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### Learning at the workplace and sustainable employability: a multi-source model moderated by age

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## Learning at the workplace and sustainable employability: a multi-source model moderated by age

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This study, among 330 pairs of employees and their supervisors, tested whether self- versus supervisor ratings of five employability dimensions (occupational expertise, corporate sense, personal flexibility, anticipation and optimization, and balance) are associated with different learning characteristics in the workplace, and whether age moderates these relationships. Results of structural equation modelling showed that the learning value of the job positively related to both self- and supervisor ratings of corporate sense, personal flexibility, and anticipation and optimization. Applicability in the job of recently followed training and development programmes was associated with all dimensions of self-rated employability and with supervisor ratings of anticipation and optimization. Regarding the hypothesized age moderation effects, contrary to our expectations, it was found that both learning value and applicability of training and development related more strongly to self-rated anticipation and optimization for younger workers. In addition, age appeared to moderate the otherwise non-significant relationship between learning value and self-rated occupational expertise. Implications for Human Resource Development (HRD) practices are discussed. As learning characteristics are differentially related to the unique employability dimensions, tailor-made development programmes are key. Moreover, it is advocated that having a job with a high learning value is an important factor in the light of the employee's sustainable employability.

**Keywords:** learning at work; sustainable employability; multi-source ratings; age

### Introduction

Worldwide, the ageing of the labour market (Philips & Siu, 2012), combined with decreasing opportunities for early retirement, has resulted in an increased need to protect workers' sustainable employability (Armstrong-Stassen & Ursel, 2009; De Lange, Van Yperen, Van der Heijden, & Bal, 2010). Earlier research has revealed the importance of employee learning as a prerequisite to fine-tune one's expertise and to fight against rapid obsolescence (Kaufman, 1975; Pulakos, Arad, Donovan, & Plamondon, 2000; Smith, 2010). Highly employable workers (Savickas, 2011; Van der Heijde & Van der Heijden, 2006) not only have the most "up-to-date" knowledge and skills, but also have the capability to continuously build up new expertise requirements (Molloy & Noe, 2010; Van der Heijden, De Lange, Demerouti, & Van der Heijde, 2009). Based on the definition of Van der Heijde and Van der Heijden (2006), we define employability as: "the continuous fulfilling, acquiring or creating of work through the optimal use of competences" (p. 453).

Given the economic environment, characterized by ever-increasing market pressures, internationalization, informatization, and leaner organizations, most jobs are subject to high-speed changes and increased expertise needs (Greenhaus, Callanan, & DiRenzo, 2008; Lazarova & Taylor, 2009). As a result, the potential of a working organization to perform optimally, and to remain competitive (Russell Crook, Todd, Combs, Woehr, & Ketchen, 2011), depends on employees' capability to develop, cultivate, and maintain fundamental qualifications (Brown, Green, & Lauder, 2001), or otherwise stated, their employability (Forrier & Sels, 2003; Fugate, Kinicki, & Ashforth, 2004; Hillage & Pollard, 1998; Rothwell & Arnold, 2007; Van der Heijde & Van der Heijden, 2006).

In this study, we focus on workplace learning as a predictor of workers' employability (or career potential), and the moderating effect of employee age. As career outcomes appear to depend heavily on career and life-stage considerations (Feldman & Ng, 2007), more

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empirical research focusing on *if* and *how* age would affect relations between specific career-enhancing activities and career outcomes is needed (see also De Lange, Taris, Jansen, Kompier, Houtman, & Bongers, 2010; Van der Heijden, De Lange, et al., 2009). Analogous with Truxillo, Cadiz, Rineer, Zaniboni, and Fraccaroli (2012), we used lifespan ageing theories to study the role of age in the association between learning characteristics and employability. A learning-oriented work environment enhances learning behaviour (Coetzer, 2007; Maurer, Weiss, & Barbeite, 2003), and should therefore be fostered by managers (Bezuijen, Van den Berg, Van Dam, & Thierry, 2009). Although contemporary views stress the importance of the job and organizational setting as a powerful instrument to facilitate learning and workers' employability across the lifespan, empirical research supporting these views is lacking (see also Van der Heijden, Boon, Van der Klink, & Meijs, 2009). Concrete, most previous research has used an individual-difference framework to study employability (Nauta, Van Vianen, Van der Heijden, Van Dam, & Willemsen, 2009), whereas, to the best of our knowledge, no studies have taken an integrative approach involving both the organization and the employee (see De Vos, De Hauw, & Van der Heijden, 2011). Therefore, we have used a multidimensional and multi-source (employees and their supervisors) instrument to determine the amount of workers' employability (Van der Heijde & Van der Heijden, 2006; Van der Heijden, De Lange, et al., 2009), and to investigate the added value of workplace learning.

Moreover, we will examine whether employee age significantly moderates the relations between learning characteristics and multi-source ratings for employability. Previous research on age-related stereotyping (Boerlijst, Van der Heijden, & Van Assen, 1993; Finkelstein & Burke, 1998; Martin, Dymock, Billett, & Johnson, 2014; Meisner, 2012; Posthuma, Wagstaff, & Campion, 2009; Van Dalen, Henkens, & Schippers, 2010; Van der Heijden, De Lange, et al., 2009) stresses the complexity of the relation between employee development across the lifespan and workplace outcomes (see also Greller & Stroh, 1995; Kooij, De Lange, Jansen, & Dikkers, 2008; Shultz & Adams, 2007), and calls for more empirical work (Farr & Ringseis, 2002; Hedge & Borman, 2012; Kanfer & Ackerman, 2004). Although age has often been included as a covariate or confounder, few researchers have studied if and how age moderates relations between model variables (see, for instance, De Lange, Taris, et al., 2010; Van der Heijden, 2000; Zaniboni, Truxillo, & Fraccaroli, 2013, for an overview). More specifically, current career research often seems to neglect age differences and changes in (in)formal learning opportunities at work across the lifespan (Billett, Dymock, Johnson, & Martin, 2011; De Lange, Taris, et al., 2010; Poell, Van Dam, & Van den Berg, 2004; Tones, Pillay, & Kelly, 2011).

In addition, despite the rapidly increasing globalization of business and industry, there is a strong US bias in career research (Mayrhofer, Meyer, Iellatchitch, & Schiffinger, 2004). Cross-national, comparative career research providing evidence for the generalizability of results across countries is lacking (Thomas & Inkson, 2007), even though the influence of culture cannot be ignored. First, the economic, legal, and political characteristics of a society are inexorably linked to its culture. Second, unlike economic, legal, and political institutions, culture is largely invisible: its influence is therefore difficult to detect and often overlooked. Third, culture operates both through the legitimization in the institutions of society of career practices and patterns and through the different attitudes, beliefs, perceptions, and expectations that it gives individuals about careers (Thomas & Inkson, 2007, p. 455), and their beliefs about what their employers and supervisors see as valuable (Sparrow & Hiltrop, 1997). That is, culture shapes the individual definition of career success and influences careers. Using a Dutch sample, we aim to add to the knowledge in the career field by testing an employability enhancement model investigating the predictive value of learning characteristics in a non-US work context. Our outcomes have practical implications for the management of workplace learning of different age groups of workers, and may guide systematic career management implementations of working organizations. As employability has high predictive power for career success (Van der Heijde & Van der Heijden, 2006), this study may provide managers with evidence-based developmental advice on how to fine-tune workplace learning across the lifespan.

