

RESEARCH ARTICLE

Employability competences of workers in health care and finance. The role of self-directed learning orientation and job characteristics

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Abstract

Employability, defined as a set of competences that allow an individual to create and maintain a job, is pivotal for both organizations and employees. Organizations with an employable workforce remain competitive and individuals who are employable experience better career development. The present study investigates self-directed learning orientation (SDLO), job control, and job demand as predictors for three employability competences: occupational expertise, personal flexibility, and anticipation and optimization. Data were collected from a sample from two different sectors (health care and finance) in the Netherlands. A path model was built to investigate the relationships between the dependent and independent variables. Results indicate that SDLO and job demands relate positively to all three employability competences. These results suggest that employees with a self-directed learning orientation and employees working in a demanding job are more employable. In addition, we found that the positive relationship between SDLO and employability competences

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was moderated by job control. To create an employable workforce, supervisors and managers can promote employees' orientation toward self-directed learning and pay considerable attention to job design in terms of job demands and job control.

INTRODUCTION

In the global and ever-evolving labour market, employability is of paramount importance (De Grip et al., 2004), both for organizations to stay ahead of the competition and for individual employees to see their careers develop. Employers require a workforce to be flexible and innovative in the dynamic labour market. In addition, being employable allows employees to cope with these changes and advance their careers (van der Heijde & van der Heijden, 2006). Van der Heijde and van der Heijden (2006) defined employability as a set of competences that allow the employee to obtain, keep, or create work. To remain employable, it is argued that occupational expertise is not enough (Van der Heijde & van der Heijden, 2006). Adaptive competences are also needed to stay employable, such as personal flexibility, and anticipation and optimization. Occupational expertise is a domain-related competence and refers to technical knowledge and skills necessary to perform the job, whereas anticipation and optimization, and personal flexibility are more generic competences that address contextual factors influencing employability, such as adaptation to change.

Previous research has shown that workplace learning forms the cornerstone of lifelong employability (Froehlich et al., 2014; van der Heijden et al., 2009). However, a certain self-directedness towards continuing learning or personal agency is needed in order to engage in learning activities and acquire the necessary employability competences. Employees who are self-directed learners are expected to identify learning opportunities, show initiative in undertaking learning activities, and overcome learning barriers. To cope with changes at the workplace, a self-directed learning orientation (SDLO) is of the utmost importance. In their study, Raemdonck et al. (2012) found SDLO to be related to employability in terms of vertical job mobility.

Previous research has also suggested that job characteristics can afford opportunities for workplace learning and acquiring and developing employability competences. In addition, in their conceptual paper, Delva et al. (2021) argued that previous employability research was "overly agentic" (p. 1) and that the importance of contextual factors as antecedents of employability was often neglected. According to the demand-control model (DC model; Karasek, 1979), a distinction is made between job demands and job control. Job demands include work stress factors, such as emotional and cognitive strain, high volume of work, high requirements and time pressure, whereas job control refers to the degree of autonomy the employee has, for example, the degree to which employees can make their own decisions (Gijbels et al., 2012). The DC model predicts that learning opportunities at the workplace arise from high job demands and high job control (Karasek, 1979; Taris & Kompier, 2004). In a demanding work situation, an employee with a great deal of job control can try out different ways of solving problems at work, which leads to the acquisition of new skills. Ouweneel et al. (2009) found that employees' positive perceptions of demands and control were associated with workplace learning. This finding was confirmed by the review by Wielenga-Meijer et al. (2010). These authors found evidence that job demands and

job control are positively associated with learning activities that support employees in acquiring and developing employability competences.

It has been suggested that employability competences are a result of both contextual and individual factors (Delva et al., 2021). Billett (2004) stressed the importance of both individuals' personal agency and the affordances/opportunities offered by the work environment. We therefore consider the role of SDLO and job characteristics as described in the DC model in acquiring and developing employability competences. Although the relationship between SDLO and employability has been studied before (Raemdonck et al., 2012), the role of job characteristics on employability is often neglected (Forrier et al., 2009). Therefore, the present study will investigate the relation between SDLO and employability competences on the one hand, and job control/demands, and employability competences on the other hand. In line with the conceptualization of employability by van der Heijde and van der Heijden (2006), a distinction is made between three employability competences; occupational expertise, personal flexibility, and anticipation and optimization.

Early research by De Grip et al. (2004) demonstrated that employability differs across sectors of industry due to differences in job characteristics, a point emphasized by Jonck and Van der Walt: "Despite the fact that authors often refer to employability skills as universal and competencies that are needed, irrespective of job category and level (Ju et al., 2012) it is worth asking whether the public and private sector require the same employability skills, ascribed to the dissimilar business philosophies that underpin these two sectors" (2015, p. 346). Whether a job is demanding or employees have considerable autonomy in their work might depend on the sector in which they work. Jobs might differ between sectors in the extent to which they are demanding and to which they provide the employee with autonomy, for example, due to highly regulated procedures (Gijbels et al., 2010; De Grip et al., 2004). Moreover, SDLO is also context-dependent. An employee's SDLO depends on task characteristics, such as job demand and job autonomy (Kyndt & Beusaert, 2017). Depending on the sector and occupation, employees might score differently for SDLO, job demands, and job control, and, thus, for employability competences.

