



Age effects on the employability–career success relationship

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ABSTRACT

This study investigated the similarity of the factor structure for self-reported versus supervisor-rated employability for two age groups of workers, and then validated a career success enhancing model of employability across the two age groups. The results confirmed a two-factor model including self-reported and supervisor-rated employability as underlying factors. Moreover, Multi-Group Structural Equation Modeling (SEM) indicated that for the *youngsters* both self- and supervisor ratings of employability related significantly to objective career success outcomes. However, for the *over-forties* self-rated employability related positively to promotions throughout the career, while the supervisor ratings related negatively to overall promotions. The findings have important implications for performance appraisal practices aimed at increasing life-long employability and career success.

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1. Introduction

Stimulating workers' employability throughout their career appears to be advantageous for both employee and organizational outcomes (see also Fugate, Kinicki, & Ashforth, 2004; Rothwell & Arnold, 2007). Highly employable workers (Van Dam, 2004) are necessary for organizations to meet fluctuating demands for numerical and functional flexibility (Valverde, Tregaskis, & Brewster, 2000). Increasingly, domain-specific occupational expertise is insufficient to guarantee positive work outcomes during the course of one's entire career. A broad competence package or *employability* enables workers to cope with fast changing job requirements.

Van der Heijde and Van der Heijden (2006, p. 453) competence-based approach to employability implies the ability to obtain a job and to keep employed, 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; Rothwell & Arnold, 2007). Their conceptualization has been operationalized into a multi-source (employees and their supervisors) instrument which 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) *anticipation and optimization*; (b) *personal flexibility*; (c) *corporate sense*; and (d) *balance*.

This study investigated whether the factor structure for self-reported versus supervisor-rated employability is similar across two age groups of workers ('youngsters' versus 'over-forties') (see Finkelstein & Farrell, 2007, p. 100 on the Age Dis-

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crimination in Employment Act (ADEA)). Secondly, we examined the predictive validity of employability in the light of objective career success, using the two sources of raters. Finally, this study examined whether employee age moderates the relation between self- and supervisor ratings of employability, on the one hand, and objective career success, on the other.

2. Multi-source ratings: self-ratings versus supervisor ratings of employability

Frequently, for the appraisal of occupational competences, multi-rater (or multi-source) performance ratings are used (see e.g., Smither, London, & Reilly, 2005). The rationale behind this is that different evaluation perspectives add incremental validity to the assessment of individual performance (Brett & Atwater, 2001; Woehr, Sheehan, & Bennett, 2005). However, the resulting differences may be the result of not only the observations of the raters, but also of the interpretative difference(s) elicited by the item(s) (Penny, 2001).

The findings of previous empirical studies on occupational expertise indicate that employees 'think' somewhat better of themselves than supervisors do (Van der Heijden, 2000), or at any rate they give a rosier image (the so-called 'leniency effect') (Tsui & Ohlott, 1988). Given the outcomes of the Multi-Trait Multi-Method (MTMM) analysis (Campbell & Fiske, 1959), and the quantitative validation studies using LISREL, supporting its convergent and discriminant validity (across different age groups of workers) we do not assume this to be caused by the measurement instrument itself (Van der Heijden, 2000).

It might be that self-ratings reflect a relatively more differentiated evaluation, while the supervisor ratings, both within and across sub scales, might be more accommodated to one another, due to, for instance, the 'halo effect' ((the degree of (dis)liking of the ratee)) (Lefkowitz, 2000). At higher levels, employees' work is largely independent, and the 'effect of under-sampling' of information for the appraiser (supervisor) may give rise to the occurrence of response sets, for example stereotyping on account of age (Hedge, Borman, & Lammlein, 2006; Maurer, Wrenn, & Weiss, 2003).

In line with the work by Fecteau and Craig (2001, p. 215) on performance appraisals, we expect an equivalent factor structure of the employability construct among the rater groups (employees and supervisors) (see also Van der Heijde & Van der Heijden, 2006), and we advocate the comparability of the different rater group scores. Moreover, in line with previous research (Van der Heijden, 2000) we expect a similar factor structure across different age groups of workers (Hypothesis 1).

3. A career success enhancing employability model moderated by age

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). From an *objective* perspective, career success is evaluated using external reference points or norms (Gattiker & Larwood, 1986; Jaskolka, Beyer, & Trice, 1985), and is operationalized by means of quantifiable employment history criteria that include promotion rate, income or salary, and attained organizational level (e.g., Jaskolka et al., 1985; Judge et al., 1995).

Performance ratings appear to play a major role in decision processes regarding objective career outcomes (Greenhaus, Parasuraman, & Wormley, 1990; Judge & Hurst, 2008; Schaubroeck & Lam, 2002). Given the lack of psychometrically sound empirical research on employability (or career potential), being a performance indicator, it is important to examine its predictive validity in the light of objective career success. Investments in generalizable or transferable occupational knowledge and skills tend to increase employees' job mobility within the same occupation or industry (Feldman & Ng, 2007; Fugate et al., 2004). Therefore, it is likely that employability is positively associated with career success (see also Lips-Wiersma & Mcmorland, 2006; Van der Heijde & Van der Heijden, 2006) (Hypothesis 2 for self-rated, and Hypothesis 3 for supervisor-rated employability). Moreover, as decisions about career mobility appear to depend heavily on career and life stage considerations (Feldman & Ng, 2007), it is expected that employee's age moderates this relationship in case supervisor ratings are used.

