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# Employer's investments in hospital workers' employability and employment opportunities

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## Abstract

**Purpose** – The purpose of this paper is to examine the relationship between employer's investments (through job characteristics and managerial support) and employees' employment opportunities, with employability, conceptualized as perceived up-to-date expertise and willingness to change, as a mediating variable.

**Design/methodology/approach** – Hypotheses are tested using structural equation modeling on survey data collected from 1,626 employees of three Dutch hospitals.

**Findings** – Consistent with the hypotheses, the results indicate that job characteristics and managerial support are indirectly related to employees' beliefs on employment opportunities, with the relationship mediated by up-to-date expertise and willingness to change. Further, managerial support is directly related to employees' employment opportunities.

**Practical implications** – This paper shows that employers, by providing an attractive and challenging job in combination with adequate supervisory support, can enhance their employees' employability and employment opportunities.

**Originality/value** – This paper contributes to the literature by elaborating a consistent conceptualization and measurement of employability, by incorporating as antecedents both job characteristics and managerial support, and by examining to what extent employability mediates between these antecedents and employment opportunities. Previous studies refer to the same definition of employability but conceptualize this in different ways, and focus on either job characteristics or managerial support, and so fail to provide a systematic and comprehensive examination.

**Keywords** Quantitative, Managerial support, Advanced statistical, Employability, Job characteristics, Employment opportunities, Hospital employees

**Paper type** Research paper

## Introduction

Increasingly, organizations emphasize the need for highly employable employees. They want to be able to respond to environmental pressures and technical developments (Van Dam, 2004) that threaten to render their employees' existing skills obsolete (Rowold and Kaufeld, 2008; Van Emmerik *et al.*, 2012). Research shows that highly employable employees possess a variety of skills and are willing to adapt to changing job demands (Sparrow, 1998; Van der Heijde and Van Der Heijden, 2006), ultimately reporting higher levels of job performance (Camps and Rodríguez, 2011; De Cuyper and De Witte, 2011).

These are all potential benefits for organizations confronted with ongoing environmental changes (Van den Broeck *et al.*, 2014). Therefore, several authors (Pearce and Randel, 2004; Van der Heijde and Van Der Heijden, 2006) argue that employers should take responsibility for enhancing their employees' employability. Several studies provide valuable insights into how employer's investments influence workers' employability although two issues have not been adequately studied.

First, previous research uses the concept of employability in different ways. The majority of employability studies refer to Rothwell and Arnold's (2007) definition of



employability as “the individual’s ability to keep the job one has, or to get the job one desires” (p. 25). However, some studies understand and measure employability as individuals’ beliefs regarding their employment opportunities (e.g. Van den Broeck *et al.*, 2014; Wittekind *et al.*, 2010), while others focus on individuals’ abilities and use variables such as (up-to-date) expertise or competences (e.g. Camps and Rodríguez, 2011; Van Emmerik *et al.*, 2012). Sometimes the openness or willingness to change is also included in the latter understanding and measurement of employability (e.g. Van der Heijde and Van Der Heijden, 2006). However, it remains unclear how employees’ employment opportunities, up-to-date expertise, and willingness to change are related.

Second, there is a lack of research offering a comprehensive perspective on employer’s investments in employability, with studies focussing either on job characteristics or on managerial support as antecedents of employability. There are studies showing that job characteristics such as task variety or job autonomy are positively related to employee skill development (Pettersen *et al.*, 1995 in: Snape and Redman, 2010) and employability (Van Emmerik *et al.*, 2012). Other research demonstrates the positive associations between managerial support variables, such as providing training opportunities or competence development support, and employability (De Vos *et al.*, 2011; Nauta *et al.*, 2009). Due to these limited foci, the sole and combined contributions to employability of these various employer investments remain unclear.

The contributions of this paper are threefold. First, by examining how workers’ employability – measured in terms of up-to-date expertise and willingness to change – links to their employment opportunities, we systematically relate variables that previous studies have referred to using the label “employability.” This also enables us to provide evidence for the commonly assumed, yet under-researched, relationships between these variables. Second, by incorporating both job characteristics and managerial support as antecedents of employability, we are able to comprehensively study employer’s investments in employability. Third, we include the presumption that the effects of job characteristics and managerial support on employees’ employment opportunities are mediated by their employability. A mediated model with this broad range of employer’s investments as antecedents has not been studied before. Applying a mediated model enables us to answer the following research question:

*RQ1.* To what extent do job characteristics and managerial support relate to hospital employees’ employment opportunities and to what extent is this relationship mediated by their employability?

We answer this question using data from a survey of 1,626 employees from three hospitals in the Netherlands. Hospitals provide a particularly relevant setting for research on employability as ongoing changes are likely to increase hospitals’ needs for employable employees. For example, Western populations are ageing, increasing the demand for care, while the labor force is shrinking (Hasselhorn *et al.*, 2008). Simultaneously, the sector is faced with pressures such as the introduction of market mechanisms, cost cutting, and ongoing technological innovations (Townsend and Wilkinson, 2010). Given these trends, research showing how employer’s investments impact on their workers’ employability is of great practical importance.

### Theoretical framework

Below, we first define employability and explain why we conceptualize this as up-to-date expertise and willingness to change. We then describe how this relates to the

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dependent variable “employment opportunities.” Next, we introduce job characteristics and managerial support as antecedents. Finally, we present the model that provides an overview of this study’s expectations.