The present study is conducted in two fundamentally different contexts, health and finance. While the healthcare sector, which is a public sector, is concerned with patients' wellbeing (Kyndt & Beusaert, 2017), the financial sector, a private sector, is more commercial, profit-oriented, and consists of companies that provide financial services to clients (Bikker, 2008). In the last decade, both sectors faced rapid technological and societal changes that are still ongoing today. This has opened doors to disruptive innovations that require workers to display considerable expertise, flexibility and the capacity to anticipate on and react to a variety of changes (Vermunt & Endendijk, 2011).

According to Riddell and Sweetman (2000) four types of job-related development can be distinguished: technological development, organizational development, economic development, and demographic development. It has been suggested that due to global market competition, organizational innovation, and technological development, the financial sector has a great need for an employable workforce, and will consequently invest more in employability (De Grip et al., 2004). In addition, especially after the financial crisis of 2008, the financial sector has faced major reforms, such as downsizing and job changes due to technological advances (de Haan & Schoenmaker, 2015; Schoenmaker, 2011). Laeven et al. (2015) even argued that financial and technological innovations go hand in hand.

The healthcare sector faces different challenges than the financial sector. Because of the ageing work population, this sector especially encounters demographic shifts (van der Aalst, 2018). In addition, the demand for healthcare workers exceeds the supply of properly schooled workers,

while at the same time the sector faces further budget cuts, increasingly putting pressure on the workforce. Employees must do more work with fewer resources. Adding to the workload are the various administrative rules and procedures caregivers have to follow (Brinkman et al., 2018), resulting in increasingly demanding jobs. Moreover, due to technological advances, the healthcare sector also faces technological developments, such as the use of big data and healthcare robotics (Groves et al., 2013; Stahl & Coeckelbergh, 2016). Both sectors face changes that have different intensities and consequences, and different labour market dynamics (i.e., supply and demand).

Aside from differences in the societal changes in specific sectors, job characteristics might also differ per sector. Different sectors provide employees with different opportunities to acquire employability competences, for example, such as differing degrees of autonomy due to protocols and regulations within a particular sector, or differences in job demands. In the healthcare sector, employees might have less autonomy over their job, due to strict regulations and procedures that safeguard employees' accountability and ethical concerns (Brinkman et al., 2018). Work pressure is especially increasing, due to budget cuts in the healthcare sector, as described above, while emotional job demands are high in the healthcare sector, due to the frequent interaction with patients and dealing with dying and death (de Jonge et al., 2008). In the financial sector, people's jobs might be demanding due to frequent inspections and new legislation (Lentz, 2011). In terms of work pressure, jobs in the financial sector could be less demanding, as it involves a private sector with fewer budget constraints concerning human resources. Employees also have more regular office hours compared to the irregular work schedules of healthcare workers. Moreover, due to frequent inspections and new regulations from external control institutions, employees working in the financial sector might have reduced autonomy in their jobs. Due to these on-going changes in both sectors, which also affect the work environment in terms of job demands and job control, learning and employability are pivotal in both sectors. In the light of current and future developments within the financial and healthcare sector, generic employability competences, personal flexibility and anticipation and optimization, and a high degree of domain-specific knowledge and skills are key for employees working in these sectors.

To the best of our knowledge, this is the first study investigating SDLO and job characteristics as antecedents of employability. Previous research has established a relationship between SDLO and job mobility (Gijbels et al., 2012b). Job mobility is seen as an output measure of employability. In this study, we conceptualize employability as a set of competences as an input measure of employability (Delva et al., 2021; de Lange et al., 2021).

Results of the present study will give insight into how organizations can stimulate their employees' acquisition and development of employability competences and make their workforce more employable.

THEORETICAL FRAMEWORK

A competence-based approach to employability

Over the past decades, employability has been conceptualized differently. In general, there are two streams of research that take different perspectives on employability (de Lange et al., 2021). From a labour market perspective, employability is seen as an output variable that refers to an individual's ability to obtain and maintain employment. From a competence-based perspective, employability is seen as a set of competences that allow individuals to cope with changes on the dynamic labour market.

Van der Heijde and van der Heijden (2006) applied a multi-dimensional, competence-based approach to employability and define the concept as “the continuous fulfilling, acquiring or creating of work through the optimal use of competences” (p. 453). Moreover, with increased innovation, an employable workforce is necessary for organizations to keep a (sustainable) competitive advantage (van der Heijde & van Der Heijden, 2006).

