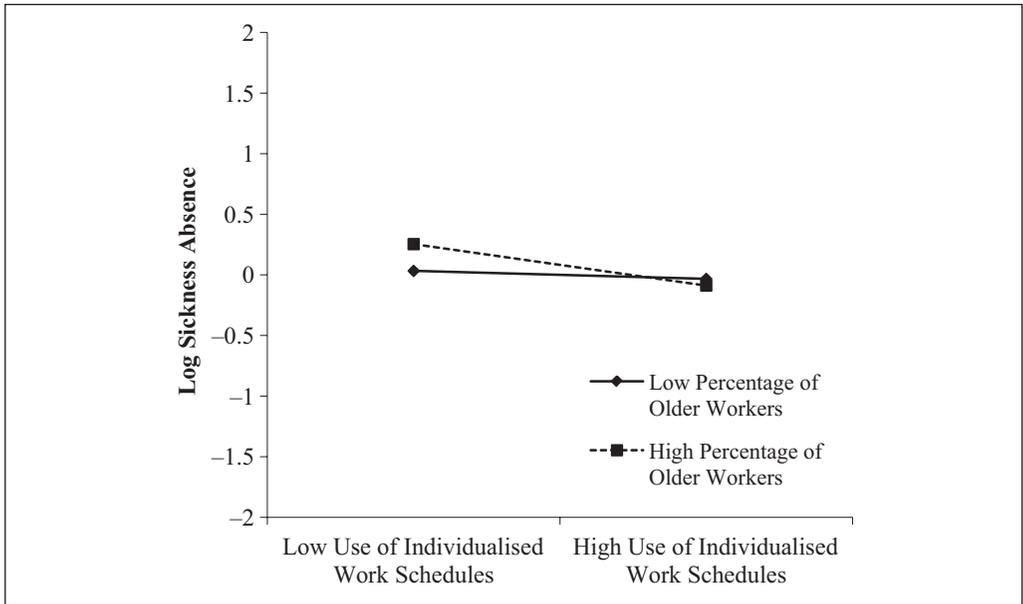


Figure 3 *The interaction between use of work schedule practices and percentage of older workers in relation to turnover*

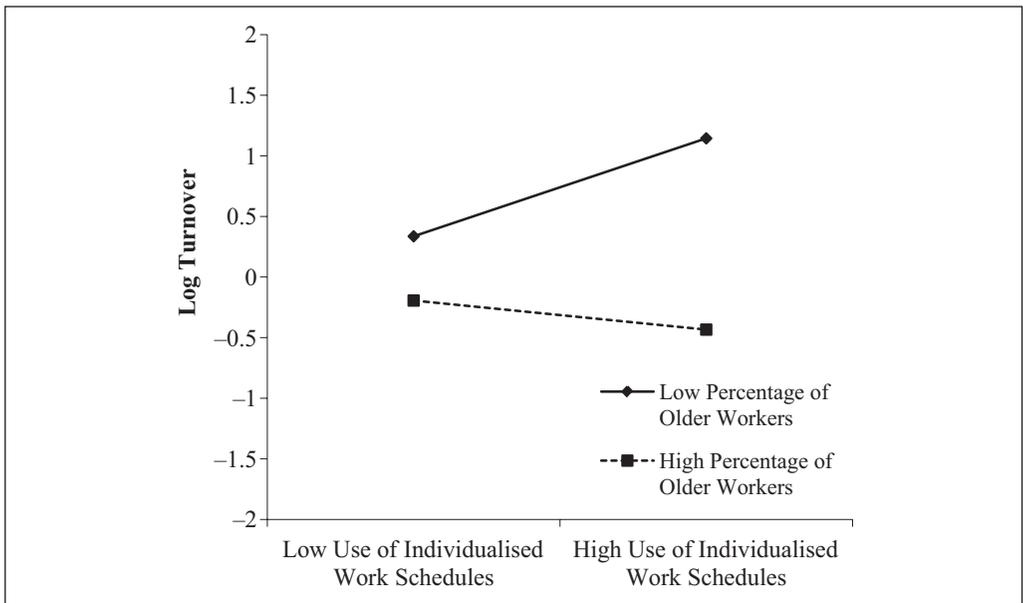
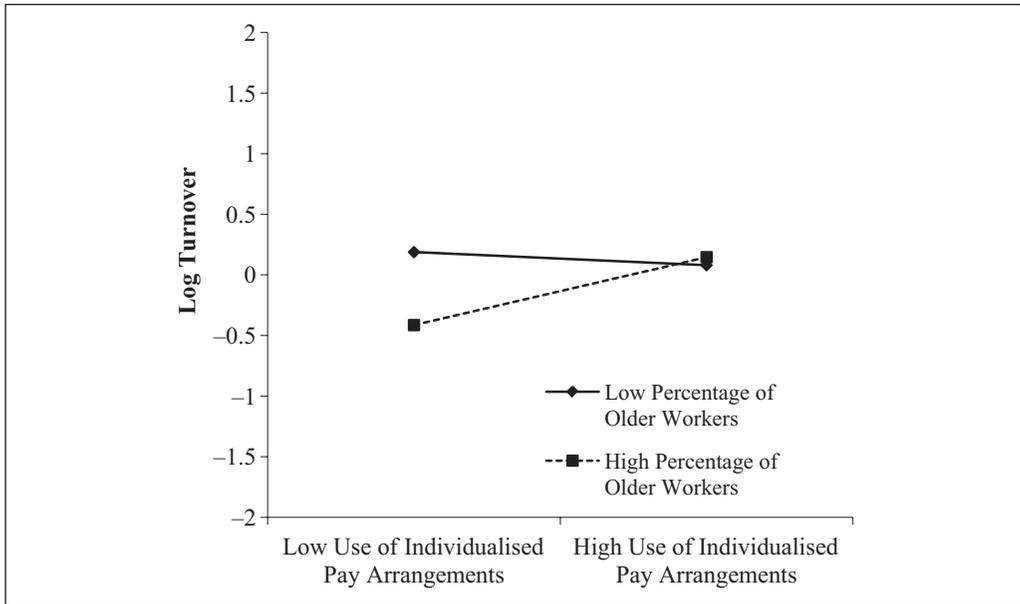


