



From flexibility human resource management to employee engagement and perceived job performance across the lifespan: A multisample study

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This study investigated the effects of flexibility human resource management (HRM) on employee outcomes over time, as well as the role of age in these relations. Based on work adjustment theory and AMO theory, it was predicted that availability and use of flexibility HRM would be positively related to employee engagement, as well as higher job performance. Moreover, we postulated different hypotheses regarding the role of employee age. While generation theory predicts that younger generations would react more strongly to flexibility HRM in relation to engagement, selection, optimization, and compensation theory of ageing predicts that older workers respond more strongly in relation to job performance. A longitudinal study among US employees and a study among employees in 11 countries across the world showed that engagement mediated the relationships between availability of flexibility HRM and job performance. Moreover, we found partial support for the moderating role of age in the relations of flexibility HRM with the outcomes: Flexibility HRM was important for younger workers to enhance engagement, while for older workers, it enhanced their job performance. The study shows that the effectiveness of flexibility HRM depends upon employee age and the type of outcome involved, and consequently, theory on flexibility at work should take the age of employees into account.

Practitioner points

- Flexibility HRM can be used by organizations to enhance younger workers' engagement, while it can be used for older workers to enhance their job performance.
- It is important for organizations to not only offer flexibility to their employees, but also to make sure that employees take advantage of these HR practices.
- Flexibility HRM is important across the world, because it enables people across the world to balance demands from work as well as from private life.

Many countries across the world face rapid demographic changes, such as the ageing of the workforce and the entrance of a new generation of employees, the so-called Generation Y (Twenge, Campbell, Hoffman, & Lance, 2010; United Nations, 2009).

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The baby boom generation (born between 1946 and 1965) is becoming older and birth rates have decreased, resulting in a workforce that will increasingly be composed of older workers and fewer younger workers. Therefore, organizations have to invest more effort in being attractive employers for younger as well as for older workers. It has been proposed that key to the retention of ageing workers is offering workplace flexibility (Hill *et al.*, 2008). However, theory of workplace flexibility has not yet incorporated a lifespan perspective in the effects of flexibility, and therefore, the current study aims to bridge this theoretical and empirical gap in the literature.

Workplace flexibility has traditionally been conceptualized as HR practices that help employees combine work and non-work responsibilities, and in particular childcare (Allen, Johnson, Kiburz, & Shockley, 2013; Leslie, Manchester, Park, & Mehng, 2012). However, contemporary perspectives on flexibility define it as the degree to which employees are able to make choices and arrange core aspects of their working lives (Hill *et al.*, 2008). Hence, a narrow description of flexibility aimed balancing work and childcare, does not longer suffice in theorizing about the role of flexibility in the workplace. We therefore adopt a broad view of flexibility in the workplace and, consequently, define it in line with Hill *et al.* (2008, p. 152) as ‘the opportunity of workers to make choices influencing when, where, and for how long they engage in work-related tasks’.

Organizations use flexibility human resource management (HRM) to maintain employee motivation and performance (Herrbach, Mignonac, Vandenbergh, & Negrini, 2009). However, because flexibility HRM has primarily been designed for middle-aged workers with children (Allen *et al.*, 2013), it is necessary to investigate the effects of flexibility for younger generations, as well as older workers (Bal, De Jong, Jansen, & Bakker, 2012; Kooij *et al.*, 2013). To investigate this, it is essential to differentiate between the effects of age can have on the outcomes of flexibility HRM.

Both literatures on younger workers (e.g., Hess & Jepsen, 2009; Lub, Bijvank, Bal, Blomme, & Schalk, 2012) and older workers (Bal *et al.*, 2012; Pitt-Catsouphes & Matz-Costa, 2008) have stressed the importance of flexibility in how employees conduct their work and how work is combined with other aspects in life. Generation theory (Twenge, Campbell, & Freeman, 2012; Twenge *et al.*, 2010) predicts that younger workers attach more value to flexibility at work and hence become more emotionally affected when they have flexibility. In addition, Lifespan theory of Selection, Optimization, and Compensation (SOC; Baltes, 1997; Baltes & Baltes, 1990) explains that older workers experience age-related losses in capabilities and decline of health. To counteract the negative consequences of age-related losses, older workers may use flexibility to maintain their performance. Lyons and Kuron (2014), in their recent review, concluded that saliency of flexibility and work-life balance has increased over generations, but at the same time, life-cycle effects also existed. They found that work-life balance has become more important among younger generations, but at the same time, studies have shown curvilinear effects, indicating that work-life balance also becomes more important among older workers (Lyons & Kuron, 2014). The current study specifically aims to unravel these different effects of employee age, by simultaneously hypothesizing and testing generation effects and ageing effects.

In the current study, we accordingly investigate the role of age in the effects of flexibility HRM on employee engagement and job performance, while taking into account both the availability and the use of flexibility HRM (Allen *et al.*, 2013). Moreover, we investigate the mediating role of employee engagement in the relations between flexibility HRM and job performance. Employee engagement is defined as a positive work-related state of mind characterized by vigour and dedication to the job (Schaufeli &

Bakker, 2004). Engagement is of importance in relation to flexibility HRM, because flexibility HRM is designed to retain a balance between work obligations and private obligations, through which employees can stay and become engaged in their work (Pitt-Catsouphes & Matz-Costa, 2008). Moreover, we investigate the effectiveness of flexibility HRM for younger and for older workers.

The study contributes to previous research on the effects of flexibility HRM by being the first study to specifically focus on the effectiveness of availability and use of flexibility HRM on work outcomes for younger and older workers (De Menezes & Kelliher, 2011). Some previous studies have failed to find significant effects of flexibility HRM on outcomes such as commitment (Herrbach *et al.*, 2009) and organizational support (Armstrong-Stassen & Ursel, 2009). Our paper builds upon these earlier studies by investigating effects of both availability and use of flexibility HRM, and our paper contributes by studying active work states, such as engagement and performance, rather than passive work states, such as commitment or organizational support. Our paper also contributes by showing both how and when flexibility relates to outcomes and thus shows both mediating and moderating effects.

Moreover, the study contributes by being the first paper that both theoretically and empirically integrates theory on flexibility HRM with generation and ageing theory in one study by showing that age moderates the effects of flexibility HRM on outcomes in different ways. Finally, the study contributes by not only longitudinally investigating relationships of flexibility HRM with outcomes, but also through presenting evidence for the existence of relationships in various countries across the world. The current multisample study consists of two studies, one of which was a longitudinal study among US employees, while the second study tested the hypotheses in a sample of employees in 11 countries across the world. Flexibility is becoming more important among the younger generations as well as ageing workers across the world (Lewis, Rapoport, & Gambles, 2003; Lyons & Kuron, 2014). To control for cultural differences across these countries in the relationships observed, we included collectivism as additional moderator in the analyses. Masuda *et al.* (2012) argued and found that in more individualistic countries, which tend to be more focused on individual employment arrangements (Peretz & Fried, 2012), flexible work arrangements were more likely to be used and more strongly related to work outcomes than in collectivistic countries. Hence, we explored whether the relations would be less prominent among collectivistic countries. Figure 1 shows the research model that will guide the current study.

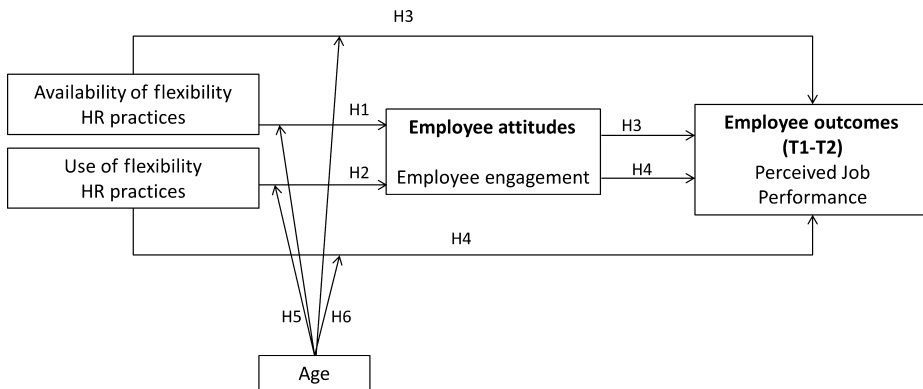


Figure 1. Research model of the current study.

