On the Relation between Task-Variety, Social Informal Learning, and Employability

Dominik E. Froehlich · Mien Segers · Simon Beausaert · Michael Kremer

Received: 12 January 2018 / Accepted: 31 October 2018 / Published online: 10 November 2018
© The Author(s) 2018

Abstract
Fluctuating demands and fast changing job-requirements require organizations to invest in employees so that they are able to take up new tasks. In this respect, fostering employees’ employability is high on the agenda of many organizations. As a prerequisite for creating employability, many scholars have focused on the role of social informal learning. In this study, we extend this perspective and examine the relationships between task variety, social informal learning, and employability. We hypothesized that task variety is a catalyst for social informal learning, which in turn enhances employees’ employability. We contribute empirical evidence for this mechanism. However, while task variety leads to social informal learning and, subsequently, the competences needed for employability, task variety also may have negative direct effects on employability. We discuss the implications of these findings for future research and practice.

Keywords Employability · Social informal learning · Task variety · Workplace learning

Changing demands for numerical and functional flexibility as well as fast changing job-requirements require organizations to invest in employees so they are able to take up new roles, tasks, functions within and across the boundaries of their department and even their organization. In this respect, fostering employees’ employability, or “the continuous fulfilling, acquiring or creating of work through the optimal use of competences” (Van der Heijde and Van der Heijden 2006, p. 453), is high on the agenda of many organizations.
As a prerequisite for creating employability, workplace learning matters. For employees to be able to handle the dynamics of the organization, of their own career and job, and to deal with new task or role demands, they need to develop new competencies (i.e., the integration of knowledge, skills, and attitudes; Baartman and De Bruijn 2011) by engaging in learning activities (Pulakos et al. 2000; Van der Heijden et al. 2016). Research on workplace learning showed that the greatest effect is to be expected from informal learning, rather than from formal training activities such as workshops or seminars (e.g., Enos et al. 2003). Informal learning is generally defined as learning that is unstructured and happens spontaneously in the workplace without systematic support for learning (Gerken et al. 2016; Hoekstra et al. 2009; Marsick and Volpe 1999; Richter et al. 2011). According to recent research, it is especially social informal learning—learning from colleagues in the workplace by proactively seeking for information, help, or feedback—that may lead to the development of employability competences. For example, Froehlich et al. (2015b) found that engaging in reflection or having a discussion with colleagues may be very effective in enlarging employees’ employability. More precisely, a positive relation was found between seeking feedback, information, and help and different employability competences. Similarly, a significant positive relation between networking in- and outside the organization and employability competences was found (Van der Heijden et al. 2009a; Van der Klink et al. 2014).

While the relation between social informal learning and employability has been studied before, the question how to foster social informal learning for employability has not sufficiently been taken into account in those studies. In this respect, Pulakos et al. (2000) argue on the importance of jobs offering employees plenty of learning experiences and frequent opportunities for practicing. Jobs that require “employees to perform a wide range of tasks on the job” (Morgeson and Humphrey 2006, p. 1323) challenge employees to learn. Specifically, for each novel task to tackle, the employee has to evaluate the relevance of her current knowledge base or skills repertoire for the task at hand and to broaden or deepen it when needed. Although earlier research has investigated the role of task variety on social informal learning (Narayanan et al. 2009), the mediating role of social informal learning in the relation between task variety and employability has not been investigated. This study narrows this gap.

Theoretical Background

Competence-Based Employability

During the last decades of the twentieth century, the accelerating rate of innovation challenged organizations to become flexible, to adapt, and to anticipate new developments. For employees, this has resulted in fast changing job, task, and role requirements. In this context, Van der Heijde and Van der Heijden (2006) define being employable as having a set of competences that enables people to fulfill, acquire, or create work. Scholars subscribing to this competence-based approach of employability refer to a broad package of required competences (Wright and Snell 1998) including social and adaptive competences (Rodriguez et al. 2002) on top of technical domain knowledge (for an overview of the historical development of the concept of employability, see Forrier and Sels 2003; Gazier 2001).
Following the competence-based view of employability of Van der Heijde and Van der Heijden (2006), a set of five competences are distinguished. First, occupational expertise is needed. Occupational expertise refers to the technical knowledge of the specific job domain and is an important foundation of employability (Froehlich et al. 2018). Second, there is a need to proactively screen and prepare oneself for potential changes in job and career requirements and conditions (anticipation and optimization). Third, reactive adaptation and resilience to these changes is required (personal flexibility). Fourth, employability implies identification with the organization’s goals and the ability to work together with others (corporate sense). Fifth, being employable requires balance, the ability to appropriately weigh employer’s interests against own interests.

**Learning for Employability**

Positioning employability as a set of competences that are needed to be successful in a dynamic environment implies a developmental perspective on employability. Learning is central both to initiating change and to meeting ever-changing demands. Previous research has focused a lot on the role of formal learning that happens within structured environments deliberately designed for that purpose, for example, in seminars and workshops. This makes formal learning easier to plan than informal learning (Froehlich et al. 2016, 2014b). However, skills taught in formal learning activities need to be transferred to the workplace through learning-by-doing (Burke and Baldwin 1999; Froehlich and Gegenfurtner Forthcoming; Gegenfurtner and Vauras 2012), which is one of the reasons why it is argued that formal training programs alone are insufficient to ensure organizational flexibility. Thus, there is an increasing awareness that informal learning is at least as important as formal learning (Boud and Middleton 2003). Contrary to formal learning, informal learning is predominantly unstructured, embedded in daily job-related activities and may happen unconsciously. Moreover, it is driven by the individual’s choices, preferences, and intentions (Marsick and Volpe 1999) and it is considered as more efficient and less costly in comparison to formal learning activities (Eraut 2000). It also stands out in terms of quantity: Leslie et al. (1998) argued that 70% of learning is from informal learning, Marsick and Watkins (1990) claimed 80%, and Sorohan (1993) assumed that it is 90%. More recently, a study by Borghans et al. (2011) finds that informal learning accounts for 93% of time spent with learning content, whereas only 7% of learning activities are related to formal learning.