### *Employability*

We define employability as the extent to which an employee feels able and willing to perform productive labor. Since jobs are constantly changing as a result of ongoing changes in and around organizations (Van den Broeck *et al.*, 2014), we use the term “productive labor” to refer to adequately performing one’s current job or, in the event of a change, other tasks or jobs. This links to Rothwell and Arnold’s (2007) notion of keeping the job one has, or getting the job one desires. In a changing environment, up-to-date job expertise or competences to perform the current job are required, but this is not sufficient to survive in the labor market (Stüß and Becker, 2013; Thijssen *et al.*, 2008). Many authors argue that employees have to be willing to adapt to changes in terms of employment, job contents, conditions, or locations (Fugate and Kinicki, 2008; Kluytmans and Ott, 1999 in: Van der Heijde and Van Der Heijden, 2006).

However, there is no consensus in the employability literature on the status of variables such as expertise and willingness (Forrier and Sels, 2003; Rothwell and Arnold, 2007). Some authors include variables of both types in their concept of employability (e.g. Fugate and Kinicki, 2008), while others treat willingness to change as an antecedent (e.g. Boom and Metselaar, 2001 in: Forrier and Sels, 2003). In this study, we assume that it is essential to be both up-to-date in one’s expertise as well as willing to adapt to changes in order to perform productive labor, and in the long run to survive in the labor market. Hence, we include both aspects in our definition and conceptualization of employability.

More specifically, we conceptualize up-to-date expertise using three dimensions (Thijssen and Walter, 2006): the extent to which employees are physically and psychologically able to keep pace with the job; the extent to which employees’ knowledge and skills are up-to-date given technological innovations etc.; and the extent to which employees’ ideas about the job are in line with relevant occupational developments in the organization and society. Willingness to change refers to employees’ attitudes and openness toward developing themselves and adapting to work changes (van Dam, 2004).

In essence, we follow Thijssen *et al.*’s (2008) notion of employability by including both up-to-date expertise as well as willingness to change in our measurement of employability, and focus on individuals’ own perceptions of these. This links us to those researchers who understand and measure employability by assessing individuals’ perceptions of their capabilities (e.g. Camps and Rodriguez, 2011; Van der Heijde and Van Der Heijden, 2006) because they believe that individuals “are likely to act upon their perceptions rather than upon any objective reality” (Van den Broeck *et al.*, 2014; Van Emmerik *et al.*, 2012).

### *Employment opportunities*

In this study, employees’ beliefs in their employment opportunities not only refer to their expectations over getting another job (in their current or another organization) but also to their expectations on continuing to perform in their current job. Several authors argue that individuals’ employment opportunities strongly depend on their expertise, competences, and willingness to change (Forrier and Sels, 2003; Fugate and Kinicki, 2008). Despite this, there is little empirical research reported that examines the

relationships between employees' up-to-date expertise and willingness to change, in this study combined into employability, and their beliefs regarding employment opportunities (an exception being Wittekind *et al.*, 2010).

We assume that individuals are likely to positively assess their employment opportunities if they regard themselves as being up-to-date in their expertise and willing to change. For instance, we would expect employees that are highly motivated to adapt to changes to positively rate their chances of jobs that require new skills. As such, they should perceive a broader spectrum of employment opportunities than employees who are not open to changes (Wittekind *et al.*, 2010). On this basis, we hypothesize the following:

- H1.* Employees' employability is positively related to their employment opportunities.

#### *Employer's investments in employability and employment opportunities*

A vast body of research that uses job characteristic models (e.g. Hackman and Oldham, 1976; Parker *et al.*, 2001) or social exchange theory (Blau, 1964; Eisenberger *et al.*, 1986) has shown that outcomes such as well-being, work motivation, organizational commitment, and performance result from employees experiencing their job as challenging and perceiving support from their organization or manager (e.g. Bakker and Demerouti, 2007; Snape and Redman, 2010; Van Ruysseveldt *et al.*, 2011). Although there are a few studies that examine how employability is affected by a range of job characteristics or managerial support (e.g. De Vos *et al.*, 2011; Van Emmerik *et al.*, 2012), no-one has simultaneously used job characteristic and social exchange theories to predict employability.

However, in a study of the impact of HRM practices on employees' behaviors, Snape and Redman (2010) argued that there is a need for combining these theories. HRM practices, which include the management of work and people (Boxall and Purcell, 2011), are not only significant as currency in a social-exchange relationship, but also for their role in boosting employees' sense of job influence which may, in turn, motivate them to engage in behaviors such as meeting the demands of the modern workplace. We follow Snape and Redman's argument by using both job characteristics and social exchange theories when hypothesizing how employer's investments affect workers' employability and ultimately employment opportunities. In this way, we contribute to a deeper understanding of the specific mechanisms that explain the development of employability.

More specifically, we have included those job characteristics that incentivize employees to use and develop their expertise and openness toward change, and in particular job autonomy, task variety, and workload. Based on Knies and Leisink (2014), we conceptualize managerial support as the implementation of supportive HR practices and supervisor support.

As described above, we expect employees' employability to affect their employment opportunities (*H1*), and hence we assume that employer's investments will relate indirectly to employment opportunities through employees' employability. The underlying mechanisms for these relationships are now elaborated.