Few career researchers have studied differences in relationships between model variables for distinguished age groups (see for instance De Lange, Taris, Jansen, Kompier, & Houtman, 2005; Van der Heijden, 2000; Warr, 1992). However, differences in self-reported and supervisor ratings of employability and subsequent career outcomes, depending upon employee's age, are plausible considering the prevalence of age-related stereotyping (Boerlijst, Van der Heijden, & Van Assen, 1993; Offermann & Gowing, 1990) and increased person-environment (P-E) fit for older workers (Wright & Hamilton, 1978). According to Offermann and Gowing (1990), *negative stereotypical beliefs about older workers* may stem less from their current performance levels, yet more from fears of their supervisors as regards their future prospects. And equally distressing, just as immediate supervisors make relatively negative assessments of the 'pay-off' period for career investments, older workers themselves also deliberately take into account whether the investment is worth the effort (Van der Heijden, 2000). As such, they confirm the negative differential treatment they receive in their work environment (Shore, Cleveland, & Goldberg, 2003), and we therefore expect a stronger positive relationship between supervisor-rated employability and career success of the youngsters versus the over-forties (Hypothesis 4).

As regards the *increased P-E fit for older workers*, earlier career development theories focused on the idea that one's self-concept becomes more clearly defined with age, and that career choice is a process of matching one's self-concept with images of the occupational world (Watkins & Subich, 1995). Similarly, Wright and Hamilton's (1978) 'job change' hypothesis states that due to experience, seniority and skills, a selective group of active older workers will have obtained a relatively better P-E fit, and higher occupational levels with more job control compared to their younger colleagues (Edwards, Cable, Williamson, Lambert, & Shipp, 2006). The increased P-E fit for older workers may result in a relatively stronger relationship

between self-rated employability and career success for the over-forties, compared to their younger counterparts (Hypothesis 5).

Fig. 1 presents our career success enhancing employability model to be tested across the age groups.

4. Methods

4.1. Participants and procedure

This study was carried out among pairs of employees and supervisors working at a large Dutch company that produces building materials. Employees working in numerous types of jobs at middle and higher educational levels responded to an 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. That is, the employability measure has been responded to by both employees and their immediate supervisors (see Fig. 1), in order to enable us to investigate the factor structure depending upon rater source and age group, and for testing our model hypotheses.

In order to increase the validity of the findings, instructions regarding *cross-checking* as well as *anonymity* have been used (Mabe & West, 1982). Our final sample consisted of 303 pairs (response rate was 91.8%). The employees' sample included 253 men (83.5%) and 50 women (16.5%). Their mean age was 41 years ($SD = 9.15$), and their average length of service for the organization was 10.74 years ($SD = 9.61$). In total, 288 of the supervisors were men (95.0%) and 15 were women (5.0%). Their mean age was 43 years ($SD = 7.96$).

4.2. Measures

Employability was assessed with Van der Heijde and Van der Heijden's (2006) instrument including five scales measuring: (1) occupational expertise (15 items); (2) anticipation and optimization (8 items); (3) personal flexibility (8 items); (4) corporate sense (7 items); and (5) balance (9 items). Examples 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" (ranging from "not at all" to "extremely") (*occupational expertise*), "(S)he is ... focused on continuously developing him/herself" (ranging from "not at all" to "a considerable degree") (*anticipation and optimization*), "(S)he adapts to developments within the organization..." (ranging from "very badly" to "very well") (*personal flexibility*), "(S)he manages to exercise ... influence within the organization" (ranging from "very little" to "a very great deal") (*corporate sense*), 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" (ranging from "not at all" to "a considerable degree") (*balance*). The item sets for the employees and the supervisors are nominally identical and all scored on a six-point rating scale.

Objective career success was measured using three single items (Gattiker & Larwood, 1986). Objective hierarchical success was measured as the number of promotions. Number of promotions was defined as "any increase in hierarchical level and/or any significant increase in job responsibilities or job scope employees have experienced since joining their current organization" (*organization-specific objective hierarchical success* [first item]) and in their entire career (*overall objective hierarchical success* [second item]). Objective financial success was measured, as *current gross income* (per month) [third item].

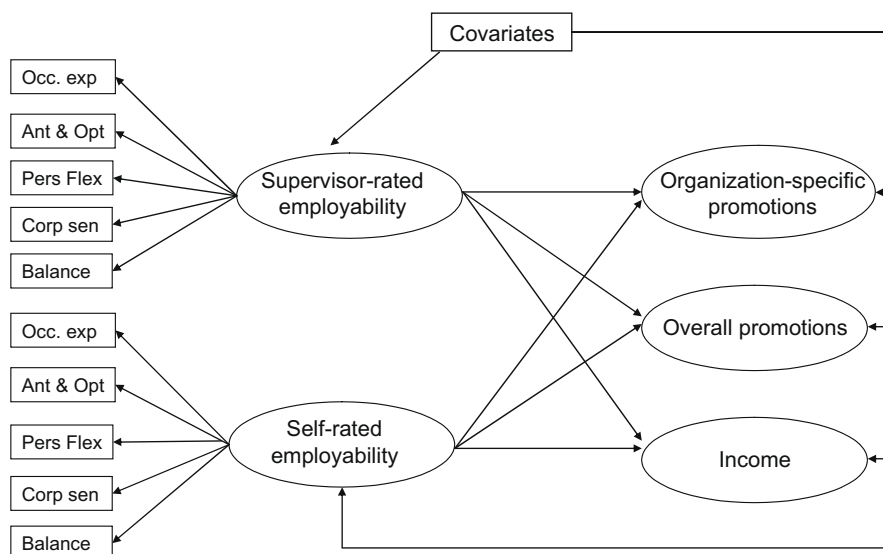


Fig. 1. A career success enhancing employability model moderated by age.

