The self-initiated work adjustment for learning scale: development and validation

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Abstract

Purpose – The purpose of this study is to develop the self-initiated work adjustment for learning (SIWAL) scale that measures the adjustments that employees make in their work to enhance learning, based on theories and research on workplace learning, work adjustment and work design.

Design/methodology/approach – The SIWAL scale was validated in two independent studies. Study 1 ($n = 208$) focused on the internal consistency and factor structure of the SIWAL scale. Study 2 ($n = 178$) re-examined the factorial structure using confirmatory factor analysis and investigated scale validity.

Findings – In both studies, the SIWAL scale showed good psychometric characteristics, i.e. a clear two-factorial structure and internal reliable sub-scales. The findings also indicated convergent, divergent and concurrent validity.

Research limitations/implications – Using the SIWAL scale, future research could focus on the individual, social and organizational predictors and outcomes of SIWAL, collect supervisor and peer ratings to further validate this self-report scale and investigate lower-educated workers.

Practical implications – Organizations might try to enhance their employees' SIWAL through organizational policies, such as supportive leadership, and a learning climate.

Originality/value – This study provides a first step toward a better understanding of what workers do to enhance their workplace learning. The study findings indicate that employees address two adaptive behaviors: adjusting job responsibilities and adjusting social interactions.

Keywords Workplace learning, Informal learning, Work adjustment, Job design

Paper type Research paper

Workplace learning is of crucial importance for contemporary organizations that operate in dynamic and complex business environments. Adapting to these ever-changing environments requires a continuous update of knowledge, skills and attitudes necessary to maintain and improve the quality and progress of work (Kyndt *et al.*, 2016). While both formal and informal workplace learning contribute to the development of work-related competencies, informal learning in particular appears essential for adaptation to dynamic work situations (Nikolova *et al.*, 2014). Informal learning refers to the self-initiated and self-

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directed learning through work practice (learning by doing) and interactions in the workplace (learning from others) (Battistelli *et al.*, 2019; Coetzer *et al.*, 2020; Noe *et al.*, 2017). Informal learning has been positively associated with organizational and individual outcomes, such as productivity and competitiveness (Ellström, 2001), performance (Cerasoli *et al.*, 2018; Noe *et al.*, 2017), innovation (Battistelli *et al.*, 2019; Holman *et al.*, 2012) and positive work attitudes, such as work engagement (Cerasoli *et al.*, 2018; Coetzer *et al.*, 2020).

Given these benefits of informal workplace learning, a crucial question is whether and how workers engage in work adjustment behaviors to advance workplace learning and increase opportunities for professional development. According to the theory of work adjustment (TWA) (Dawis and Lofquist, 1984), workers will try to modify aspects of their work environment or themselves to increase the correspondence between their abilities and job requirements, i.e. demands–abilities (D-A) fit (Bayl-Smith and Griffin, 2018; Dawis, 2005). We introduce self-initiated work adjustment for learning (SIWAL) as a concept referring to work adjustment efforts of employees that contribute to an increase of the learning potential of their job and a better correspondence between skill requirements and skill abilities (Dawis, 2005) through learning. SIWAL behaviors affect workplace characteristics that advance workplace learning. We identified these characteristics by following Zhang and Parker's (2019) recommendation that meta-analytical research outcomes should affect the selection of specific work characteristics conducive to workplace learning.

To obtain more insight into learning-enhancing work adjusting activities, a scale is needed that measures these behaviors. The goal of this study is to develop a scale for assessing SIWAL and to establish its reliability and validity. As the topic of this study is at the intersection of different research domains, i.e. job design, work adjustment and workplace learning, this study contributes to theory and research in all these areas. In the job design theory, adjusting work to improve its learning potential is often viewed as a management responsibility with workers as rather passive recipients (Parker and Wang, 2015). In the workplace learning and human resource development (HRD) literature, much research focuses on the policies and practices that organizations can develop and apply to promote learning (e.g. Battistelli *et al.*, 2019; Doornbos *et al.*, 2008; Lohman, 2005). However, the worker is also an active participant in both work design and learning, and hence, they affect learning conditions in the workplace (Janssens *et al.*, 2017; Parker, 2014). Applying this perspective may inspire future research and enhance our understanding of learning mechanisms and processes of competence development in the workplace.