Workplace flexibility as part of HRM

HR practices increasingly include arrangements that facilitate employees to have more flexibility in how they balance work and non-work. Flexibility HRM is defined as the opportunities organizations provide to employees to make choices regarding when and how they work (Hill *et al.*, 2008). In line with the majority of research on HRM, we distinguish the employee perceptions of *availability* of flexibility HRM and the *use* of flexibility HRM (Allen *et al.*, 2013; Casper & Harris, 2008). On the one hand, employees may be aware that they have access to flexibility HRM, while on the other hand, they may actually use or take advantage of these practices. Moreover, we also distinguish between two types of flexibility: *Irregular flexibility* HRM and *regular flexibility* HRM. Irregular flexibility is defined as those practices aimed at facilitating the workers' needs to irregularly reduce workload over a certain period of time by practices such as unpaid leave from work to pursue something else, such as volunteer work or career breaks. Irregular flexibility is similar to accommodative practices identified in previous research such that it allows employees additional exceptional leave or exemption from working overtime (Bal, Kooij, & De Jong, 2013; Kooij *et al.*, 2013). Irregular flexibility also implies a minimal adjustment by organizations without fundamentally changing the way of working (Lee, MacDermid, & Buck, 2000). Regular flexibility concerns the freedom employees have in choosing their work schedules, starting and quitting times, and flexibility in job sharing on a more daily basis (Hill *et al.*, 2008). Through distinguishing between these two types of practices, we expand understanding of how different types of flexibility relates to outcomes (Allen *et al.*, 2013).

Flexibility HRM is expected to be positively related to employee engagement. Signalling theory explains why availability of HRM matters (Casper & Harris, 2008; Rynes, Bretz, & Gerhart, 1991). This theory proposes that individuals use cues or signals when they do not have perfect information. As employees have incomplete information about the organization's intentions, they use signals from the organization to draw conclusions about an organization's intentions and actions. As such, when employees perceive to have access to flexibility HRM, this functions as a signal of the organization's intentions towards them (Takeuchi, Chen, & Lepak, 2009). Even when employees do not currently use these practices, availability indicates that they can use these practices in the future when they need them. Theory of work adjustment (Baltes, Briggs, Huff, Wright, & Neuman, 1999) postulates that when employees have access to flexibility in their work, they obtain a higher correspondence between the job demands and their private lives. In this way, employees can decide themselves over how to allocate time, energy, and attention in their work, which enables them more control and autonomy in their work, which leads to more work engagement (Crawford, LePine, & Rich, 2010). Hence, flexibility HRM is associated with higher work engagement, and thus, availability of flexibility HRM is positively related to employee engagement.

Effects of use of flexibility HRM can be explained by Conservation of Resources Theory (COR; Hobfoll, 1989). According to COR theory, individuals are motivated to protect and acquire new resources (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014). People who have many resources are more likely to invest and gain additional resources, creating a positive spiral of resource gain (Hobfoll, 1989). When people have the opportunity to use flexibility, they gain more resources to achieve work-related goals and have more control over their work (Halbesleben *et al.*, 2014). Use of flexibility therefore provides the necessary resources to counteract potential stress occurring from balancing work obligations and private obligations, and thus, these resources provide employees

with more energy to invest in the job. Hence, use of flexibility will be associated with higher engagement. We hypothesize that:

Hypothesis 1: Availability of Flexibility HRM is positively related to employee engagement.

Hypothesis 2: Use of Flexibility HRM is positively related to employee engagement.

Flexibility HRM effects on job performance

When employees have access to and use flexibility HRM, they are likely to reciprocate, not only through higher engagement, but also by contributing to a higher degree. The AMO model (Appelbaum, Bailey, Berg, & Kalleberg, 2000) explains that employees will perform when they have the ability, motivation, and opportunity to do so. Flexibility HRM provides employees with work motivation, the ability, and the opportunity to be more productive at work through greater flexibility in balancing work and non-work obligations (Allen *et al.*, 2013; De Menezes & Kelliher, 2011). On the one hand, availability of flexibility provides the motivation to perform, as availability signals to people that they can use flexibility when they need it, which allows them greater control over their work demands, and thus, they are able and have the opportunity to invest in their work and achieve high performance. On the other hand, employees who actually use it, benefit from flexibility to invest energy towards higher performance, because flexibility allows them to have the ability and opportunity to perform in their jobs. Thus, it is to be expected that availability and use of flexibility HRM lead to greater job performance.

Moreover, we expect that employee engagement mediates the relationships of availability and use of flexibility HRM with job performance. In line with COR Theory (Hobfoll, 1989), flexibility HRM provides employees the resources that they need to cope with work demands. Because flexibility enables employees to cope with work demands, they will obtain higher job performance, through becoming more engaged in their jobs. High engagement entails energy and investment in the job, persistence, and a higher focus on tasks, through which engagement will positively relate to performance (Bakker & Bal, 2010). In the meta-analysis of Christian, Garza, and Slaughter (2011), it was indeed shown that engagement is positively related to job performance. Hence, engagement is likely to mediate the relations between flexibility HRM and job performance. Flexibility HRM provides employees with more control, through which they become more engaged. Consequently, they put in more effort into their jobs and achieve higher performance. A previous study has shown that engagement indeed mediated the relationship between HR practices and job performance (Alfes, Truss, Soane, Rees, & Gatenby, 2013). We expect partial mediation, because engagement will be one of the potential mediators in the relation between flexibility HRM and performance, as outlined by the AMO model (Appelbaum *et al.*, 2000), which postulates that flexibility HRM provides employees with the abilities, motivation (i.e., engagement), and opportunities to perform at work. Hence, hypotheses 3 and 4 are as follows:

Hypothesis 3: Employee engagement partially mediates the relations between availability of flexibility HRM and job performance.

Hypothesis 4: Employee engagement partially mediates the relations between use of flexibility HRM and job performance.

Age differences in the effectiveness of flexibility HRM

We argue that the effects of flexibility HRM on engagement and performance are dependent upon the context and in particular employee age (Bal *et al.*, 2013; Kooij *et al.*, 2013). Flexibility may be important for both younger generations (Twenge *et al.*, 2010, 2012), as well as for older workers (Bal *et al.*, 2012; Baltes, 1997). According to generation theory, younger workers who are currently entering the workforce have different values and needs from previous generations (Parry & Urwin, 2011; Twenge *et al.*, 2010). The youngest generations of workers, the Generation Y or Millennials, are regularly described as having high expectations regarding flexible work arrangements (Ng, Schweitzer, & Lyons, 2010). Research has shown that they are high in self-esteem and tend to be more narcissistic and less concerned with other people than previous generations (Twenge *et al.*, 2012). Hence, evidence suggests that they are more demanding than older generations. Furthermore, younger generations who have seen their parents working very hard and long hours have become wary of the 'living to work' mentality, and in combination of events such as the attacks at 11 September 2001, have reevaluated their life priorities. Hence, they tend to value work-life balance and greater flexibility at work and thus maintaining a balance between work and other aspects in life, such as leisure (Lyons & Kuron, 2014). This is reflected in a greater need for options to have extended periods off from work, such as sabbaticals (Davidson *et al.*, 2010), as well as flexible work schedules, which facilitate younger generations more freedom in how and when they work (Smola & Sutton, 2002). However, younger generations are still aware that many organizations do not (yet) provide such practices (De Hauw & De Vos, 2010). Therefore, when organizations do offer flexibility to younger workers, they tend to value that and feel a stronger emotional attachment to their jobs. Hence, in reaction to flexibility HRM, younger generations respond with higher engagement. Hence, when younger workers have access to and make use of flexibility HRM, they are more highly motivated in their work, and hence, their engagement will increase. We do not hypothesize a moderated mediation effect leading to higher job performance through a mediating effect of engagement, as we expect a separate direct moderating effect on job performance. Hypothesis 5 therefore is as follows:

Hypothesis 5: Employee age moderates the relations between (a) availability and (b) use of flexibility HRM and employee engagement, with stronger relations for younger workers.