5. Results

5.1. Descriptive statistics

All employability measures demonstrated good internal consistencies, with Cronbach's α s ranging from .78 to .90 for the self-ratings, and from .83 to .95 for the supervisor ratings (see Table 1). The correlations between the supervisor-rated employability dimensions are high ($r \geq .52$), while these are somewhat lower for the self-ratings ($r \geq .33$). The agreement between self- and supervisor ratings for the same employability dimension ranges from .22 to .37. All supervisor ratings of employability appear to be unrelated to objective career success outcomes, which might indeed indicate that possibly moderators, like age, are involved. Regarding the self-reported ratings of employability, 6 out of the 15 possible correlations with the objective career success outcomes are significant, although weak to moderate at best, which again points to the influence of possible moderators (see Table 1).

5.2. Preliminary analyses

Regression analyses of socio-demographic variables on each of objective career success measures, separately, showed that after controlling for age group (included in the first step), gender and length of service were significantly related to career success (see Table 2). The participating men had relatively higher objective career success scores compared with the women. Both men and women had higher scores for the 'number of promotions in their entire career' compared with the 'number of organization-specific promotions.' However, these findings should be interpreted with caution because the number of women in our sample was rather small. Length of service was positively related to organizational promotions, and negatively to overall promotions. Given the outcomes of previous studies, we decided to include gender, educational qualification, and length of service as control variables in the subsequent analyses (see also Ng, Eby, Sorensen, & Feldman, 2005).

5.3. Confirmatory Factor Analysis

Multi-Group Confirmatory Factor Analyses (CFA), using the maximum likelihood method, was executed with the AMOS computer program (Arbuckle, 2003) to compare the two-factor with the one-factor model. The two-factor model included two correlated latent factors, namely self-reported and supervisor-rated employability. Each factor was operationalized by means of five indicators: (1) occupational expertise; (2) anticipation and optimization; (3) personal flexibility; (4) corporate

Table 1

Means, standard deviations, reliability coefficients (Cronbach's α ; on the diagonal), and correlations between the model variables, $N = 303$.

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(1) Gender	1.17	.38	—														
(2) Educational qualification	2.76	.84	.06	—													
(3) Length of service	128.17	116.17	-.03	-.25	—												
(4) Occupational expertise (Supervisor)	4.20	.53	.03	.09	-.06	.95											
(5) Anticipation and optimization (Supervisor)	4.40	.67	-.08	.17	-.21	.70	.89										
(6) Personal flexibility (Supervisor)	3.94	.65	-.04	.13	-.34	.71	.75	.88									
(7) Corporate sense (Supervisor)	3.50	.70	-.10	.10	-.02	.76	.68	.69	.85								
(8) Balance (Supervisor)	3.94	.71	-.09	-.03	-.04	.60	.57	.57	.52	.83							
(9) Occupational expertise (Employee)	4.31	.51	-.12	.03	-.02	.24	.21	.18	.21	.14	.90						
(10) Anticipation and optimization (Employee)	4.78	.42	-.15	.17	-.18	.06	.22	.18	.10	.08	.42	.81					
(11) Personal flexibility (Employee)	4.44	.49	-.10	.19	-.36	.17	.31	.37	.24	.09	.59	.47	.79				
(12) Corporate sense (Employee)	3.72	.65	-.31	.09	-.03	.21	.28	.26	.36	.20	.55	.52	.53	.83			
(13) Balance (Employee)	4.14	.72	-.10	-.03	-.04	.14	.10	.12	.06	.28	.45	.35	.33	.33	.78		
<i>Objective career success</i>																	
(14) Organization-specific promotions	1.40	1.65	-.12	-.17	.44	.01	-.01	-.07	.05	-.02	.05	-.04	-.13	.16	-.06		
(15) Overall promotions	3.47	2.41	-.19	-.06	.05	-.12	-.04	-.05	.03	-.08	.11	.16	.13	.32	.05	.45	
(16) Income	3429.81	3709.40	-.17	.02	.13	.05	-.03	-.11	.06	-.01	.04	.01	-.03	.12	.04	.07	.14

Note. Correlations between $.12 \leq r \leq .14$ are significant at $p < .05$ while correlations $r \geq .15$ are significant at $p < .01$.

Table 2
Results of the hierarchical regression analyses with socio-demographic characteristics.

