Age effects on the employability–career success relationship

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A R T I C L E   I N F O

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A B S T R A C T

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.

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-
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., Smith, 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 Facteau 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 & Lawerd, 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 & Mccorm, 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, & Ship, 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.](image-url)
5. Results

5.1. Descriptive statistics

All employability measures demonstrated good internal consistencies, with Cronbach’s αs 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 > .52), while these are somewhat lower for the self-ratings (r > .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 possible 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.

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Note. Correlations between .12 ≤ r ≤ .14 are significant at p < .05 while correlations r > .15 are significant at p < .01.
structure; 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 $\chi^2$ 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 $\varphi = .35 (p < .001)$ 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
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 younger employees (6-40 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.

### Covariates

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<thead>
<tr>
<th>Self-rated employability</th>
<th>Supervisor-rated employability</th>
<th>Organization-specific promotions</th>
<th>Overall promotions</th>
<th>Income</th>
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Fig. 2. Structural paths for the career success enhancing employability model for youngsters versus over-forties.
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 (Poole, Langan-Fox, & Omodei, 1993), while empirical research has shown that most Dutch working organizations do not have formalized policies towards older workers (Leisink, Thijszen, & 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 & Derayeh, 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 other 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