This multi-dimensional competence-based definition of employability encompasses a package of domain-specific, and generic competences. Individual competences are defined as “a set of observable performance dimensions, including individual knowledge, skills, attitudes, and behaviors” (Athey & Orth, 1999, p. 216). The specific competences necessary to perform a particular job are termed *occupational expertise*. Early research by DeFilippi and Arthur (1996) showed that employees who are seen by important key figures as occupational experts have greater career prospects within an organization. However, van der Heijde and van der Heijden (2006) argued that “domain-specific occupational expertise is insufficient to guarantee positive work outcomes during the course of one's entire career” (p. 450). It has been argued that next to job-specific, technical knowledge, generic competences are especially important in order to stay employable in the global, dynamic labour market (Froehlich et al., 2014). The generic competences include adaptation to change, termed personal flexibility, and anticipation plus optimization. *Personal flexibility* refers to a more passive and reactive adaptation to changes in job descriptions. Highly flexible employees will be able to benefit from changes in the work environment because they are more open to change. *Anticipation and optimization* is a more proactive way of dealing with change and refer to the initiative employees take to prepare for potential job and career changes. Employees can adapt to these changes through continuing and proactive development. Generic competences also include more social competences, such as corporate sense and balance. Corporate sense refers to employees' identification with the organizational culture and values, while balance refers to a healthy balance between the employee's work life and private life (van der Heijde & van Der Heijden, 2006).

Given the developments in the labour market and the two sectors under study, which call for individuals to effectively cope with these changes (de Grip et al., 2004), the present study will focus on three employability competences: occupational expertise, personal flexibility, and anticipation and optimization. In both sectors, occupational expertise refers to the growing body of domain-specific knowledge necessary to perform the job. Personal flexibility and anticipation and optimization refer to employees' response to changes.

Self-directed learning orientation

Self-directed learning orientation (SDLO) is defined as a relatively stable tendency to take a proactive and self-starting approach towards learning goals and to persist in overcoming barriers and setbacks to work-related learning (Raemdonck et al., 2008; Lo Presti et al., 2020). These learning goals can be different in nature. Dweck (1986) made the distinction between performance and mastery goals. Performance goals directly related to an outcome and are directed to satisfying performance expectations. Performance goals are considered shallow and short-term. In contrast, mastery goals are considered long-term goals and correspond to acquiring new knowledge and understanding.

Self-directedness is a personal feature that is developed as the person encounters his or her environment, and it reflects the influences of traits, the social environment, and their interaction. It is acquired, and although relatively stable, it is more easily modifiable than a personality

trait (Raemdonck et al., 2008; Raemdonck, Meurant et al., 2014). Employees with a self-directed learning orientation exhibit what Billett (2001) called agency; they are able to identify learning opportunities, show initiative, and engage in learning activities at the workplace. Such employees are responsible for and have authority over their own learning trajectory. Several studies have indeed found a positive relationship between self-directed learning orientation and workplace learning. In their study, Gijbels et al., (2010) found that SDLO was related to work-related learning in a sample of students in vocational education. These findings were generalized by Raemdonck, Gijbels et al. (2014), who found a robust relation between SDLO and workplace learning behavior in a variety of sectors. Self-directed employees can set learning goals (i.e., performance or mastery goals) on their own and work towards those goals independently. In their conceptual paper, Froehlich et al. (2015) suggested that learning goal orientations positively affect employees' employability competences.

Few studies, however, have empirically investigated the relationship between SDLO and employability. In one such study, Raemdonck et al. (2012) found that SDLO was positively related to employability. The authors defined employability in terms of job retention and job mobility. While job retention refers to maintaining a job position, job mobility refers to horizontal or vertical movement from one job to another. Horizontal mobility refers to moving to a new job position without altering occupational status. Vertical mobility refers to moving to a position with higher (upward mobility) or lower (downward mobility) occupational status. It was found that self-directedness in learning predicted employability only in terms of vertical mobility. Horizontal job mobility was not predicted by self-directedness in learning. In their study, Raemdonck (2012) used job mobility as an indicator of labour market-based employability. The present study will use a competency-based conceptualization of self-rated employability. While labour market-based employability measures the employees' perceptions of being able to find and retain a job, a competence-based approach to employability focuses on the package of competences that allows them to be employable (Froehlich et al., 2014; de Lange et al., 2021). Therefore, we have formulated the following hypothesis:

Hypothesis 1 *SDLO is significantly positively related to the three employability competences: occupational expertise, personal flexibility, and anticipation and optimization.*

Job demand and job control

In addition to personal characteristics, such as SDLO, Delva et al. (2021) stressed the importance of contextual characteristics in shaping employability. A challenging work environment that affords opportunities for workplace learning supports learning during everyday work practices, and motivates employees to acquire and develop employability competences (Billett, 2000, 2001). In his study conducted in five different workplaces, Billett (2000, 2001) investigated guided learning activities and found that guided learning (e.g., coaching) through everyday work activities augmented workplace learning. With workplace learning being the cornerstone of the development of employability competences, the present study builds further on this by suggesting that not only guided learning activities, but also job characteristics afford opportunities for developing employability competences. The development opportunities within a job arise from two main characteristics; job demands and job control (Kyndt & Beusaert, 2017; Karasek, 1979). According to the job demand–control (DC) model, developed by Karasek (1979), these job characteristics predict employees' engagement in development