## Theoretical framework

### *A multidimensional and multi-source model of workers' employability*

The aforementioned conceptualization of Van der Heijde and Van der Heijden (2006) refers to a permanent acquisition and fulfilment of employment, within or outside one's current organization, for one's present or new customer(s), and with regard to future prospects (see also Forrier & Sels, 2003; Fugate et al., 2004; Hillage & Pollard, 1998; Rothwell & Arnold, 2007). Their five-dimensional and multi-source operationalization combines domain-specific occupational expertise (knowledge and skills, including meta-cognitive ones, and social recognition by important key figures) (Van der Heijden, 2000) with four more generic competences: (a) corporate sense; (b) personal flexibility; (c) anticipation and optimization; and (d) balance. Corporate sense represents the requisite increase in social competence. The second and third dimensions are flexibility dimensions, discernible as one more passive/adaptive variant and one proactive/creative variant. The

dimension of balance is added, taking into account the different elements of employability that are sometimes difficult to unite, and which require fine-tuning, such as current job versus career goals, employers' versus employees' interests, and employees' opposing work, career, and private interests.

For the appraisal of occupational competences, there is a tendency towards the use of multi-source (or multi-rater) performance ratings (see, e.g., Cheung, 1999; Smither, London, & Reilly, 2005; Waldman & Atwater, 1998), for instance from supervisors, peers, subordinates, and customers, instead of relying on appraisals from one single source only. The rationale behind this is that different evaluation perspectives offer unique and valuable information, and thus add incremental validity to the assessment of individual performance (Brett & Atwater, 2001; Woehr, Sheehan, & Bennett, 2005). Indeed, previous empirical research has proven the differential predictive validity of the five employability dimensions for career success (Van der Heijde & Van der Heijden, 2006; Van der Heijden, De Lange, et al., 2009). Hence, using both self- and supervisor ratings of employability is of great importance. A prerequisite for doing so meaningfully is using nominally identical, equivalent employability measures for employee versus supervisor ratings. This is why we use the measure developed for this purpose by Van der Heijde and Van der Heijden (2006; see also Van der Heijden, De Lange, et al., 2009).

### ***Learning value of the job and employability enhancement***

Traditionally, professional development was focused on more or less formal classroom-based settings. Over the past two decades, the range of possible learning activities has been broadened. Currently, it includes informal learning activities in the workplace in addition to formal ones (Cheatham & Chivers, 2001; Eraut, 2004; Evers, Van der Heijden, Kreijns, & Gerrichhuizen, 2011; Marsick & Watkins, 2001). Marsick and Volpe (1999), who stated that informal learning forms the core of workplace learning, qualified the construct as unstructured, experimental, and non-institutional learning that is integrated in the daily routines at work. In a similar vein, Cheatham and Chivers (2001) emphasized the key contribution of informal learning to the acquisition of full professional competence.

Previous research has shown that both types of learning—formal and informal—reinforce each other, underlining the importance of including different forms of learning activities when aiming for employability enhancement (see also Molloy & Noe, 2010; Van der Heijden, Boon, et al., 2009). Therefore, in this contribution, the impact of the learning value of one's job is included as a possible predictor of employability. Learning value of the job comprises a job's value as a

nutrient for the employee's further professional development, and refers to the extent to which occupational knowledge and skills can be used and enlarged in one's job position (Boerlijst et al., 1993, p. 57; Van der Heijden & Bakker, 2011). It is determined by the nature of the work as characterized by job assignments, such as work demands that are optimally broad and complex, that involve confrontations with new situations, novelty, and autonomy, and the possibility to explore alternative strategies and solutions (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Holman, Epitropaki, & Fernie, 2001; Maurer et al., 2003; McCauley, Van Velsor, & Ruderman, 2010; Taris & Kompier, 2004).

Weiss (1990) emphasized that learning is "a relatively permanent change in knowledge or skill produced by experience" (p. 173). As such, in order to be beneficial, jobs should necessitate employees to invest in further growth and to use different work-related knowledge and skills (Hornung et al., 2010). Taris and Kompier (2004) used Action Theory (Frese & Zapf, 1994; Hacker, 1998) in order to better understand *why* and *how* work characteristics stimulate learning. Concretely, a job is designed well when it: (i) provides opportunities to the worker to carry out all steps in the action process (goal setting, plan development, etc.), and (ii) when all levels of regulation are used (cf. Taris & Kompier, 2004, p. 26). That is, such a job maximizes the chances of personality enhancement that is reflected in employees' "new behavior patterns, acquisition of new skills, solutions to new problems, or creative (i.e., new) adaptations to the environment, all suggesting that we are dealing with the development of new action programs" (Taris & Kompier, 2004, p. 35).

Empirical evidence indeed shows that jobs with a high amount of learning value are positively associated with employee development (Berings, Poell, & Simons, 2008; DeRue & Wellman, 2009; Dragoni, Tesluk, Russell, & Oh, 2009), and may satisfy employees' needs to develop new competences (Elliot & Dweck, 2005; Ryan & Deci, 2000). Longitudinal analyses have revealed that employee flexibility, being an important aspect of employability, is positively influenced by the complexity of the job (Kohn & Schooler, 1982; Van der Heijden & Bakker, 2011). Moreover, individuals employed in jobs with a high learning value, expressed by the demands and challenges they entail, exhibit high levels of initiative taking and proactivity (Fay & Frese, 2001; Fay & Kamps, 2006; Parker, Williams, & Turner, 2006), satisfaction and self-efficacy (Gorgievski & Hobfoll, 2008; Luthans & Youssef, 2004), and performance (LePine, Podsakoff, & LePine, 2005; Podsakoff, LePine, & LePine, 2007), herewith increasing employees' chances for career success (Abele & Spurk, 2009; Ng, Eby, Sorensen, & Feldman, 2005; Seibert, Kraimer, & Crant, 2001).



Therefore, we hypothesized that:

*Hypothesis 1:* Learning value of the job is positively related to self-rated (1a) and supervisor-rated (1b) employability.