The lifespan SOC model (Baltes, 1997; Baltes & Baltes, 1990) explains why older people benefit more from flexibility HRM in relation to their job performance. SOC theory (Baltes & Baltes, 1990) explains that throughout life, people experience gains and losses in physical and mental capabilities, and they are in general focused on maximizing the benefits of these changes while minimizing their losses (Kanfer & Ackerman, 2004). To minimize losses in outcomes due to the age-related losses in abilities people experience, they select fewer goals so that they do not have to spread their diminished resources over too many goals and can thus remain productive contributors in the organization (Baltes, 1997; Baltes & Baltes, 1990). Older workers benefit from a more individualized and flexible approach in how they conduct their work (Bal *et al.*, 2012), such that they are able to effectively counteract age-related losses and maintain their performance. Flexibility HRM enables older workers to select and optimize the resources they need in their work and provides compensatory means to achieve performance. Hence, in line with SOC theory, flexibility becomes more important for older workers to maintain levels

of functioning. To cope with their diminished resources, older workers profit from having the opportunity to use and actually using flexibility in how and when they conduct their work. Older workers need to have flexibility in their work, such that they remain enough opportunity to obtain satisfactory levels of performance (Bal *et al.*, 2012). Hence, when older workers have access to flexibility they can invest effort in their work, because the access to flexibility serves as a signal to them that they can use it when they actually experience the negative effects of age-related losses. Moreover, when older workers use flexibility, they benefit and maintain their performance levels. Finally, when people become older, they may also have obligations in other domains, such as eldercare, through which their preference for adjusted work schedules increase (Zacher, Jimmieson, & Winter, 2012). Thus, the possibility for older workers to have access to and use flexibility HRM enables them to maintain and increase their job performance. Consequently, hypothesis 6 is as follows:

Hypothesis 6: Employee age moderates the relations between (1) availability and (2) use of flexibility HRM and job performance, with stronger relations for older workers.

STUDY I

Methods

Participants and procedure

In November 2007 (T1 measurement), 2,210 employees working in 12 different departments of nine large organizations in the United States, participated in a study on workplace flexibility. The organizations were affiliated to a variety of industry sectors and included service, health care, retail, finance, professional services, and pharmaceutical organizations. Online surveys were sent to 5,189 employees, and initially, a response of 2,210 (43%) was obtained. In May 2008 (T2 measurement), all employees received another invitation to participate in the follow-up study, of which 1,139 respondents replied (51%). The time lag of half a year was chosen for a number of reasons. First, when people are aware of the opportunity to use flexibility HRM, as well as when they actually use it, it might take some time for people to grasp the benefits of availability and use (Wright & Haggerty, 2005). Previous research has shown that when HR practices are implemented, it is expected that this process takes about somewhat less than a year to elicit effects (Ford *et al.*, 2014; Wright & Haggerty, 2005). Given that the HR practices were already implemented in the organizations, it was deemed appropriate to use shorter time lags. So, in line with previous research (e.g., Bickerton, Miner, Dowson, & Griffin, 2014), we used time lags of half a year. Finally, we wanted to separate the independent variables from the dependent variables to avoid common method bias (Podsakoff, MacKenzie, & Podsakoff, 2012). All respondents with missing data were deleted, through which a final dataset of 695 (13% response rate) participants was obtained, who filled out both the T1 and the T2 measurement.

The mean age for the 695 respondents was 42 years, 59% was female, and 54% had no children, while 28% had one child, and 18% had 2–4 children. Mean organizational tenure was 9 years, and 91% worked full time. Employees worked on average 41 hr/week. We compared the final response rates with those who only responded at T1. The final response having a higher organizational tenure ($F = 4.72, p < .05$), fewer children ($F = 12.15, p < .001$), working less part-time ($F = 14.95, p < .001$), and being somewhat older ($F = 6.72, p < .01$) than the respondents at T1. We did not find differences in gender, education, and working hours.

Measures

Availability and use of flexibility HRM were measured at T1 using two 7-item scales: Irregular flexibility practices and regular flexibility practices. In line with the majority of research on HRM, we measured the presence and use of HR practices as reflected in the perceptions of employees (Boselie, Dietz, & Boon, 2005). Table 1 shows the items which were used to measure both scales (based on Hill *et al.*, 2008). Availability was measured through asking employees whether they had access to a range of options. Responses were provided with no or yes. *Irregular flexibility HRM* targeted at HR practices that facilitate employees additional leave options from work (Bal *et al.*, 2013; Kooij, Jansen, Dijkers, & De Lange, 2014). *Regular Flexibility* targeted flexibility in the amount of regular hours and the schedule that employees worked. Use of flexibility HRM was measured using the same items as availability and measured whether employees had taken advantage of these options (no or yes). Scores were calculated through the total number of yes responses.

Employee engagement ($\alpha = .93$) was measured at T2 using the 9-item scale by Schaufeli and Bakker (2004). An example is 'At work, I feel bursting with energy'. Answers were provided on a 7-point scale, ranging from 'never' to 'always/everyday'. *Perceived Job Performance* was measured both at T1 ($\alpha = .85$) and T2 ($\alpha = .86$), using three items: 'How would you rate your job performance, as an individual employee?', 'Think about your most recent assessment of your job performance or the most recent time you

Table 1. Summary of measurement items of flexibility HR practices

Study 1	Irregular flexibility HRM (Availability/Use) <ul style="list-style-type: none"> Sabbaticals or career breaks Take paid or unpaid time for education or training to improve job skills Take a paid leave for caregiving or other personal or family responsibilities Work part-year; that is work for a reduced amount of time on an annual basis Phase into retirement by working reduced hours over a period of time Take extra unpaid vacation days Take paid time off to volunteer in the community Regular flexibility HRM (Availability/Use) <ul style="list-style-type: none"> Choose a work schedule that varies from the typical schedule at your worksite Occasionally request changes in starting and quitting times Frequently request changes in starting and quitting times, such as on a daily basis Reduce your work hours and work on a part-time basis while remaining in the same position or at the same level Structure jobs as a job share with another person where both receive their fair share of compensation and benefits Compress the work week by working longer hours on fewer days for at least part of the year Have input into the amount of overtime hours you work
Study 2	Flexibility HRM (Availability/Use) <ul style="list-style-type: none"> Flexibility in number of hours worked Flexible work schedules Flexible space Options for time off Flexibility in changing career path

Note. HRM, human resource management.

received feedback from your supervisor. How do you think your supervisor would rate your performance?', and 'How would you rate your performance as a work team member?' Responses were provided on a 5-point Likert scale (1 = 'very poor', 5 = 'excellent'). Self-reported job performance was the selected outcome, as comparable objective performance ratings across the nine organizations were not available. Whereas self-rated job performance may be a less objective indicator of performance than measures such as sales rates (Williams & Anderson, 1991), the measure of job performance that is used in the current study indicates an assessment by the employee about their performance on the job (see e.g., Bal, Jansen, Van der Velde, De Lange, & Rousseau, 2010). Subjective performance measures are valid for the current study. First, objective and subjective measures of performance are positively correlated and are similarly predicted by independent variables (Bommer, Johnson, Rich, Podsakoff, & MacKenzie, 1995; Wall *et al.*, 2004). Moreover, subordinate's perceptions of their own performance *add* to other ratings of performance (e.g., objective performance and supervisor rated performance), as they contribute in a unique way to the overall concept of performance (Conway & Huffcutt, 1997).

Moderator and control variables

Age was measured as a continuous variable, indicating the age of the employee at the T1 measurement. We controlled for (measured at T1) gender (1 = 'male', 2 = 'female'), education (1 = 'less than high school', 7 = 'graduate degree'), organizational tenure (in years), the number of children 18 and younger, weekly working hours, and work status (1 = 'fulltime', 2 = 'part-time'). We controlled for these factors, as previous research has shown that they might be influencing the effectiveness of flexible work arrangements (Hill *et al.*, 2008; Lee *et al.*, 2000).

Analysis

To test the validity of the multi-item scales, we performed a confirmatory factor analysis (CFA) using Lisrel 8.80 (Jöreskog & Sörbom, 2005), using the tetrachoric correlations of the binary variables (Uebersax, 2006). The proposed seven-factor model obtained a good fit ($\chi^2 = 122.24$, $df = 835$, $p < .001$; GFI = .99, SRMR = .01). All of the items loaded significantly on their respective factors. A model that included one factor for availability and one factor for use of flexibility HRM did not obtain significant better fit ($\Delta\chi^2 = 2.41$, $\Delta df = 9$, ns), and a model with one factor for regular flexibility and one factor for irregular flexibility did also not obtain significant better fit ($\Delta\chi^2 = 8.70$, $\Delta df = 9$, ns). We also tested a model including the proposed factors and an unmeasured latent factor to control of common method bias (Podsakoff *et al.*, 2012). This model did not obtain a significant better fit than the proposed model ($\Delta\chi^2 = 96.75$, $\Delta df = 364$, ns). Hence, there was no indication of common method bias in our data.