As Eraut (2000) describes, informal knowledge creation at work is a process that often is embedded in social contexts. He claims that informal learning at work occurs largely through consultation and collaboration both within and outside the working group. A crucial aspect in this regard is the perception of social relationships at work as opportunities for receiving feedback and support. Eraut’s emphasis on the social context of informal learning is also in line with Marsick and Watkins’ (1990) description of informal learning as the development of the individual through interaction with others. These interactions might be constituted by information-seeking, feedback-seeking, and help-seeking, which are seen as important components of informal learning (Bamberger 2009; Froehlich et al. 2017; Harwood and Froehlich 2017)—and hence are in the focus of this study. Here, feedback-seeking is the proactive search for evaluations about oneself and one’s work (Anseel et al. 2007); help-seeking...
is the proactive search for information to solve a specific problem (Lee 1997); information-seeking means the search for other information that is neither evaluative nor focused on a specific problem (Froehlich et al. 2017).

Although quite scarce, prior research on the role of these three social informal learning behaviors for employability showed promising results. Van der Heijden et al. (2009b) conducted a study with a sample of 215 Dutch non-academic university staff members and showed that informal learning enhances all five employability competences. Especially networking within and outside the organization is positively related to the employability dimensions of occupational expertise, personal flexibility, and anticipation and optimization. Similarly, in their cross-sectional research in three Dutch and Austrian organizations, Froehlich et al. (2014a) explicated that informal learning from others increases employees’ self-perceived employability, more precisely the competences occupational expertise, anticipation and optimization, and personal flexibility. In the same vein, the results of the study of Gerken et al. (2016), conducted in the context of university teaching staff, showed that social informal learning, operationalized as feedback, help and information-seeking, was related to the employability of faculty staff. Likewise, Evers et al. (2011) found a relationship between participation in social networks and occupational expertise in a sample of 152 Dutch teachers.

Hypothesis 1: Social informal learning relates positively to employability in terms of (a) occupational expertise, (b) anticipation and optimization, (c) personal flexibility, (d) corporate sense, and (e) balance.

Task Variety

How can (social) informal learning be triggered? Two systematic reviews of Kyndt and colleagues (Kyndt and Baert 2013; Kyndt et al. 2016) point to many antecedents, such as individual characteristics, job characteristics, and the organizational context. Both reviews indicate a lack of research on task variety as antecedent for learning; the studies that do exist reveal inconsistent findings. Task variety is defined as the degree to which a job requires employees to perform a wide range of tasks (Morgeson and Humphrey 2006; Sims et al. 1976). Coetzer (2006) questioned 464 employees working in 31 small manufacturing firms to study specific actions managers can take to improve support for the learning of staff and increase staff satisfaction with workplace learning. It was found that the learning potential of the work systems is mainly enhanced by wide task variety. Similarly, in a questionnaire study with 542 secondary school teachers Kwakman (2003) found a significant relation between task variety, operationalized as learning opportunities and diversity in work, and collaborative professional learning activities, such as social informal learning, but not with individual and instructional professional learning activities. However, a significant relation between job variety and professional improvement was not found.

Here, we maintain that when employees are challenged by a variety of tasks, they are given an opportunity to apply their expertise in different ways and make use of their adaptive competence. Both are important for remaining employable (De Lange et al. 2010; Van der Heijden et al. 2009a; Van Harten et al. 2016). Previous empirical
research corroborates this notion. Van Emmerik et al. (2012) found positive effects of task variety on employability measured as up-to-date skills and competences. They investigated the relationship between resources embedded in one’s job on the one side and self-perceived employability on the other. Drawing on the job-demands resources model (JD-R model) of Bakker and Demerouti (2007), they assumed that job resources such as work autonomy, feedback, and variety (defined in line with our definition of task variety), are important antecedents to employability. These resources have motivational potential and provide employees with opportunities that are decisive for the determination of self-perceived employability. These results indicate the role of a mediating variable between task variety and employability. Many scholars have been arguing on the role of task variety as a learning catalyst (Ellström 2001). Literature is consistently arguing that the kind of tasks, roles and functions individuals engage in, can be primary sources of learning (Billett 2001; Campion et al. 1994; Eriksson and Ortega 2006). Task variety is argued to be an important trigger for employees to learn. In this respect, various scholars argue that individuals being frequently exposed to a higher variation in work-related tasks are able to tackle complex problems in a specific domain more effectively (Narayanan et al. 2009), because a higher task variety provides the opportunity to learn, more specifically to acquire knowledge on a broader scheme (Paas and Van Merriënboer 1994). This broader scheme, in turn, offers the individual the opportunity to retrieve the relevant knowledge for the particular task and to distinguish it from knowledge that is irrelevant in the particular situation. Additionally, having a broader knowledge scheme may save time and effort in situations that demand new knowledge, because it makes it easier to determine relevancy (Narayanan et al. 2009). In sum, task variety triggers employees to undertake learning activities that in turn enhance their employability.

Hypothesis 2: The degree of a job’s task variety positively relates to social informal learning.
Hypothesis 3: An employee’s social informal learning mediates the relationship between task variety and employability in terms of (a) occupational expertise, (b) anticipation and optimization, (c) personal flexibility, (d) corporate sense, and (e) balance.

Methods

Participants and Procedure

This study draws from data gathered in two major rounds of data collection, where we invited employees via email to respond anonymously and voluntarily to an online survey. The email was sent via the human resources offices of the respective organizations and via organizational newsletters. After two weeks, we sent a reminder. In the first round, we conducted a survey in a Dutch municipality. One hundred and forty-four questionnaires were usable for this study (response rate = 10%). In an attempt to increase generalizability of the results, we collected additional data in an industrial context including a Dutch producer of professional medical instruments and equipment and a German conglomerate. Ninety-two questionnaires were usable for this study.
from this round of data collection (the response rate cannot be calculated due to the sampling procedure). Hence, we use 236 questionnaires for the analyses. Ninety-five (40.3%) respondents were female. The respondents were 21 to 64 years old (M = 45.6 years, SD = 11.7 years) and had work experience ranging from one to 48 years (M = 23.16 years, SD = 12.48 years).