Step	Organization-specific promotions	Overall promotions	Income
(1) Age group	.17**	.33***	.18**
(2) Age group	-.10	.36***	.13
Gender	-.11*	-.12*	-.15*
Marital status	.09	.08	.02
Educational qualification	-.06	-.01	.07
Length of service	.45***	-.15*	.08

Note. Age group: youngsters = 0, over-forties = 1; gender: female = 0, male = 1.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

sense; and (5) balance. The measurement errors of the parallel dimensions (employee and supervisor version) were allowed to correlate. In this Multi-Group CFA, we compared the fit of the proposed model with the fit of alternative ones, including a model with only one latent factor (employability), and two-factor models in which, respectively, the factor loadings, error variances, correlation between the factors, and the factor variances were constrained to be equal in both age groups.

To test the fit between the proposed model and the data, the traditional χ^2 value, the goodness-of-fit index (GFI), and the root mean square error of approximation (RMSEA) were calculated. As a rule of thumb, a GFI $\geq .90$ and a RMSEA $\leq .08$ indicate a reasonable fit between the model and the data (Browne & Cudeck, 1993). Because these indices are dependent on sample size, the incremental fit index (IFI), and the Tucker–Lewis index (TLI) were also examined (see Marsch, Balla, & Hau, 1996). These indices should have values of .90 or higher (Hoyle, 1995).

The two-factor model had a satisfactory fit (see Table 3), $\chi^2 = 103.24$, $df = 58$, GFI = .94, RMSEA = .05, IFI = .97, TLI = .95. All indicators had a significant loading on the respective factor for both the younger and the older employees, and the estimated correlation between the two-factors was $\phi = .35$ ($p < .001$) for both age groups. More importantly, this model appeared to fit significantly better compared with the one-factor model, $\Delta\chi^2 = 445.68$, $\Delta df = 2$, $p < .001$. Moreover, constraining, respectively, the factor loadings, error variances, correlation between the factors, and the factor variances to be equal for both younger and older employees did not result in a significantly worse fit compared with the two-factor model with free parameters (see model comparisons in Table 3). With these outcomes Hypothesis 1 is confirmed.

5.4. The relationship between employability and objective career success

We tested our Hypotheses 2 and 3 by means of Structural Equation Modeling (SEM). Self-reported and supervisor-rated employability were included as exogenous factors, and the three objective career success measures as latent endogenous factors (see Fig. 1). The measurement error of the career success one-indicator factors was constrained to be equal to the product of its variance times $1 - \alpha$. This approach was chosen, instead of the manifest variables' approach, in order to correct for measurement error (Jöreskog & Sörbom, 1993). We considered that they had a reliability of $\alpha = .90$ (Bentler & Chou, 1987). The SEM analysis was conducted with the mean scores of the scales, instead of the scale items, because our N would not be large enough for the latter way of analysis, and because the results of the CFAs supported the suggested factor structure.

The model for the total sample has a reasonable fit ($\chi^2 = 263.62$, $df = 77$, GFI = .90, RMSEA = .09, IFI = .90, TLI = .85) (see Fig. 2). The significant structural paths showed that self-reported employability was positively related to overall promotions ($\beta = .29$, $p < .001$), providing partial support for Hypothesis 2. Supervisor-rated employability was significantly, yet negative, related to overall promotions ($\beta = -.15$, $p < .05$). While the effect is rather low in magnitude it implies that Hypothesis 3 is to be rejected.

5.5. Test of the career success enhancing employability model moderated by age

In order to test Hypotheses 4 and 5 on the moderating effects of age, we conducted Multi-Group SEM. In a first step all structural paths were allowed to be different for the two age groups. In the second step, we compared the fit of this free

Table 3
Goodness-of-fit indices for the alternative models of the Confirmatory Factor Analyses.

Model	χ^2	df	GFI	RMSEA	IFI	TLI	Model comparison	$\Delta\chi^2$	Δdf
(1) Two-factor	103.24	58	.94	.05	.97	.95			
(2) One-factor	548.92	60	.68	.17	.68	.52	M2 – M1	445.68***	2
(3) Equal loadings	122.91	66	.93	.05	.96	.95	M3 – M1	19.67	8
(4) Equal measurement errors	134.41	68	.92	.06	.96	.94	M4 – M1	31.17	10
(5) Equal correlations between factors	103.44	59	.94	.05	.97	.96	M5 – M1	.20	2
(6) Equal factor variances	104.40	60	.94	.05	.97	.96	M6 – M1	1.16	2
(7) Null	1607.64	90	.40			.24			

*** $p < .001$.

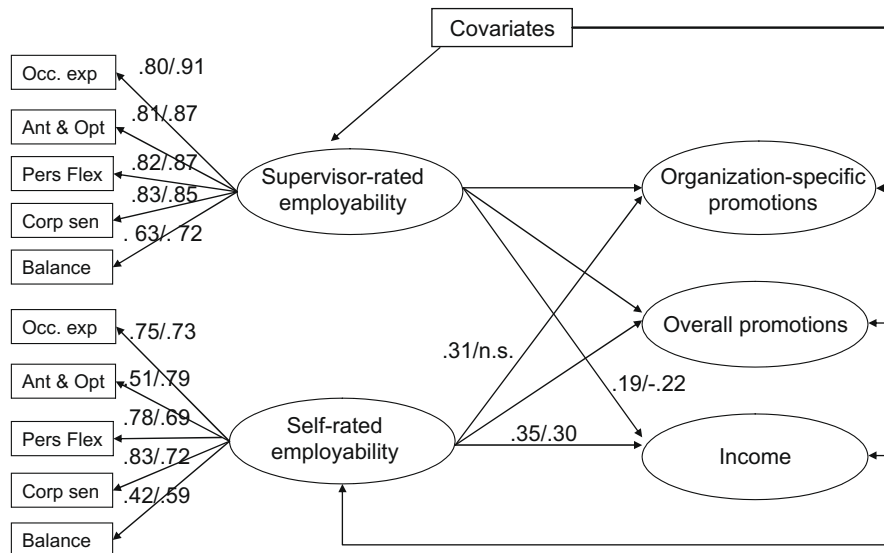


Fig. 2. Structural paths for the career success enhancing employability model for youngsters versus over-forties.