Because employees were nested in 12 different departments in nine organizations, we tested whether multilevel analyses should be conducted. First, we compared a multilevel null model, using only the intercept as predictor of the outcomes, with an ordinary regression analyses to ascertain whether there was statistical reason to conduct multilevel analyses and subsequently calculated ICC scores (Hox, 2002). For work engagement, we found a significant improvement of the multilevel over the ordinary regression analysis ($\Delta 2 \times \log = 39.38$, $\Delta df = 1$, $p < .001$). However, only 6% of the variance in engagement was explained by differences among departments. For

job performance, we also obtained a significant difference ($\Delta 2 \times \log = 9.59$, $\Delta df = 1$, $p < .01$) and an ICC of .03, indicating that only 3% of the variance in job performance was due to difference on Level 2. Given that the explained variance at Level 2 was marginal, and the number of Level-2 units were well below standards of 40 (Meuleman & Billiet, 2009), it was deemed appropriate to use ordinary regression analyses.

Hypotheses were tested with bias-corrected bootstrapping using the PROCESS macro for SPSS (Hayes, 2013; Preacher, Rucker, & Hayes, 2007). Independent variables were mean-centred to avoid multicollinearity. We tested the relationships with eight dummy variables to control for the organizations employees worked for. Inclusion of these dummies did not affect the significance levels of our estimates, and for space reasons, we report the results of the analyses without the dummy variables. Table 2 shows the correlations among the variables under study. Availability and use of both types of flexibility HRM were positively correlated with engagement (r 's ranging between .13 and .22). However, only irregular flexibility availability was related to job performance T1 and T2 ($r = .08/.09$, $p < .05$), and regular flexibility use to job performance T1 and T2 ($r = .11/.09$, $p < .05$).

Results

Table 3 shows the results of the mediation analyses for flexibility HRM in relation to engagement and job performance, while Table 4 shows the results of the moderated analyses for flexibility HRM and age in relation to the outcomes. Sixteen percent of the variance in work engagement was explained by the predictors. Hypothesis 1 predicted that availability of flexibility HRM would be positively related to engagement. Availability of irregular flexibility was positively related to engagement ($b = .06$, $p < .05$). Moreover, availability of regular flexibility was also positively related to engagement ($b = .07$, $p < .05$). Hypothesis 1 was fully supported. Hypothesis 2 predicted that use of flexibility HRM would be positively related to engagement. Use of irregular flexibility was not related to engagement ($b = .05$, ns). Moreover, use of regular flexibility was also unrelated to engagement ($b = .00$, ns). Therefore, Hypothesis 2 was rejected; use of flexibility HRM was not directly related to engagement.

Hypothesis 3 and Hypothesis 4 predicted that engagement partially mediated the relations between availability and use of flexibility HRM with job performance. In the analyses, we controlled for the stability of job performance by including job performance T1 as a predictor ($b = .60$, $p < .001$). Table 3 shows that engagement was positively related to job performance T2 ($b = .13$, $p < .001$). Forty-four percent of the variance in job performance was explained by the predictors. Engagement positively mediated the relation between availability of irregular flexibility and job performance (indirect effect $b = .01$, 95% confidence interval between .00 and .02). Because use of irregular flexibility was not significantly related to engagement, the indirect effect of use of irregular flexibility on job performance was also non-significant through engagement ($b = .01$, CI: $-.00$, .02).

Engagement mediated the relation between availability of regular flexibility and job performance (indirect effect $b = .01$, CI: .00, .02). Furthermore, engagement did not mediate the relation between use of regular flexibility and job performance ($b = .00$, CI: $-.01$, .01). In sum, Hypothesis 3 was supported, while Hypothesis 4 was rejected. Employee engagement mediated the relationships of availability of irregular and regular flexibility HRM with job performance over time. Use of irregular and regular flexibility was not directly or indirectly related to job performance over time.

Hypothesis 5 and Hypothesis 6 predicted that age moderated the relations between flexibility HRM and engagement and job performance. Table 5 shows the results of the

Table 2. Means, standard deviations, reliabilities, and correlations of the study variables (Study 1)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender T1 (M/F)	1.59	—	—													
2. Education T1	5.03	1.75	-.19**	—												
3. Organizational tenure T1	9.05	9.17	.14**	-.04	—											
4. Children T1	0.66	0.89	-.02	-.09*	-.07	—										
5. Working hours T1	41.09	8.86	-.25**	.16**	-.04	-.05	—									
6. Work status (FT/PT) T1	1.09	—	.14**	.04	.10**	.07	-.50**	—								
7. Irregular flexibility availability T1	3.00	2.02	-.10**	.34**	.09*	-.06	.06	.11**	—							
8. Regular flexibility availability T1	3.24	1.82	-.11**	.27**	.04	-.02	-.02	.13**	.63**	—						
9. Age T1	42.13	12.44	.11**	.04	.58**	-.13**	-.10**	.14**	.04	.06	—					
10. Irregular flexibility use T1	0.82	1.12	-.04	.15**	.08*	-.01	-.13**	.23**	.39**	.26**	.06	—				
11. Regular flexibility use T1	1.77	1.32	-.04	.20**	.08*	.02	-.06	.18**	.40**	.58**	.11**	.44**	—			
12. Engagement T2	5.33	1.15	.12**	.14**	.17**	-.08*	-.00	.07	.23**	.22**	.28**	.13**	.18**	—		
13. Perceived job performance T1	4.12	0.60	.09*	.03	.09*	.08*	-.01	.07	.08*	.06	.09*	.01	.11**	.24**	—	
14. Perceived job performance T2	4.14	0.62	.06	.06	.02	.03	-.00	.02	.09*	.06	.03	-.01	.09*	.35**	.62**	—

Note. Reliabilities are reported along the diagonal. N = 695.
*p < .05; **p < .01.

Table 3. Mediated regression analyses of flexibility human resource management predicting engagement and job performance (Study 1)

	Dependent variables		
	Work engagement T2 B (SE)	Perceived job performance T2 B (SE)	
Control variables			
Gender T1	.30**		-.02
Education T1	.04		.01
Organizational tenure T1	-.01		-.00
Children T1	-.06		-.00
Working hours T1	.01		-.00
Work status (FT/PT) T1	-.04		-.06
Age T1	.03***		-.00
	B (SE)	B (SE)	Indirect effects
Independent variables			
Irregular flexibility availability T1	.06*	.01	.01 [.00; .02]
Irregular flexibility use T1	.05	-.03	.01 [-.00; .02]
Regular flexibility availability T1	.07*	-.02	.01 [.00; .02]
Regular flexibility use T1	.00	.01	.00 [-.01; .01]
Job performance T1		.60***	
Work engagement T2		.13**	
F	13.76****	41.57***	
R ²	.16	.44	

Note. Bootstrap sample size = 5,000.

N = 695. All predictors were mean-centred.

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

analyses. Significant interactions were reported with three decimals, to obtain clear estimates of the interaction effects. Age did not moderate the relations of availability ($b = -.00$, ns) or use ($b = -.00$, ns) of irregular flexibility with engagement.

Further, age moderated the relation of availability ($b = -.003$, $p < .05$, $\Delta R^2 = 1\%$) and use ($b = -.007$, $p < .01$, $\Delta R^2 = 1\%$) of regular flexibility with engagement. Figures 2 and 3 show the interaction patterns. Figure 2 shows that the relation of availability of regular flexibility was positive for younger workers ($b = .11$, $p < .01$), while the relation was not significant for older workers ($b = .02$, ns). We found similar relations for use of regular flexibility, which is shown in Figure 3. The slope for younger workers was positive ($b = .10$, $p < .05$), while the slope was non-significant for older workers ($b = -.06$, ns).

We also found a significant interaction of availability of irregular flexibility with age in relation to job performance ($b = .002$, $p < .05$, $\Delta R^2 = 1\%$). Figure 4 shows the interaction effect. The relation was not significant for younger workers (1 *SD* below the mean; $b = -.01$, ns), while the relation was positive for older workers (1 *SD* above the mean; $b = .03$, $p < .05$). We found no significant interaction of use of irregular HRM with age in relation to job performance T2 ($b = -.03$, ns).

