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Tailoring professional development for teachers in primary education

The role of age and proactive personality

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Abstract

Purpose – The aim of this survey study among $N = 180$ Dutch teachers was to examine the moderating role of calendar age and proactive personality in the relationships between developmental opportunities, on the one hand, and work engagement and self-perceived employability, on the other. The paper aims to discuss these issues.

Design/methodology/approach – Hierarchical regression analyses have been used, illustrated by means of quotes – gathered through open questions in the survey – to support the quantitative findings.

Findings – A significant interaction effect between calendar age and developmental opportunities in relation to self-perceived employability, but not to work engagement, has been found, revealing stronger positive effects for developmental opportunities among older workers than among younger ones.

Research limitations/implications – The present study provides a starting-point for further research on professional development in other occupational settings.

Practical implications – The use of age-conscious developmental opportunities is a powerful tool in encouraging life-long learning.

Social implications – Improvement in teachers' engagement and employability will enhance their performance, and will consequently lead to better pupil performance, and will contribute to the wider status of the profession, meaning that more young talented people will seriously consider working in the field and thereby helping to address the urgent need for more teaching staff.



Originality/value – This study increases the knowledge of professional development among teachers and examines to what extent age and proactivity play a role in this regard. The results of the empirical work challenge dominant views on age-related declines and losses, and invite the authors to continue scholarly work in this field focussing upon long-term intra-individual development.

Keywords Age, Proactive personality, Developmental opportunities, Self-perceived employability, Work engagement

Paper type Research paper

Introduction

Due to the challenges posed by the dynamic labor market, increased global competition and technological innovations, life-long learning is high on both the management agenda and the research agenda (Hertel *et al.*, 2013), with the teaching profession being no exception (Richter *et al.*, 2011). Teachers in primary and secondary schools, in particular, have to update their knowledge and skills continuously (Beier *et al.*, 2012) in order to meet ever more demanding requirements (Evers *et al.*, 2011a, 2011b). As a result, sustaining and improving the professional development as well as work engagement and employability among teachers (Van der Heijde and Van der Heijden, 2006) during the whole length of their careers has become an important issue on the agenda of many educational institutions including the Dutch Ministry of Education (Commissie Leraren, 2007).

Another factor underlying the development described above has been a lack of opportunities for professional development, which is a major reason why valuable and experienced teachers leave the sector (Eros, 2011). In addition, the Dutch education sector will soon be facing severe teacher shortages, in terms of both quantity and quality, due to the aging of the existing pool of teachers and the fact that many experienced teachers are due to retire soon (Beier *et al.*, 2012; Commissie Leraren, 2007). We therefore need HRM policies that are designed to retain older teachers until they reach retirement age, so that teachers can continue to make a meaningful contribution to education (see Burstow and Maguire 2013; CNV Onderwijs, 2013, www.cnvo.nl).

There is also a need for new research into the role of job and personal resources in predicting work outcomes (see also Evers *et al.*, 2011a, 2011b). Although earlier studies (e.g. Richter *et al.*, 2011) found that older teachers participate less in formal in-service training and prefer different types of learning opportunities in comparison with their younger peers, empirical work on how the effect of informal developmental opportunities on work outcomes changes with age is still lacking.

Moreover, teachers are more than just marionettes (Huberman, 1989) and they can be expected to react and adapt to their environment. It is for this reason that we will also examine the role that a proactive personality can play in making the most of developmental opportunities. Previous work has already provided some evidence that self-regulatory behavior may act as a buffer against the high demands of working as a teacher (Philipp and Kunter, 2013). However, to the best of our knowledge, no empirical research has been conducted in this field to address its impact on the associations between job resources, such as developmental opportunities, and teachers' work engagement and employability.

Our first aim in this study is to increase our knowledge of professional development among teachers by focussing on the relationships between developmental opportunities at work and positive work outcomes such as enhanced work engagement and self-perceived employability. Moreover, since earlier studies have suggested that age and a proactive personality influence the associations between job resources (i.e. influence at work,

social support, and job control), and work outcomes (De Lange *et al.*, 2010; Dikkers *et al.*, 2010; Truxillo and Fraccaroli, 2013), our second objective is to examine the extent to which the effect of developmental opportunities on both work engagement and perceived employability may be a function of both age and proactive personality.