**Instruments**

Previous research has found that self-ratings of employability are more important than potential employers’ ratings, since employees act based on their own perceptions (Fugate et al. 2004; Van den Broeck et al. 2013; Van Emmerik et al. 2012). Similarly, Kinnunen et al. (2011) derive the importance of self-perceived employability from Lazarus and Folkman's (1984) transactional stress theory: employees who perceive themselves as employable feel less threatened by the environment, experience less strain (Berntson and Marklund 2007), and perform better. Therefore, we focus on the employees’ own perceptions of their employability in our model.

We measured perceived employability using the shortened, 22-item self-report scale by Van der Heijden et al. (2018). Respondents answered on 5-point Likert-scales ranging from one (“very poor”) to five (“very good”). The scales showed acceptable to good reliabilities in our study: occupational expertise (α = .84, sample item: “I consider myself competent to weigh up and reason out the ‘pros’ and ‘cons’ of particular decisions on working methods, materials and techniques in my job domain”), anticipation and optimization (α = .76, sample item: “I consciously devote attention to applying my newly acquired knowledge and skills.”), personal flexibility (α = .83, sample item: “I can anticipate changes in my work early and benefit from them.”), corporate sense (α = .79, sample item: “In my organization, I take part in forming a common vision of values and goals.”), and balance (α = .82, sample item: “I achieve a balance in alternating between reaching my own work goals and supporting my colleagues.”).

We measured task variety using Withey et al.’s (1983) seven-item Exceptions and Analyzability-scale. This scale refers to the frequency of unexpected and novel events that occur during the work process, resulting in a higher complexity of job demands (Sample item: “To do your work, to what extent can you actually rely on established procedures and practices,” reverse coded). Respondents answered on a 5-point Likert-scale ranging from one (“very little agreement”) to five (“agreement to a great extent”). The scale showed good reliability (α = .89) in our study.

We gauged social informal learning using Froehlich et al.’s (2017) scales of feedback-seeking from supervisors (Sample item: “Feedback from my supervisor motivates me to act;” three items), feedback-seeking from colleagues (Sample item: “Feedback from colleagues motivates me to act;” three items), information-seeking (Sample item: “I participate in meetings;” four items), and help-seeking (Sample item: “Getting help would be one of the first things would do if I were having trouble at work;” two items). Respondents indicated their engagement with learning activities on a 5-point Likert-scale ranging from one (“almost never”) to five (“very often”). Reliability estimates for the scales with three or more items (Eisinga et al. 2013) was good (α = .89, .79, and .66, respectively). The Spearman-Brown formula to estimate reliability for the help-seeking items, however, indicate very low reliability ρ = 0.24). Hence, the results of this scale need to be interpreted with care.
Gender (female = “1,” male = “2”) and chronological age (open question) entered
the model as covariates. Gracia (2009) found gender to be an influencer for the
perception of one’s own employability. Moreover, there is profound evidence for
various influential aspects of age on one’s learning and employability
(Tikkanen et al. 2002; Van der Heijden 2002, 2009b).

**Analyses**

We tested the hypotheses with a path model using Maximum Likelihood estimation in
lavaan (Rosseel 2012) for R with 2000 bootstrap samples. Model fit was determined by
looking at the Comparative Fit Index (CFI), which should be above 0.90 for a well-
fitting model (Byrne 2010), the Root Mean Square Error of Approximation (RMSEA),
and the Standardized Root Mean Square Residual (SRMR), which both should be
lower than 0.08 (Hu and Bentler 1999).

**Results**

Both the CFI (CFI = 0.986) and the SRMR (SRMR = 0.035) indicate that the model fits
the data very well. Only the RMSEA is slightly below the desirable threshold
(RMSEA = 0.131; 90% CI = [0.058, 0.216]). The model explains almost a third of
the variance of anticipation and optimization (R² = 0.316) and corporate sense (R² =
0.320) and a fifth of the variance of personal flexibility (R² = 0.204) and balance (R² =
0.183). The variance explained of occupational expertise, however, was only 10%
(R² = 0.103).

**The Relationship between Social Informal Learning and Employability**

Table 1 shows the direct effects of the tested model. In Hypotheses 1, we proposed that
the more expansive an employee’s social informal learning is, the more employability
the employee will show. The results show several positive relationships of feedback
from supervisors and colleagues, information seeking, and help seeking with all
dimensions of employability. Therefore, the data largely supports Hypotheses 1a-e.

**The Relationship between Task Variety and Social Informal Learning**

In Hypothesis 2, we proposed that a higher degree of task variety positively relates to
an employee’s social informal learning. The results show evidence for such a positive
relationship between task variety and feedback from colleagues (B = 0.298, 95% CI =
[0.175, 0.421]; see Table 1) and information seeking (B = 0.339, 95% CI = [0.202,
0.475]). This partially supports Hypothesis 2.