Finally, age also moderated the relation between use regular flexibility and job performance T2 ($b = .002$, $p < .05$, $\Delta R^2 = 1\%$). Figure 5 shows the interaction pattern. The relation was not significant for younger workers ($b = -.02$, ns), while it was positive for older workers ($b = .04$, $p < .05$). In sum, we found partial support for Hypothesis 5,

Table 4. Moderated regression analyses of flexible work schedule HRM predicting job performance (Study I)

	Dependent variables					
	Work engagement T2			Perceived job performance T2		
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
Control variables						
Gender T1	.29 (.09)**	.29 (.09)***	.28 (.09)***	-.01 (.04)	-.01 (.04)	-.02 (.04)
Education T1	.04 (.03)	.04 (.02)	.05 (.02)	.01 (.01)	.01 (.01)	.01 (.01)
Organizational tenure T1	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.00)	-.00 (.00)	-.00 (.00)
Children T1	-.06 (.05)	-.06 (.05)	-.06 (.05)	-.01 (.02)	-.00 (.02)	-.00 (.02)
Working hours T1	.00 (.01)	.01 (.01)	.01 (.01)	-.00 (.00)	-.00 (.00)	-.00 (.00)
Work status (FT/PT) T1	-.03 (.17)	-.01 (.17)	.02 (.17)	-.07 (.08)	-.08 (.08)	-.08 (.08)
Independent variables						
Irregular flexibility	.07 (.03)*	.07 (.03)**	.06 (.03)*	.01 (.01)	.01 (.01)	.01 (.01)
availability T1						
Irregular flexibility use T1	.04 (.04)	.04 (.04)	.07 (.04)	-.03 (.02)	-.03 (.02)	-.03 (.02)
Regular flexibility	.07 (.03)*	.06 (.03)	.07 (.03)	-.02 (.02)	-.02 (.02)	-.02 (.02)
availability T1						
Regular flexibility use T1	.02 (.04)	.03 (.04)	.00 (.04)	.01 (.02)	.01 (.02)	.01 (.02)
Age T1	.02 (.00)***	.02 (.00)***	.03 (.00)***	-.00 (.00)	-.00 (.00)	-.00 (.00)
Job performance T1						
Work engagement T2						
Irregular availability*Age						
Irregular HRM use*Age						
Regular availability*Age						
Regular use*Age	10.96***	11.12***	14.41***	39.38***	38.82***	39.15***
F	.16	.16	.17	.45	.44	.45
R ²						
				.002 (.001)*	.00 (.00)	.002 (.001)*
				39.07***	38.82***	39.15***

Note. HRM, human resource management. Bootstrapped sample size = 5,000. N = 695. All predictors were mean-centred. *p < .05; **p < .01; ***p < .001.

Table 5. Means, standard deviations, reliabilities, and correlations of the study variables (Study 2)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender (M/F)	1.38	—	—											
2. Education	2.11	0.66	-.01	—										
3. Organizational tenure	8.79	8.01	-.10**	-.12**	—									
4. No. of children	0.44	0.48	-.13**	-.00	.15*	—								
5. Working hours	49.00	11.52	-.12**	.01	.03	.09**	—							
6. Work status (FT/PT)	0.01	—	.04	.01	-.01	.00	-.11**	—						
7. Flexibility HRM availability	2.89	1.64	-.03	.08**	.07**	.03	-.02	-.01	—					
8. Age	37.55	9.41	-.09**	-.00	.67**	.23**	.02	-.03	-.15**	—				
9. Collectivism (Level 2)	4.48	0.51	-.15**	-.13**	.14**	.00	.16**	-.07**	.11**	.04	—			
10. Flexibility HRM use	1.81	1.09	.01	-.01	-.10**	-.02	-.02	.03	.04	-.10**	-.09**	—		
11. Engagement	5.51	1.19	-.07**	-.02	.03	.12**	.12**	-.05*	.06*	.11**	-.13**	.03	—	
12. Perceived job performance	4.54	0.87	.10**	.03	-.06**	.07**	-.02	.03	.04	.05*	-.48**	.14**	.36**	—

Note. HRM, human resource management.

Reliabilities are reported along the diagonal. $N = 2,158$.

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

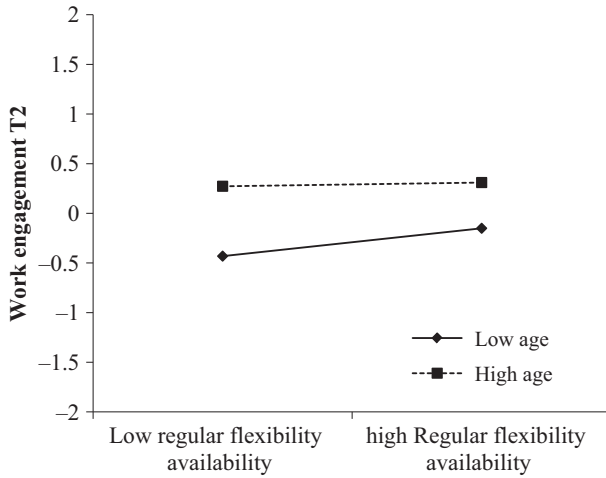


Figure 2. Interaction between availability of regular flexibility HRM and age in relation to work engagement T2 (Study 1). HRM, human resource management.

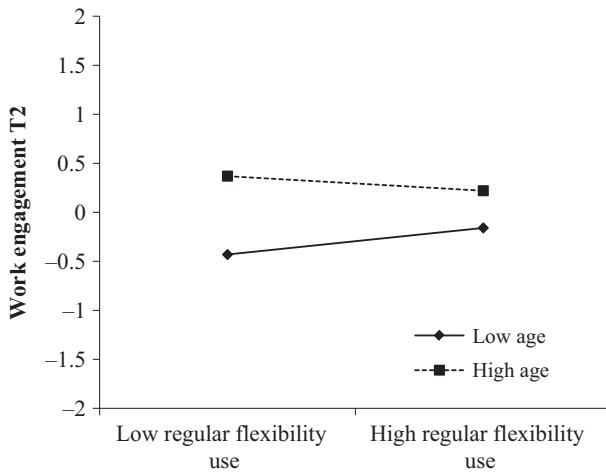


Figure 3. Interaction between use of regular flexibility HRM and age in relation to work engagement T2 (Study 1). HRM, human resource management.

with stronger relations of availability and use of regular flexibility for younger workers in relation to engagement, and partial support for Hypothesis 6, with stronger relations among older workers for the relations of availability of irregular flexibility and use of regular flexibility in relation to job performance.

To test whether the moderated relationships of age could not be attributed to other variables, we also tested whether the relationships were moderated by gender, number of children (Leslie *et al.*, 2012) and whether age was a nonlinear moderator in the relationships (i.e., age squared). None of the moderated relationships were significant, thus bolstering our conclusion that it was age that moderated the relationships, and not gender, how many children, or whether age was curvilinearly influencing the relationships. To further validate the results of the current study, another study among employees across 11 countries was conducted.

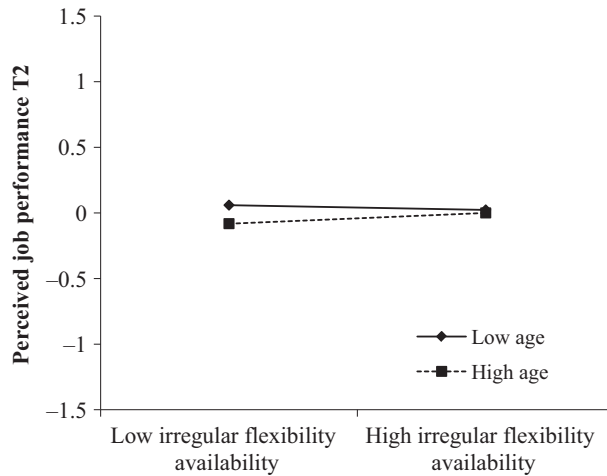


Figure 4. Interaction between availability of irregular flexibility HRM and age in relation to perceived job performance T2 (Study 1). HRM, human resource management.

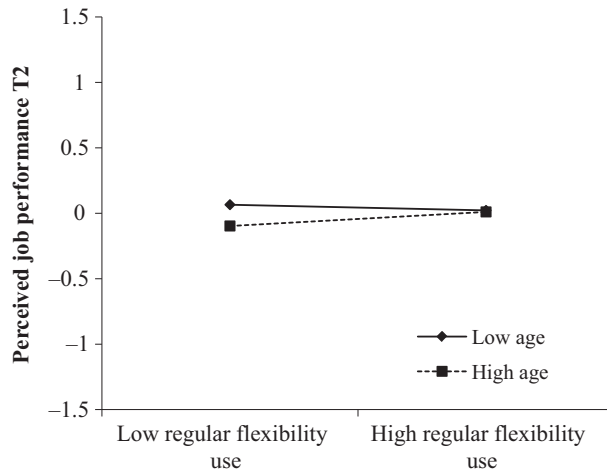


Figure 5. Interaction between use of regular flexibility HRM and age in relation to perceived job performance T2 (Study 1). HRM, human resource management.