Previous research on the Job Demands-Resources model (JD-R model) (Demerouti *et al.*, 2001) has indicated that individual difference factors or personal resources may play an important role in the relationships between job resources, job demands, and outcomes, and that it is advisable to take them specifically into account in empirical scholarly work (Schaufeli and Taris, 2014).

Theoretical framework

It still pleases me to work with children. I still enjoy it! For 27 years, I have always put a lot of time and energy into my work, as well as my family (female teacher, born in 1960).

Developmental opportunities, work engagement and employability

As one older female teacher describes in the quote above, work engagement is a desirable goal and one with positive effects in terms of employee well-being and innovation at work (Nielsen and Cleal, 2010). Work engagement can be defined as a positive and fulfilling state of mind *vis-à-vis* one's work that is distinguished by three dimensions: vigor, dedication, and absorption (Schaufeli and Bakker, 2004a). Vigor refers to high energy levels and mental resilience while carrying out one's work, as well as persistence in the face of difficulty. Dedication means being completely involved in one's work while experiencing a sense of significance, inspiration, and pride. Finally, absorption refers to concentrating fully and being happily engrossed in one's work (Schaufeli and Bakker, 2004a).

I just turned 50. Personally, I've been thinking about doing something completely different for a while. Something which is less demanding. I would like to do a job that when you get home, you're done. It is simply difficult to find a job outside education. What are you going to do, and especially now in these times and at this age? (male teacher, born in 1962).

This male teacher aged 52 expresses his concerns about his employability, which refers to the perceived likelihood of getting and retaining a (new) job, and to perceived employment opportunities or career potential (Fugate *et al.*, 2004; Van der Heijde and Van der Heijden, 2006). In this study, we construe self-perceived employability as a cognitive attitude that is a factor of whether the actor feels confident that he or she could obtain a new job and broaden his or her repertoire of behavior and skills (Maurer, 2001).

A growing body of research has shown that job resources, such as developmental opportunities at work, are strong predictors of work engagement (e.g. De Lange *et al.*, 2008; Mauno *et al.*, 2007; Rich *et al.*, 2010). What is more, previous work (Van der Heijden and Bakker, 2011) has revealed strong associations between job resources (i.e. the learning value of the job and a transformational leader) and employability. Opportunities to develop and enhance skills help employees to meet their needs for personal growth through self-development and continuous learning (De Pater *et al.*, 2009), and as a result, are found to contribute to self-perceived employability (Van der Heijden and Bakker, 2011; Van der Heijden *et al.*, 2009a, b).

These effects can be explained by the important role played by job resources in enhancing positive work outcomes (Demerouti *et al.*, 2001). More specifically, job

resources can play either an intrinsic motivational role by increasing employees' growth, learning, and development, or an extrinsic one by achieving work goals (Bakker, 2011):

H1. Developmental opportunities are positively related to work engagement.

H2. Developmental opportunities are positively related to self-perceived employability.

The moderating role of age in the relationships between developmental opportunities, work engagement, and self-perceived employability

Building upon the JD-R model, developmental opportunities may be seen as important resources that are not only important to deal with the demands of one's job but are also important in their own right. This argumentation also concords on a more general level with Conservation of Resources (COR) theory (Hobfoll, 2001), which states that the prime human motivation is directed toward the maintenance and accumulation of resources (Bakker and Demerouti, 2007, p. 213; Hobfoll, 2001). Like Xanthopoulou *et al.* (2007), we build on COR theory to propose that individual differences or personal resources play a role in the relationship between job resources and worker outcomes. However, although Xanthopoulou *et al.* (2007) propose that personal resources (such as self-efficacy, self-esteem, and optimism) mediate this relationship, we propose that individual differences or personal resources (such as age and proactive personality) moderate this relationship.