activities. Job demands refer to the work pressure, such as workload and time pressure, as well as to emotional and cognitive stressors present in the work environment (de Jonge et al., 2008). Job control refers to the amount of control employees have over their work. Greater job control offers a certain degree of freedom in decision making and therefore allows the employee to better cope with the job demands (Gijbels et al., 2010). According to the DC model, opportunities for learning arise in workplaces where employees work in highly demanding jobs in which they have a high degree of control over their work. These active jobs (i.e., high job demands and high job control) provide the employee with developmental opportunities (Billett, 2001). Jobs that are demanding motivate employees to update their package of competences to deal with these high demands. By developing his/her competences, the employee is provided with opportunities to cope with the high job demands. In contrast, passive jobs (i.e., low job demand and low job control) provide few developmental opportunities. Low-demand jobs do not provide a challenge and do not motivate the employee to engage in developmental activities. A highly demanding job that provides little opportunity for control, called a high-strain job, equally provides no developmental opportunity, because the employee is unable to exert control over his or her work to deal with the high task demands. Likewise, low-strain jobs, low-demand jobs with a high degree of job control, do not lead to the acquisition of new employability competences, because of the lack of challenge (Karasek, 1979).

In their longitudinal study, Taris et al. (2003) found that, contrary to their expectations, low-strain jobs (low job demands, high job control) provided the most favorable conditions for learning in a sample of Dutch teachers. However, research by Ouwenel et al. (2009) done with Dutch healthcare workers found evidence that high job demands and high job control were each associated with high levels of workplace learning. Similar results were found in a study by Demerouti et al. (2001) of insurance company employees, where the highest level of active learning was found in high demands/high control jobs. Gijbels et al., (2010) and Holman and Wall (2002) found a main effect of job control only. In their study among customer service agents, Holman and Wall (2002) found that job control was significantly related to skill utilization. A review study by Taris and Kompier (2004) showed reasonable support for the positive relation between these job characteristics and active learning, although the authors addressed several limitations such as the use of indirect measures for learning behavior. Finally, answering the call for more heterogeneous samples, Raemdonck, Gijbels et al. (2014b) found in a sample of employees coming from a variety of sectors a strong relation between job control and demands on the one hand, and workplace learning behavior on the other.

Workplace learning is the cornerstone of lifelong employability, and it has been suggested that conditions that support workplace learning will also support the acquisition and development of employability competences (van der Heijden et al., 2009). Workplace learning is necessary for acquiring and developing work-related competences. Employability implies that employees are responsible for their own career advancement and job security. For example, employees need to be able to adequately adapt to changes in the labour market to stay employable. To be able to deal with these changes, employability competences are pivotal throughout employees' careers. In their study, van der Heijden et al. (2009) found support for the relationship between job-related learning activities and several employability competences. For example, sufficient job demands and job control challenges allow the employee to develop his/her occupational expertise further to cope with these demands. Similarly, high job demands invite the employee to prepare for these high demands in a creative and flexible manner, termed personal flexibility and anticipation and optimization. High job control allows for this flexibility.

Job characteristics allow employees opportunities to develop their employability competences. In their study, van der Heijden et al. (2015) found support for the relationship between developmental opportunities within a job and self-perceived employability. They identified developmental opportunities within a job as job resources, such as the job value. Job value can be defined as the learning value within a job. Self-perceived employability was defined as employees' perception of their employment opportunities in getting and retaining a (new) job or developing their career. It was suggested that jobs providing sufficient developmental opportunities increase employees' self-perceived employability. Similarly, van Dam et al. (2017) showed that perceived job value relates positively to employees' employability. Perceived job value is stimulated by sufficiently challenging jobs (i.e., high job demands and high job control; Deci & Ryan, 2000; van Dam et al., 2017).

Therefore, the present study hypothesizes that particular job characteristics (i.e., high job demands and high job control) allow employees to develop their employability competences.

Hypothesis 2a *Employees with high job demands show greater occupational expertise, personal flexibility, and anticipation and optimization.*

Hypothesis 2b *Employees with a high degree of job control show greater occupational expertise, personal flexibility, and anticipation and optimization.*

In addition, active jobs (i.e., highly demanding jobs with a high degree of job control) provide a challenging work environment that supports learning in everyday work practices (Billett, 2001). Billett (2001) argued that workplaces that offer opportunities for learning also provide their employees with more agency over their learning process. This is in line as well with the study by Rana et al. (2016), who suggested that providing opportunities for continuing learning allows employees to engage in self-directed learning activities. Therefore, the present study hypothesizes the following:

Hypothesis 3 *The relationship between SDLO and employability competences is strengthened by having an active job (i.e., high job demands and high job control). In other words, job demands and job control moderate the relationship between SDLO and employability competences (i.e., occupational expertise, personal flexibility, and anticipation and optimization).*