### ***Applicability of training and development and employability enhancement***

Training and development activities refer to a systematic approach to learning aimed at improving individual, team, and organizational effectiveness (Goldstein & Ford, 2002; Paradise, 2007; Rivera & Paradise, 2007), and may produce important benefits for individual employees (Arthur, Bennett, Edens, & Bell, 2003; Hill & Lent, 2006; Satterfield & Hughes, 2007), teams, organizations, and society as a whole (Aguinis & Kraiger, 2009; Noe, Tews, & McConnell Dachner, 2010). However, in order for training and development to be effective, it is highly important to carefully consider the *applicability* of newly learned knowledge, attitudes, and skills in order to safeguard the enhancement of both employee- and, subsequently, organizational-level outcomes (Antonacopoulou, 2006; Kozlowski, Brown, Weissbein, Cannon-Bowers, & Salas, 2000).

Participation in training and development programmes is rarely enough to guarantee the effectiveness of it (Baldwin & Ford, 1988). Estimates of newly learned competences' loss, due to poor transfer of training, range from 66% (Saks & Belcourt, 1997) to 90% (Curry, Kaplan, & Knuppel, 1994; see also Sookhai & Budworth, 2010). It is the positive transfer of training and development—that is, the extent to which the learning that results from it transfers to the job—that leads to meaningful changes in work performance and, consequently, employability enhancement (Blume, Ford, Baldwin, & Huang, 2010; Goldstein & Ford, 2002; Holton III, Bates, & Ruona, 2000). Adequate transfer of newly learned knowledge, attitudes, and skills stimulates an employee to become an autonomous learner who is capable of dealing with new tasks and unfamiliar problem situations, and of developing adaptive expertise (see also Ford & Schmidt, 2000). Competences that are newly acquired in training need to be fully and appropriately transferred to and applied in job-related activities (Aguinis & Kraiger, 2009; Holton III, Chen, & Naquin, 2003; Kontoghiorghe, 2004) in order to actually further develop workers' employability (Eraut, 2004; Hicks, Bagg, Doyle, & Young, 2007; Pulakos et al., 2000; Russ-Eft, 2002). In other words, the applicability of newly acquired competences in the practice of one's current job (Broad, 1997; Mathieu, Tannenbaum, & Salas, 1992; Tracey, Tannenbaum, & Kavanagh, 1995; Wexley & Latham, 1991) is of crucial importance to increase their actual use and to enhance workers' career

potential (De Vos et al., 2011; Van der Heijde & Van der Heijden, 2006).

Therefore, we hypothesized that:

*Hypothesis 2:* A higher amount of applicability of recently followed training and development programmes is positively related to self-rated (2a) as well as supervisor-rated (2b) employability.

### ***The moderating effect of employee age***

In formulating our hypotheses on the moderating role of age, first, we have elaborated on several lifespan developmental theories and empirical work on ageing and work outcomes. Second, we have built upon insights from previous research on age-related stereotyping and will discuss these issues in relation to self-rated versus supervisor-rated employability. Specifically, we may expect opposite outcomes when we study the relationship between workplace learning and employability, for self-rated versus supervisor-rated employability.

Some scholars (notably, Armstrong-Stassen & Ursel, 2009; Farr & Ringseis, 2002; Maurer, 2001) reasoned that HRD practices are particularly important for continued learning and protecting older workers' career potential (Brooke & Taylor, 2005). In this regard, Kanfer and Ackerman (2004) and Baltes, Staudinger, and Lindenberger (1999) referred to so-called "loss and growth" themes that are characterized by a decline in fluid intelligence and an increase in crystallized intelligence with older age. As a result, older workers are more likely to adopt specific strategies for minimizing losses and maximizing gains using available personal resources (Selective Optimization with Compensation: SOC theory; Baltes et al., 1999; De Lange, Bal, Van der Heijden, De Jong, & Schaufeli, 2011; Ebner, Freund, & Baltes, 2006; Zacher & De Lange, 2011). Obviously, developmental opportunities at work are highly beneficial in this regard as they increase the older worker's ability to adopt and to fine-tune these strategies. Indeed, Van der Heijden, Van Vuuren, Kooij, and De Lange (2015) have found that especially older employees (teachers in their case) benefit from development opportunities, such as learning new skills or using their talents, as these appeared to be more strongly related to self-perceived employability.

Another important theory in this context is the Life-Span Theory of Control (Heckhausen, Wrosch, & Schulz, 2010), which proposes a greater reliance on secondary control strategies with age. An example of such a strategy is to change one's preferences from extrinsic (competition with younger workers, promotions, etc.) to more intrinsic motives (rewarding job features, such as learning opportunities at work and enjoyment of social contacts; see also Kanfer & Ackerman, 2004; Kooij, De

Lange, Jansen, Kanfer, & Dikkers, 2011; Rhodes, 1983). Given their increased focus on intrinsic motives, we advocate that especially for older workers developmental opportunities are associated with an increase in employability enhancement.

To summarize, although older workers usually have less developmental opportunities (Maurer et al., 2003), from lifespan developmental theories and previous empirical work, we may expect that when older workers participate in workplace learning they will benefit relatively more in terms of employability enhancement, which will be reflected in higher scores for *self-rated* employability.

However, given the negative stereotypical beliefs of supervisors about their older subordinates—beliefs that stem less from their current performance levels, yet more from fears as regards their future prospects (Offermann & Gowing, 1990; Van der Heijden, De Lange, et al., 2009)—we expect a stronger positive relationship between learning characteristics of the job and *supervisor-rated* employability of younger as compared to older employees [see Finkelstein & Farrell, 2007, p. 100 on the Age Discrimination in Employment Act (ADEA)].

Moreover, as people tend to be sensitive to the expectations of others, a so-called Pygmalion effect is likely (a type of self-fulfilling prophecy whereby individuals act in accordance with the beliefs of salient others, such as their supervisor in a work context). Employees that are highly valued and appreciated by their supervisors may perform better than employees for whom expectations are less (Eden, 1993; Kierein & Gold, 2000), thus confirming their supervisors' perceptions on the relatively higher career potential of their younger subordinates (see also Van Vianen, Dalhoeven, & De Pater, 2011).

*Hypothesis 3:* The relationship between learning characteristics of the job and *self-rated* employability is stronger for older employees in comparison with their younger counterparts.

*Hypothesis 4:* The relationship between learning characteristics of the job and *supervisor-rated* employability is stronger for younger employees in comparison with their older counterparts.

## Method

### *Participants and procedure*

This study was carried out among 330 pairs of employees and supervisors (response rate 91.8%) working at a large Dutch company that produces building materials. Employees working in a large variety of different types of jobs at middle- and higher-level positions (ranging from general management to ICT and sales staff) were invited to participate in the survey dealing with learning characteristics and self-perceived employability. They were

informed about its background and were asked to fill in an online electronic questionnaire through the company's Intranet. Their immediate supervisors were asked to respond to a shorter electronic questionnaire, and were instructed to indicate how employable their subordinates were. In order to increase the validity of the findings, instructions regarding cross-checking as well as anonymity have been used (Mabe & West, 1982). To prevent the collection of unreliable data as an effect of training or fatigue, due to the overburdening of supervisors, and to protect the independence of the data points, it was strictly advised that one supervisor should fill out employability ratings for a maximum of three employees, striving for a valid reflection of the distribution of respondents across departments, age groups, gender, and educational level.