With respect to the moderating role of age, Kanfer and Ackerman (2004) and Baltes *et al.* (1999) refer to the notion of "loss and growth" that is characterized by a decline in fluid intelligence and an increase in crystallized intelligence with older age. Accordingly, older workers are more likely to adopt specific strategies for minimizing losses and maximizing gains using the personal resources available (Selective Optimization with Compensation (SOC) theory; Baltes *et al.*, 1999). Indeed, several researchers (Ebner *et al.*, 2006; De Lange *et al.*, 2011) have demonstrated that a person's goal orientation changes during their life-span, shifting the focus from growth to maintenance or loss prevention.

As a result, aging employees might change their preference from extrinsically rewarding job features (such as competition with younger workers, promotions) to more intrinsically rewarding job features, such as opportunities to develop at work and enjoying social contacts (Kanfer and Ackerman, 2004; Kooij *et al.*, 2011).

Previous empirical work among teachers has indicated that younger and older teachers engage in fewer tasks (selection), that older teachers allocate more time to less demanding tasks rather than to more demanding aspects of their work (compensation), and that older teachers have less career ambitions (optimization) (Philipp and Kunter, 2013, p. 11). In addition, older teachers have been found to experience a shift away from extrinsic work motives, such as proving oneself to others, toward more intrinsic work motives, such as feeling more effective in the classroom (Huberman, 1989).

At the same time, as they grow older, employees perceive a reduction in the available personal resources and opportunities for career progression (such as a lack of opportunities for promotion) (Van der Heijden *et al.*, 2009a, b). Particularly for teachers, there is a serious lack of (alternative) career opportunities (Philipp and Kunter, 2013). In addition, older workers have more difficulty finding new jobs (Euwals *et al.*, 2009), especially when their employability is already an issue (Maurer *et al.*, 2003) because of experience concentration, skills obsolescence and career plateauing (Farr and Ringseis, 2002).

We therefore expect that especially older teachers may benefit from developmental opportunities (see also Kanfer and Ackerman, 2004; Poell *et al.*, 2004):

H3. The strength of the association between developmental opportunities and work engagement increases with age.

H4. The strength of the association between developmental opportunities and self-perceived employability increases with age.

The moderating role of proactive personality in the relationships between developmental opportunities, work engagement, and self-perceived employability

Proactivity refers to a complex construct involving multiple causes (Crant, 2000). Bateman and Crant (1993) defined it as a relatively stable tendency to bring about environmental changes. In terms of professional career development, proactive workers actively search for and engage in opportunities to develop (Frese *et al.*, 1996), and as such they aim to challenge their situation rather than passively adapting to it (Crant and Bateman, 2000).

Our hypothesis on the moderating effect of proactive personality was developed in line with the COR theory (Hobfoll, 2001), building on and extending the JD-R model. As regards the JD-R model, Dikkers *et al.* (2010) examined the interplay between proactive personality and job demands and resources on the one hand, and work engagement on the other. They found empirical evidence for the important role of proactive personality in the JD-R model.

COR theory suggests that various types of resources aggregate in so-called “resource caravans”, for example in one’s current work situation. These caravans reflect the idea that having one major resource is typically linked with having additional ones (Rini *et al.*, 1999). Indeed, in their empirical work, Dikkers *et al.* (2010) report that job resources have a stronger impact on work engagement in more proactive employees (when job demands are low). In a similar vein, although organizations tend to offer fewer HR practices and opportunities for development (Van der Heijden *et al.*, 2009a, b), older employees can offset this disadvantage to some extent through increased proactivity, and thus keep career opportunities open to them (Vandenberghe and Ok, 2013), and maintain their employability. Following Hobfoll (2001, p. 339), we expected employees with a proactive personality to be better able to adapt, generate or use job resources, and by so doing to shape their career paths. That is to say, proactive workers in particular may benefit from developmental opportunities in terms of positive work outcomes:

H5. The strength of the association between developmental opportunities and work engagement is expected to increase with a more proactive personality.

H6. The strength of the association between developmental opportunities and self-perceived employability is expected to increase with a more proactive personality.