METHOD

Procedure and participants

For this study, we deliberately selected one specific public sector and one private sector: health care and finance. These two sectors are fundamentally different. While the healthcare sector is concerned with patients' wellbeing (Kyndt & Beausaert, 2017), the financial sector is more commercial, profit oriented, and consists of companies that provide financial services to clients (Bikker, 2008). Both sectors have been under continuous pressure for many years to innovate and change, and in both sectors employability competences, occupational expertise, personal flexibility, and anticipation and optimization, are key for employees to stay employable and for the business to survive in this global economy (de Grip et al., 2004). In addition, much innovation took place in both sectors in the aftermath of the financial crisis in 2008, such as downsizing and regulatory legislature. After that, interest in employability research grew increasingly. In

that sense, the fact that the data were collected in 2010 means the changes introduced from 2008 onwards have already been taken into account. Due to the rapidly changing labour market, employability and employability competences are more important than ever (Römgens et al., 2020). It is likely that over the years job characteristics (i.e., job demands and job control) have changed. However, we do not assume that the relationship between job characteristics and employability competences has changed, for example. Moreover, research conducted before and after our data collection has consistently shown the relevance of self-directed learning orientation (SDLO) and job characteristics for workplace learning and (self-perceived) employability (e.g., Raemdonck et al., 2008; Raemdock, Gijbels et al., 2014; de Lange et al., 2021). We therefore believe that it is important to study the relations between SDLO and job characteristics (i.e., job demands and job control), and employability competences. With the data we collected, we believe that we are able to test our hypotheses.

The researchers did not have access to individual organizations in the healthcare and financial sectors and therefore could not use probability sampling techniques by randomly selecting workers within these companies. Instead, we used a convenience sampling method. Employees working in health or financial organizations located in the Netherlands were approached through the researchers' social media networks. Within these sectors, employees worked in a variety of occupations. Data were collected from a convenience sample of 499 participants through online questionnaires. Participants worked in either the financial sector (banks, insurance, accountancy; $n = 226$) or the healthcare sector (hospitals and rest homes; $n = 273$); 375 respondents completed the questionnaire. To be able to evaluate the characteristics of their job, only employees who had been working for at least one year in the same healthcare or financial organization were included in the sample. Table 1 provides summary information for the participants working in health care and finance. In our sample, more women than men worked in the healthcare sector (79.9 per cent), whilst the majority of employees in the financial sector were male (60.7 per cent). In both

TABLE 1 Sample distribution

	Health care	Finance
<i>N</i>	273	226
Average age (years)	38.44 (<i>SD</i> = 11.26)	38.79 (<i>SD</i> = 9.71)
Education		
Low	7	9
Middle (MBO, havo, vwo)	107	63
High (HBO, university)	154	153
Gender		
Male	54	133
Female	214	86
Marital status		
Unknown	0	1
Unmarried	76	55
Married/living together	171	154
Divorced	22	16
Widow(er)	4	0

sectors, the majority of employees had a higher education degree. The majority of employees in both sectors were married or living together with someone. An independent samples *t*-test revealed that the mean age of employees did not differ across the two sectors.

Measures

Employability

To measure employability competences, we used the competence-based employability scale (31 items) developed by van der Heijde and van der Heijden (2006). Three subscales for the three core employability competences were used in this study: *occupational expertise* (15 items), *personal flexibility* (8 items), and *anticipation and optimization* (8 items). All three subscales used 6-point Likert scales, ranging from 1 (*not at all/very poor/very difficult*) to 6 (*very often/very good/very easy*).

SDLO

Self-directed learning orientation (SDLO) was measured with the self-directed learning orientation scale (Gijbels et al., 2010) which was constructed based on the Proactive Personality Scale of Bateman and Crant (1993) and the Personal Initiative Scale of Frese et al. (1997). The scale consists of 13 items. Responses used a 5-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*).

Job demands

Job demands were measured with a subscale of the Demand-Induced Strain Compensation Mechanisms Questionnaire (de Jonge et al., 2009). This 8-item subscale measures job demands, such as work pressure, and emotional and cognitive demands. Both quantitative and qualitative aspects of job demands were measured. Responses used a 5-point Likert scale, ranging from 1 (*never or almost never*) to 5 (*always or almost always*).

Job control

Job control was measured with the *Maastrichtse Autonomie Vragenlijst* (de Jonge et al., 1994), which consists of 10 items. Job control refers to the decision-making latitude employees have in their job. The decision-making latitude covers the method employees use to execute their work tasks, the order in which they complete tasks, their planning, and decision-making autonomy. Answers were given on a 5-point Likert scale, ranging from 1 (*very few opportunities*) to 5 (*a lot of opportunities*).

Cronbach's alphas were calculated for each subscale. Based on the alphas, one item from the personal flexibility scale (item 21), one item from the SDLO scale (item 76) and one item from the job control scale (item 52) were deleted. Table 2 shows sample items and the Cronbach's alphas after deletion.

TABLE 2 Sample items and final cronbach's alphas for different scales

Scale	Sample item	<i>N</i>	α
Occupational expertise	I consider myself competent to engage in in-depth, specialist discussions in my job domain	15	0.89
Anticipation and optimization	I take responsibility for maintaining my labor market value	8	0.83
Personal flexibility	I adapt to developments within my organization	7	0.75
SDLO	I am always looking for better ways to perform my job	12	0.86
Job demands	After 1 year of experience at the same job, employee X will have to remember many things simultaneously	8	0.78
Job control	Determine the order of your work yourself?	9	0.92

Note: *N* indicates the number of items per scale or subscale after deletion. *N* = 375.