**Social Informal Learning as a Mediator between Task Variety and Employability**

In Hypotheses 3, we proposed that an employee’s social informal learning mediates the
relationship between task variety and employability. The data show such a positive
indirect relationship between task variety and anticipation and optimization (B = 0.237,
Table 1  Direct effects on employability and social informal learning

| OE   | AO   | PF    | CS    | BA    | SUP   | COL   | INFO   | HELP   |
|------|------|-------|-------|-------|-------|-------|--------|--------|
| SUP  | 0.103 [0.011, 0.194] | 0.142 [0.012, 0.272] | 0.116 [0.024, 0.207] | 0.248 [0.133, 0.364] | 0.069 [0.070, 0.207] | –      | –      | –      |
| COL  | -0.003 [0.107, 0.011] | 0.152 [0.004, 0.299] | 0.050 [0.074, 0.135] | -0.018 [0.149, 0.113] | 0.085 [0.072, 0.243] | –      | –      | –      |
| INFO | 0.063 [0.026, 0.152] | 0.509 [0.383, 0.635] | 0.229 [0.140, 0.317] | 0.341 [0.229, 0.452] | 0.215 [0.080, 0.349] | –      | –      | –      |
| HELP | 0.140 [0.029, 0.252] | -0.002 [-0.160, 0.157] | 0.167 [0.056, 0.279] | 0.166 [0.025, 0.306] | 0.240 [0.071, 0.409] | –      | –      | –      |
| VAR  | -0.088 [-0.187, 0.012] | -0.040 [-0.181, 0.101] | -0.055 [-0.154, 0.045] | 0.055 [-0.070, 0.18] | -0.284 [-0.435, -0.133] | 0.134 [-0.09, 0.277] | 0.298 [0.175, 0.421] | 0.339 [0.202, 0.475] | -0.029 [-0.136, 0.078] |
| Gender | -0.138 [-0.296, 0.020] | 0.148 [-0.077, 0.372] | -0.014 [-0.171, 0.144] | 0.245 [0.046, 0.444] | -0.002 [-0.241, 0.238] | 0.027 [-0.217, 0.271] | -0.334 [-0.544, -0.124] | 0.090 [-0.143, 0.322] | -0.141 [-0.324, 0.042] |
| Age  | 0.006 [0.000, 0.013] | 0.004 [-0.005, 0.014] | 0.004 [-0.002, 0.011] | 0.015 [0.007, 0.023] | 0.023 [0.013, 0.033] | -0.014 [-0.025, -0.004] | -0.010 [-0.019, -0.001] | -0.007 [-0.017, 0.003] | -0.004 [-0.012, 0.003] |

The cells give the unstandardized path estimates and their 95% CIs.

OE, Occupational expertise; AO, Anticipation and optimization; PF, Personal flexibility; CS, Corporate sense; BA, Balance; SUP, Supervisor Feedback; COL, Colleague Feedback; INFO, Information-seeking; HELP, Help-seeking; VAR, Task variety.
95% CI = [0.136, 0.338]), personal flexibility (B = 0.097, 95% CI = [0.035, 0.159]), corporate sense (B = 0.139, 95% CI = [0.052, 0.226]), and balance (B = 0.100, 95% CI = [0.021, 0.179]). Therefore, the data supports Hypotheses 3b-e. With respect to the direct relationship between task variety and employability, the results indicate only one (negative) relationship with balance (B = −0.284, 95% CI = [−0.435, −0.133]).

Relationships of gender were noted on corporate sense (B = 0.245, 95% CI = [0.046, 0.444]) and feedback seeking from colleagues (B = −0.334, 95% CI = [−0.544, −0.124]); age was related to corporate sense (B = 0.015, 95% CI = [0.007, 0.023]) balance (B = 0.023, 95% CI = [0.013, 0.033]), and seeking feedback from supervisors (B = −0.014, 95% CI = [−0.025, −0.004]) and colleagues (B = −0.010, 95% CI = [−0.019, −0.001]).

Discussion

The purpose of this study was to examine the relationships between task variety, social informal learning, and employability. Here, we view task variety as a learning catalyst which enhances employees’ employability by triggering learning behavior. Three major themes emerged from the data. First, our results support the theoretical assumptions and the findings of a few former studies that social informal learning predicts employability. Employees who engage in information-seeking, help-seeking, and feedback-seeking also show higher levels of occupational expertise, anticipation and optimization, personal flexibility, balance, and corporate sense. Especially the relation between engaging in social informal learning and anticipation and optimization is strong. This shows that continuously updating knowledge and skills helps employees to deal with their organizations’ highly dynamic environments (cf. Gerken et al. 2018).

Second, the results confirm the important role of task variety as a trigger to engage in social informal learning. When confronted with a novel task, a more elaborated knowledge base is an important resource to retrieve the relevant knowledge for the particular task at hand and to discover if the knowledge available is relevant in the particular situation. If not, the employee is triggered to fine-tune the knowledge again. By continuously revisiting the knowledge base, employees become more proficient in evaluating the relevance of the current knowledge base as well as in fine-tuning it (Narayanan et al. 2009). This process of updating knowledge and skills is the core of learning. Further, the results indicate that task variety has a direct relationship to employability and an indirect relationship through social informal learning. These results support the view that employers can enhance their workers’ employability by creating jobs that require employees to perform a range of tasks. This may stimulate employees to undertake social informal learning activities and, subsequently, bolster their employability. However, there are some caveats to note. The results show that task variety has a stronger association with anticipation and optimization and corporate sense, than with the other employability competences. An explanation for the importance of task variety for anticipation and optimization is that through working on a variety of tasks, an employee develops an open attitude toward change and is therefore more able to foresee the changes ahead. Remarkably, although the relations are significant, task variety plays a minor role in predicting occupational expertise and flexibility. Also, task variety has significant negative relationships with occupational
expertise. Narayanan et al. (2009) offer explanations for these findings. Due to limited human working memory, a high variety of tasks to be performed can inhibit the processing and storing of new information and, therefore, can hinder an employee to learn from variety. This may result in lower occupational expertise. Moreover, we focused on the process of learning and not so much on what is being learned. Socially acquired knowledge may be inaccurate or even false, which results in lower occupational expertise, if it is not tested by reflection. In addition, exposure to task variety is an important condition for learning, but it is not sufficient on its own. Task variety may only facilitate learning if employees get the opportunity of being extensively involved in the new tasks so that learning from those tasks is internalized and the development of occupational expertise is enhanced. Under time pressure, which can be a result of high task variety, employees are likely to fall back on routines to survive and, therefore, will not be able to update their knowledge and skills. High task variety can lead to high work pressure and in turn exhaustion (Van Harten et al. 2016). This may also explain another unexpected finding: the negative relationship between task variety and balance.