STUDY 2

Methods

Participants and procedure

Study 2 was conducted from May 2009 until November 2010, in seven different multinational companies in 11 countries across the world. These companies include consultancy, technical, pharmaceutical, financial service, and energy organizations. Employees at 24 worksites in these organizations were emailed and asked to participate in the research. All employees were white-collar office workers. Of 11,298 employees were invited to participate in the research by filling out an online survey. In total, 2,158 employees filled out the survey completely, resulting in a total

response of 19%. Distribution of respondents was 26% from Japan, 14.7% from Brazil, 14.5% from China, 13.1% from Mexico, 11% from the United States, 5.3% from Spain, 5.3% from India, 3.9% from the UK, 3.4% from South Africa, 1.7% from the Netherlands, and 1% from Botswana. Of the 2,158 employees in the data set, the mean age was 37.5 years old, 38% was female, and 53% had no children. Mean organizational tenure with the organization was 8.79 years, and 99% worked fulltime. On average, employees worked 49 hr/week.

Measures

Availability and Use of Flexibility HRM were measured with six items measuring flexibility in work schedule and work space (Hill *et al.*, 2008). Table 1 shows the items. Availability was measured by asking employees whether their organization offered the six types of flexible work options to them (no, yes). Use was measured through asking participants whether they had used the options over the past year (no or yes). Scale scores were calculated through the total number of yes responses.

Employee Engagement ($\alpha = .88$) was measured with an adapted engagement scale of Schaufeli and Bakker (2004), using four items: 'At my work, I feel bursting with energy', 'I find the work that I do full of meaning and purpose', 'I am enthusiastic about my job', and 'I am immersed in my work'. Due to restriction on survey length, we used a 4-item scale, while retaining items from the three subdimensions vigour, dedication, and absorption. Responses could be provided on a 7-point scale (1 = 'never', 7 = always, every day you work'). *Perceived Job Performance* ($\alpha = .81$) was measured with two items measuring the overall job performance of the employee. The items were 'How do you think your supervisor would rate your job performance?' and 'How would you rate your own job performance?' Responses were provided on a 6-point Likert scale (1 = 'very poor', 6 = 'excellent').

Moderator and control variables

Age was measured as a continuous variable. *Collectivism* scores were obtained for the countries from the GLOBE study (House, Hanges, Javidan, Dorfman, & Gupta, 2004). This study derived cultural dimension scores for 62 countries. The GLOBE project distinguishes between cultural dimensions based on 'what should be' versus 'what is'. We focus on the latter scores, which measure common behaviours, institutional practices, and prescriptions in various cultures. Because scores of Botswana were not available, we used scores of neighbouring country Namibia. Moreover, because of potential confounding effects (see e.g., Hill *et al.*, 2008), we controlled for the influence of gender (1 = 'male', 1 = 'female'), highest obtained education (1 = 'less than college', 3 = 'graduate degree'), organizational tenure (in years), dependent children living at home (0 = 'no', 1 = 'yes'), the amount of hours employees worked per week, and work status (0 = 'fulltime', 1 = 'part-time').

Analysis

We first performed a CFA to test the factor structure, using the tetrachoric correlations of the binary variables (Uebersax, 2006). The proposed four-factor model (flexibility availability and use, engagement, and performance) obtained acceptable fit ($\chi^2 = 1300.54$, $df = 82$, $p < .001$; GFI = .93, SRMR = .07). Moreover, all of the items

Table 6. Multilevel regression analyses of HR flexibility practices predicting engagement and job performance (Study 2)

	Dependent variables									
	Work engagement					Perceived job performance				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	
	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)
Control variables										
Gender	-.16 (.05) ^{***}	-.13 (.05) ^{**}	-.13 (.05) [*]	-.13 (.05) [*]	.01 (.03)	.02 (.03)	.05 (.03)	.02 (.03)	.02 (.03)	.02 (.03)
Education	-.06 (.04)	-.09 (.04) [*]	-.09 (.04) [*]	-.09 (.04) [*]	-.03 (.03)	-.04 (.03)	-.02 (.02)	-.04 (.03)	-.04 (.03)	-.04 (.03)
Organizational tenure	.00 (.00)	-.01 (.00) [*]	-.01 (.00) [*]	-.01 (.00) [*]	-.00 (.00) [*]	-.00 (.00)	.00 (.00)	-.01 (.00)	-.01 (.00)	-.01 (.00)
Children	.15 (.05)	.11 (.05) [*]	.11 (.05) [*]	.11 (.05) [*]	.06 (.03)	.06 (.03)	.03 (.03)	.06 (.03)	.06 (.03)	.05 (.03)
Working hours	.01 (.00)	.01 (.00) ^{***}	.01 (.00) [*]	.01 (.00) [*]	.00 (.00) ^{***}	.00 (.00) ^{***}	.00 (.00) [*]	.00 (.00) ^{***}	.00 (.00) ^{***}	.00 (.00) ^{***}
Work status (FT/PT)	-.51 (.25)	-.48 (.25)	-.49 (.24) [*]	-.48 (.24) [*]	.05 (.16)	.04 (.16)	.15 (.15)	.03 (.16)	.03 (.16)	.04 (.16)
Independent variables										
Flexibility HRM availability		.19 (.03) ^{***}	.19 (.03) ^{***}	.19 (.03) ^{***}		.07 (.02) ^{***}	.04 (.02) [*]	.08 (.02) ^{***}	.07 (.02) ^{***}	.07 (.02) ^{***}
Flexibility HRM use		.02 (.03)	.01 (.03)	.01 (.03)		.05 (.02) ^{**}	.04 (.02) ^{**}	.05 (.02) ^{**}	.04 (.02) ^{**}	.04 (.02) ^{**}
Age		.17 (.04) ^{***}	.17 (.04) ^{***}	.16 (.04) ^{***}		.02 (.02)	-.02 (.02)	.02 (.02)	.02 (.02)	.02 (.02)
Collectivism (Level 2)		-.28 (.13) [*]	-.26 (.12) [*]	-.26 (.12) [*]		-.40 (.07) ^{***}	-.34 (.07) ^{***}	-.40 (.07) ^{***}	-.39 (.07) ^{***}	-.39 (.07) ^{***}
Work engagement										
Interaction terms										
Flexibility HRM availability*Age			.01 (.03)	.01 (.03)				.01 (.02)	.01 (.02)	.02 (.02)
Flexibility HRM use*Age			-.04 (.02) [*]	-.03 (.03)				.01 (.02)	.01 (.02)	.01 (.02)
Flexibility HRM availability*Collectivism			.06 (.03) [*]	.05 (.03) [*]				.03 (.02)	.03 (.02)	.03 (.02)
Flexibility HRM use*Collectivism			.06 (.03) [*]	.06 (.03) [*]				.01 (.02)	.01 (.02)	.02 (.02)
Age*Collectivism			.00 (.03)	.01 (.03)				.01 (.02)	.01 (.02)	.01 (.02)

Continued

Table 6. (Continued)

	Dependent variables													
	Work engagement						Perceived job performance							
	γ (SE) Model 1	γ (SE) Model 2	γ (SE) Model 3	γ (SE) Model 4	γ (SE) Model 5	γ (SE) Model 6	γ (SE) Model 7	γ (SE) Model 8	γ (SE) Model 9					
Flexibility HRM availability*Age*				.04 (.03)									.03 (.02)	
Collectivism														.02 (.02)
Flexibility HRM use*Age*				-.02 (.03)										
Collectivism														
-2 × log	6593.43	6512.19	6499.85	6496.51	4770.75	4725.96	4495.72	4721.98	4718.07					
$\Delta -2 \times \log$	47.04 ^{***a}	81.24 ^{***}	12.34 [*]	3.34	13.05 ^{*,b}	44.79 ^{***}	230.24 ^{***}	4.01 ^b	3.91					
Δdf	6	4	5	2	6	4	1	5	2					
Level 1 intercept variance	1.21 (.04)	1.17 (.04)	1.16 (.04)	1.16 (.04)	.52 (.02)	.51 (.02)	.46 (.01)	.51 (.02)	.51 (.02)					
Level 2 intercept variance	.17 (.06)	.19 (.07)	.17 (.06)	.17 (.06)	.16 (.05)	.05 (.02)	.06 (.02)	.05 (.02)	.06 (.02)					

Note. HRM, human resource management.