#### *Job characteristics*

It is assumed that employability can only be sustained if employees are provided with relevant experiences and are able to acquire new knowledge and skills in their job (De Vos *et al.*, 2011; Farr and Ringseis, 2002; Forrier and Sels, 2003). Jobs that are

characterized by high autonomy and task variety are likely to provide employees with opportunities to practice and expand their competences (Hackman and Oldham, 1975; Van Der Heijden *et al.*, 2009). It has also been shown that employees in challenging jobs develop high intrinsic motivation for learning and personal growth (De Lange *et al.*, 2010).

More specifically, employees who experience job autonomy are expected to feel responsible for their work, leading to a willingness to go the “extra mile” to complete tasks or improve work effectiveness (Snape and Redman, 2010). Employees sense that their performance is dependent on their own choices, making them feel better and more secure about their own abilities (Hackman and Oldham, 1976). Providing employees with sufficient autonomy might make them feel free to experiment with, for example, work scheduling procedures leading to new expertise and, consequentially, increased employment opportunities.

When employees have a job that is characterized by high task variety, they are required to use a wide range of their skills and abilities (Hackman and Oldham, 1976; Van Emmerik *et al.*, 2012). In order to carry out the job adequately, the job itself encourages employees to use their motivation to change and continuously update their expertise, leading to increased employment opportunities. Van Emmerik *et al.* (2012) also show positive effects of job autonomy and task variety on employability measured as up-to-date skills and competences. For these reasons, we hypothesize the following:

- H2. Job autonomy has a positive relationship with employees’ employment opportunities mediated by their employability.
- H3. Task variety has a positive relationship with employees’ employment opportunities mediated by their employability.

To take advantage of job autonomy and task variety, employees need sufficient time to acquire new expertise and keep up with changes. Research has shown that employees under time pressures are likely to fall back on routines and will be unable to update themselves (Taris and Kompier, 2005) or be less flexible in their attitudes (Van Dam, 2004). In other words, a high workload may be detrimental to enhancing employability. Nevertheless, theory and evidence on the effect of workload on employee development is mixed. A high workload might also motivate employees to update current, or develop new, expertise since their actual competences and skills are insufficient to effectively carry out the job (De Lange *et al.*, 2010; Van Ruyseveldt and van Dijke, 2011).

Another mechanism that might play a role is that a high workload negatively affects employees’ mental and physical resources leading to exhaustion (Bakker and Demerouti, 2007). Exhausted employees are less likely to be able to update their expertise. However, a continuous high workload might increase employees’ intention to leave their current job (e.g. Hasselhorn *et al.*, 2008) and look for other jobs. In order to obtain this new job, it might be necessary to update and expand one’s expertise. This suggests a positive relationship between workload and employment opportunities mediated by employability. Given the conflicting arguments and a lack of conclusive evidence, we do not specify a direction in the following hypothesis:

- H4. There is a relationship between workload and employees’ employment opportunities mediated by their employability.

To sum up, we regard job autonomy, task variety, and workload as essential for developing one’s employability. Job autonomy, which is closely related to the job influence construct that is central to the work of Snape and Redman (2010), and task variety, which together with autonomy is central to Parker’s studies of job enrichment

(e.g. Parker and Wall, 1998), are the key job characteristics on which the former studies focus. These characteristics are also likely to influence employees' employability. Although we believe task identity and task significance (Hackman and Oldham, 1976) to be vital job characteristics for work motivation generally, we did not include them as these characteristics are somewhat distal antecedents. In comparison, job autonomy, task variety, and workload can be viewed as proximal antecedents of employability. Feedback from the job, another characteristic in the Hackman and Oldham (1976) model, was also not included in this study as it overlaps with the managerial support variable "supervisor support of employee well-being and functioning" that was included and is presented in the next section.

### *Managerial support*

Social exchange theory argues that employees who perceive benefits and support from their organizations are likely to repay these by displaying positive attitudes and behaviors (Blau, 1964). Through its HR policies, an organization can show that employees are valued and supported, which is likely to lead to desirable responses. For example, by providing development opportunities in combination with flexible job arrangements and by investing managerial time in appraising employees, an organization shows that it is willing to invest in the utilization and development of employees and cares about their well-being. This will lead to increased human capital (Snape and Redman, 2010; Takeuchi *et al.*, 2007). The importance of managerial support is also shown in recent studies investigating the effect of HR policies, through the role of managers, in shaping employees' perceptions of HRM (e.g. Knies and Leisink, 2014; Purcell and Hutchinson, 2007).

Through the same mechanism, we assume that supportive HR practices will provide an incentive for employees to continuously update their expertise and make them willing to develop themselves in order to perform according to current job requirements. Subsequently, they are likely to perceive greater employment opportunities. Following Guest (2007 in: Knies and Leisink, 2014), we distinguish between general and tailor-made HR practices. Nowadays, supervisors increasingly implement HR practices, including in a hospital environment (Townsend and Wilkinson, 2010), and they are expected to make tailor-made arrangements, for example, in matching development and flexibility to their employees' needs (Hornung *et al.*, 2013). This leads to the following hypotheses:

- H5. Supportive HR practices have a positive relationship with employees' employment opportunities, mediated by their employability.
- H6. Tailor-made arrangements have a positive relationship with employees' employment opportunities, mediated by their employability.