Data analyses

First, cases with missing values were deleted and a second-order measurement model was built, and descriptive statistics were calculated, along with correlational analysis that explored the relationships between self-directed learning orientation, job demands, job control and employability competences. To address common method bias, we used Harman's single factor method as described by Podsakoff et al. (2003). A single factor explained 20 per cent of the variance, suggesting sufficient metric invariance. Based on the factor loadings in our measurement model, we calculated the composite reliability (CR) and average variance extracted (AVE) to determine discriminant validity between the various latent constructs. Second, a structural path model was built to identify whether self-directed learning orientation, job demands and job control on the one hand relate to employees' employability competences on the other.

RESULTS

Discriminant validity: Fornell-Larcker criterion

Table 3 summarizes the results of the preliminary analysis: means, standard deviations, CR, AVE, and bivariate correlation coefficients for the various latent constructs. A statistically significant high correlation was found between SDLO and employability competences ($r = 0.59$, $p < .001$), which can be cause for concern for discriminant validity. By comparing the square root of the AVE of each construct (the diagonal) with the correlation coefficients (off-diagonal), discriminant validity can be established according to Fornell and Larcker (1981). Comparing the square root of the AVE of SDLO with the correlation of SDLO with employability competences reveals an issue with the discriminant validity between these two constructs, with a small difference of 0.01, suggesting some degree of collinearity. However, collinearity statistics indicated that collinearity was not a concern between these variables (Tolerance = 0.91, VIF = 1.10). Nevertheless, results for the relation found between SDLO and employability competences should be interpreted with care.

TABLE 3 Means, standard deviations, composite reliability (CR), average variance extracted (AVE), square root of the AVE (the diagonal, in bold), and bivariate correlations for the variables under study (off-diagonal)

	<i>M</i>	<i>SD</i>	CR	AVE	1	2	3	4	5	6	7	8
1. Gender	1.63	0.48	–	–	–							
2. Sector	1.43	0.50	–	–	–0.42***	–						
3. Education	2.59	0.56	–	–	–0.10	0.11*	–					
4. Age	38.34	10.84	–	–	–0.12*	0.06	–0.10	–				
5. SDLO	3.68	0.50	0.86	0.34	–0.01	0.08	0.10	–0.02	0.58			
6. Job demands	3.75	0.50	0.76	0.18	0.04	–0.12*	0.18**	0.16**	0.16**	0.54		
7. Job control	3.27	0.93	0.92	0.10	–0.26***	0.40***	0.17**	0.08	0.25***	–0.04	0.76	
8. Employability competences	4.61	0.43	0.78	0.55	–0.12*	0.12*	0.15**	0.09	0.59***	0.31***	0.31***	0.74

Note: *N* = 358.

p* < .05; *p* < .01; ****p* < .001.

Testing the direct relations

The path model we used to examine the relations between our independent variables and employability competences demonstrated an acceptable fit, controlling for sector, gender, and education; $\chi^2 = 2599.16$, d.f. = 1696, $\chi^2/\text{d.f.} = 1.53$, $p < .001$, CFI = 0.902, RMSEA [CI 90 per cent] = 0.038 [0.035; 0.041]; see Figure 1 for the path model.

Concerning the control variables, only gender showed a significant relation with employability competences, suggesting that men scored higher on all three employability competences than women. Educational level and sector were not related to employability competences.

The results from this path model are summarized in Table 4. Results demonstrated that SDLO had a statistically significant positive relation with employability competences. Based on these results, we can confirm Hypothesis 1.

Our next hypothesis was that employability competences would also be directly related to the work environment, measured by perceived job demands and job control. Based on the results, job demands had statistically significant positive relations with employability competences. Hypothesis 2a was therefore confirmed. Hypothesis 2b predicted significant positive relation between job control and employability competences, which was not shown in the results. Hypothesis 2b was therefore not confirmed.

The moderating role of job characteristics

Building further on theory, it was hypothesized that the relation between SDLO and employability competences is moderated by job characteristics (i.e., job demands and job control). We therefore added two interaction terms to our model, one for the moderating role of job demands (SDLO $\times$ Job demands) and one for the moderating role of job control (SDLO $\times$ Job control). Although the chi-square statistic indicated that the fit of the moderation model was worse than the fit of the baseline model, the chi-square difference test revealed that the fit of the moderation