N = 2,158. All predictors were mean-centred.

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

^aComparison with intercept-only model.

^bComparison with Model 6.

loaded significantly on their respective factors. The proposed model obtained a significant better fit than a one-factor model ($\Delta\chi^2 = 10443.51$, $\Delta df = 6$, $p < .001$) and a model with a common method factor ($\Delta\chi^2 = 1451.20$, $\Delta df = 1$, $p < .001$). Hence, there was no indication of common method bias in the data (Podsakoff *et al.*, 2012).

Subsequently, we tested whether it was appropriate to conduct multilevel analyses, as respondents were nested in 24 worksites and in 11 countries. For both engagement and performance, multilevel regression analyses using worksites as Level 2 obtained better fit than ordinary regression analyses (engagement: $\Delta 2 \times \log = 55.715$, $p < .001$; job performance: $\Delta 2 \times \log = 189.926$, $p < .001$). Fourteen percent of the variance in engagement and 32% of the variance in performance were explained at level 2. Adding a third country-level did not produce a significant better fit for both engagement and performance, so it was deemed appropriate to proceed with multilevel analyses, using work sites as Level 2 indicators.

To test the hypotheses, we applied multilevel analyses using MLWin 2.24 (Rasbash, Browne, Haealy, Cameron, & Charlton, 2000). Independent variables were standardized before interactions were calculated. Moreover, to take into account the different cultural contexts, we added collectivism as a Level 2 moderator and assessed whether the relations between flexibility HRM, age, and the outcomes were additionally moderated by collectivism. Table 5 shows the correlations among the variables, and Table 6 shows the results of the multilevel analyses. Table 5 shows that flexibility availability is positively correlated with engagement ($r = .06$, $p < .05$), while flexibility use was positively correlated with job performance ($r = .14$, $p < .01$). Moreover, engagement was positively related to job performance ($r = .36$, $p < .01$).

Results

Hypothesis 1 and Hypothesis 2 predicted that availability and use of flexibility HRM would be positively related to engagement. Table 6 shows the results. Availability of flexibility HRM was positively related to engagement ($b = .19$, $p < .001$, Model 2). Hence, Hypothesis 1 was supported. Use of flexibility HRM was unrelated to engagement ($b = .02$, ns), and thus, Hypothesis 2 was rejected. Hypothesis 3 and Hypothesis 4 predicted that engagement mediated the relations between flexibility HRM and job performance. Availability ($b = .07$, $p < .001$, Model 6) and use ($b = .05$, $p < .01$) of flexibility HRM were positively related to job performance. Engagement was also positively related to job performance ($b = .21$, $p < .001$, Model 7). After adding engagement, the relations of availability and use of flexibility HRM were still significant but became smaller. The mediating effect of engagement was significant for availability ($z = 6.06$, $p < .001$), but not for use of flexibility HRM ($z = 0.67$, ns). Hence, Hypothesis 3 was supported, while Hypothesis 4 was rejected.

Hypothesis 5 and Hypothesis 6 predicted that age moderated the relations between flexibility HRM and engagement and job performance. Age did not moderate the relation between availability of flexibility HRM and engagement ($b = .01$, ns; Model 3), but it did moderate the relation between use of flexibility HRM and engagement ($b = -.04$, $p < .05$). Figure 6 shows the interaction pattern. The relation was positive for younger workers ($b = .05$, $p < .05$), while the relation was not significant for older workers ($b = -.03$, ns). Hence, Hypothesis 5a was rejected, and Hypothesis 5b was supported. Age did not moderate the relations between availability ($b = .01$, ns; Model 8) or use ($b = .01$, ns) of flexibility HRM and job performance. Hence, Hypothesis 6 was rejected;

the relations of availability and use flexibility HRM with job performance were no stronger for older workers.

In addition, we also ascertained whether the relations of flexibility HRM and age with engagement and performance were differing as a function of national culture. We tested whether the relationships of flexibility HRM with the outcomes were influenced by culture, but also whether the interaction effects of flexibility HRM with age were moderated by culture. Adding collectivism as a unit-level moderator showed that in more collectivistic countries, engagement ($b = -.28, p < .05$) and performance ($b = -.40, p < .001$) were lower. Moreover, the relation of use of flexibility HRM with engagement was moderated by collectivism ($b = .06, p < .05$). However, the relations for both low collectivistic countries (1 *SD* below the mean) and high collectivistic countries (1 *SD* above the mean) were non-significant. Only at extreme high levels of collectivism, the relation became significant. Thus, we did not find evidence for cultural differences among the countries in the relationships under study.

As in Study 1, we also tested the moderating role of gender, number of children, and curvilinear effects of age on the relations between flexibility HRM and the outcomes. Again, none of the interactions were significant, thus providing evidence for the moderating role of age rather than gender, dependent children at home, or nonlinear effects of age.

Discussion

This study investigated the effects of flexibility HRM on employee engagement and job performance among a sample of US office workers, as well as a sample of employees across the world. We also investigated the influence of age on the effects of flexibility HRM on outcomes and based our hypotheses on generation and ageing theory. First, we found that availability of flexibility HRM served as a strong indicator of the organization's caring for employees, as it positively related to employee engagement and job performance. Flexibility use, however, was unrelated to employee engagement. Hence, the availability

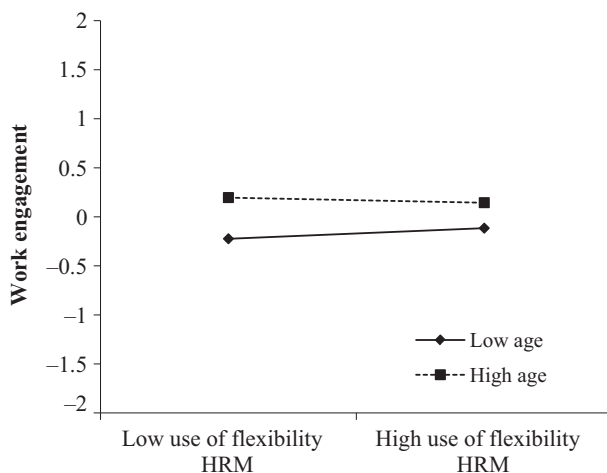


Figure 6. Interaction between use of flexibility HRM and age in relation to work engagement (Study 2). HRM, human resource management.

of flexibility HRM was a stronger predictor of outcomes than use of flexibility HRM. This supports signalling theory (Spence, 1973) within the context of HRM (Casper & Harris, 2008): The awareness among employees that flexibility practices are available to them when they need it will enhance their motivation and performance, because they serve as signals about the benevolent intentions by the organization. When employees perceive that flexibility is available to them, they will feel valued by their organization and know that in the future, when they may face difficulties in maintaining balance between work and non-work obligations can use these practices (Bal *et al.*, 2013).

For use of flexibility HRM, we found that it was only significantly related to job performance in study 2. Hence, when employees use flexibility practices, they not necessarily become more engaged in their work, but may become better performers. An explanation for the lack of these direct effects may be found in the reason to use flexibility HRM. According to COR theory (Halbesleben *et al.*, 2014), the utility of resources determines the extent to which they influence outcomes. COR theory can be applied to this study through showing positive relationships of use of flexibility HRM with the outcomes, but especially when the resources (i.e., flexibility) fits the needs of the employee. Because flexibility HRM may have a different value for employees, it may be that the extent to which flexibility adds to the resource pool depends on employee age (Bal *et al.*, 2013). Because younger generations have different reasons to desire flexibility than older people, their reactions might also be different. This was exactly what we found, and the reactions towards use of flexibility HRM depended upon the type of outcome. Availability and use of regular flexibility was positively related to engagement among younger workers. Studies have shown that younger generations have a greater preference for work in which they can flexibly combine work and private life, such as time for leisure (Ng *et al.*, 2010; Twenge *et al.*, 2010). Hence, when they are able to fulfil their stronger need for flexible work arrangements, they feel a stronger fit with their work and become more engaged. Moreover, when younger workers lack the opportunity to use flexibility HRM, their engagement decreases. This supports COR theory (Hobfoll, 1989) in the context of flexibility HRM, but depending upon the age of the employee.