Method

Participants and procedure

Data for this study were collected as part of a larger research project among Dutch teachers. Questionnaires were sent by e-mail to all (196) staff members at nine Dutch primary schools in the eastern (more rural) part of the Netherlands. All nine schools work together as part of a regional partnership. The reason that the schools

commissioned this research was that they wanted to improve the work ability of their teaching staff. The respondents were informed of the purpose of the study, and that all information would be treated confidentially. A total of 182 responses were received (a response rate of 93.0 percent). The final sample included 44 male (24.2 percent) and 138 female teachers (75.8 percent). The mean age of the teachers was 42.3 years (SD = 12.1), ranging from 22 to 61 years. Their organizational tenure was, on average, 11.6 years (SD = 9.8). The average size of the schools was 20.2 teachers. Of the teachers, 41.2 percent worked full-time. Almost half the teachers (47.3 percent) were married or co-habiting, and had children living at home, while one-third of the respondents were married or co-habiting without children at home.

Measures and model fit

Age was measured by asking respondents to fill in their date of birth.

Developmental opportunities was measured using four items that originated from a Dutch Questionnaire entitled "School's Health Measure" (Van Poppel and Kamphuis, 2004) (Cronbach's α 's was 0.86). All items were measured on a five-point Likert scale (ranging from: totally disagree = 1 to totally agree = 5). A sample item was: "My job offers possibilities to learn new things."

Work engagement was measured using the Utrecht Work Engagement Scale consisting of three dimensions, with all items scored using a seven-point Likert scale (never = 0 to always = 6; Schaufeli and Bakker, 2003, 2004b). A sample item, for the first dimension vigor, was: "At my work, I feel bursting with energy"; for absorption, the second dimension, a sample item was: "Time flies when I'm working"; and, finally, for dedication, a sample item was: "My job inspires me" (Cronbach's α 's for these three subscales were respectively 0.83, 0.77, and 0.90).

Self-perceived employability was measured using three items relating to the employee's labor market position (Verboon *et al.*, 1999). All items were measured on a five-point Likert-scale (ranging from: totally disagree = 1 to totally agree = 5). An example item was: "If I had to apply for another job, I would rapidly succeed in finding one" (Cronbach's α was 0.76).

Proactive personality was measured using a Dutch translation of the ten-item scale developed by Seibert *et al.* (1999) (Cronbach's α was 0.82). The scale anchors ranged from: not at all = 1 to a strong extent = 9. Sample items included: "I love being a champion for my ideas, even in the face of opposition from others" and "I am excellent at identifying opportunities."

Control variables: as well as controlling for the main effects of calendar age and proactive personality, we also controlled for gender (0 = male, 1 = female). Given the lack of variance in educational background (96 percent of the respondents appeared to have a bachelors- or masters-level degree), this variable was not included as a control factor. In addition, given the low number of participants, we did not control for the specific school. Besides, *post hoc* analyses demonstrated that controlling for educational background and school (operationalized with eight dummies) did not alter the results of our study.

CFAs were conducted to assess the study measures' factor structure in Amos 19.0 (Arbuckle, 2006). We fitted the hypothesized six-factor model (M1), a model in which proactive personality and vigor loaded on the same factor (M2), a model in which developmental opportunities and dedication loaded on the same factor (M3), a model in which self-perceived employability and vigor loaded on the same factor (M4), a model in which vigor, absorption, and dedication loaded on the same factor (M5), and a single-factor model (M6). Table I reports the fit indices of

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Model	CFA	χ^2	df	CFI	RMSEA	$\Delta\chi^2$	Δdf
M1	6 factors	885.07***	480	0.87	0.07		
M2	5 factors	1207.95***	485	0.76	0.09	322.88***	5
M3	5 factors	1176.47***	485	0.77	0.09	291.40***	5
M4	5 factors	1034.84***	485	0.82	0.08	149.77***	5
M5	4 factors	915.69***	489	0.86	0.07	30.62***	9
M6	1 factor	1683.89***	495	0.61	0.12	798.82***	15

Notes: CFI, comparative fit index; RMSEA, root-mean-square error of approximation. M1 is hypothesized six-factor model; M2 is five-factor model in which proactive personality and vigor loaded on the same factor; M3 is five-factor model in which developmental opportunities and dedication loaded on the same factor; M4 is five-factor model in which employability and vigor loaded on the same factor; M5 is four-factor model in which vigor, absorption, and dedication loaded on the same factor; M6 is a single-factor model. *** $p < 0.001$; ** $p < 0.01$

Table I.
Results of scale analyses

the different models, and shows that the six-factor model fits the data significantly better than the other models. All the factor loadings of the items on their respective factors were significant.