Apart from in the implementation of HR practices, managerial support is also reflected in a supervisor providing emotional support through acts that aim to help the employee. Examples include showing concern for employees' feelings and needs, appraising their work, providing feedback, and facilitating their development (Knies and Leisink, 2014). It is argued that, through appropriate feedback and communication, a supervisor can make employees feel satisfied and confident in their own capabilities (Van Der Heijden, 2003). It is then likely that they will assess their employability and employment opportunities more favorably. Moreover, the active encouragement of further development might stimulate an employee to act accordingly, boosting their

willingness to change. Research shows positive relationships between supervisor support and employability when measured as up-to-date expertise, willingness to change, and employment opportunities (Camps and Rodríguez, 2011; Van Dam, 2004; Wittekind *et al.*, 2010).

Thus, by providing various forms of support, a manager is able to positively influence employees' employability and employment opportunities. Following Knies and Leisink (2014), we split this support into supervisor support of employees' well-being and functioning, and their support of employees' development. This results in the following hypotheses:

*H7.* Supervisor support of employees' well-being and functioning is positively related to employees' employment opportunities mediated by their employability.

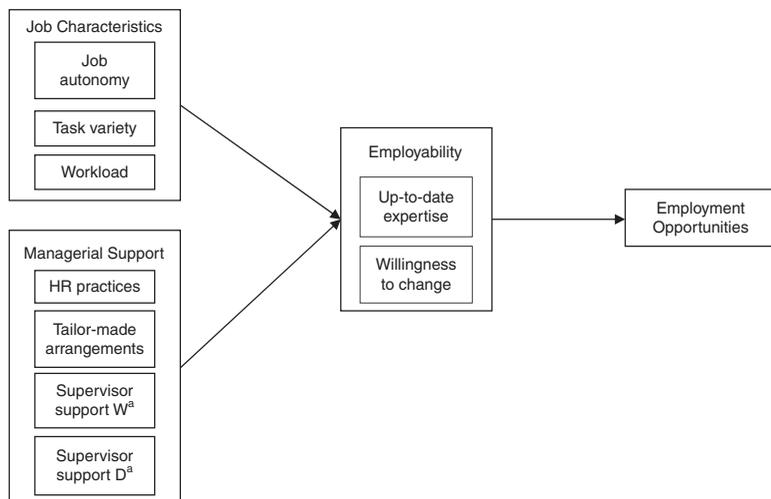
*H8.* Supervisor support of employees' development is positively related to employees' employment opportunities mediated by their employability.

Figure 1 graphically represents our hypotheses.

**Method**

*Sample and procedure*

The data, collected in the autumn of 2012, come from a study of Dutch hospital employees. Three non-academic hospitals (two training hospitals and one regional hospital) voluntarily participated in this study. The three hospitals are based in different parts of the Netherlands and provide similar facilities. Hospital A invited all its employees involved in healthcare services to participate ( $n = 970$ ), and hospitals B and C invited between one-third and one-half of their workforce ( $n = 1,500$  each). Based on guidelines provided by the researchers, all the hospitals selected a variety of similar nursing departments and non-nursing units such as medical laboratories and



**Figure 1.**  
Research model

**Notes:** <sup>a</sup>W, supervisor support of employees' well-being and functioning; D, supervisor support of employees' development

X-ray departments. Under the Dutch system, the doctors in these three hospitals are self-employed professionals, and were not included in this study. The hospitals' HR departments passed on information about the online survey to the 3,970 potential participants. Participants received a letter in which the confidentiality of responses was stressed and anonymity guaranteed. In addition, the letter explained that all the data would be collected and stored by the researchers, and that only aggregated results would be reported. These measures were taken to boost the response rate and to limit the risk of a social desirability bias.

After removing cases with missing data, our final sample used for the analyses in this paper amounted to 1,626 respondents – a response rate of 41 percent. Of these, 22 percent were employed by hospital A, 45 percent by hospital B, and 33 percent by hospital C. Nursing staff accounted for 39 percent of the total, 25 percent were medical office assistants or clerical staff, 24 percent were non-nursing medical employees (e.g. X-ray technicians, medical laboratory assistants, surgical technologists), and 12 percent were middle and higher managers or staff service members. Of our sample, 89 percent were female and 11 percent male. The mean age of all respondents was 42.94 years ( $SD = 10.4$ ), mean job tenure was 10.52 years ( $SD = 9.3$ ), and mean organizational tenure was 12.82 years ( $SD = 10.1$ ). In terms of two important variables (age and gender), our sample is fairly representative of employees of Dutch non-academic hospitals with the branch report of the Dutch Association of Hospitals showing similar figures (NVZ, 2013).

In order to determine whether it was justified to merge the three hospital subsamples, we compared the responses from employees in hospitals A, B, and C on the employability and employment opportunities variables using a one-way ANOVA. The differences between the group means of employees in hospitals A, B, and C on the employability variables (up-to-date expertise and willingness to change) were non-significant<sup>[1]</sup>. The results of our ANOVA were significant for employment opportunities ( $F(2, 1,602) = 6.56, p = 0.01$ ). However, our *post-hoc* analysis revealed only one small significant difference in the employment opportunities of employees of hospitals A and B ( $\Delta M = 0.17, p < 0.05$ ). Based on these results, we decided to merge the data to form a single sample, and to include the variable “hospital” as a control in our further analyses.

### Measures

All the variables used rate respondents' perceptions and were measured using five-point Likert scales, with a score of 1 indicating very weak support for the statement, and a 5 very strong support. Multi-item measures were used for all the variables. To assess the reliability of these measures, we calculated Cronbach's  $\alpha$ s with an acceptance level of 0.70 (Nunnally, 1978). As can be seen from Table I, the reliability of all the variables apart from task variety was good. Nevertheless, we decided to retain the task variety scale as it has been used extensively in other studies.