Third, chronological age plays an interesting role in the tested relationships. Becoming older is associated with being more competent and employable, which confirms prior research and theorizing (Froehlich 2017; Froehlich et al. 2015a; Raemdonck et al. 2015; Rothwell and Arnold 2007; Van Vuuren et al. 2011). However, it seems that older employees engage less in social informal learning. The latter supports prior research by Froehlich et al. (2014a), indicating that older employees seek less feedback from their supervisors. However, it contradicts the findings of other studies (e.g., Berg and Chyung 2008), which indicate a positive relation between age and informal learning. Our findings might be explained by the proactive perspective we take on social informal learning. We have been looking at employees’ proactive search for help, feedback, and information. Older employees—in most cases—have more relevant experience than their younger colleagues; they might be more inclined to give feedback, help, and information instead of proactively seeking for it. According to the risk-value theory (Jia and Dyer 1996), the older employee might be more inclined to trade off between the risk of losing face (cf. ego defense and enhancement; see Ashford et al. 2003) and the value of gaining more insights by asking feedback, help, or information.

Implications for Future Research

These three themes and the underlying research have several implications for future research. On the one hand, the findings point to interesting avenues for further investigation. Most prominently, the role of task variety for individuals’ employability asks for further exploration. Future research can clarify the extent to what limited working memory, implicit learning, superficial engagement in new tasks and time pressure lead to detrimental effects of task variety on occupational expertise and balance. Similarly, the role of age in predicting engagement in proactive social informal learning asks for more research. Using Baltes and Baltes’ (1990) model of selection, optimization, and compensation or Jia and Dyers’ (1996) risk-value theory as a theoretical framework might be helpful in exploring if and why older employees are reluctant to seek feedback, help, and information. On the other hand, future research may try to improve on some of the limitations that this study has. This includes the cross-sectional nature of the research. Although we have solid theoretical grounds for
assuming that informal learning influences employability, we are not able to test causal relationships. Reverse causality is possible in that highly employable people may feel more inclined to look for learning opportunities to remain employable also in the long run. Future longitudinal or mixed method (Schoonenboom et al. 2018) research could clarify these relationships. Also, in this research, we were interested in the broad relationships between the investigated concepts. In line with this, we included respondents from slightly different contexts in the analyses. Given the small size of the subsamples, we were not able to check for differences between organizations and sectors. Future research may investigate the different contexts in greater detail than we could in this study; for instance by using more dyadic approaches to analysis (Froehlich and Brouwer Forthcoming; Froehlich and Messmann 2017).

Implications for Practice

In terms of implications for practice, the results of this study show that organizations and, more specifically, managers can play an important role in enhancing employees’ employability. By creating opportunities for seeking feedback, help, and information, they enhance employees’ level of occupational expertise, anticipation and optimization, flexibility, corporate sense, and balance. Opportunities for social informal learning are created when the supervisor acts as a broker of knowledge by, for example, referring employees to other colleagues when dealing with a problem. Also, during meeting or debriefings, managers can schedule time for asking questions and knowledge exchange. The manager plays a crucial role in giving the right example and being accessible and open to questions. On an organizational level, the Human Resource Development department could consider the implementation of an online learning experience system, including resources and discussion fora, the ideal place to exchange knowledge and seek for information, help and feedback.

The results indicated the important role of task variety for social informal learning. One way to stimulate social informal learning is by offering a variety of job tasks as a manager. Organizing a well-balanced variety in tasks stimulates employees to go into their network and to proactively seek for information, help, and advice when facing problems, and for feedback when reflecting on the quality of his/her work or performance. Employees can also be invited to shadow colleagues in order to taste various tasks and slowly become more employable.

Funding Information

Open access funding provided by University of Vienna.

Open Access This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

References

Anseel, F., Lievens, F., & Levy, P. E. (2007). A self-motives perspective on feedback-seeking behavior: Linking organizational behavior and social psychology research. International Journal of Management Reviews, 9(3), 211–236. https://doi.org/10.1111/j.1468-2370.2007.00210.x.
Ashford, S. J., Blatt, R., & VandeWalle, D. (2003). Reflections on the looking glass: A review of research on feedback-seeking behavior in organizations. *Journal of Management, 29*(6), 773–799. https://doi.org/10.1016/S0149-2063(03)00079-5.

Baartman, L. K. J., & De Bruijn, E. (2011). Integrating knowledge, skills and attitudes: Conceptualising learning processes towards vocational competence. *Educational Research Review, 6*(2), 125–134. https://doi.org/10.1016/j.edurev.2011.03.001.

Bakker, A. B., & Demerouti, E. (2007). The job demands resources model: State of the art. *Journal of Managerial Psychology, 22*(3), 309–328. https://doi.org/10.1108/02683940710733115.

Baltes, P. B., & Baltes, M. M. (1990). Psychological perspectives on successful aging: The model of selective optimization with compensation. In P. B. Baltes & M. M. Baltes (Eds.), *Successful aging: Perspectives from the behavioral sciences* (pp. 1–34). New York City, NY: Cambridge University Press.

Bamberger, P. A. (2009). Employee help-seeking: Antecedents, consequences and new insights for future research. In J. J. Martocchio & H. Liao (Eds.), *Research in Personnel and Human Resource Management* (Vol. 28, pp. 49–98). Bingley: Emerald Group Publishing. https://doi.org/10.1108/0742-7301(2009)0000028005.

Berg, S. A., & Chyung, S. Y. (2008). Factors that influence informal learning in the workplace. *Journal of Workplace Learning, 20*(4), 229–244. https://doi.org/10.1108/13665620810871097.

Berntson, E., & Marklund, S. (2007). The relationship between employability and subsequent health. *Work and Stress, 21*(3), 279–292. https://doi.org/10.1080/02678370701659215.