Open question: all respondents were asked to answer one open question at the end of the questionnaire allowing them to make additional remarks or to comment on their work circumstances or the research. Some examples of these qualitative remarks are reported in this contribution to illustrate how the participants view their work.

Analyses

We used hierarchical regression analyses to test our hypotheses. In the first step, we entered the control variables of age, gender, and proactive personality. In the second step, we entered the independent variable developmental opportunities. In the third step, we entered the two-way interaction effect between age and developmental opportunities. Finally, in the fourth step, we entered the two-way interaction effect between proactive personality and developmental opportunities. Following Aiken and West (1991), the independent variables were standardized prior to testing the two-way interaction effects.

Results

Preliminary analyses

As expected, there was a significant positive relationship between developmental opportunities and vigor ($r = 0.36$, $p < 0.001$), absorption ($r = 0.38$, $p < 0.001$), dedication ($r = 0.46$, $p < 0.001$), and self-perceived employability ($r = 0.24$, $p < 0.01$) (Table II).

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1 Age	42.3	12.1							
2 Developmental opportunities	3.7	0.7	0.07	0.86					
3 Proactive personality	3.5	0.5	0.07	0.05	0.82				
4 Vigor	5.0	0.8	-0.02	0.36***	0.35***	0.83			
5 Absorption	5.0	0.9	-0.01	0.38***	0.22**	0.81***	0.90		
6 Dedication	5.2	0.9	-0.08	0.46***	0.26**	0.83***	0.81***	0.77	
7 Self-perceived Employability	2.5	0.8	-0.03	0.24**	0.23**	0.25**	0.15*	0.20**	0.76

Notes: $N = 180$. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table II.
Means, standard deviations, reliability coefficients (Cronbach's α ; on the diagonal), and correlations between the model variables

Hypotheses testing

Table III reveals that *H1* is supported; developmental opportunities are positively related to work engagement (i.e. vigor $\beta = 0.34$; $p < 0.001$, absorption $\beta = 0.37$; $p < 0.001$, and dedication $\beta = 0.45$; $p < 0.001$). Furthermore, *H2* is also supported; developmental opportunities are positively related to employability ($\beta = 0.23$; $p < 0.01$).

H3 is not supported; the association between developmental opportunities and work engagement is not influenced by age. However, *H4* is supported by our data; the interaction effect of age and developmental opportunities on self-perceived employability appears to be significant ($\beta = 0.26$; $p < 0.01$). Figure 1 reveals that the association between developmental opportunities and employability is stronger for older workers than younger ones. This finding was further confirmed using simple slopes tests. The slope of the association between developmental opportunities and employability was not significant for employees of a lower age (i.e. 1 SD below mean age) or “younger workers”, and was significantly positive for employees of a higher age (i.e. 1 SD above mean age) or “older workers” ($B = 0.41$, $p < 0.001$).

In general, the Board pays too little attention to the workload of older teachers. My immediate supervisor makes allowances for me within my school. Nevertheless, I do not think I will continue working until my retirement age (male teacher, born in 1951).

Currently I'm really trying to understand “how I do my job”, “what my ambitions actually are”, “where do I derive my job satisfaction from”, and so on. I've had some pleasant and constructive conversations with my immediate supervisor. I have also taken the step of talking to a career coach and I think that will help me. But now, I have no idea what my future will look like! However, I can say that I feel listened to and supported (female teacher, born in 1972).

Both of these teachers stress the importance of employability for older teachers. However, at the same time, many of them do not envision themselves becoming old in their current job.

H5 and *H6* are not supported by our data; the association between developmental opportunities, on the one hand, and work engagement and self-perceived employability, on the other hand, appeared not to be moderated by proactive personality.

Discussion and conclusions

In line with the JD-R model, we hypothesized and confirmed positive relationships between developmental opportunities (being an important job resource), as well as work engagement and self-perceived employability (being important work outcomes). Furthermore, building upon previous work on the association between aging and work outcomes, we also found an interaction effect between age and developmental opportunities when it comes to predicting employability. More specifically, the impact of developmental opportunities on self-perceived employability appeared stronger for older teachers than for younger teachers.