*Job autonomy.* Job autonomy was measured using a three-item scale based on the Job Diagnostic Survey (Hackman and Oldham, 1975). A sample item being “my job provides me the opportunity to decide on my own how I do my work.”

*Task variety.* A three-item scale was used to measure task variety based on the Job Diagnostic Survey (Hackman and Oldham, 1975), including “I have a substantial amount of task variety in my job.”

*Workload.* Here a four-item scale was used composed of items from the Job Content Questionnaire (Karasek and Theorell, 1990) and the Copenhagen Psychosocial Questionnaire (Pejtersen *et al.*, 2010) – an example item being “I have to work very fast.”

**Table I.**  
Means, standard  
deviations,  
reliabilities, and  
correlations

	<i>M</i> (SD)	$\alpha$	1	2	3	4	5	6	7	8	9	10
1. Job autonomy	3.48 (0.85)	0.82	1.00									
2. Task variety	3.55 (0.84)	0.64	0.47***	1.00								
3. Workload	3.20 (0.65)	0.83	0.01	0.16***	1.00							
4. Supportive HR practices	3.06 (0.71)	0.86	0.22***	0.35***	-0.11***	1.00						
5. Tailor-made arrangements	3.31 (0.97)	0.78	0.22***	0.27***	-0.03	0.70***	1.00					
6. Supervisor support W <sup>a</sup>	3.59 (0.91)	0.91	0.22***	0.28***	-0.06***	0.64***	0.80***	1.00				
7. Supervisor support D <sup>a</sup>	3.15 (0.92)	0.87	0.22***	0.31***	-0.06***	0.75***	0.82***	0.75***	1.00			
8. Up-to-date expertise	3.85 (0.59)	0.78	0.34***	0.53***	-0.05	0.36***	0.33***	0.37***	0.33***	1.00		
9. Willingness to change	3.26 (0.77)	0.71	0.01	-0.19***	0.04	0.02	-0.03	-0.02	0.04	0.04	1.00	
10. Employment opportunities	2.78 (0.73)	0.76	0.11***	0.01	0.04	0.24***	0.16***	0.14***	0.28***	0.21***	0.59***	1.00

**Notes:** <sup>a</sup>W, supervisor support of employees' well-being and functioning; D, supervisor support of employees' development. \*\*\* $p < 0.001$

*Supportive HR practices.* Based upon Knies and Leisink (2014), we used a six-item scale to measure this variable. Following Kooij *et al.* (2014), we expect this variable to comprise development, maintenance, and accommodative HR bundles. As such, we anticipated a second-order factor structure, and each factor (bundle) was measured using two items. An example item being “I experience the HR ‘education and development’ policy in my department as supporting me in my job.”

*Tailor-made arrangements.* We used the two-item scale of Knies and Leisink (2014) to measure this variable with an example item being “My supervisor tailors employment conditions to my personal situation.”

*Supervisor support of employees’ well-being and functioning.* This variable was measured using the four-item scale of Knies and Leisink (2014) with “My supervisor shows an interest in how I do my job” being a sample item.

*Supervisor support of employees’ development.* This was measured using the four-item scale of Knies and Leisink (2014). An example item being “My supervisor informs me about opportunities for training and development.”

*Up-to-date expertise.* For this variable, we used a nine-item scale based upon Thijssen and Walter (2006). Here, respondents were asked to indicate to what extent they perceive their expertise to be up-to-date in terms of three dimensions: technical expertise, economic expertise, and perceptual expertise (see the section on employability in the theoretical framework). Thus, we are expecting a second-order factor structure, and each dimension was measured with three items. An example item is: “As a result of technological developments, much of my knowledge and skills have become redundant.”

*Willingness to change.* This variable was measured with a four-item scale based upon Wittekind *et al.* (2010) and Van Dam (2004) with a sample item being “I find it important to develop myself in a broad sense, so I will be able to perform different task activities or jobs within the organization.”

*Employment opportunities.* This variable was measured by a six-item scale in which respondents were asked to indicate their employment expectations for the next year in terms of three dimensions: gaining promotion within the current organization, getting a job elsewhere, and continuing in their current job. Again, this reflects a second-order factor structure. Each dimension was measured with two items. We based our scale on De Cuyper and De Witte (2011) and Wittekind *et al.* (2010) but extended this with two items related to expectations of continuing in the current job, and added a time horizon. An example item being “In the next year, I expect my chances of an equivalent job in another organization to be high.”

*Control variables.* In line with previous employability research (e.g. De Vos *et al.*, 2011) we included control variables for gender, age, educational level, plus job and organizational tenures. In addition, as respondents are nested in one of three hospitals, we included this as a control variable.

### *Data analysis*

To determine the relationships between this study’s variables, we followed Anderson and Gerbing’s (1988) two-step approach, using confirmatory factor analysis (CFA) and structural equation modeling in Mplus (Muthén and Muthén, 1998-2012). To assess the various models’ goodness of fit, we used the root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the Tucker-Lewis index (TLI). Values above 0.90 for CFI and TLI and below 0.08 for RMSEA are indicative of an acceptable fit (Hu and Bentler, 1999).