Billett, S. R. (2001). Learning through work: Workplace affordances and individual engagement. *Journal of Workplace Learning, 13*(5), 209–214. https://doi.org/10.1108/13665620110355548.

Borghans, L., Fouarge, D., & De Grip, A. (2011). *Een leven lang leren in Nederland* [Lifelong learning in the Netherlands] (No. ROA-R-2011/5). Maastricht: Researchcentrum voor Onderwijs en Arbeidsmarkt. Retrieved from https://cris.maastrichtuniversity.nl/portal/files/1617212/guid-57ba6329-e842-403a-a8359-3196e1f27e5-ASSET1.0.

Boud, D., & Middleton, H. (2003). Learning from others at work: Communities of practice and informal learning. *Journal of Workplace Learning, 15*(5), 194–202. https://doi.org/10.1108/13665620310483895.

Bourke, L. A., & Baldwin, T. T. (1999). Workforce training transfer: A study of the effect of relapse prevention training and transfer climate. *Human Resource Management, 38*(3), 227–241.

Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd ed.). New York, NY: Taylor & Francis Group.

Campion, M. A., Cheraskin, L., & Stevens, M. J. (1994). Career-related antecedents and outcomes of job rotation. *Academy of Management Journal, 37*(6), 1518–1542.

Coetzee, A. (2006). Managers as learning facilitators in small manufacturing firms. *Journal of Small Business and Enterprise Development, 13*(3), 351–362. https://doi.org/10.1108/14626000610680244.

De Lange, A. H., Van Yperen, N. W., Van der Heijden, B. I. J. M., & Bal, P. M. (2010). Dominant achievement goals of older workers and their relationship with motivation-related outcomes. *Journal of Vocational Behavior, 77*(1), 118–125. https://doi.org/10.1016/j.jvb.2010.02.013.

Eisinga, R., te Grootenhuis, M., & Pelzer, B. (2013). The reliability of a two-item scale: Pearson, Cronbach, or Spearman-Brown? *International Journal of Public Health, 58*(4), 637–642. https://doi.org/10.1007/s10541-012-0416-3.

Ellström, P.-E. (2001). Integrating learning and work: Problems and prospects. *Human Resource Development Quarterly, 12*(4), 421–435. https://doi.org/10.1027/1092-0702.1006.

Enos, M. D., Kehrhahn, M. T., & Bell, A. (2003). Informal learning and the transfer of learning: How managers develop proficiency. *Human Resource Development Quarterly, 14*(4), 369–387. https://doi.org/10.1027/1092-0702.1074.

Ernutt, M. (2000). Non-formal learning and tacit knowledge in professional work. *The British Journal of Educational Psychology, 70*, 113–136.

Eriksson, T., & Ortega, J. (2006). The adoption of job rotation: Testing the theories. *IHR Review, 59*(4), 653–666.

Evers, A. T., Van der Heijden, B. I. J. M., Kreijns, K., & Gerrichauzen, J. T. G. (2011). Organisational factors and teachers’ professional development in Dutch secondary schools. *Journal of European Industrial Training, 35*(1), 24–44. https://doi.org/10.1108/03090591111095727.

Forrier, A., & Sels, L. (2003). The concept employability: A complex mosaic. *International Journal of Human Resource Development and Management, 3*(2), 102–124.

Froehlich, D. E. (2017). Older managers’ informal learning in knowledge-intensive organizations: Investigating the role of learning approaches among Austrian bank managers. *The International Journal of Human Resource Management, 28*(2), 399–416. https://doi.org/10.1080/09585192.2016.1244897.
Froehlich, D. E., & Brouwer, J. (Forthcoming). Social network analysis as mixed analysis. In a. J. Onwuegbuzie & R. B. Johnson (Eds.), Reviewer’s guide for mixed methods research analysis. Routledge.

Froehlich, D. E., & Gegenfurtner, A. (Forthcoming). Social support in transitioning from training to the workplace: A social network perspective. In H. Fasching (Ed.), Beziehungen in pädagogischen Arbeitsfeldern /Relations in pedagogical work/, Bad Heilbrunn: Klinkhardt.

Froehlich, D. E., & Messmann, G. (2017). The social side of innovative work behavior: Determinants of social interaction during organizational innovation processes. Business Creativity and the Creative Economy; 3(1), 31–41.

Froehlich, D. E., Beausaert, S. A. J., Segers, M. S. R., & Gerken, M. (2014a). Learning to stay employable. Career Development International, 19(5), 508–525. https://doi.org/10.1108/CDI-11-2013-0139.

Froehlich, D. E., Segers, M. S. R., & Van den Bossche, P. (2014b). Informal workplace learning in Austrian banks: The influence of learning approach, leadership style, and organizational learning culture on managers’ learning outcomes. Human Resource Development Quarterly, 25(1), 29–57. https://doi.org/10.1002/hrdq.21173.

Froehlich, D. E., Beausaert, S. A. J., & Segers, M. S. R. (2015a). Age, employability and the role of learning activities and their motivational antecedents: A conceptual model. The International Journal of Human Resource Management, 26(16), 2087–2101. https://doi.org/10.1080/09585192.2014.971846.

Froehlich, D. E., Beausaert, S. A. J., & Segers, M. S. R. (2015b). Great expectations: The relationship between future time perspective, learning from others, and employability. Vocations and Learning, 8(2), 213–227. https://doi.org/10.1007/s12186-015-9131-6.

Froehlich, D. E., Beausaert, S. A. J., & Segers, M. S. R. (2016). Aging and the motivation to stay employable. Journal of Managerial Psychology, 31(3), 756–770. https://doi.org/10.1007/jmp-08-2014-0224.

Froehlich, D. E., Beausaert, S. A. J., & Segers, M. S. R. (2017). Development and validation of a scale measuring approaches to work-related informal learning. International Journal of Training and Development, 21(2), 130–144. https://doi.org/10.1111/jitd.12099.