In sum, older teachers in particular benefit from development opportunities, such as learning new skills or using their talents. However, while this may tend to increase their self-perceived employability, contrary to our expectations, development opportunities are not especially valuable in terms of their enjoyment at work. Earlier research (e.g. Kooij *et al.*, 2011) found that employees' motivation to engage in challenging work from which they learn new skills decreases with age, whereas the motivation to engage in interesting work in which employees use their existing skills increases with age. It is possible that these effects simply cancel each other out, which would explain why the influence of development opportunities on work engagement does not appear to change with age.

Table III.
Regression analyses
with age, proactive
personality, and
developmental
opportunities as
predictors of work
engagement and
self-perceived
employability

	β	Vigor F	ΔR^2	β	Absorption F	ΔR^2	β	Dedication F	ΔR^2	β	Employability F	ΔR^2
Model 1		25.35***	0.13		9.75***	0.10		10.19***	0.09		10.07***	0.05
Age	-0.05			0.05			-0.03				-0.05	
Gender	0.15			0.23***			0.20**				-0.08	
Proactive Personality	0.35***			0.20**			0.24**				0.23**	
Model 2		28.10***	0.11		17.86***	0.13		25.82***	0.20		10.55***	0.06
Developmental Opportunities	0.34***			0.37****			0.45***				0.23**	
Model 3		19.16***	0.01		13.37***	0.00		19.26***	0.00		12.03***	0.06
Age \times development opp	0.08			0.03			0.01				0.26***	
Model 4		14.55***	0.00		10.64***	0.00		15.62***	0.00		8.98***	0.00
Proactiv \times development	-0.07			0.01			-0.07				-0.01	

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

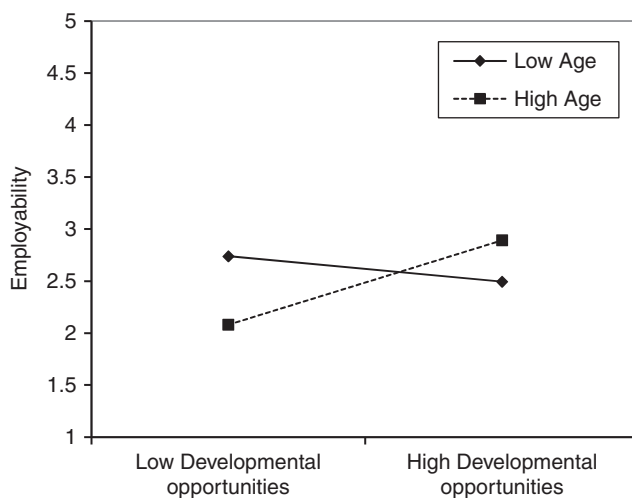


Figure 1.
Interaction effect
of age and
developmental
opportunities on
self-perceived
employability

As regards the moderating effect of proactive personality, and contrary to Hobfoll (2001), we did not find that teachers with a proactive personality make better use of developmental opportunities. Since proactive personality has a strong and direct association with engagement and employability (see also Dikkers *et al.*, 2010), it seems that proactive teachers are able to increase their engagement and employability irrespective of the development opportunities they are given. Future research should try to explain why or how proactive teachers increase their engagement and employability – for example through job crafting behaviors (Wrzesniewski and Dutton, 2001). In addition, it may be beneficial to incorporate different typologies of personality into future empirical work, such as the Big Five framework (see for instance Costa and McCrae, 1992).

Theoretical implications

The results of our empirical work challenge dominant views on age-related declines and losses, and invite us to take age-related research a step further by focussing upon long-term intra-individual development (Schalk *et al.*, 2011) in order to promote life-long employability (Van der Heijden *et al.*, 2009a, b). Preferably, this would be done by incorporating additional job resources in combination with job demands, and work outcome factors, as well as alternative moderators, in order to better understand teachers' professional development throughout their entire working lives.