Figure 4 *The interaction between use of pay practices and percentage of older workers in relation to turnover*



We also tested whether the relationships were stable if we increased the age to 55+. We ran all of the analyses using the percentage of workers above 55, and this produced the same results for the interaction hypotheses, as we obtained while using the percentage of workers above 45.

DISCUSSION

This study investigated whether the availability and use of individualised HRM practices in organisations contributes to organisational performance, as well as whether these relations are moderated by employee age. Results from a large-scale employer survey among almost 4,600 organisations in the Netherlands demonstrated that, depending on the type of performance indicator, individualised HRM indeed contributes to higher organisational performance, supporting our main hypothesis of the study. Availability and use of individualised development HRM positively related to performance growth, and use of work schedule HRM also related positively to performance growth. Moreover, sickness absence is lower in organisations that have individualised work schedules available, while employee turnover is lower in organisations that have individualised pay practices available.

These findings largely support the predictions of signalling theory in the context of individualised HRM (Casper and Harris, 2008), such that availability of individualisation can act as an indicator for employees that the organisation values them as members and hence positively relate to their contributions to the organisation. When individualised development practices are available, employees put more effort into their jobs, and organisational performance will grow. Moreover, availability of individualised work schedules was related to lower sickness absence, while availability of individualised pay practices related to lower employee turnover.

Moreover, the social exchange perspective on individualised HRM is also supported; use of individualised HRM was positively related to organisational performance. In line with our hypotheses, we found that use of individualised development practices are important for productivity because development enhances employees' skills to do the job and hence are better able to perform (Appelbaum *et al.*, 2000; Hornung *et al.*, 2009). Moreover, we also found positive relationships between the use of individualised work schedules and performance growth. This indicates that a more personalised working schedule is not only related to lower sickness absence and thus benefits employees' health, but can also contribute to higher performance. This provides some additional evidence for the question of whether flexible work arrangements actually lead to organisational performance (De Menezes and Kelliher, 2011). The current study results suggest that this may be the case, especially when managers use the opportunity to individually negotiate flexible work arrangements with employees.

Employee age and effectiveness of individualised HRM

We have argued that the relationships between individualised HRM and performance outcomes differ among organisations with primarily younger versus older workers. Lifespan theory (Baltes *et al.*, 1999) suggests that the needs of younger workers are different from those of older workers, with younger workers primarily being motivated by growth and learning, while older workers are more highly motivated when they have the opportunity to flexibly arrange their work and non-work obligations.