There is still little information about the work adjustment behaviors that employees exhibit to optimize the learning potential of their workplace. To improve our understanding of employees' work adjustment initiatives for these informal learning activities, this study takes a crucial first step by developing and validating the SIWAL scale that researchers and practitioners can use to assess this behavior. As workplace learning contributes to organizational performance, adaptive potential and innovation (Battistelli *et al.*, 2019; Cerasoli *et al.*, 2018), organizations have a clear interest in knowing what employees themselves (can) do to increase learning at work. At the same time, workplace learning yields important benefits for workers. Opportunities for workplace learning are positively related to the acquisition and development of work-related competencies (Cerasoli *et al.*, 2018) and employability (Froehlich *et al.*, 2015; Martini and Cavenago, 2017) and is associated with health and well-being (e.g. Holman and Wall, 2002).

Theoretical background
The workplace learning literature specifies different types of learning. An important distinction relates to formal and informal learning (Coetzer *et al.*, 2020). Formal learning typically takes place within a structure deliberately designed and created for that purpose

(Froehlich *et al.*, 2015), such as a course or training. It is structured and organized in terms of learning context, learning support, learning time and learning objectives (Janssens *et al.*, 2017). Conversely, informal learning typically takes place outside formally designated learning contexts (e.g. Cerasoli *et al.*, 2018), at or near the workplace and is less structured and organized. As informal learning is strongly embedded in, and interwoven with daily work activities and social interactions, specific workplace characteristics stimulate the engagement in informal learning activities (Cerasoli *et al.*, 2018; Janssens *et al.*, 2017). This clear link between work and informal learning subsequently prompts the question whether and how workers adjust and mold these workplace characteristics to learn.

Theoretically, SIWAL behaviors can be understood and studied within frameworks such as the TWA (Dawis and Lofquist, 1984; Dawis, 2005) and work design approaches (Bakker and Demerouti, 2007; Hackman and Oldham, 1980; Parker, 2014). In the job design theory, adjusting work to improve its learning potential is often viewed as a management responsibility with workers as rather passive recipients (Parker and Wang, 2015). In this perspective, job design derives from broader organizational and technological choices, and others (e.g. managers, staff, consultants) design jobs. However, from theoretical perspectives such as TWA, employees engage in work adjustment behaviors, which change aspects of their work situation (Parker, 2014) or themselves.

TWA is a prominent person–environment (P-E) fit theory, which deals with how person (P) and environment (E) maintain and increase their level of correspondence through active and reactive adjustment behaviors (Bayl-Smith and Griffin, 2018, p. 210). Today's rapidly changing work environments challenge P-E correspondence, calling for a dynamic view of P-E fit (Bayl-Smith and Griffin, 2018). Consequently, we apply the TWA process model as our main theoretical background. This dynamic model explains how P-E correspondence is achieved, maintained and replicated (Dawis, 2005) through adaptive behaviors such as SIWAL. In this model, P and E are not static, but can and do change where dissatisfaction with the level of P-E correspondence drives work adjustment: dissatisfied workers "will do" something to change a dissatisfying situation through engagement in adaptive behaviors (Dawis, 2005, p. 4).

The TWA process model distinguishes between two modes of work adjustment (Dawis, 2005): behaviors that affect changes in the environment (activeness) and behaviors that affect changes in the individual (reactiveness). SIWAL includes adaptive behaviors, which changes the person (i.e. learning of new abilities, skills and knowledge) and, hence, should be labeled as reactiveness (Bayl-Smith and Griffin, 2018). More specifically, SIWAL is triggered by, and impacts, the level of correspondence between a person's abilities and the changing demands of the job (D-A fit). In contemporary dynamic work contexts, shifting work requirements resulting in a D-A misfit challenge workers to engage in continuous processes of skill development. SIWAL refers to adaptation by workers to situations of D-A misfit through learning new abilities (reactiveness).