First, we add to the literature on the teaching profession by demonstrating that the JD-R model (Demerouti *et al.*, 2001) is applicable as a theoretical framework when it comes to finding associations in the teaching profession between developmental opportunities on the one hand, and work engagement and employability on the other hand. Our second contribution is to the literature on the JD-R model and aging: given the results of our work on the moderating effect of calendar age, it would appear useful to incorporate individual difference factors into empirical models based on the JD-R framework (see also Schaufeli and Taris, 2014; Xanthopoulou *et al.*, 2007).

The government continuously imposes changes upon schools at a rapid pace. This is a cause of discomfort and stress. I see my job as a hobby, that's why I love doing it and I do not see it as a burden. However, increasingly, you are expected to do something extra. You always have to watch out for this. In education, there is always work to do (female teacher, born in 1967).

This female teacher emphasizes that in times of continuous change job demands might increase up to the level of overstrain. To ensure that teachers are employable on the labor market in the long term, life-long learning and educational programs are a keystone in schools' HRM policies (see also Evers *et al.*, 2011a, b). Our results reveal that better insight into the range of developmental opportunities available, such as learning-on-the-job, task enlargement, and changing classes, could help school directors and HRM professionals to provide better guidance for teachers, enhancing their work engagement and employability throughout their working lives.

Previous research has indicated that older workers participate significantly less in both formal programs at educational institutes (Descy, 2006) and work-related training (Canduela *et al.*, 2012). Rather, they seem to prefer learning in informal settings (Descy, 2006), which would appear to indicate that the use of age-conscious developmental opportunities at work could serve as a powerful tool in encouraging life-long learning. After all, particularly the older teachers in our sample appeared to benefit from perceived opportunities to learn new skills at work and put their talents to good use. In the workplace, informal life-long learning includes learning from colleagues, pupils and parents, on-the-job learning and working as part of a team (CEDEFOP, 2009).

Our findings also suggest that developmental opportunities are less beneficial for younger workers in terms of perceived employability. Younger workers are probably more focussed on learning through formal programs at educational institutes (Descy, 2006) and work-related training (Canduela *et al.*, 2012).

Improvements in teachers' engagement and employability will not only enhance their own performance, but will consequently also lead to better pupil performance (Cornet *et al.*, 2006). Moreover, an increase in teaching quality is expected to contribute positively to the wider status of the profession, meaning that more young talented people will seriously consider working in the field and thereby helping to address the urgent need for more teaching staff.

Fortunately, the nine schools involved in this research project have all now formulated an action plan (for instance, an annual class exchange day or a short internship outside the school) based on the findings of our study. All in all, the participating schools have learned from the findings of the study to tailor the developmental opportunities that they offer to their multi-generational teaching work force.

Methodological considerations and recommendations for further research

First, all data were collected using self-reporting only, and they may therefore be subject to common-method bias (Frese and Zapf, 1988). However, since all our scales showed good reliability scores, we expect the measurement bias in this study to be relatively small (Spector, 2006). Yet, in order to minimize this bias, we included some procedural remedies. The respondents' anonymity was protected with respect to their employer, and respondents were assured that there was no right or wrong answer, and

urged to answer as honestly as possible (Podsakoff *et al.*, 2003). What is more, several questions were reverse-coded, reducing the threat of respondents “guessing” (Malhotra *et al.*, 2006). Next, our research model included interaction effects; for this reason, it is not likely that the hypothesized relationships were part of the respondents’ cognitive maps (Chang *et al.*, 2010).

Second, our study was cross-sectional, and future work using multi-wave designs can provide more specific information about long-term intra-individual development (see also Schalk *et al.*, 2011), including detailed information about stability and changes in the variables, and about cross-lagged relationships (De Lange *et al.*, 2003).

Third, it is difficult to disentangle the age effects found in this study from so-called “cohort” effects (Kanfer and Ackerman, 2004). Fourth, further research is needed to investigate the extent to which our findings can be generalized to other occupational settings and/or other countries. Additionally, future research could examine whether the significant interaction effect that we found between calendar age and developmental opportunities in relation to self-perceived employability is a consequence of the previously explained decrease in extrinsic motives and increase in intrinsic motives, or whether it relates to opportunities on the labor market that diminish with age (Euwals *et al.*, 2009), due to age-related stereotyping for instance (Van der Heijden *et al.*, 2009a, b).

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