model with the fit of a model in which all structural relationships were constrained to be equal. The model that posed no restrictions in the estimation of the parameters had a satisfactory fit to the data, $\chi^2 = 308.85$, $df = 154$, $GFI = .89$, $RMSEA = .05$, $IFI = .92$, $TLI = .87$.

For the *youngsters* (≤ 40 years) we found that self-reported employability was significantly and positively related to both overall promotions and current gross income ($\beta = .31$, $p < .001$ and $\beta = .35$, $p < .001$, respectively). The supervisor ratings of employability were positively related to current gross income ($\beta = .19$, $p < .01$). Next to these structural relationships we found that, for the younger employees, gender was negatively related to both self- and supervisor ratings of employability, as well as to income ($\gamma = -.37$, $p < .01$, $\gamma = -.24$, $p < .001$, $\gamma = -.28$, $p < .001$, respectively), with women having lower scores compared to men. Educational qualification and length of service for the organization, however, were positively related to supervisor ratings of employability, $\gamma = .20$, $p < .01$, $\gamma = .18$, $p < .01$, respectively. Moreover, length of service appeared to be positively related to the amount of organization-specific promotions, $\gamma = .49$, $p < .001$.

The results for the *over-forties* were substantially different. For the older workers we found that self-reported employability was positively related to overall promotions ($\gamma = .33$, $p < .001$), while supervisor ratings of employability were negatively related to overall promotions ($\gamma = -.19$, $p < .05$). All other structural relationships appeared to be non-significant. Moreover, length of service was negatively related to both supervisor and self-rated employability, and positively to organization-specific promotions ($\gamma = -.21$, $p < .05$, $\gamma = -.24$, $p < .05$, $\gamma = .43$, $p < .001$).

Constraining the structural relationships to be equal across the two age groups did not result in a significant worsening of the model fit, $\Delta\chi^2 = 5.82$, $\Delta df = 4$, n.s. This is probably due to the relatively small sample size (almost 294 employees) for the number of parameters to be estimated (96 parameters) (Bentler & Chou, 1987). However, by constraining each structural path separately, we found that the path from supervisor-rated employability to overall promotions differed significantly between the youngsters and the over-forties. More specifically, constraining this path to be equal for the younger and the older workers resulted in a significantly worse model fit, $\Delta\chi^2 = 3.90$, $\Delta df = 1$, $p < .05$.

These outcomes imply that Hypothesis 4 is partly supported, while Hypothesis 5 is to be rejected.

6. Discussion

6.1. Outcomes and implications of the psychometric analyses

Our results confirmed a two-factor model (self-reported employability and supervisor-rated employability), comprising five employability indicators, namely, occupational expertise, anticipation and optimization, personal flexibility, corporate sense, and balance (supporting Hypothesis 1).

6.2. The relationship between employability and objective career success

For self-reported employability, the hypothesis is partly supported (Hypothesis 2), given its positive impact upon overall promotions. For the other two objective career success measures no significant relationships have been found. However, in case the supervisor ratings were used, we have found a negative relationship with overall promotions, which is contradictory

to our assumption (Hypothesis 3). It might be conceivable that an 'instrumental style of leadership' plays an important role (Boerlijst et al., 1993). Under circumstances of high employee career potential, it is in the supervisor's interest that the employee's expertise is utilized within the department that he or she is heading, thus, restraining the employee from moving to another job or to another field. After all, the 'here-and-now' functioning of subordinates determines the career success of the supervisor him or herself (Van der Heijden, 2000).

6.3. Outcomes and implications of the test of the career success enhancing employability model moderated by age

Although at first sight our outcomes seemed to confirm that age moderates the relationship between employability and objective career success, comparing our proposed model with a model wherein the structural relationships were constrained to be equal across the two age groups did not result in a significant worsening of the model fit. However, by constraining each structural path separately we found that the path from supervisor ratings of employability to overall promotions was significantly different for the older workers. Notwithstanding our small sample size, given the normality of the data and the lack of missing values (McCallum, Browne, & Sugawara, 1996), we are still inclined to conclude that age moderates the relationship between supervisor ratings of employability and objective career success.

For the *younger* workers, we have found that self-reported employability contributes to both overall promotions and current gross income, while supervisor ratings appeared only to contribute to current gross income. Next to these structural relationships, we have found some significant gender effects to the disadvantage of women which urge us to continuously consider their ethical implications, and to increase our efforts in understanding how these effects are to be combated. All the more as we argue that these outcomes are not attributable to differences in workers' capabilities or career potential, yet solely to discrimination based upon gender (see also Blau & Kahn, 2006). Both educational qualification and length of service for the organization appeared to be significantly related to supervisor ratings of employability. Moreover, length of service appeared to be positively related to the amount of organization-specific promotions.