In sum, SIWAL refers to self-initiated work adjustment behavior (e.g. signing up for challenging assignments or asking for feedback), which enhances the learning potential of the workplace. The goal of SIWAL is to advance one's professional and personal growth. Through workplace learning, it subsequently contributes to a better correspondence between skill requirements and skill abilities. This study focusses on adaptive behaviors, which serve this clear end, i.e. to learn.

Because SIWAL focuses on those aspects of work that facilitate workplace learning, we need to identify the work characteristics that are important facilitators or drivers of workplace learning (Lohman, 2005; Van der Klink *et al.*, 2012). Two main sources of informal learning can be distinguished: learning in relation to task performance (learning by doing) and learning in relation to others in the work context (learning through others). This classification mirrors existing distinctions in the literature, e.g. between learning through

practice and social interaction (Coetzer *et al.*, 2020). Both the task environment and the social environment have proven to be important sources for workplace learning (see also Battistelli *et al.*, 2019; Jeon and Kim, 2012; Noe *et al.*, 2017; Tannenbaum *et al.*, 2010) and serve as the base for scale development. Next, specific characteristics in these two environments with a strong impact on workplace learning were identified, following Zhang and Parker's (2019) recommendations that meta-analytical research outcomes (e.g. Cerasoli *et al.*, 2018; Wielenga-Meijer *et al.*, 2010) should determine this selection.

SIWAL and the task environment: adjusting job responsibilities

Extensive evidence indicates that the learning potential of the workplace is highly dependent on aspects of the tasks pertaining to the job responsibilities (Jeon and Kim, 2012; Van der Klink *et al.*, 2012), such as the scope, complexity and variety of these tasks (Holman *et al.*, 2012).

In order to learn, employees can demonstrate adaptive behavior, e.g. applying for challenging assignments, which affects the content of their work in such a way that their job becomes broader and/or more challenging (Battistelli *et al.*, 2019), i.e. they address the number, scope or type of tasks they perform (Holman *et al.*, 2012). The beneficial impact of job characteristics, such as task variety and task complexity, is theoretically elaborated in the literature (e.g. Demerouti *et al.*, 2001; Ellström, 2001; LePine *et al.*, 2004). For instance, Hackman and Oldham (1980) stressed the motivational role of these characteristics in their Job Characteristics Model. Moreover, the Job Demands-Resources model (Bakker and Demerouti, 2007; Demerouti *et al.*, 2001) shows how job resources, such as task variety, contribute to the motivational process that stimulates outcomes such as personal and professional growth. By attracting more tasks and signing up for challenging assignments, employees engage in a bottom-up task enlargement or enrichment process that benefits their personal and professional development (Hackman and Oldham, 1980).

These theoretical notions have been empirically substantiated by a large number of studies (Holman *et al.*, 2012; Parker, 2014). Meta-analytic research (Cerasoli *et al.*, 2018; Wielenga-Meijer *et al.*, 2010) found evidence for the positive influence of challenging work settings on workplace learning. Task complexity has been related to enhanced learning and learning motivation (Holman *et al.*, 2012; LePine *et al.*, 2004). Additionally, Jeon and Kim (2012) noticed that decreasing routinization by adding a new task greatly contributed to informal learning. In conclusion, adaptive behavior adjusting the number, scope or type of tasks comprises changes to the task repertoire itself, modifying workplace characteristics such as task variety and complexity.

SIWAL and the social environment: adjusting social interactions

Interactions with others are a powerful learning source (Bandura, 2001), and this is equally true for learning at work. Some scholars and researchers even focus mainly on the social aspects of workplace learning (e.g. Janssens *et al.*, 2017; Lohman, 2005; Schürmann and Beausaert, 2016). Through the presence of different work relations, the work context offers numerous learning opportunities, in particular when adaptive behavior aims for a more effective use of these social interactions for professional growth. Employees can seek feedback from colleagues and supervisors, ask them for advice, invite them to work together on challenging projects or simply observe how more experienced co-workers perform their tasks (Bandura, 2001; Lohman, 2005; Van der Klink *et al.*, 2012). In all instances, information, knowledge and experiences are exchanged, triggering cognitive and behavioral learning processes such as reflection and experimentation (Nikolova *et al.*, 2014). Adaptive behaviors, such as asking for feedback, trigger adjustments in social interactions at work, which facilitate reflection, modeling and experimentation. These efforts to build and maintain social

relationships and networks with a higher learning potential stimulate the process of learning of new abilities, skills and knowledge enabling the worker to better adapt to shifting job requirements.