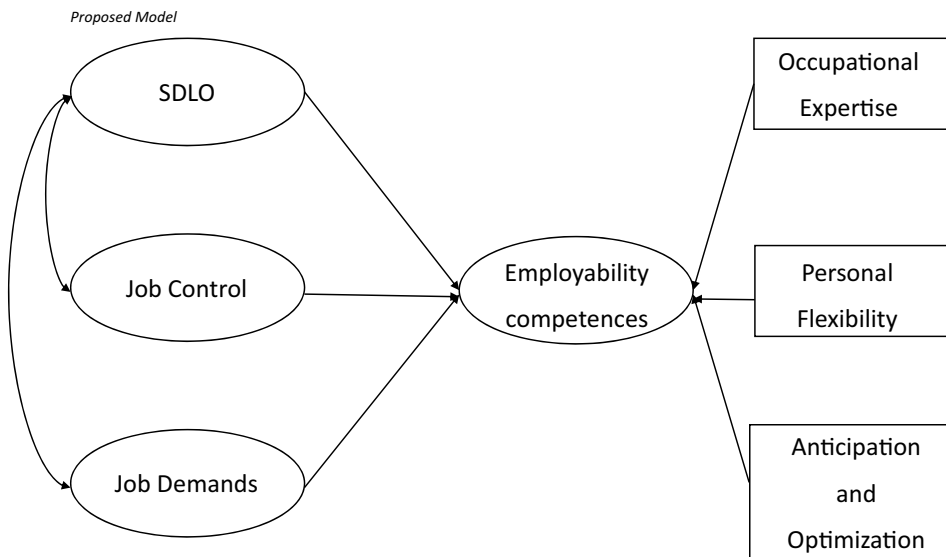


FIGURE 1 Structural model

TABLE 4 Standardized regression weights of the structural path model

	Model 1	Model 2
Gender	−0.10*	−0.09
Education	0.08	0.08
Sector	−0.04	−0.02
SDLO	0.74***	0.72***
Job demands	0.26***	0.28***
Job control	0.06	0.07
SDLO × Job demands		0.00
SDLO × Job control		0.13**
χ^2	2599.16	2730.04
d.f.	1696	1806
$\chi^2/\text{d.f.}$	1.53	1.51
CFI	0.902	0.900
RMSEA	0.038	0.037
R^2	0.74	0.75

Note: $N = 358$.

* $p < .05$; ** $p < .01$; *** $p < .001$.

model did not significantly worsen ($\Delta\chi^2 = 130.88$, $\Delta\text{d.f.} = 110$, $p = .085$), and the moderation model still showed an acceptable fit; $\chi^2 = 2730.04$, $\text{d.f.} = 1806$, $\chi^2/\text{d.f.} = 1.51$, $p < .001$, CFI = 0.900, RMSEA [CI 90 per cent] = 0.037 [0.034; 0.040]. The results indicate that the relationship between SDLO and employability competences is moderated by job control, but not by job demands, partially confirming Hypothesis 3. Results are summarized in Table 4.

DISCUSSION

The present study examined the relationship between self-directed learning orientation, the specific job characteristics of job demands and job control, and employability competences of workers in health care and finance in the Netherlands.

In this study, we made a distinction between three employability competences: *occupational expertise*, *personal flexibility*, and *anticipation and optimization*. First, we expected that employees with higher levels of self-directed learning orientation would score significantly higher on all three employability competences (Hypothesis 1). Second, we hypothesized that employees working in jobs that were more demanding and employees who had more control over their job would score significantly higher on all three employability competences (Hypothesis 2a and Hypothesis 2b). In addition, we tested for the moderating effect of job demands and job control on the relationship between SDLO and employability competences (Hypothesis 3).

First, our path analysis indicated that sector was not related to employability competences. This is in line with research by de Grip et al. (2004), who showed that differences in workers' employability between sectors can be ascribed to differences in job characteristics between sectors.

Second, our results supported the relation between self-directed learning orientation and employability competences, suggesting that self-directed employees are more employable in terms of occupational expertise, and are better able to cope with changes in their environment in terms

of personal flexibility and anticipation and optimization. We can conclude that self-directed learning orientation opens up the opportunity to increase your employability competences. This result is in line with the findings by Raemdonck et al. (2012), who found that self-directed learning orientation increases employability in terms of vertical job mobility. Having a self-directed learning orientation implies proactive learning behavior, in which the learner proactively identifies learning opportunities and engages in learning activities (Raemdonck, Gijbels et al., 2014). Employees who are self-directed learners can set learning goals themselves and work towards goal attainment independently. These learning goals can be short-term performance goals or future-oriented mastery goals (Dweck, 1986). Previous research suggested that adopting an open-future time perspective positively affects employability (Froehlich, 2015). When taking an open-future time perspective, employees see many future opportunities and see their remaining time at work as open-ended. It might be that self-directed employees who set themselves future-oriented mastery goals score higher on employability competences than their counterparts who set performance goals. In addition, employees' self-beliefs about reaching those goals are pivotal for goal attainment (Bandura, 1977). Therefore, self-efficacy could also play a role in acquiring and developing employability competences. Self-efficacy is one of the strongest predictors of competence development (Zimmerman, 2000). Future research could study the role of personal characteristics such as future time perspective and self-efficacy and their relationship with employability in more detail.

Next, our results partially supported the link between job characteristics and employability competences. As expected, job demands were related to employability competences. Our results suggest that high job demands challenge and motivate employees to update their set of employability competences to meet these high demands. A more demanding and complex job will lead employees to develop greater occupational expertise to deal with these increasing demands. Personal flexibility and anticipation and optimization are influenced by high job demands because employees can reactively adapt and actively seek opportunities to handle these job demands in a flexible way. Furthermore, our results showed that job control did not relate to employability competences. This is contrary to the findings of previous research, which suggested that a high degree of job control also allows the employee to handle changes in the work environment in a flexible way (Gijbels et al., 2010; de Witte et al., 2007). However, the present study found a moderating effect of job control on the relationship between SDLO and employability competences. More specifically, job control strengthened the relationship between SDLO and employability competences, suggesting that when their job allows for more autonomy, employees might pay greater attention to setting learning goals, initiate learning and persist in their learning activities. The more freedom and decision-making latitude employees have, the more they can proactively set learning goals and engage in the necessary learning activities to keep their employability competences up-to-date. In other words, optimal engagement in learning requires interaction between personal agency and affordances of the workplace (Billett, 2001). This is also in line with the study by Baard and colleagues (2004), who found that autonomy-supportive supervisors (e.g., supervisors who support employees' job control and give them more autonomy in their job) increase employees' self-directedness towards learning. No moderating effect of job demands was found.