Froehlich, D. E., Liu, M., & Van der Heijden, B. I. J. M. (2018). Work in Progress: The progression of competence-based employability. Career Development International, 23(2), 230–244.

Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psycho-social construct, its dimensions, and applications. Journal of Vocational Behavior, 65(1), 14–38. https://doi.org/10.1016/j.jvb.2003.10.005.

Gazier, B. (2001). Employability: The complexity of a policy notion. In P. Weinert, M. Baukens, P. Bóllerot, M. Pineschi-Gapénne, & U. Walwei (Eds.), Employability: From theory to practice and applications. Career Development International, 23(2), 230–244.

Gazier, B. (2001). Employability: The complexity of a policy notion. In P. Weinert, M. Baukens, P. Bóllerot, M. Pineschi-Gapénne, & U. Walwei (Eds.), Employability: From theory to practice (pp. 3–23). New Brunswick: Transaction Books.

Gegenfurtner, A., & Vauras, M. (2012). Age-related differences in the relation between motivation to learn and transfer of training in adult continuing education. Contemporary Educational Psychology, 37(1), 33–46. https://doi.org/10.1016/j.cedpsych.2011.09.003.

Gerken, M., Beausaert, S., & Segers, M. (2016). Working on professional development of faculty staff in higher education: Investigating the relationship between social informal learning activities and employability. Human Resource Development International, 19(2), 135–151.

Gerken, M., Messmann, G., Froehlich, D. E., Beausaert, S. A. J., Mulder, R. H., & Segers, M. S. R. (2018). Personal and contextual antecedents of innovative work behavior. In G. Messmann, F. Dochy, & M. S. R. Segers (Eds.), Triggers, antecedents, and consequences of informal learning at work (pp. 80–99). Oxford: Routledge.

Gracia, L. (2009). Employability and higher education: Contextualising female students’ workplace experiences to enhance understanding of employability development. Journal of Education and Work, 22(4), 301–318. https://doi.org/10.1080/13639080903290454.

Harwood, J., & Froehlich, D. E. (2017). Proactive feedback-seeking, teaching performance, and flourishing amongst teachers in an international primary school. In M. Goller & S. Paloniemi (Eds.), Agency at work: An agentic perspective on professional learning and development (pp. 425–444). Cham: Springer. https://doi.org/10.1007/978-3-319-60943-0_21.

Hoekstra, A., Korthagen, F., Brekelmans, M., Beijaard, D., & Imants, J. (2009). Experienced teachers’ informal workplace learning and perceptions of workplace conditions. Journal of Workplace Learning, 21(4), 276–298. https://doi.org/10.1108/13665620910954193.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling, 6(1), 1–55.

Jia, J., & Dyer, J. S. (1996). A standard measure of risk and risk-value models. Management Science, 42(12), 1691–1705. https://doi.org/10.1287/mnsc.42.12.1691.

Kinnunen, U., Mäkikangas, A., Mauno, S., Siponen, K., & Näätä, J. (2011). Perceived employability: Investigating outcomes among involuntary and voluntary temporary employees compared to permanent
employees. Career Development International, 16(2), 140–160. https://doi.org/10.1108/1362043111115604.

Kwakman, K. (2003). Factors affecting teachers’ participation in professional learning activities. Teaching and Teacher Education, 19(2), 149–170. https://doi.org/10.1016/S0742-051X(02)00101-4.

Kyndt, E., & Baert, H. (2013). Antecedents of employees’ involvement in work-related learning: A systematic review. Review of Educational Research, 83(2), 273–313. https://doi.org/10.3102/0034654313478021.

Kyndt, E., Gijbels, D., Grosemans, I., & Donche, V. (2016). Teachers’ everyday professional development: Mapping informal learning activities, antecedents, and learning outcomes. Review of Educational Research, 86(4), 1111–1150. https://doi.org/10.3102/0034654315627864.

Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.

Lee, F. (1997). When the going gets tough, do the tough ask for help? Help seeking and power motivation in organizations. Organizational Behavior and Human Decision Processes, 72(3), 336–363.

Leslie, B., Aring, M. K., & Brand, B. (1998). Informal learning: The new frontier of employee & organizational development - ProQuest. Economic Development Review, 15(4), 12–18.

Marsick, V. J., & Volpe, M. (1999). The nature and need for informal learning. Advances in Developing Human Resources, 1(3), 1–9. https://doi.org/10.1177/152342239900100302.

Marsick, V. J., & Watkins, K. E. (1990). Informal and incidental learning in the workplace. London: Routledge.

Morgeson, F. P., & Humphrey, S. E. (2006). The work design questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. Journal of Applied Psychology, 91(6), 1321–1339. https://doi.org/10.1037/0021-9010.91.6.1321.

Narayanan, S., Balasubramanian, S., & Swaminathan, J. M. (2009). A matter of balance: Specialization, task variety, and individual learning in a software maintenance environment. Management Science, 55(11), 1861–1876. https://doi.org/10.1287/mnsc.1090.1057.

Paa, F. G., & Van Merriënboer, J. J. (1994). Variability of worked examples and transfer of geometrical problem-solving skills: A cognitive-load approach. Journal of Educational Psychology, 86(1), 122–133.

Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. Journal of Applied Psychology, 85(4), 612–624. https://doi.org/10.1037//0021-9010.85.4.612.

Raemdonck, I., Beausaert, S. A. J., Froehlich, D. E., Kochoian, N., & Meurant, C. (2015). Age related changes in learning and employability. In D. Rosseau, D. T. A. M. Kooij, & P. M. Bal (Eds.), Aging workers and the employee-employer relationship (pp. 163–184). Cham: Springer International Publishing.

Richter, D., Kunter, M., Klusmann, U., Lüdtke, O., & Baumert, J. (2011). Professional development across the teaching career: Teachers’ uptake of formal and informal learning opportunities. Teaching and Teacher Education, 27(1), 116–126.