The positive impact of interactions with colleagues and supervisors on informal learning was demonstrated in a meta-analysis by Cerasoli *et al.* (2018) and many other studies. For instance, feedback has proven to be one of the main drivers of informal learning (Doornbos *et al.*, 2008; Schürmann and Beausaert, 2016) and has both a motivational and cognitive function (Ellström, 2001). According to Ashford *et al.* (2003), many workers nowadays experience a feedback vacuum, and therefore actively seek feedback themselves. Lohman (2005) found that a lack of proximity to colleagues was detrimental for workplace learning. Hence, adjusting social interactions in the work context might also be an important strategy in increasing opportunities for informal learning. Through the formation of a web of relationships and networks for learning (Schürmann and Beausaert, 2016), the exchange of information, knowledge and experiences is facilitated, which in turn triggers learning, resulting in professional and personal growth.

Scale development
With the literature on work adjustment, job design and workplace learning as a starting point, items were generated for the two dimensions of SIWAL, resulting in an initial set of 16 items. After extensive discussions, four items were deleted and others were rewritten and edited until the authors agreed upon their fit with the SIWAL construct and its two dimensions. Deleted items were found to measure either different behavior, more than one behavior or behavior that was already covered by another item.

A pilot study was then conducted to examine the quality of the items in a sample of 37 participants, with 18 employees in different professions, ten psychology students and nine academic researchers. As lengthy scales can cause practical problems in research and field settings, another objective was to reduce the number of items. After receiving an explanation of the SIWAL construct and its two dimensions, participants provided feedback on the content validity, comprehensibility and wording of the items by filling out a questionnaire. Their responses led to several, small textual adjustments and the deletion of four more items.

The resulting eight items captured the two dimensions and were included in Study 1. Items followed the initial question "What do you do in your work to learn new things?" Responses were made on a five-point Likert-type scale ranging from 1 (*never*) to 5 (*very often*). In Study 1, the eight items (four items for each dimension) were presented to a new and larger sample, with the objective to investigate the factor structure of the SIWAL measure.

Study 1: scale development and initial validation of the factor structure
The first study aimed to establish the factor structure and reliability of the new measure for SIWAL. The measure includes two dimensions, adjusting job responsibilities and adjusting social interactions, and should be applicable regardless of the professional context.

Method
Participants and procedure. Participants were employees of a Dutch municipality in the middle of The Netherlands. Prior to data collection, the aim and conditions of the study were discussed with a senior HR advisor and the manager of one of the largest departments of the municipality, who approved of the study. Approval was also obtained from the Ethical Committee of the research institute that conducted the study (registration number: U2017/

09062/HVM), implying that research participants were treated in accordance with the ethical guidelines set out by the American Psychological Association (2017).

After the organization had decided to participate in the study, an email with a link to the online survey was sent to 780 staff members explaining the purpose of the study, and emphasizing that participation was voluntary and anonymous, and that participants could withdraw at any time. The questionnaire was fully completed by 208 employees (27% response). Mean age was 45.2 years ($SD = 11.3$); mean organizational tenure was 11.5 years ($SD = 9.6$); mean job tenure was 4.8 years ($SD = 5.8$); 65.9% were female. With 43.3% higher vocational education and 39.9% university, the educational level of the participants was relatively high.

Results and conclusion
The eight items resulting from the pilot study were subjected to an exploratory factor analysis with principal axis factoring and promax rotation, which showed a clear two-factor structure with all items loading on their intended factor, explaining 66.8% of the variance in the items. However, one item intended to load on the "adjusting job responsibilities" factor showed a relatively low factor loading (0.46), suggesting low correspondence with or a lack of close fit with this factor. As moderate to strong relationships should show coefficients of at least 0.50 (Bagozzi and Yi, 1988), this item was removed.