For sake of anonymity of the respondents, and to prevent social desirability in answering, the particular website was fully administered by an independent expert agency under supervision of the researchers. All employees received an anonymous feedback report indicating their scores on the model variables with guidelines on the interpretation thereof, as well as a clear outline on ways for improvement in the light of their future employability. Moreover, after having written an overall research report for the company management, the first author has shared her knowledge on the impact of workplace learning upon employability enhancement with all staff and management parties involved, by means of interactive workshops. These have all taken place after the data-gathering process was closed, and therefore are not expected to have influenced the survey outcomes. Altogether, the participating company can be characterized as one paying serious attention to employability enhancement, which might have positively influenced the willingness to participate in our study (see the relatively high response rate discussed later). The final sample included 275 male (83.5%) and 55 female employees (16.5%). The mean age of the employees was 40.94 years ( $SD = 9.20$ ); 50.6% of workers were under 40 and 77.6% were under 50 years of age. As regards the respondents' highest educational qualification, the outcomes were: (1) high school or equivalent (46.4%), (2) college/(some) university (34.2%), (3) Bachelor's degree (or recognized equivalent) (17.0%), and (4) Master's degree (or recognized equivalent) (2.4%). Their organizational tenure was on average 10.74 years ( $SD = 9.61$ ). In total, 288 of the supervisors were male (95.0%) and 15 were female (5.0%). The mean age of the supervisors was 43 years ( $SD = 7.96$ ).

## *Measures*

### *Learning value*

Learning Value was assessed with the recently developed "learning value of the job" instrument including six items.

An example item was: “The experience I gain in my job encourages me to develop new capabilities” (i.e., acts as a “nutrient” for further learning). Employees could respond to each of the statements using a six-point rating scale ranging from: (1) strongly disagree to (6) strongly agree. Its factor structure and related psychometric qualities are good. Cross-cultural research in seven European countries showed that Cronbach’s alpha ranged from .74 to .90, depending upon country (Van der Heijden & Bakker, 2011; Van der Heijden, Scholarios, Bozionelos, Van der Heijde, Epitropaki, & the Indic@tor consortium, 2005). In our study, Cronbach’s alpha was .81.

#### *Applicability of training and development*

Applicability of Training and Development was measured by means of three items: (1) Are you able to apply the training/development courses in your current expertise/job area, that you participated in over the past year, in your job? (2) Are you able to apply the training/development courses in an adjacent expertise/job area, that you participated in over the past year, in your job? (3) Are you able to apply the training/development courses in a complete different or new expertise/job area, that you participated in over the past year, in your job? Scale anchors comprised: (a) yes, immediately and without any difficulty; (b) yes, but not without any difficulty; and (c) no. For the analyses, scores were dichotomized. More precisely, scale anchor (a) was coded 1, indicating “high applicability”. Scale anchors (b) and (c) were coded 0, indicating “low applicability”.

#### *Employability*

Employability was assessed with Van der Heijde and Van der Heijden’s (2006) employability instrument (see also Van der Heijden & Bakker, 2011; Van der Heijden, De Lange, et al., 2009). The instrument includes five scales measuring: (1) occupational expertise (15 items); (2) corporate sense (seven items); (3) personal flexibility (eight items); (4) anticipation and optimization (eight items); and (5) balance (nine items). The item sets for the employees and the supervisors are nominally identical and all scored on a six-point rating scale. Example items for the supervisor ratings are: “By virtue of my experience with him/her, I consider him/her ... competent to be of practical assistance to colleagues with questions about the approach to work” (occupational expertise). Answers ranged from “not at all” to “extremely”. Cronbach’s alpha was .90 for the self-ratings and .95 for the supervisor ratings; “(S)he manages to exercise ... influence within the organization” (corporate sense). Answers ranged from “very little” to “a very great deal”. Cronbach’s alpha was .83 for the self-ratings and .85 for the supervisor ratings; “(S)he adapts to

developments within the organization ...” (personal flexibility). Answers ranged from “very badly” to “very well”. Cronbach’s alpha was .79 for the self-ratings and .88 for the supervisor ratings; “(S)he is ... focused on continuously developing him/herself” (anticipation and optimization). Answers ranged from “not at all” to “a considerable degree”. Cronbach’s alpha was .81 for the self-ratings and .89 for the supervisor ratings; and “The time (s)he spends on his/her work and career development on the one hand and his/her personal development and relaxation on the other are ... evenly balanced” (balance). Answers ranged from “not at all” to “a considerable degree”. Cronbach’s alpha was .78 for the self-ratings and .84 for the supervisor ratings. Validation studies (Van der Heijde & Van der Heijden, 2006; Van der Heijden, De Lange, et al., 2009) indicated that the five dimensions represent correlated aspects of employability (oblique factor structure). The distinctive power of the different scales is satisfactory, given the high intra-scale correlations, the outcomes of an elaborate multitrait-multimethod analysis, and a confirmatory second-order factor analysis. Furthermore, the factor structure of the employability construct for self-reported versus supervisor-rated employability was proven to be similar. Elaborate tests of psychometric aspects, that is, reliability and validity, of the employability instrument, with emphasis on convergent, discriminant, and predictive validity (for career success), have yielded very promising results (Van der Heijden et al., 2005). Moreover, the ingredients of the employability dimensions are actually discussed in yearly performance appraisals in the Netherlands, and many of the items are, in fact, visible at the workplace in terms of concrete behaviour and output. Therefore, we do believe that both the self-ratings and the supervisor ratings provide highly valuable information. Performance ratings, in our case, employability perceptions by employees’ direct supervisors, appear to play a major role in decision processes regarding objective career outcomes (Judge & Hurst, 2008; Van der Heijden, De Lange, et al., 2009). After all, career success refers to real or objective, and perceived or subjective accomplishments of individuals in their work lives (e.g., Judge, Cable, Boudreau, & Bretz, 1995). Employers’ perception of, for instance, employees’ balance may not be “objectively accurate”. Indeed, in previous research more homogeneous answers (and in the case of older employees, also significantly more negative ones) have been found in case of supervisor ratings on the employability items (see Van der Heijde & Van der Heijden, 2006). These might reflect a halo effect, or might be explained by the fact that the employees reflect a more differentiated self-image. Nevertheless, these outcomes do not alter the fact that such supervisor judgments are actually there, and do influence employees’ future prospects.