**Results**

The means, standard deviations, reliabilities, and correlations of this study’s variables are presented in Table I. We deleted one item from each of the job autonomy and task variety scales as this considerably increased their reliability. As can be seen from Table I, respondents were fairly positive about their up-to-date expertise (3.85) and willingness to change (3.26), while their perceptions of employment opportunities were considerably lower (2.78). The data show considerable variance in the reported variables (SDs between 0.59 and 0.97).

*Measurement model*

To assess the dimensionality and fit of our hypothesized model, we compared three different models. First, we specified a one-factor model, in which all items loaded onto a single latent variable. Second, we constructed a measurement model where each item was loaded onto the factor for which it was supposed to be an indicator (job autonomy, task variety, etc.). Third, we extended the second model by including three second-order factors: supportive HR practices, up-to-date expertise, and employment opportunities. For these three second-order variables, we expected factor structures with three sub-factors and one latent second-order factor. We expected the third model to best fit the data.

As can be seen from Table II, the CFA results for the third hypothesized measurement model provided good fit indices, while models one and two provided poor to very poor fits to the data. Further,  $\chi^2$  difference tests also indicated that model three was to be preferred to the other two.

*Structural modeling and hypothesis testing*

We had hypothesized a model in which the “up-to-date expertise” and “willingness to change” employability variables mediated the relationships of job characteristics and managerial support with employment opportunities. In order to provide support for this, we compared the fit of the hypothesized structural model with an alternative. First, the hypothesized model with fully mediated paths was tested. Next, a partially mediated model was tested in which direct paths from the antecedents to the outcome variable were added. If the addition of direct paths significantly improved the model fit, this would indicate that direct paths should be included in the final model. Only significant direct paths were included in the partially mediated model.

The fit indices show an acceptable fit for the hypothesized fully mediated model ( $\chi^2 = 4,072.17$ ,  $df = 1,139$ ,  $p < 0.001$ , CFI = 0.91, TLI = 0.90, RMSEA = 0.04). Significant paths were found from the “job characteristics” and “managerial support” variables to “up-to-date expertise” and “willingness to change,” and from “up-to-date expertise” and “willingness to change” to “employment opportunities.”

	$\chi^2$	df	$\Delta \chi^2$ df	CFI	TLI	RMSEA
Measurement model 1	18,934.46	860	–	0.46	0.43	0.11
Measurement model 2	5,015.34	815	13,919.12 (45)*	0.87	0.86	0.05
Measurement model 3	3,284.95	806	1,730.39 (9)*	0.93	0.92	0.04

**Table II.**  
CFA with results of model comparisons

**Notes:** CFI, comparative fit index; TLI, Tucker-Lewis index; RMSEA, root mean square error of approximation. \* $p < 0.001$

The model with partial mediation included the addition of two paths: from both “supportive HR practices” and “supervisor support of employee development” to “employment opportunities” and resulted in the following fit indices ( $\chi^2 = 4,026.1$ ,  $df = 1,137$ ,  $p < 0.001$ ,  $CFI = 0.91$ ,  $TLI = 0.90$ ,  $RMSEA = 0.04$ ). The difference in the  $\chi^2$  values between the two models is significant ( $\Delta\chi^2(2) = 46.01$ ,  $p < 0.001$ ) as were the regression coefficients of the two direct paths ( $\beta = 0.10$ ,  $p < 0.05$ , and  $\beta = 0.12$ ,  $p < 0.01$ ). This indicates that the alternative model with partial mediation better fits the data.

Therefore, the hypotheses were examined on the basis of the results from the partially mediated model. Table III shows the significant regression paths of the final, partially mediated, model. Our results supported *H1*, as the “up-to-date expertise” and “willingness to change” employability variables were positively related to the “employment opportunities” outcome variable ( $\beta = 0.11$ ,  $p < 0.001$ , and  $\beta = 0.52$ ,  $p < 0.001$ , respectively). Up-to-date expertise was significantly predicted by job autonomy ( $\beta = 0.10$ ,  $p < 0.001$ ), by task variety ( $\beta = 0.42$ ,  $p < 0.001$ ), by workload ( $\beta = -0.07$ ,  $p < 0.001$ ), and by supervisor support of employees’ well-being and functioning ( $\beta = 0.24$ ,  $p < 0.001$ ). Willingness to change was significantly predicted by job autonomy ( $\beta = 0.10$ ,  $p < 0.001$ ), by task variety ( $\beta = -0.24$ ,  $p < 0.001$ ), by workload

	1. Up-to-date expertise	2. Willingness to change	Employment opportunities	
			Indirect effect <sup>b</sup>	Direct effect
<i>Antecedents</i>				
Job autonomy	0.08 (0.03)**	0.10 (0.03)**	1: 0.01 (0.01)* 2: 0.05 (0.02)**	–
Task variety	0.44 (0.04)***	-0.25 (0.04)***	1: 0.05 (0.02)*** 2: -0.13 (0.02)***	–
Workload	-0.10 (0.03)***	0.11 (0.03)***	1: -0.01 (0.01)* 2: 0.06 (0.02)***	–
HR practices	–	–	–	0.10 (0.05)*
Tailor-made arrangements	–	-0.21 (0.07)***	2: -0.11 (0.04)**	–
Supervisor support W <sup>a</sup>	0.23 (0.03)***	–	1: 0.03 (0.01)**	–
Supervisor support D <sup>a</sup>	–	0.23 (0.07)***	2: 0.12 (0.04)***	0.12 (0.05)**
<i>Mediator variables</i>				
Up-to-date expertise	–	–	–	0.11 (0.03)***
Willingness to change	–	–	–	0.52 (0.03)***
<i>Control variables<sup>c</sup></i>				
Age	–	–	–	-0.06 (0.03)*
Organizational tenure	-0.10 (0.03)**	-0.18 (0.03)***	1: -0.02 (0.01)*** 2: -0.07 (0.02)***	-0.11 (0.04)**
Job tenure	–	-0.28 (0.03)***	2: -0.10 (0.04)**	-0.10 (0.04)**
Educational level: high education (dummy)	–	–	–	0.12 (0.06)*
R <sup>2</sup>	0.38	0.22	0.48	