However, we did not find stronger relationships in organisations with many younger workers when they used individualised development and pay arrangements. We found that use of development was related to higher sickness absence among organisations with many older workers. It may be that in organisations that put a lot of pressure on employee development, the older workers have more problems in coping with needs to rapidly adjust to new procedures and technology, which then manifests through higher sickness absence. Therefore, the claim that individualised development enhances performance (*e.g.* Anand *et al.*, 2010) must be qualified because development also means an investment of time and energy by the employee and may therefore be associated with higher absence for those employees who suffer physical losses, such as older workers (Bal *et al.*, 2012). Moreover, individualised development may be costly for organisations, and hence it is important for organisation to calculate the costs and benefits of individualised HRM.

The use of individualised pay was found to relate to higher turnover in organisations with many older workers, while it made no differences in organisations with many younger workers. Drawing from the notion that financial inducements are more likely to be negotiated by star performers (Rousseau, 2005), it may be that especially in organisations with many older workers, older workers are the star performers who can more easily find new jobs. Moreover, the absence of a relationship between individualised pay and performance growth also indicates that the role of reciprocity in the negotiation of financial deals does not have to be targeted at higher performance, but to other outcomes such as retention (Rousseau *et al.*, 2006). However, individualised pay can also exist because of cronyism. This 'dark side' of individualised HRM can for instance be found in research that showed existence of cronyism in the excess compensation of higher managers (Brick *et al.*, 2006).

We found that individualised work schedules may be particularly effective in organisations with many older workers because of its association with sickness absence, while in organisations with many younger workers, turnover was higher when individualised work schedules were used. Availability and use of individualised work schedules signal to employees that they have the opportunity to diminish workload, which is especially relevant for older

workers who are facing difficulties with coping with their losses while retaining energy and motivation at work (Kanfer and Ackerman, 2004). For younger workers, however, this may also be a signal that full investment in work is less important, and hence they might look for organisations where they can invest fully into their work and career. As a consequence, turnover increases for these organisations.

Theoretical and research implications

This study has several implications for theory and future research. The study shows that individualised HRM relates to higher organisational performance. This is important because an increasing number of organisations have introduced individual negotiations with employees about their work arrangements (Bal *et al.*, 2012). However, the relationships are not straightforward; the extent to which individualised HRM practices relate to higher performance depends upon both the type of HRM practice and the type of performance indicator. Hence, when taking the effects of individualised HRM on outcomes into account, a contingency approach is necessary. This study, therefore, contributes to the debate in the HR literature on the value of high performance HR systems in relation to a contingency approach to HRM (*e.g.* Kaufman and Miller, 2011; Purcell, 1999). This debate concerns the question whether *more* HRM always leads to higher organisational performance. This notion is challenged in the current study that clearly shows that a contingency approach is necessary to explain the relationship between HR interventions, such as individualised HRM, and organisational performance. That is, organisational performance can be enhanced only when the type of individualised HRM fits the needs of workers. For instance, we found that availability of individualised development practices is important for performance growth, availability of individualised work schedules for sickness absence, and individualised pay arrangements is important for retention of employees.

Moreover, in line with research on HRM (Arthur and Boyles, 2007), it is also important to distinguish between the leeway managers have in negotiating individualised agreements with employees and the actual use of individualised HRM in organisations by the managers. The former may be an indication for employees that they can, when necessary and needed, negotiate individual agreements. Moreover, the latter provides an answer to the question whether the use of individualised HRM actually leads to higher performance and bring about what they have been introduced for in organisations (Rousseau, 2005). As the current study has shown, the effects may be different. Especially availability is important for each employee, while the effectiveness of use of individualised HRM may be dependent on the composition of the workforce in organisation.

Furthermore, the present study demonstrates that when theorising about the effects of individualisation in organisations, it is important to take employee age into account (Bal *et al.*, 2012; Kooij *et al.*, 2013). A challenge for future research is to investigate the age-related changes that explain why older workers react differently from younger workers (Kooij *et al.*, 2008). It has been proposed that older workers differ from each other and that changes that people experience because of the aging process develop differently for each individual. Hence, it is important to ascertain these underlying changes, such as declines in psychological perceptions of future time perspective (Bal *et al.*, 2010).