For the *over-forties* highly different results have been found. Self-reported employability appeared to be positively related to overall promotions, while in case the supervisor ratings of employability were used, the relationship was negative. No other significant relationships were found. Moreover, length of service appeared to be negatively related to both supervisor and self-rated employability, and positively to organization-specific promotions. Possibly, our results reconfirm the prevalence of age-related differences in supervisory attitudes (see Van der Heijden, 2000). It is conceivable that for the over-forties in particular, the previously discussed 'instrumental style of leadership' plays an important role (Boerlijst et al., 1993).

6.4. Limitations and recommendations for further research

All data, based upon a mostly male sample, have been collected using survey research opening up the possibility of response set consistencies. Secondly, longitudinal research is needed in order to address issues of causality (Taris & Kompier, 2003). Thirdly, research into the generalizability of our findings to other occupational settings and/or countries is recommended. Although the current operationalization of employability concerns mainly ability-related performance ratings, which are assumed to be more culturally invariant (see also Ployhart, Wiechmann, Schmitt, Sacco, & Rogg, 2003), one could speculate that the prevalence and the impact of age-related stereotyping differs across cultures (Perry & Parlamis, 2005).

As regards the outcome variables, future approaches using subjective career success measures might enhance our understanding of age effects on the employability-career success relationship. Empirical evidence has suggested that perceptions of one's own career do not always correspond to external objective criteria (e.g., Poole, Langan-Fox, & Omodei, 1993).

Finally, including a measure of *affective* organizational commitment (see e.g., Tsui, Pearce, Porter, & Tripoli, 1997) might contribute to our understanding of the relationships between the model variables. As we have included 'length of service' as one of the confounders in this study, we have no information about anything other than continuance commitment.

6.5. Practical implications

Enhancing workers' competences throughout their life-span, and adjusting their workplaces and tasks will offer these workers significant potential within the labor market (see also Rocco & Thijssen, 2006; Yeats, Folts, & Knapp, 2000; Zappalà, Depolo, Fraccoroli, Guglielmi, & Sarchielli, 2008). Human resource policies should be rooted into a so-called 'conservation' model, wherein employees, regardless of their age, are seen as long-lasting valuable organizational assets, instead of the long-adhered 'depreciation' model (Yeats, Folts, & Knapp, 2000).

Given their contributory value, policies and practices are needed that are focused upon older employees' retention in business life (Brewington & Nassar-McMillan, 2000; Collins, 2003; Kooij, De Lange, Jansen, & Dijkers, 2008; Van Veldhoven & Dorenbosch, 2008). As older employees are not less motivated to acquire new knowledge and skills, compared with their younger colleagues (see De Lange et al., 2005), management, in particular one's immediate supervisor (Budhwar, 2000; Hall & Torrington, 1998), should focus upon facilitating employability and career success across working life.

In the Netherlands line managers occupy a position in the top category of 'most devolved' countries (Larsen & Brewster, 2003), while empirical research has shown that most Dutch working organizations do not have formalized policies towards older workers (Leisink, Thijssen, & Walter, 2004), and practices consist largely of what supervisors think what is appropriate to do. With an age-conscious HRM policy, ageing of the working population does not need to pose a threat (see also Arm-

strong-Stassen & Templer, 2005; Brooke & Taylor, 2005; Gellert & Kuipers, 2008 for valuable HRM policies for team-based organizations).

Individual development plans are needed that are based upon valid and reliable multi-source instruments (Stoker & Van der Heijden, 2001), and sufficient guidance and training for the raters (Brutus & Derayah, 2002), not in the least place aimed at detection rating biases. To our opinion, the employability measurement instrument has high practical value and might be used for comparing competences of employees working in different organizational units or departments. The latter might produce an improvement in recruitment, staffing, and career mobility practices. Moreover, the instrument enables us to further investigate the relationship between individual, job-related and organizational career activities, on the one hand, and employability, on the other. This might eventually lead to useful recommendations for enhancing life-long career success, as age-related changes may be carefully detected as well.