Implications

The present study has important implications for organizations that are seeking to improve their workforce employability. Employees who had an overall high score on employability

competences showed self-directedness towards learning and perceived their jobs as highly demanding. For organizations to be competitive, it is pivotal that their workforce is employable (van der Heijde & van der Heijden, 2006). Therefore, employees' self-directed learning orientation should be stimulated by engagement in empowering work practices and by fostering collaboration (Rana et al., 2016). Lejeune et al. (2016) have suggested that a motivating supervisor can stimulate employees' SDLO, and defines a motivating supervisor as a supervisor who leaves the employee with enough room for autonomy. Baard et al. (2004) confirmed that an autonomy-supportive supervisor or manager can increase employees' self-directedness towards learning by recognizing the employee's perspective and by putting the employee at the center of the decision-making process.

In addition, job design can help create an employable workforce. It is advisable to invest in challenging and cognitively demanding jobs in terms of job content with a certain degree of workload in order to stimulate employees in developing their employability competences (van der Heijden et al., 2009). Our results suggest that employees with a self-directed learning orientation are at their best in work environments that offer much autonomy. Furthermore, supervisors and managers can also provide employees with a certain degree of control or autonomy in performing their jobs to increase their employability, for example, by giving employees the freedom to plan their own work and to make their own decisions. If employees are given sufficient room for autonomy, they can, in combination with a self-directed learning orientation, take action in deciding when and how to perform work tasks and resolve complex problems which allow them to develop higher levels of occupational expertise, flexibility, and anticipation and optimization.

Limitations and future research

The present research led to important practical insights on how to foster employees' employability competences. The results give insights into the relationship between personal and job characteristics on the one hand, and employability on the other. However, the results of this study should be interpreted with care. First, the data were collected several years ago in only two sectors, which calls for repeated measures with more recent data across a variety of sectors to support the generalizability of the results. Second, data were collected through a convenience sample, which gives rise to a sampling bias. It is possible that only people with a satisfactory self-directed learning orientation who worked in a good learning environment completed the questionnaire. This could also account for the ceiling effects we found on our constructs. The means and the low standard deviations indicated that respondents scored high on all constructs. By using a more randomized sample, future research can mitigate the risk of sampling bias and ceiling effects, fostering the generalizability of the results.

Third, based on the Fornell-Larcker criterion (Fornell & Larcker, 1981), there was also a small degree of empirical overlap between SDLO and anticipation and optimization. Although the Fornell-Larcker criterion is thought to be a somewhat conservative test of discriminant validity (Henseler et al., 2015; Voorhees et al., 2016), results regarding the relationship between SDLO and employability competences should be interpreted with care. SDLO may also be reflected in the employability competences of personal flexibility and anticipation and optimization, in which the employee passively and actively adapts to fast-changing job requirements in order to obtain and keep a job (van der Heijde & van der Heijden, 2006). It is therefore recommended that future research investigate the difference between SDLO and anticipation and optimization.

However, collinearity statistics revealed that collinearity between the SDLO and employability was not an issue.

Fourth, the present study was cross-sectional in nature; therefore, no causal statements can be made. For example, the present study suggested that job demands predict the development of employability competences. However, it could also be the case that due to employability competences, employees are able to cope with the increasing job demands. To examine the causality between these different variables, it is advisable that future research follow a longitudinal design. Fifth, the measurements here were based on self-reports. Employees rated themselves on the three employability competences, and this could be a cause for concern. Self-ratings could lead to socially desirable answers and employees could rate themselves high on every employability competence. However, previous research has supported the reliability of self-ratings of employees' employability competences (Froehlich et al., 2014; van der Heijden, de Lange et al., 2009; van Emmerik et al., 2012). Future research could supplement these self-ratings with additional measurements, such as job descriptions, supervisor ratings, and 360° feedback instruments.

The present study has shown that employees' self-directed learning orientation is positively related to employees' employability competences. However, this result raises the question of how exactly these employability competences are acquired. Previous research has already suggested that self-directed learning orientation and job characteristics provide the opportunity for workplace learning (Raemdonck, Gijbels et al., 2014), and that workplace learning is linked with employability competences (Froehlich et al., 2014). Future research could examine the role of workplace learning in this relationship.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

ETHICS APPROVAL STATEMENT

This research was conducted in accordance with the ethics guidelines.

PERMISSION TO REPRODUCE MATERIAL FROM OTHER SOURCES

Not applicable.

DATA AVAILABILITY STATEMENT

The dataset is made available upon request to the corresponding author.

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