Another avenue for future research is to ascertain which groups of employees are more likely to prefer individualised agreements and proactively start negotiating those arrangements (Hornung *et al.*, 2010). It has been suggested that individualised pay arrangements are only negotiated by star performers, while individualised work schedules are negotiated by low performers (Rousseau, 2005). Hence, the relationships between negotiated deals with outcomes may be also moderated by employee status. This is important in relation to the general decrease

in collective agreements and representation in contemporary society (Glassner and Keune, 2012). While trade unions may have less control over the work arrangements employees negotiate with their employers, organisations are also given the opportunity to create inequality and unfairness in how employees are treated (Greenberg *et al.*, 2004). Thus, individualisation comes with the risk of potential inequality among employees, and one of the implications of this study is that HRM models should factor in these changing social circumstances.

Limitations and suggestions for future research

Because the present study was cross-sectional, one limitation is that we could not ascertain causality. Theoretically, it could be that high-performing organisations may start to offer and use more individual deals, and especially when it concerns financial and developmental agreements, because these types of individualised HRM may be costly for organisations. However, previous research has shown that individualisation of HRM is primarily a consequence of societal changes rather than performance of organisations (De Leede *et al.*, 2004, 2007). Moreover, the study was based on self-reports of organisational representatives. We were not able to have objective performance measures because existing measures (such as profits or ROI) were not applicable to all of the organisations in the study because we included both profit and non-profit organisations. Therefore, we deemed it appropriate to use self-report measures of performance. Moreover, because the current study was part of a larger study, and several other scales were included in the survey, it was unlikely that participants were aware of the purposes of the current study. Moreover, because of this study being part of a larger study, short scales were used to measure our instruments. Even though these were based on previous research (Hornung *et al.*, 2008), and can be valid and reliable (Nagy, 2002), future research should further ascertain the validity of these measures.

Finally, the effect sizes were not very strong. Individualised HRM and the interactions generally accounted each for about 1 per cent of the variance in the outcomes. While this is not very high, we still deem it important in relation to the outcomes we studied: performance growth, sickness absence and turnover. However, the results may have important implications for organisations: if 1 per cent of the variance in performance, sickness absence or turnover can be explained through individualised HRM, this may have important and strong effects for organisations and HR managers because it may reflect a substantial monetary outcome for the organisation. It is therefore imperative that organisations are aware of the costs and benefits of taking an individual approach to HRM, but at the same time organisations should also realise the intrinsic value of an individual approach to HRM in itself for employees and organisations (Taskin and Devos, 2005).

Practical implications

The study shows that when organisations make individualised HRM available, it is associated with higher organisational performance, including stronger performance growth and lower sickness absence and turnover. Thus, even during the economic recession, performance could grow when organisations offer the opportunity to negotiate and actually use individualised HRM with their employees. Especially with regards to the high costs of absence and turnover (TNO, 2010), it has become imperative for organisations to keep their employees healthy and try to retain them.

However, individualisation in organisations does not automatically lead to higher performance. Managers should therefore be aware of the effects that specific types of agreements may have. Based on this, managers can take an individual approach and ascertain the goal of a negotiated agreement for both employee and organisation. For instance, when an

organisation aims to decrease sickness absence, it may be best to negotiate individualised work schedules with employees, and a similar case could be made for the relationship between individualised development and performance, as well as individual financial agreements and retention. Moreover, it is necessary for organisations to train their line managers in negotiating individual agreements with employees because traditionally managers are educated and used to equal treatment rather than individualised treatment. Hence, line managers need to be aware of the individual needs of employees and yet ensure fair treatment of their subordinates compared to coworkers (Greenberg *et al.*, 2004).

Finally, organisations should also be aware that individualised treatment may have a different utility depending on the age of an employee, and while younger workers tend to value economic and development inducements, older workers have higher needs for flexibility (Bal *et al.*, 2010).

Conclusion

The current study investigated whether individualised HRM contributed to organisational performance in a sample of nearly 4,600 Dutch companies. The study shows that individualised HRM is differentially related to performance indicators and that these relationships are moderated by employee age. We found that individualised development and pay arrangements were particularly important for organisations with many younger workers to maintain organisational performance, while individualised work schedules are important in enhancing organisational performance in organisations with many older workers.

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