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References

- Arbuckle, J. L. (2003). *Amos 5.0 update to the Amos user's guide*. Chicago: SPSS, Inc.
- Armstrong-Stassen, M., & Templer, A. (2005). Adapting training for older employees. The Canadian response to an aging workforce. *Journal of Management Development*, 24(1), 57–67.
- Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural modeling. *Social Methods & Research*, 16, 78–117.
- Blau, F. D., & Kahn, L. M. (1990). The U.S. gender pay gap in the 1990s: Slowing convergence. *Industrial and Labor Relations Review*, 60(1), 45–66.
- Boerlijst, J. G., Van der Heijden, B. I. J. M., & Van Assen, A. (1993). *Veertigplussers in de onderneming [Over-forties in the organization]*. Assen: Van Gorcum/Stichting Management Studies.
- Brett, J. F., & Atwater, L. E. (2001). 360° feedback: Accuracy, reactions, and perceptions of usefulness. *Journal of Applied Psychology*, 86, 930–942.
- Brewington, J. O., & Nassar-McMillan, S. (2000). Older adults: Work-related issues and implications for counseling. *The Career Development Quarterly*, 49, 2–15.
- Brooke, L., & Taylor, P. (2005). Older workers and employment: Managing age relations. *Ageing and Society*, 25, 415–429.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 445–455). Newbury Park, CA: Sage.
- Brutus, S., & Derayah, M. (2002). Multisource assessment programs in organizations: An insider's perspective. *Human Resource Development Quarterly*, 13(2), 187–202.
- Budhwar, P. S. (2000). Evaluating levels of strategic integration and devolvement of human resource management in the UK. *Personnel Review*, 29, 141–161.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81–105.
- Collins, G. A. (2003). Rethinking retirement in the context of an ageing workforce. *Journal of Career Development*, 30(2), 145–157.
- De Lange, A. H., Taris, T. W., Jansen, P. G. W., Kompier, M. A. J., & Houtman, I. (2005). Werk en motivatie om te leren: Zijn er verschillen tussen jongere en oudere werknemers? [Work and motivation to learn: Are there differences between younger and older workers?]. *Gedrag en Organisatie*, 18(6), 309–325.
- Edwards, J. R., Cable, D. M., Williamson, I. O., Lambert, L. S., & Shipp, A. J. (2006). The phenomenology of fit: Linking the person and environment to the subjective experience of person–environment fit. *Journal of Applied Psychology*, 91(4), 802–827.
- Facteau, J. D., & Craig, S. B. (2001). Are performance appraisal ratings obtained from different rating sources comparable? *Journal of Applied Psychology*, 86, 215–227.
- Feldman, D. C., & Ng, T. W. H. (2007). Careers: Mobility, embeddedness and success. *Journal of Management*, 33(3), 350–377.
- Finkelstein, L. M., & Farrell, S. K. (2007). An expanded view of age bias in the workplace. In K. S. Shultz & G. A. Adams (Eds.), *Ageing and work in the 21st century*. London, UK: Lawrence Erlbaum Associates.
- Forrier, A., & Sels, L. (2003). The concept employability: A complex mosaic. *International Journal of Human Resources Development and Management*, 3, 102–124.
- Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psycho-social construct, its dimensions, and applications. *Journal of Vocational Behavior*, 65, 14–38.
- Gattiker, U. E., & Larwood, L. (1986). Subjective career success: A study of managers and support personnel. *Journal of Business and Psychology*, 1, 78–94.
- Gellert, F. J., & Kuipers, B. S. (2008). Short- and long-term consequences of age in work teams. An empirical exploration of ageing teams. *Career Development International*, 13(2), 132–149.
- Greenhaus, J. H., Parasuraman, S., & Wormley, W. (1990). Effects of race on organizational experiences, job performance evaluations and career outcomes. *Academy of Management Journal*, 33(1), 64–86.
- Hall, L., & Torrington, D. (1998). Letting go or holding on—the devolution of operational personnel activities. *Human Resource Management Journal*, 8(1), 41–55.
- Hedge, J. W., Borman, W. C., & Lammlein, S. E. (2006). *The ageing workforce: Realities, myths, and implications for organizations*. Washington, DC: American Psychological Association.
- Hoyle, R. H. (1995). *Structural equation modeling: Concepts, issues, and applications*. Thousand Oaks, CA: Sage.
- Jaskolka, G., Beyer, J. M., & Trice, H. M. (1985). Measuring and predicting managerial success. *Journal of Vocational Behavior*, 26, 189–205.
- Jöreskog, K. G., & Sörbom, D. (1993). *LISREL 8 structural equation modeling with the SIMPLIS command language*. Chicago: Scientific Software International.
- Judge, T. A., Cable, D. M., Boudreau, J. W., & Bretz, R. D. (1995). An empirical investigation of the predictors of career success. *Personnel Psychology*, 48, 485–519.
- Judge, T. A., & Hurst, C. (2008). How the rich (and happy) get richer (and happier): Relationship of core self-evaluations to trajectories in attaining work success. *Journal of Applied Psychology*, 93(4), 849–863.
- Kooij, D., De Lange, A., Jansen, P., & Dikkers, J. (2008). Older workers' motivation to continue to work: Five meanings of age. *Journal of Managerial Psychology*, 23(4), 364–394.
- Larsen, H. H., & Brewster, C. (2003). Line management responsibility for HRM: What is happening in Europe? *Employee Relations*, 25(3), 228–244.
- Lefkowitz, J. (2000). The role of interpersonal affective regard in supervisory performance ratings: A literature review and proposed causal model. *Journal of Occupational and Organizational Psychology*, 73, 67–85.
- Leisink, P. L. M., Thijssen, J. G. L., & Walter, E. M. (2004). *Langer doorwerken met beleid [Policy-based working longer]*. Utrecht: USBO.
- Lips-Wiersma, M., & Mcmorland, J. (2006). Finding meaning and purpose in boundaryless careers: A framework for study and practice. *Journal of Humanistic Psychology*, 46(2), 147–167.