A new exploratory factor analysis (principal axis factoring and promax rotation) was conducted with the remaining seven items (three items for adjusting job responsibilities and four for adjusting social interactions). The items, means, standard deviations, Cronbach's α and factor loadings are presented in Table 1. Together, these findings indicate that the SIWAL scale has a clear two-dimensional structure, and that the sub-scales possess sufficient internal consistency. Cronbach's alpha was 0.86 for adjusting job responsibilities and 0.75 for adjusting social interactions, which is well above the required 0.70 (Nunnally and Bernstein, 1994).

Study 2: confirmation of the factor structure and establishing convergent, divergent and concurrent validity
The second study aimed to reconfirm the measure's factor structure in a new sample, and to establish convergent, divergent and concurrent validity by investigating the scale scores' relationships with conceptually related and unrelated variables in the nomological network.

Convergent validity is demonstrated when an instrument shows positive and rather high associations with instruments that are intended to study theoretically similar concepts.

				Factor	
	M	*SD*	*α*	1	2
SIWAL: adjusting job responsibilities	3.23	0.87	0.86		
1 I offer myself for work that is instructive for me	3.33	1.00		*0.76*	−0.02
2 I attract activities that allow me to develop further	3.21	0.96		*0.90*	−0.04
3 To learn new things, I consciously take on challenging tasks	3.15	0.99		*0.81*	0.06
SIWAL: adjusting social interactions	3.28	0.69	0.75		
4 I consult others to get a better grasp of work	3.18	0.89		0.04	*0.70*
5 I look for experienced colleagues to learn from	3.62	0.89		0.01	*0.64*
6 I ask colleagues to do something together	3.27	0.96		−0.01	*0.65*
7 I ask colleagues for feedback	3.05	0.90		−0.03	*0.63*

Table 1.
Descriptives, Cronbach's alpha and item factor loadings of the SIWAL scale (Study 1)

Note(s): $N = 208$; answers are provided on a five-point Likert type scale (1 = *never*; 5 = *very often*); Item factor loadings as derived from an exploratory factor analysis with principal axis factoring and promax rotation

Since SIWAL entails that employees take the initiative to change their work to learn, it is assumed that the two dimensions of SIWAL are conceptually related to employee engagement in learning activities, which refers to continuous activities initiated and carried out by employees to learn new knowledge, skills and abilities (Bezuijen *et al.*, 2009; Cerasoli *et al.*, 2018). The concept of engagement in learning activities is somewhat broader than the SIWAL concept, as it also refers to learning outside one's formal task responsibilities and includes training assignments on and off the job, challenging and novel tasks, special projects and job transitions (Bezuijen *et al.*, 2009; Birdi *et al.*, 1997). However, since the emphasis is on employees actively engaging in workplace learning, we expected a positive association with employees' SIWAL behaviors.

Divergent validity is established when a construct shows non-significant or low associations with a theoretically unrelated (or weakly related) construct (Nunnally and Bernstein, 1994). For this purpose, we used emotion-focused coping, which pertains to behaviors that aim to reduce and manage the intensity of the negative and distressing emotions that occur in a stressful situation (Cohan *et al.*, 2006). As emotional coping is theoretically different from SIWAL, we expected that the SIWAL dimensions would be unrelated or only very weakly related to emotion-focused coping.

Concurrent validity is established when the new scale is significantly related to measures that are likely to be associated with the new construct. We used dispositional learning goal orientation to investigate the concurrent validity of the SIWAL scale. Dispositional learning goal orientation refers to individuals' tendency to set learning goals in achievement situations, with the aim of developing their competence by acquiring new skills and mastering new situations (Vande Walle, 1997). Both SIWAL and dispositional learning goal orientation refer to learning and the deployment of learning strategies (Holman *et al.*, 2012). Moreover, it is likely that employees with a strong learning goal orientation will show SIWAL behaviors more readily. Therefore, we expected a positive association between these two variables.