Among older workers, use of flexibility increased their job performance. This can be explained on the basis of SOC theory (Baltes & Baltes, 1990), which postulates that older workers cope with declining health- and age-related losses in capabilities through selection of fewer goals and to compensate for losses by employing alternative means. Flexibility HRM enables older workers to more flexibly balance demands from work and private life, through which they will be better able to put effort into their work, while at the same time, not to suffer lower job performance. Hence, flexibility enables them to retain a healthy work-life balance and hence experience the opportunity to perform at work (Appelbaum *et al.*, 2000). Thus, SOC theory was supported such that older workers can use flexibility HRM as a way to counteract age-related losses in capabilities.

In sum, we provide support for a partially mediated model in which flexibility HRM enables employees to become more engaged, which consequently motivates and provides the opportunity to perform at work (De Menezes & Kelliher, 2011). These effects are stable across cultural contexts as the relations were stable in eleven countries in various continents. Moreover, we provide evidence for age-related differences in the effectiveness of flexibility HRM use, by showing that younger generations, who perceive flexibility as something they highly value, react to using flexibility by feeling more engaged in their work, while older workers, who need flexibility to balance the consequences of

age-related declines in capabilities, are able to directly maintain their levels of performance at work and even enhance it.

In Study 1, we found generally stronger interaction effects of regular flexibility than for irregular flexibility. This may be explained on the basis that employees who use regular flexibility may perceive the benefits on a more daily basis, through which they become more engaged, while irregular flexibility is used only in exceptional circumstances. Finally, not all of the findings from Study 1 were replicated in study 2 and not all of our hypotheses were fully supported. While we found younger workers to react more strongly to flexibility use in relation to work engagement in both studies, we only found older workers to react more strongly to flexibility HRM in relation to job performance in Study 1, but not in study 2. This may be explained in the differences across countries in the meaning of 'old', such that being older may have different connotations across different cultural contexts (Kooij, De Lange, Jansen, & Dijkers, 2008). Hence, the age at which a worker is perceived to be an older worker may differ in these different cultural contexts. The speed at which age-related losses influence the need for flexibility may therefore differ across countries, and future research could shed more light on this issue.

Theoretical implications

The current study has important implications on theory development in both the flexibility literature (Allen *et al.*, 2013), the generation literature (Twenge *et al.*, 2010), and the literature on ageing at work (Kooij *et al.*, 2008). First, theory and research on the effectiveness of flexibility HRM has primarily been developed in response to an increase of dual-career couples with young children at home. Flexibility has been introduced to tackle issues with respect to combining careers with private life (Baltes *et al.*, 1999). This study, however, adds to this literature by showing that flexibility is also highly valued among younger workers, as well as important for the job performance of older workers. Hence, flexibility HRM should be theorized and developed not only with respect to balancing the demands in work and raising children at home, but also, and perhaps primarily, with respect to employees' feelings towards their needs for flexibility at work, as well as flexibility as means to cope with age-related losses. Hence, the reasons for employees to look for and select flexibility HRM is as important as studying the effects, as the reasons why people want to use these practices may differ and determine the effects of using flexibility (Leslie *et al.*, 2012). Moreover, we found availability to be most strongly related to the outcomes, while we found interaction of use with age. Hence, availability may be an important signal for employees through which they become engaged and performing, while when they want or need to use flexibility, this may further enhance these outcomes. We found these relations somewhat more strongly for regular, daily flexibility.

Younger generations may use flexibility because they feel entitled to it and hence fulfil their stronger needs for leisure and flexible work schedules (Twenge *et al.*, 2012). Older workers, however, may use flexibility HRM because they need it to counteract the negative consequences of age-related declines (Baltes, 1997). Hence, the expected effects may be different based on the motivation to use a particular type of flexibility. Moreover, we also found that availability influenced perceived job performance, both directly and indirectly through engagement. However, use of flexibility HRM does not necessarily lead to similar outcomes, and hence, theory and future research should take into account that the relations of use of flexibility depend on both the employee (i.e., age) and the outcomes involved (affective or behavioural).

Moreover, while we are among the first to show that younger workers may show opposite reactions from older workers depending on the outcome studied, an important implication of our study is that theory on age-related differences in reactions towards HRM (e.g., Kooij *et al.*, 2013, 2014) should take the type of outcome into account. Future research and theory building should be designed based on the result that younger workers may be affected in their motivation, while older workers can be more affected in their behaviour at work.

For generation theory, an important implication of this study is not only to show how generation theory can be applied to management concepts such as workplace flexibility, but also through extending the knowledge on how younger generations are motivated in their work. While younger workers may have greater feelings of entitlement and a higher demand of 'luxury' HRM, including flexibility, it is important to ascertain how not only engagement can be increased, but also their productivity and performance.

Finally, research on ageing workers has traditionally focused on the differences between younger and older worker in their motives, attitudes, and reactions to job characteristics (e.g., Kooij *et al.*, 2008; Zaniboni, Truxillo, & Fraccaroli, 2013). However, these studies have largely taken a perspective of older workers as passive recipients of job characteristics. The current study shows that when older workers receive more flexibility in how they balance work obligations with non-work obligations, their performance may increase. This perspective fits within the recent trend of individualization of work arrangements, such that older workers can take an individual approach to maintain motivation and productivity (Bal *et al.*, 2012). Hence, flexibility may be very crucial in maintaining employees' capabilities to extend their working lives and, for instance, to continue working beyond retirement (Bal *et al.*, 2012).

Limitations and suggestions for further research

Even though this study has a number of strengths, including the integration of ageing theories with flexibility theory, the multiple data sets, and the longitudinal design, it also has some limitations as well. First, the self-report nature of the study limits its potential to make definitive statements about the relationships we studied. We did not measure objective job performance. Because of different performance appraisal procedures among the organizations, it was not possible to compare these ratings. Moreover, as objective measures were not available, it was deemed appropriate to measure self-reported job performance (Bommer *et al.*, 1995). However, we advise future researchers to include these objective assessments of job performance as well.

We also found that the respondents for Study 1 were not representative for the respondents who started the research project with having higher tenure, fewer children, working more full-time, and being older. Even though we did not compare differences in means, but relationships of the variables with other variables, further research is needed to ascertain the representativeness of the findings. Moreover, we used collectivism as a proxy of cultural differences across the countries (Peretz & Fried, 2012). Despite that the study did not aim to investigate cross-cultural differences in the effectiveness of flexibility HRM (cf. Masuda *et al.*, 2012), a more detailed analysis of cultural and country differences in the effects of flexibility HRM is needed to further disentangle cross-cultural benefits of flexibility HRM.

Another limitation pertains to the testing of the mediation effects. For a full mediation test, a three-wave study should be necessary, and we suggest that future research includes multiple waves to assess the full mediation effects over time. In study 2, we were not able to collect longitudinal data due to the complex data collection process in the 11 countries.

Therefore, future research should ascertain the longitudinal effects of flexibility HRM, but also the role of time in these effects (Ford *et al.*, 2014). Finally, in this study, we differentiated between irregular and regular flexibility HRM and found similar results for the two types of HR bundles in relation to the outcomes. However, future research could further investigate how different types of flexibility may benefit specific groups of employees as well as benefit employees within specific circumstances. While regular flexibility enables employees to regulate work and home demands on a more daily basis, irregular flexibility could enable flexibility in exceptional circumstances, or to have the opportunity to pursue other major life goals, such as taking a sabbatical to do volunteer projects overseas. Hence, these different types of flexibility may serve different needs and have different effects (De Lange, Kooij, & Van der Heijden, in press).

Practical implications

The study clearly shows that offering flexibility to employees has beneficial effects. Managers may be aware that it is important that employees have access to and use flexibility, because both enhance engagement and performance. Hence, it is important for organizations to have a broad range of flexibility options that employees can use. Individualization of work arrangements, such that employees have a personalized choice of how and when they conduct their work, will result in greater motivation and productivity (Rousseau, 2005). Moreover, organizations should be aware that flexibility is not only important for parents with young children, but also for older employees, who can use flexibility in how they conduct their work to cope with their diminished physical capabilities which come with the ageing process. Younger generations, moreover, may feel entitled to use all of these flexibility options, but it is not self-evident that they profit in the same way as older workers as their performance did not increase when they used flexibility.

Conclusion

This study investigated the effects of availability and use of flexibility HRM on employee engagement and performance. It was predicted and found that availability of flexibility HRM would be positively related to employee engagement and performance. Hence, this study provides some further evidence for the business case for flexibility HRM (De Menezes & Kelliher, 2011). Furthermore, it was found that younger workers reported higher engagement when they used flexibility HRM. Furthermore, older workers' perceived job performance increased when they used flexibility HRM. In sum, this study shows that to ascertain the effects of flexibility HRM, it is crucial to take employee age into account.

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