Rodriguez, D., Patel, R., Bright, A., Gregory, D., & Gowing, M. K. (2002). Developing competency models to promote integrated human resource practices. Human Resource Management, 41(3), 309–324. https://doi.org/10.1002/hrm.10043.

Rosseel, Y. (2012). Lavaan: An R package for structural equation. Journal of Statistical Software, 48(2).

Rothwell, A., & Arnold, J. (2007). Self-perceived employability: Development and validation of a scale. Personnel Review, 36(1), 23–41. https://doi.org/10.1108/00483480710716704.

Schoonenboom, J., Johnson, R. B., & Froehlich, D. E. (2018). Combining multiple purposes of mixing within a mixed methods research design. International Journal of Multiple Research Approaches, 10(1), 271–282. https://doi.org/10.29034/ijmr.a10n11a17.

Sims, H. P., Szilagyi, A. D., & Keller, R. T. (1976). The measurement of job characteristics. Academy of Management Journal, 19(2), 195–212.

Sorohan, E. G. (1993). We do; therefore, we learn. Training & Development, 47(10), 47–54.

Tikkkanen, T., Lahn, L. C., Withnall, A., Ward, P., & Lyng, K. (2002). Working life changes and training of older workers. Trondheim: Norwegian Institute of Adult Education.

Van den Broeck, A., De Cuyper, N., Baillien, E., Vanbelle, E., Vanhercke, D., & De Witte, H. (2013). Perception of organization’s value support and perceived employability: Insights from self-determination theory. International Journal of Human Resource Management, 25, 1–15. https://doi.org/10.1080/09585192.2013.860385.

Van der Heijde, C. M., & Van der Heijden, B. I. J. M. (2006). A competence-based and multidimensional operationalization and measurement of employability. Human Resource Management, 45(3), 449–476. https://doi.org/10.1002/hrm.20119.

Van der Heijden, B. I. J. M. (2002). Prerequisites to guarantee life-long employability. Personnel Review, 31(1), 44–61. https://doi.org/10.1108/00483480210412418.
Van der Heijden, B. I. J. M., Boon, J., Van der Klink, M. R., & Meijs, E. (2009a). Employability enhancement through formal and informal learning: An empirical study among Dutch non-Academic University staff members. International Journal of Training and Development, 13(1), 19–37. https://doi.org/10.1111/j.1468-2419.2008.00313.x.

Van der Heijden, B. I. J. M., De Lange, A. H., Demerouti, E., & Van der Heijde, C. M. (2009b). Age effects on the employability–career success relationship. Journal of Vocational Behavior, 74(2), 156–164. https://doi.org/10.1016/j.jvb.2008.12.009.

Van der Heijden, B. I. J. M., Gorgievski, M. J., & De Lange, A. H. (2016). Learning at the workplace and sustainable employability: A multi-source model moderated by age. European Journal of Work and Organizational Psychology, 25(1), 13–30. https://doi.org/10.1080/1359432X.2015.1007130.

Van der Heijden, B. I. J. M., Notelaers, G., Peters, P., Stoffers, J. M. M., De Lange, A. H., Froehlich, D. E., & Van der Heijde, C. M. (2018). Development and validation of the short-form employability five-factor instrument. Journal of Vocational Behavior, 106, 236–248. https://doi.org/10.1016/j.jvb.2018.02.003.

Van der Klink, M. R., Van der Heijden, B. I. J. M., Boon, J., & Williams van Rooij, S. (2014). Exploring the contribution of formal and informal learning to academic staff member employability. Career Development International, 19(3), 337–356. https://doi.org/10.1108/CDI-03-2013-0030.

Van Emmerik, H., Schreurs, B., De Cuyper, N., Jawahar, I. M., & Peeters, M. C. W. (2012). The route to employability: Examining resources and the mediating role of motivation. Career Development International, 17(2), 104–119. https://doi.org/10.1108/13620431211225304.

Van Harten, J., Knies, E., & Leisink, P. (2016). Employer’s investments in hospital workers’ employability and employment opportunities. Personnel Review, 45(1), 84–102. https://doi.org/10.1108/PR-05-2014-0115.

Van Vuuren, T., Caniels, M. C. J., & Semeijn, J. H. (2011). Duurzame inzetbaarheid en een leven lang leren [sustainable employability and lifelong learning]. Gedrag & Organisatie, 24(4), 356–373.

Withey, M., Daft, R. L., & Cooper, W. H. (1983). Measures of Perrow’s work unit technology: An empirical assessment and a new scale. Academy of Management Journal, 26(1), 45–63.

Wright, P. M., & Snell, S. A. (1998). Toward a unifying framework for exploring fit and flexibility in strategic human resource management. Academy of Management Review, 23(4), 756–772.

Dr. Dominik E. Froehlich is a university assistant at the University of Vienna. His research focuses on themes such as methodology in education and learning research—especially social network analysis and mixed methods—and learning in the workplace, age and work, innovation, and employability.

Prof. Mien Segers is Professor Corporate Learning at the department of Educational Research and Development. Her research addresses tools and conditions to support learning in school settings as well as in the workplace, with a special focus on the role of assessment for enhancing development. She is actively involved in the European Association for Research on Learning and Instruction (EARLI) and has been the coordinator of the Special Interest Groups Higher Education and Assessment. She has been publishing in many high-ranked journals and is an editorial board member of international journals such as Studies in Educational Evaluation and Educational Research Review. She is the chief-editor of the EARLI Book Series ‘New Perspectives on Learning and Instruction’.

Dr. Simon Beausaert is Associate professor Workplace learning at the Department for Educational Research and Development, School of Business and Economics, Maastricht University, The Netherlands. He does research on and has published various articles and book chapters on how to support formal and informal learning and on how to organise assessment for learning in the workplace.

Michael Kremer is a HR professional with SAP with experience in a range of HR functions. He obtained academic degrees from Maastricht University, The Netherlands, and the University of Trier, Germany.