## Analyses

The current study applied moderator structural equation modelling methods using Amos 20 (Arbuckle, 2006). Several competing models were fitted to the data, in which all variables were represented by latent factors. Item parcels of the scales were used as observed indicators for the latent factors (cf. Hall, Snell, & Foust, 1999; Marsch, Balla, & Hau, 1996), except for applicability of training and development, for which the three separate items were used. Dummy coded variables for “not applicable” [1 for scale anchor (c) and 0 for scale anchors (a) and (b)] had originally also been modelled. Only a very small number of employees had answered (c), ranging from 3 to 18. Consequently, these dummy variables had very low factor loadings on the latent variable “applicability” in the structural equation models and were not included in the final models. Cronbach’s alpha was .58.

Interaction terms were created by multiplying the grand mean difference scores of all observed indicators of the latent construct with the grand mean difference scores for age. The goodness-of-fit of the competing models was evaluated using the  $\chi^2$  goodness-of-fit statistic, and two relative fit indices, namely the Non-Normed Fit Index (NNFI) and the Comparative Fit Index (CFI). For both relative fit indices, as a rule of thumb, values greater than .90 are considered as indicating a good fit (Byrne, 2001, pp. 79–88). In addition, the Root Mean Square Error of Approximation (RMSEA) was computed, for which values up to .08 indicate a reasonable fit of the model to the data (Browne & Cudeck, 1993).

## Results

### *Descriptive statistics and baseline model*

Means and standard deviations of the raw variables are presented in Table 1, as well as the correlation coefficients between the model’s (latent) variables and control variables (employees’ gender, age, level of education as well as supervisor’s age; see also Ng et al., 2005; Van der Heijden et al., 2010). As the correlation coefficients show, workers’ age correlated negatively with the learning value of the job, but no relation was found between age and the applicability of training and development. In addition, age correlated negatively with self-ratings of personal flexibility, and anticipation and optimization, and with supervisor ratings of occupational expertise, personal flexibility, anticipation and optimization, and balance. Supervisor’s age mattered as well; supervisors’ age correlated positively with self-ratings of corporate sense and with supervisor ratings of their workers’ employability on all five dimensions. The correlations between the supervisor-rated dimensions were high ( $r \geq .73$ ), whereas these were somewhat lower for the self-ratings ( $r \geq .38$ ), here- with confirming the so-called “leniency effect” (Tsui &

Ohlott, 1988). The agreement between self- and supervisor ratings for the same employability dimensions ranged from .27 to .45. Learning characteristics of the job all correlated to employability dimensions in the expected direction, except for the non-significant negative correlation between learning value and self-rated occupational expertise. Moreover, the correlations with the different subscales of employability were quite dissimilar, indicating it is important to investigate relations with the unique employability dimensions in addition to one “general employability” factor.

Prior to testing our hypotheses, a so-called measurement model was tested that allowed all latent factors to be correlated (cf. Anderson & Gerbing, 1988). As can be seen in Table 2, the fit of this measurement model was acceptable  $\chi^2_{(261\ df)} = 407.05$ ,  $p < .001$ , NNFI = .95, CFI = .97, RMSEA = .04. The strength of the paths leading from the observed to the latent learning characteristics variables was all above the recommended .50 (Brown, 2006), ranging between .51 for “applicability of training and development in a complete different or new expertise/job area” as indicator of general applicability and .95 for one of the split halves of the learning value scale as indicator of the latent factor learning value. For employability, the paths between observed indicators and latent factors ranged between .73 and .97.

For both self- and supervisor ratings our baseline model incorporated a second-order factor “employability” (indicating the percentage of variance shared across the five separate constructs) and five unique latent employability variables (representing the percentage of unique variance of the five separate employability constructs). The second-order factors of employability (self- and supervisor ratings) were allowed to covary as well as the corresponding unique employability indicators, as rated by the employees and their supervisors, respectively.<sup>1</sup> Finally, covariations between learning characteristics (learning value, and applicability of training and development) were modelled as well. However, in our baseline model, the hypothesized paths leading from the learning characteristics to the employability measures were not modelled yet. The fit of this baseline model was:  $\chi^2_{(312\ df)} = 606.32$ ,  $p < .001$ , NNFI = .92, CFI = .94, RMSEA = .05.

To test our hypothesized relations, we added the paths leading from learning characteristics to the employability indicators to test their relations. Fit indices are given in Table 2. Results showed partial support for both Hypothesis 1a and 1b (see Figure 1 for the final model containing only significant paths;  $\chi^2_{(301\ df)} = 473.69$ ,  $p < .001$ , NNFI = .95, CFI = .96, RMSEA = .04). More specifically, as regards Hypothesis 1, according to which the learning value of the job was expected to have a positive relationship with self-rated (H1a) and supervisor-rated employability (H1b), we found a positive relation with the unique variance of both self- and supervisor



Table 1. Means and standard deviations of the raw variables, and correlation coefficients between the latent variables in the model.

	Mean	SD	Gender	Age empl	Age Sup	edu	LV	AP	OESelf	CSself	PFself
<i>Gender<sup>a</sup></i>	.17	0.34	—								
<i>Age of employee</i>	40.94	9.20	-.21***	—							
<i>Age of supervisor</i>	43.03	7.96	-.15**	.11	—						
<i>Educational qualification (edu)<sup>b</sup></i>	2.75	.83	.05	-.27***	.01	—					
<i>Learning value (LV)</i>	4.38	.81	-.12*	-.13*	.09	.09	—				
<i>Applicability of training and development (AP)</i>	.20	.27	-.15*	.05	.05	.06	.09	—			
<i>Employability Self-ratings</i>											
Occupational expertise self-rating (OE)	4.77	.42	-.09	.05	.09	.02	-.03	.33***	-		
Corporate sense self-rating (CS)	4.10	.74	-.32***	.06	.17**	.11	.24**	.38***	.61***	-	
Personal flexibility self-rating (PF)	4.52	0.42	-.11	-.19**	.04	.19**	.25**	.31***	.69***	.66***	-
Anticipation and opt. self-rating (AO)	3.82	.67	-.18**	-.16*	-.06	.19**	.34***	.52***	.48***	.65***	.61***
Balance self-rating (BA)	4.32	.51	-.10	.01	.04	.01	.00	.17*	.51***	.38***	.42***
<i>Employability Supervisor ratings</i>											
Occupational expertise supervisor rating	4.46	.57	.04	-.17**	.24***	.07	.05	.18*	.27***	.24***	.18**
Corporate sense supervisor rating	3.96	.66	-.10	-.11	.29***	.11	.18*	.19*	.25***	.45***	.28***
Personal flexibility supervisor rating	4.09	.53	-.04	-.36***	.13*	.14*	.22**	.16*	.23***	.31***	.45***
Anticipation and opt. supervisor rating	3.67	.66	-.09	-.33***	.24***	.19**	.24**	.24**	.26***	.34***	.38***
Balance supervisor rating	4.25	.52	-.06	-.18**	.16*	.01	.05	.21*	.22**	.26**	.14
				AOself	BAself	OESup	CSsup	PFsup	AOsup	BAsup	
<i>Gender<sup>a</sup></i>											
<i>Age of employee</i>											
<i>Age of supervisor</i>											
<i>Educational qualification</i>											
<i>Learning value</i>											
<i>Applicability of training and development</i>											
<i>Employability self-ratings</i>											
Occupational expertise self-rating											
Corporate sense self-rating											
Personal flexibility self-rating											
Anticipation and opt. self-rating											
Balance self-rating				.42***	—						
<i>Employability supervisor ratings</i>											
Occupational expertise supervisor rating				.06	.16*	—					
Corporate sense supervisor rating				.13	.08	.85***	—				
Personal flexibility supervisor rating				.24***	.16*	.77***	.80***	—			
Anticipation and opt. supervisor rating				.27***	.12	.75***	.79***	.86***	—		
Balance supervisor rating				.10	.29***	.77***	.70***	.73***	.73***	—	