**Notes:** Standardized coefficients are shown. –, not included in final model because of non-significant effects. <sup>a</sup>W, supervisor support of employees’ well-being and functioning; D, supervisor support of employees’ development; <sup>b</sup>1, indirect effect mediated by up-to-date expertise, 2, indirect effect mediated by willingness to change; <sup>c</sup>the effects of the gender, hospital, and educational level (middle education) control variables (all dummy variables) were non-significant and are excluded to enhance readability. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

**Table III.** Regression coefficients of the final (partially mediated) model

( $\beta = 0.11$ ,  $p < 0.001$ ), by supervisor support of employees' development ( $\beta = 0.26$ ,  $p < 0.001$ ), and by tailor-made HR arrangements ( $\beta = -0.26$ ,  $p < 0.001$ ). As such, the indirect effects of job autonomy, task variety, workload, and supervisor support of employees' well-being and functioning on employment opportunities, mediated by up-to-date expertise, were significant, as were the indirect effects of job autonomy, task variety, workload, supervisor support of employees' development, and tailor-made HR arrangements, mediated by willingness to change. See Table III for these indirect effects.

These results fully supported *H2* (indirect effect of job autonomy) and *H4* (indirect effect of workload). *H3* was partially supported, with task variety positively related to up-to-date expertise but negatively to willingness to change. *H7* and *H8* were also only partially supported as supervisor support of employees' well-being and functioning did not relate to willingness to change, and supervisor support of employees' development did not relate to up-to-date expertise. *H5* and *H6* were not supported, with no significant relationships found between supportive HR practices and either up-to-date expertise or willingness to change (*H5*), and the paths from tailor-made arrangements to up-to-date expertise and to willingness to change were non-significant and negative respectively (*H6*).

In addition, as can be seen from Table III, several control variables had significant effects. For example, organizational tenure was negatively related to up-to-date expertise, to willingness to change, and to employment opportunities ( $\beta = -0.10$ ,  $p < 0.01$ ,  $\beta = -0.18$ ,  $p < 0.001$ , and  $\beta = -0.11$ ,  $p < 0.01$ , respectively). To control for employees being nested in the three hospitals A, B, and C, we included two dummy variables using hospital B (largest hospital) as a reference category. All effects of these control variables were non-significant, which indicates that there are no significant differences between employees coming from hospitals A, B, and C.

Together with the control variables, job characteristics and managerial support explain 38 percent of the variance in up-to-date expertise and 23 percent of willingness to change. In total, 48 percent of the variance in the employment opportunities outcome variable is explained.

## Discussion

The purpose of this study has been to examine whether the relationships between both job characteristics and managerial support with hospital employees' employment opportunities are mediated by their employability (conceptualized as up-to-date expertise and willingness to change). The job characteristics and managerial support are seen as representing employers' investments in employability.

First, our results provide support for the theoretical assumption seen in earlier research (e.g. De Cuyper and De Witte, 2011) that employability, as perceived by employees, is an important factor in determining their beliefs regarding future employment opportunities. Our results show that willingness to change has a much stronger association with employment opportunities than does up-to-date expertise. An explanation for the importance of an open attitude toward change may lie in the turbulent environment in hospitals that is resulting in ongoing changes in employees' jobs. Remarkably, although our respondents were relatively positive about their up-to-date expertise and willingness to change, they assessed their employment opportunities as fairly poor. This may be because they are experiencing uncertainty due to the environmental turbulence such as the introduction of market mechanisms and ongoing technological innovations that have slowed the previous job growth in healthcare. The economic crisis may also be contributing to employees' pessimistic rating of their

employment opportunities. Support for this idea can be found in Berntson *et al.* (2006) who showed that employability, measured as perceived employment opportunities, is higher during times of economic prosperity than during recessions.

Second, our findings indicate that up-to-date expertise and willingness to change are important mediators in the relationships of both job characteristics and managerial support with employees' employment opportunities. Further, our results show that managerial support also has a direct effect. These results support the view that employers can enhance their workers' employability and employment opportunities by creating challenging jobs and offering managerial support.

However, in contrast to our hypotheses, we found that a few of our antecedents had non-significant or even negative relationships with employees' employability and employment opportunities. This indicates that investing in some of the proposed antecedents included in this study are unlikely to simultaneously boost employees' expertise, willingness to change, and employment opportunities. In terms of non-significant paths, we found that supervisor support of employee development has a significant relationship with willingness to change but not with up-to-date expertise. Developmental support is mainly concerned with future advancement rather than keeping up-to-date, and this could explain the latter non-significant relationship. Also, supportive HR practices did not significantly relate to up-to-date expertise or willingness to change, although a significant direct association with the employment opportunities outcome variable was found. A possible reason is that employees understand HR practices as generic instrumental possibilities that can be used for future employment opportunities. In order to retain an open attitude toward possible changes and remain up-to-date in their expertise, employees need personal support, such as their direct supervisor showing concern for their well-being and functioning.