Method
Participants and procedure. Participants were 178 employees (18% response) of a Dutch bank organization. Prior to data collection, the purpose and conditions of the study were discussed with the chief human resources officer of the bank and the sustainable employability policy advisor, who approved of the study. Respondents were invited via Yammer, a social network of approximately 950 staff members within the organization. The message explained the aim of the study and emphasized that participation was voluntary and anonymous, and that participants could withdraw at any time. A link to the online survey was included. Mean age was 45 years ($SD = 13.5$); mean organizational tenure was 16.7 years ($SD = 12.8$); mean job tenure was 4.4 years ($SD = 5.1$); 57.3% was female. With 59.6% higher vocational education and 29.8% university, the education level of the participants was relatively high.

Measures
SIWAL. The seven-item SIWAL measure, established in Study 1, was used to measure SIWAL. A five-point response scale was used, ranging from 1 (*never*) to 5 (*very often*). Cronbach's α was 0.88 for adjusting job responsibilities and 0.79 for adjusting social interactions.

Employee engagement in learning activities. Bezuijen *et al.*'s (2009) eight-item scale ($\alpha = 0.86$) was used to measure employee engagement in learning activities. Participants could respond on a five-point scale ranging from 1 (*never*) to 5 (*very often*). An example item was "I invest time in participating in training or courses."

Emotion-focused coping. Emotion focused coping was measured with Cohan *et al.*'s (2006) seven-item scale ($\alpha = 0.90$). A five-point response scale was used, ranging from 1 (*not at all*) to

5 (*very much*). An example item was "I blame myself for being too emotional about the situation."

Dispositional learning goal orientation. Vande Walle's (1997) five-item scale ($\alpha = 0.77$) was used to assess dispositional goal orientation. Respondents could respond on a five-point scale, ranging from 1 (*fully disagree*) to 5 (*fully agree*). An example item was "I often look for opportunities to develop new skills and knowledge."

Results

Confirmatory factor analysis. Confirmatory factor analysis (CFA) was conducted to examine the factor structure of the SIWAL measure. Two nested models were compared. Model 1 comprised a one-factor model, with all items loading on one general SIWAL factor; Model 2 reflected the two-dimensional theoretical model, allowing each sub-scale to load on its own factor. To assess model fit, a number of fit indices were used (Byrne, 2010), chi-square test (χ^2), root-mean-square errors of approximation (RMSEA ≤ 0.08), the normed fit index (NFI ≥ 0.90), normed comparative fit index (CFI ≥ 0.90) and the Tucker–Lewis index (TLI ≥ 0.90). The analyses were conducted using structural equation modeling (AMOS 24).

The fit indices of Model 2 ($\chi^2(13) = 18.70$, NFI $= 0.97$, CFI $= 0.99$, TLI $= 0.98$, RMSEA $= 0.05$), representing the two-factor model, indicated a good fit. Model 1 ($\chi^2(14) = 171.53$, NFI $= 0.70$, CFI $= 0.72$, TLI $= 0.57$, RMSEA $= 0.25$) showed poor fit. Differences between Models 1 and 2 were significant ($\Delta\chi^2 = 152.83$, $p < 0.001$). These findings indicate that the two-factor model of the SIWAL scale is empirically supported. Factor loadings ranged from 0.73 to 0.94 for adjusting job responsibilities, and 0.54 to 0.79 for adjusting social interactions.

Convergent, divergent and concurrent validity

Table 2 presents the means, standard deviations and inter-correlations of the study variables. As expected, the two SIWAL sub-scales were positively and significantly related to employee engagement in learning activities ($r = 0.62$–0.64; $p < 0.01$), suggesting convergent validity. Additionally, the SIWAL sub-scales were very weakly related (adjusting job responsibilities, $r = -0.15$, $p < 0.05$) or unrelated (adjusting social interactions; $r = -0.01$, *ns*) to emotion-focused coping, suggesting divergent validity. Both SIWAL sub-scales showed significant positive correlations with dispositional learning goal orientation ($r = 0.39$–0.67, $p < 0.01$), suggesting concurrent validity. Moreover, both SIWAL sub-scales were moderately and negatively associated with age ($r = -0.21$ to -0.30, $p < 0.01$) and job tenure ($r = -0.28$ to -0.27, $p < 0.01$). The SIWAL sub-scale adjusting job responsibilities was weakly related ($r = -0.15$, $p < 0.05$), and the SIWAL sub-scale adjusting social interactions was unrelated ($r = -0.01$, *ns*) to education.