<sup>a</sup>Gender coded 0 = male, 1 = female; <sup>b</sup>education coded 1 = high school, 2 = college/(some) university, 3 = Bachelor's degree, and 4 = Master's degree; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

Table 2. Model fit of several models compared to each other.

Model	$\chi^2$	df	p	NNFI	CFI	RMSEA
<i>Measurement (correlational) model</i>	407.05	261	<.001	.95	.97	.04
<i>Baseline model</i>	606.32	312	<.001	.92	.94	.05
<i>Main effects models</i>						
M1. Learning characteristics predict the unique employability factors	467.72	292	<.001	.95	.96	.04
M2. Learning characteristics predict second-order employability factors	555.74	308	<.001	.93	.95	.05
Final main effects model	473.69	301	<.001	.95	.96	.04

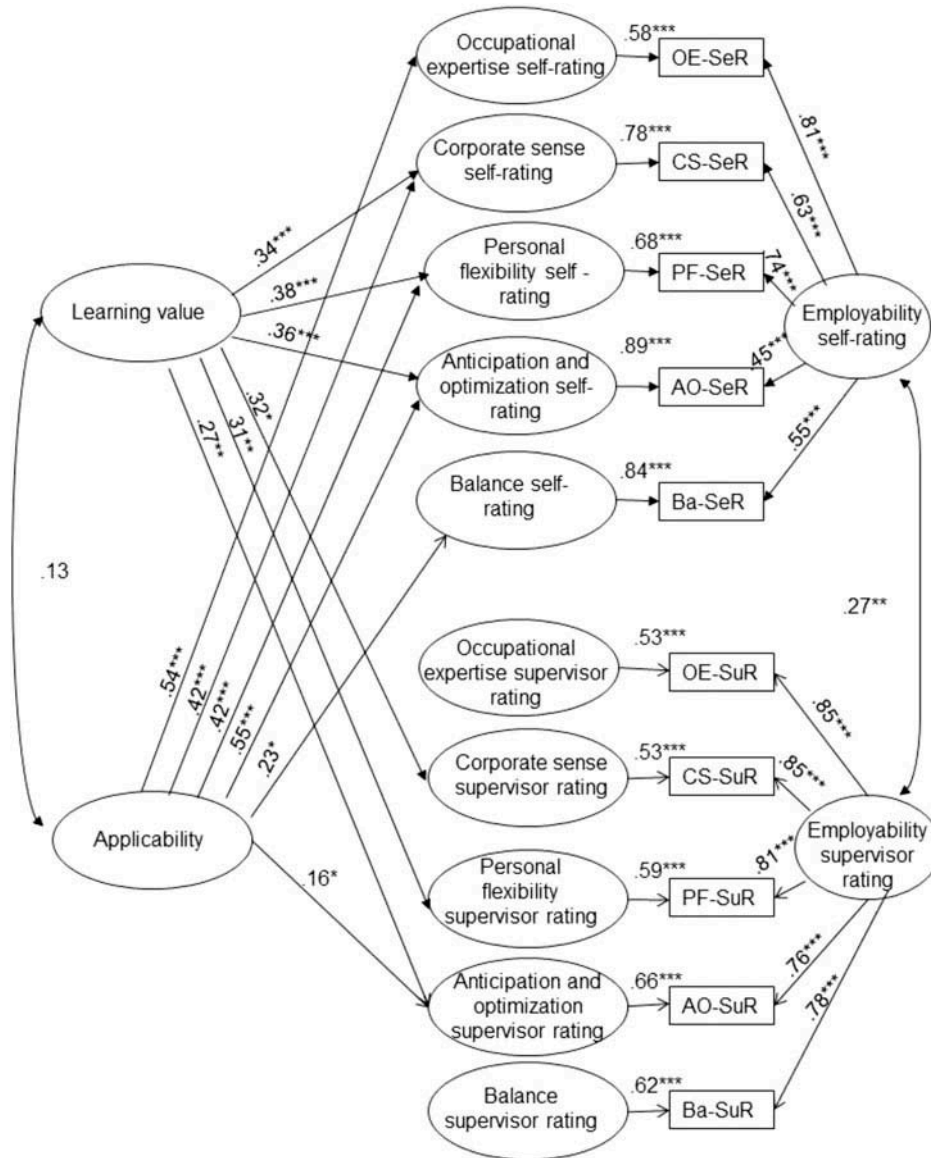


Figure 1. Learning characteristics predicting unique employability factors,  $N = 330$  pairs of employees and their supervisors,  $\chi^2 (301 df) = 473.70, p < .001, NNFI = .95, CFI = .96, RMSEA = .04$

Note: This final model is corrected for employee’s gender, age, and educational qualification, and supervisor’s age.

ratings of corporate sense, personal flexibility, and anticipation and optimization, but not for self- or supervisor ratings of occupational expertise and balance.

Concerning Hypothesis 2, according to which a higher amount of applicability of recently followed training and development programmes would be positively related to self-ratings (H2a) and supervisor ratings (H2b) of employability, we found that applicability predicted self-ratings of all employability dimensions and supervisor ratings of anticipation and optimization.

An exploratory test was performed, allowing learning characteristics to predict the self- and the supervisor-rated

second-order constructs of employability (shared variance across the five separate constructs). This model also fitted the data better than the baseline model, but did not fit the data as well in comparison with a model allowing learning characteristics to predict the unique employability dimensions (factors). This indicates that different learning characteristics of the job impact specific employability dimensions, rather than employability in general.

Finally, as regards the hypothesized moderation effect of age, differences in relationship strength between younger versus older workers were tested.

Only three paths in our empirical model appeared to be moderated. Age interacted with the learning value of the job, showing a stronger relationship with self-rated occupational expertise ( $\beta_{(\text{age} * \text{learning value})} = -.29, p < .01$ ; see Figure 2) as well as with anticipation and optimization ( $\beta_{(\text{age} * \text{learning value})} = -.26, p < .01$ ; See Figure 3) for younger as compared to older employees.