In terms of unexpected negative paths, we found that task variety and tailor-made arrangements have negative relationships with willingness to change, while task variety is positively related to up-to-date expertise. In addition, although we had not presumed the direction of the workload effect, we still find it surprising that workload was positively related to willingness to change but negatively to up-to-date expertise. One explanation for these results could be that employees who experience high task variety, a low workload, and sufficient room to make tailor-made arrangements with their supervisor perceive a good fit between their own abilities and needs and their job and organization. This leads to high job satisfaction (Kristof-Brown *et al.*, 2005) and, as our results show, makes employees less eager to consider a change (see also Van Dam, 2004). Variety is considered a core job characteristic and a critical component of experienced job meaningfulness, which determines job satisfaction (Armstrong-Stassen and Stassen, 2013).

In total, our research makes three important contributions to the literature. First, by systematically examining three different variables that have been labeled as "employability" in prior studies, we were able to provide empirical evidence for the theoretically assumed but rarely tested relationships between the three variables. We showed that both up-to-date expertise and willingness to change have significant positive associations with employment opportunities. Notably, we found that willingness to change is the most important variable in determining employees' perceived employment opportunities. Second, by simultaneously examining how job characteristics and managerial support variables affect employability, we have provided a rich understanding of the individual and combined contributions to employability of employer's investments. The structural model shows that up-to-date

expertise and willingness to change have different antecedents, indicating that the employer's investments do not boost the employability variables in the same way. Third, our mediated model offers more comprehensive insights into how employer's investments contribute to employees' employment opportunities, namely that they are mediated through their employability.

### *Practical implications*

Our findings suggest that it is possible for employers to stimulate their workers' employability and subsequently their employment opportunities by providing them with challenging jobs and managerial support. Although employers might think that employees who perceive good employment opportunities both inside and outside their current organization are more likely to quit, the social-exchange perspective argues that employees interpret an employer's investments as a signal that their employer wants to establish a long-term employment relationship. Employees will value their employer because of the offered possibilities and, in return, become strongly committed to the organization and hence stay. Research shows that employable employees are both good performers and highly committed to their organization, thus supporting the social-exchange argument (Camps and Rodríguez, 2011; De Cuyper and De Witte, 2011). This emphasizes the importance of employers taking an active and responsible role in enhancing employability.

Our results show that willingness to change is enhanced by antecedents that are different from the predictors of up-to-date expertise, which indicates that organizations should customize the job characteristics and the support they offer employees according to the desired outcome. For example, our study showed that supervisor support of employees' development was of particular importance in boosting their willingness to change. A concrete way in which supervisors could stimulate their employees' willingness to change is by providing employees with the opportunity to self-assess their employment opportunities, their willingness to change, and the personal development activities they have undertaken during the last year. Such a self-assessment would give employees insight into whether their career expectations are aligned with their attitudes and actions. Discussing the outcome of such a self-assessment with their supervisor may enhance their self-reflections and contribute to determining whether an appropriate follow-up action is possible within the organization.

### *Limitations and future research directions*

This study is not without its limitations. First, because this is a cross-sectional study, we are not able to extract conclusive causal relationships from the results. Although we have solid theoretical grounds for assuming that job characteristics and managerial support influence employees' employability and employment opportunities, reversed causality might also play a role. That is, highly employable people may feel more secure about their own abilities and for this reason feel able to take advantage of, for instance, job autonomy or task variety. Future research could valuably gather longitudinal data to clarify this study's causal relationships.

Second, our results may be susceptible to common source bias as our data came from a single source. To assess common source bias, we compared the multiple-factor structure of the hypothesized measurement model with a one-factor model in which all survey items loaded onto one factor. The fit of the one-factor model is much poorer

(CFI = 0.46, TLI = 0.43, RMSEA = 0.11) than that of the multiple-factor model (CFI = 0.93, TLI = 0.92, RMSEA = 0.04) suggesting an absence of common source bias. Nevertheless, future research could reduce the risk of common source bias by using additional sources such as the supervisor.

Third, it would be dangerous to generalize our findings beyond the Dutch hospital sector. We controlled for the effects of the employees being nested in three hospitals but did not find any significant effects. This indicates that the results are consistent across the three hospitals, which differ in size and type, suggesting that the results might be valid for other Dutch hospitals. Nevertheless, since circumstances that affect employability vary between organizations and sectors, similar research in other organizational settings would be valuable.

A final recommendation for future research would be to investigate whether variables such as job satisfaction moderate the relationship of employers' investments with employability and employment opportunities since we found some unexpected relationships that might be affected by moderators. Also age and tenure, used as the control variables, may act as moderators (Innocenti *et al.*, 2013) since we found substantial negative effects of these variables on up-to-date expertise, willingness to change, and employment opportunities.

## Conclusions

First, our findings lead us to conclude that employability is positively related to employees' employment opportunities. Employees' willingness to change is especially important in determining how they see their employment opportunities. Second, we saw that employers' investments contribute to employees' employment opportunities through boosting their employability. This should encourage employers to provide challenging jobs and managerial support.

## Note

1. One-way ANOVA results: up-to-date expertise ( $F(2, 1,610) = 1.75, p = 0.17$ ); willingness to change ( $F(2, 1,610) = 2.92, p = 0.06$ ).

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