- Mabe, P., & West, S. (1982). Validity of self-evaluation of ability: A review and meta-analysis. *Journal of Applied Psychology*, 67, 280–296.
- Marsch, H. W., Balla, J. R., & Hau, K. T. (1996). An evaluation of incremental fit indices: A clarification of mathematical and empirical properties. In G. A. Marcoulides & R. E. Schumacker (Eds.), *Advanced structural equation modeling: Issues and techniques* (pp. 315–353). Mahwah, NJ: Erlbaum.
- Maurer, T. J., Wrenn, K. A., & Weiss, E. M. (2003). Toward understanding and managing stereotypical beliefs about older workers' ability and desire for learning and development. *Research in Personnel and Human Resources Management*, 22, 253–285.
- McCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods*, 1, 130–149.
- Ng, T. W. H., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success: A meta-analysis. *Personnel Psychology*, 58(2), 367–408.
- Offermann, L. R., & Gowing, M. K. (1990). Organizations of the future: Changes and challenges. *American Psychologist*, 45, 95–108.
- Penny, J. (2001). Differential item functioning in an international 360-degree assessment: Evidence of gender stereotype, environmental complexity, and organizational contingency. *European Journal of Work and Organizational Psychology*, 10(3), 245–271.
- Perry, E. L., & Parlamis, J. D. (2005). Age and ageism in organizations: A review and consideration of national culture. In A. M. Konrad, P. Prasad, & J. K. Pringle (Eds.), *Handbook of workplace diversity*. London: Sage.
- Ployhart, R. E., Wiechmann, D., Schmitt, N., Sacco, J. M., & Rogg, K. (2003). The cross-cultural equivalence of job performance ratings. *Human Performance*, 16(1), 49–79.
- Poole, M. E., Langan-Fox, J., & Omodei, M. (1993). Contrasting subjective and objective criteria as determinants of perceived career success: A longitudinal study. *Journal of Occupational and Organizational Psychology*, 66, 39–54.
- Rocco, T. S., & Thijssen, J. G. L. (Eds.). (2006). *Older workers, new directions. Employment and development in an ageing labor market*. Miami: Center for Labor Research and Studies, Florida International University.
- Rothwell, A., & Arnold, J. (2007). Self-perceived employability: Development and validation of a scale. *Personnel Review*, 36(1), 23–41.
- Schaubroeck, J., & Lam, S. S. K. (2002). How similarity to peers and supervisor influences organizational advancement in different cultures. *Academy of Management Journal*, 45(6), 1120–1136.
- Shore, L. M., Cleveland, J. N., & Goldberg, C. B. (2003). Work attitudes and decisions as a function of manager age and employee age. *Journal of Applied Psychology*, 88(3), 529–537.
- Smither, J. W., London, M., & Reilly, R. R. (2005). Does performance improve following multisource feedback? A theoretical model, meta-analysis, and review of empirical findings. *Personnel Psychology*, 58(1), 33–66.
- Stoker, J. I., & Van der Heijden, B. I. J. M. (2001). Competence development and appraisal in organizations. *Journal of Career Development*, 28(2), 97–113.
- Taris, T. W., & Kompier, M. (2003). Challenges of longitudinal designs in occupational health psychology. *Scandinavian Journal of Work, Environment and Health*, 29, 1–4.
- Tsui, A. S., & Ohlott, P. (1988). Multiple assessment of managerial effectiveness: Interrater agreement and consensus in effectiveness models. *Personnel Psychology*, 41, 779–803.
- Tsui, A. S., Pearce, J. L., Porter, L. W., & Tripoli, A. M. (1997). Alternative approaches to employee–organization relationships: Does investment in employees pay off? *Academy of Management Journal*, 40, 1089–1121.
- Valverde, M., Tregaskis, O., & Brewster, C. (2000). Labor flexibility and firm performance. *International Advances in Economic Research*, 6(4), 649–661.
- Van Dam, K. (2004). Antecedents and consequences of employability orientation. *European Journal of Work and Organizational Psychology*, 13(1), 29–51.
- Van der Heijde, C. M., & Van der Heijden, B. I. J. M. (2006). A competence-based and multi-dimensional operationalization and measurement of employability. *Human Resource Management*, 45, 449–476.
- Van der Heijden, B. I. J. M. (2000). The development and psychometric evaluation of a multidimensional measurement instrument of professional expertise. *High Ability Studies*, 11, 9–39.
- Van Veldhoven, M., & Dorenbosch, L. (2008). Age, proactivity and career development. *Career Development International*, 13(2), 112–131.
- Warr, P. (1992). Age and occupational well-being. *Psychology and Aging*, 7, 37–45.
- Watkins, C. E., & Subich, L. M. (1995). Annual review, 1992–1994: Career development, reciprocal work/non-work interaction, and women's workforce anticipation. *Journal of Vocational Behavior*, 47(2), 109–163.
- Woehr, D. J., Sheehan, M. K., & Bennett, W. (2005). Assessing measurement equivalence across rating sources: A multitrait-multimethod approach. *Journal of Applied Psychology*, 90(3), 592–600.
- Wright, J. D., & Hamilton, R. F. (1978). Work satisfaction and age: Some evidence for the 'job change' hypothesis. *Social Forces*, 56, 1140–1157.
- Yeats, D., Folts, W., & Knapp, J. (2000). Older workers adaptation to a changing workplace: Employment issues for the 21st century. *Educational Gerontology*, 6, 565–582.
- Zappalà, S., Depolo, M., Fraccoroli, F., Guglielmi, D., & Sarchielli, G. (2008). Postponing retirement? *Career Development International*, 13(2), 150–167.