Additionally, age interacted with applicability of training and development and predicted self-ratings of anticipation and optimization stronger for younger workers ( $\beta_{(\text{age} * \text{applicability})} = -.30, p < .01$ ; Figure 4) in comparison with the older ones. With these outcomes, we could not confirm either Hypothesis 3 or Hypothesis 4.

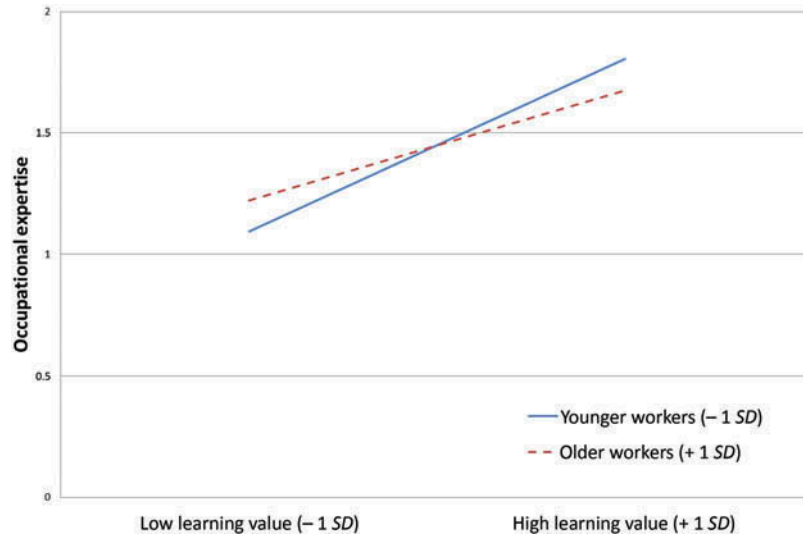


Figure 2. Interaction effect of age and learning value of the job on occupational expertise.

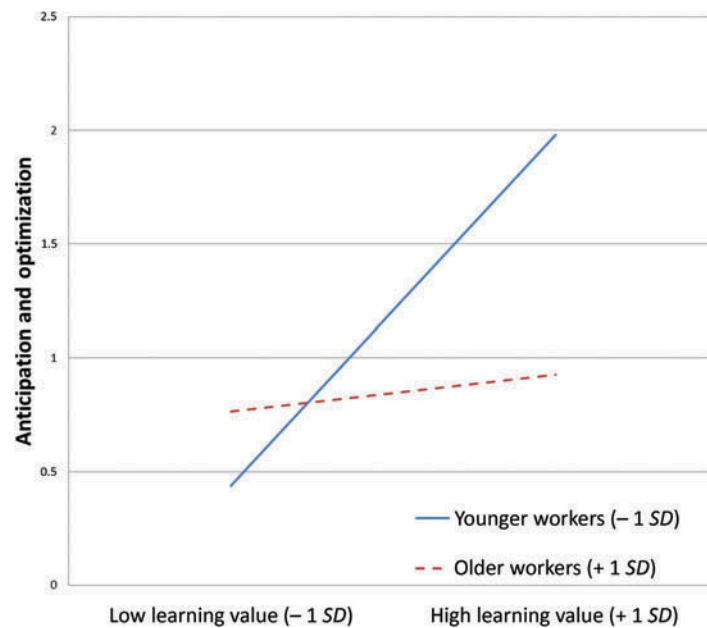


Figure 3. Interaction effect of age and learning value of the job on anticipation and optimization.

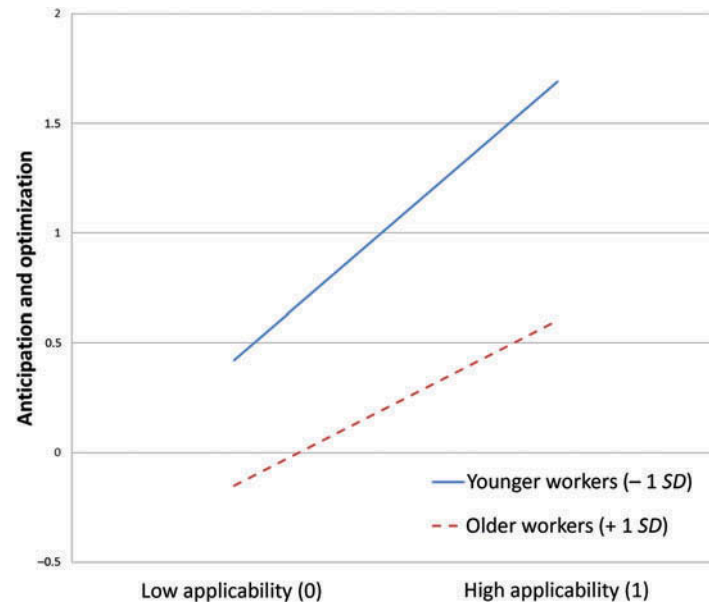


Figure 4. Interaction effect of age and applicability of training on occupational expertise.

## Conclusions and discussion

### *Reflection on the outcomes*

This is the first study addressing the following issues in a Dutch context: (i) to investigate relations between the job's learning value and applicability of recently followed training and development in the job, on the one hand, and self- and supervisor ratings of five employability dimensions, on the other hand; and to (ii) examine the effect of age as a possible moderator in the aforementioned relations.

In line with research on the predictive validity of employability on career outcomes (Van der Heijde & Van der Heijden, 2006; Van der Heijden, De Lange, et al., 2009), which showed that different dimensions of employability predicted different outcomes, this study shows that different types of learning characteristics predicted different dimensions of employability. Specifically, the learning value of the job predicted three out of five employability dimensions (corporate sense, personal flexibility, and anticipation and optimization). These findings were consistent across the self- (H1a) and supervisor-ratings (H1b) of employability. Applicability of newly learned knowledge and skills was significantly related to all five self-rated (H2a) employability dimensions (occupational expertise, corporate sense, personal flexibility, anticipation and optimization, and balance). The strongest relationships were found for occupational expertise and anticipation and optimization. As concerns supervisor-rated employability (H2b), applicability of training and development only predicted anticipation and optimization.

The finding that learning characteristics were differentially related to the unique employability dimensions rather than to the second-order employability factors underscores that learning characteristics of the job have their impact on the individual employee's development through the unique employability dimensions.

In contrast to applicability of training and development, learning value of the job did not predict occupational expertise. Apparently, learning value of the job is particularly beneficial for an employee's broader development, rather than for his or her domain-specific growth. This is a highly important outcome given the fact that the qualifications that are required for a job are becoming increasingly complex whereas, simultaneously, the "half-life" of these qualifications is becoming increasingly shorter.

Self-rated balance was only related to the perceived applicability of training and development. Possibly, jobs in which newly learned knowledge and skills can more easily be applied are also the jobs that allow workers to do other types of adjustments, as to include job crafting (Wrzesniewski & Dutton, 2001), and safeguarding the fine-tuning of work-family demands (see also Demerouti, Peeters, & Van der Heijden, 2012). Although this indicates the effect might be spurious, it also shows that career management and HR initiatives aimed at increasing the applicability of training and development in the job may fit into a broader strategy, allowing workers to take a more personal initiative, which would also be key to creating a balance between employers' versus



employees' interests, and between employee's opposing work, career, and private interests.

As regards Hypotheses 3 and 4, surprisingly few relationships appeared to differ across the age groups. Moreover, significant moderation effects of age contrasted our hypotheses based on lifespan developmental theories and previous empirical work on ageing and work outcome; both the learning value of the job and applicability of training and development related stronger to self-ratings of anticipation and optimization for younger workers. In addition, age moderated the otherwise non-significant relationship between learning value and self-rated occupational expertise, which is stronger and apparently only significant for younger workers. An explanation for these unexpected findings may be sought in a possible non-linear moderation effect. That is, the hypothesized moderator effects of age might be non-linear, occurring only after a certain cut-off point, such as 50 or 55 years of age [cf. Armstrong-Stassen and Schlosser (2008) who found that job development climate plays an important role in the retention of older workers above the age of 50].

It might be that future research incorporating different conceptualizations of employee age might shed more light on the moderation effect of age [see for instance the categorization by Sterns and Doverspike (1989) into chronological age, functional or performance-based age, psychosocial or subjective age, organizational age, and the concept of lifespan age]. After all, the different conceptualizations of age have distinct effects on work-related outcomes (see for instance Kooij et al., 2011). Moreover, an interesting question remains what factors might influence the general employability factor. Plausible mechanisms are leniency effects or a halo effect (Tsui & Ohlott, 1988) for, respectively, self-ratings and supervisor ratings for employability (see also Van der Heijden, De Lange, et al., 2009), (relatively) stable personality factors for self-ratings, or methodological issues such as common-method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

#### ***Limitations of the study and recommendations for further research***

Besides the strengths of our current study (in terms of testing a multidimensional and multi-source model of workers' employability enhancement), our study also had several limitations. First, all data have been collected using survey research, which results in the risk of response set consistencies. Second, all data have been collected at one point in time, that is, the study is cross-sectional. This implies that further research is needed to address issues of causality. Research using multi-wave designs can provide more specific information about the stability and change of the variables, and about cross-lagged (i.e., over time) relationships compared with our cross-sectional approach

(De Lange, Taris, Kompier, Houtman, & Bongers, 2004; Taris & Kompier, 2003). Third, research into the generalizability of our outcomes to other occupational settings and/or countries is recommended, especially, as we might assume that the prevalence and the impact of age-related stereotyping differ across cultures (Perry & Parlamis, 2005). Moreover, given the low reliability for the Applicability for Training and Development instrument, alternative measures with better psychometric qualities are needed. As we advocate an approach wherein the three different types of training and development are taken into account, future research might adopt a multidimensional measure, differentiating between current expertise/job area (1), adjacent expertise/job area (2), and new expertise/job area (3). Future work could also incorporate different operationalizations of age, such as professionalism, private situation, psycho-social experience, and health (cf. Kooij et al., 2008; Sterns & Miklos, 1995). Relational demography research (Tsui & O'Reilly III, 1989) could also increase our understanding of the possible effects of the comparative demographic characteristics of members of dyads (such as employee and supervisor) or groups, over and above independent effects of employee's age. It is important to further investigate whether the age gap between a superior and his/her subordinate may be more problematic (leading to lower evaluations about the subordinate) in one direction (in case the superior is younger than his/her subordinate, that is, in case of status-incongruence) than in the other direction (Tsui, Yin, & Egan, 1995). In addition, supervisors' age appeared to matter as well. It is important to conduct more research to better understand this outcome. Possibly, older supervisors are milder in their appraisals or do indeed manage more employable subordinates given their increased expertise, over the years, in selecting the right ones.

Finally, new research can focus on the relations between worker's perceptions of HR practices or meaningful HR bundles in stimulating learning experiences or designing active jobs, to facilitate the learning process throughout the career (cf. Kooij, Jansen, Dikkers, & De Lange, 2010).

#### ***Practical implications***

Our study has important implications for HRD activities in working organizations. Given the relationships between learning characteristics and the unique employability dimensions that were found, it is evident that both employers and individual employees should align their efforts aimed at employability enhancement depending upon the specific shortcomings in competencies of the employee experiences. In order to really make sense of knowledge on perceptual differences on competencies, employee and supervisor ought to openly share these in

a transparent and constructive way. Expert behaviour is something that has to be learned on the work floor with feedback from supervisors and close colleagues. When knowledge and skills are further developed “on-the-job”, staff members function as co-development partners, and the chances that self-perceptions of competences do not correspond with the perceptions of other parties will diminish (see also Stoker & Van der Heijden, 2001), here-with enhancing workers’ employability chances.

Moreover, employees should not just learn by means of courses or training programmes, but by working together with their supervisors, and by really applying the newly learned in practice. Especially in case of a lack of the ability to participate and perform in different work groups (corporate sense), and in case of shortcomings in terms of the flexibility dimensions (personal flexibility, and anticipation and optimization), attention for the learning value of one’s job and the applicability of training and development participation is necessary. Employees need to perform a job wherein they experience (urgent) requirements to develop their talents and capabilities further, and need to be actually encouraged to do so. Their job needs to challenge them to build up new knowledge and skills in order to enlarge their expertise base, and to apply these in a large variety of tasks.

Obviously, a clear insight into employability shortcomings is highly dependent upon the use of valid and reliable evaluations. Given the differences in self- and supervisor ratings of the distinguished employability dimensions, it is advisable to discuss these discrepancies between self and other ratings’ in order to optimize performance appraisal situations. The latter might also combat age-related stereotyping in performance and workers’ employability ratings, as a more thorough interaction between the two parties is expected to lead to a higher amount of individuate knowledge (Finkelstein & Burke, 1998; Gordon & Arvey, 2004; Kite, Stockdale, Whitley Jr., & Johnson, 2005) and to a favourable social context (Vecchio, 1993; Waldron & Hunt, 1992).

### Disclosure statement

No potential conflict of interest was reported by the authors.

### Note

1. We also tested one-factor employability models for employees and supervisors to see if they might be good alternatives to the five-factor structures, as the basis for further analyses. This dramatically decreased the model fit. For the self-report ratings, the chi-square increased from  $\chi^2_{(25\ df)} = 33.78$  to  $\chi^2_{(35\ df)} = 515.95$ ,  $\Delta\chi^2_{(10/df)} = 482.17$ . For the supervisor ratings: from  $\chi^2_{(25\ df)} = 67.04$  to  $\chi^2_{(35\ df)} = 477.45$ ,  $\Delta\chi^2_{(10\ df)} = 410.41$ .

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