Conclusion

The findings confirm that the SIWAL scale consist of two factors, adjusting job responsibilities and adjusting social interactions, that are internally consistent. Moreover, the pattern of associations suggests that the scales show good convergent, divergent and concurrent validity.

Discussion

Based on the workplace learning, work adjustment and job design literature (e.g. Cerasoli *et al.*, 2018; Wielenga-Meijer *et al.*, 2010), this study developed and validated a parsimonious measure for self-initiated work adjustment for learning that includes two sub-scales. Adjusting job responsibilities deals with the aspects of the task environment that promote

Variable	M(SD)	1	2	3	4	5	6	7	8
1 Education	4.94 (13.54)	–							
2 Age	44.96 (13.54)	–0.09	–						
3 Job tenure	4.36 (5.13)	–0.12	0.44**	–					
4 SIWAL: adjusting job responsibilities	3.61 (0.86)	0.15*	–0.21**	–0.28**	(0.88)				
5 SIWAL: adjusting social interactions	3.42 (0.73)	–0.01	–0.30**	–0.27**	0.44**	(0.79)			
6 Engagement in learning activities	3.23 (0.68)	0.09	–0.34**	–0.28**	0.62**	0.64**	(0.86)		
7 Emotion-focused coping	2.28 (0.81)	0.05	–0.24**	–0.12	–0.15*	–0.01	0.03	(0.90)	
8 Dispositional learning goal orientation	4.01 (0.53)	0.22**	–0.19*	–0.22**	0.67**	0.39**	0.58**	–0.11	(0.77)

Note(s): $N = 178$; *$p < 0.05$, **$p < 0.01$

Table 2.
Means, standard
deviations and
intercorrelations

task-related learning; adjusting social interactions concerns aspects of the social work environment that stimulate interactional learning. The results showed that the SIWAL scale has good psychometric characteristics. The two-factor structure was supported, indicating that adjusting job responsibilities and adjusting social interactions can be conceived as separate SIWAL behaviors. Sub-scales showed internal consistency, as well as convergent, divergent and concurrent validity.

Before interpreting the results of this study, some limitations have to be considered. The research was conducted by means of self-reports, which can cause method bias (Podsakoff *et al.*, 2003). Future research could apply supervisor or peer ratings of the SIWAL behaviors and its antecedents and outcomes. Highly qualified service workers were overrepresented in our samples, which may raise questions about the broader generalization of the findings. Future research should investigate SIWAL in other settings such as industry or among lower-skilled employees. Despite these limitations, this study has important theoretical and practical implications.

Theoretical implications and future research

As the SIWAL concept is situated at the intersection of different fields, i.e. workplace learning, work adjustment and job design, it extends to developments in these domains. For instance, in job design theory, changing aspects of work is viewed as a management responsibility (Parker, 2014). Similarly, much research on workplace learning has applied a top-down approach, advancing knowledge about how organizations can develop and apply effective policies and practices to promote learning (e.g. Battistelli *et al.*, 2019; Doornbos *et al.*, 2008; Lohman, 2005). The idea that the worker is an active participant in job design and learning, who can influence learning conditions in the workplace, is less prominent in such research. This study, therefore, addresses a gap in job design and workplace learning literature. This does not imply that continuous professional development should only depend on employee engagement in self-directed learning initiatives. Whether or not employees adjust their work to increase its learning potential will also depend on contextual factors, such as autonomy (Holman *et al.*, 2012) or the proximity of others (Lohman, 2005). These factors may fall outside the sphere of influence of employees and can serve as a lever or obstacle for effective work adjustments. Importantly, the one-sided optimistic view on the benefits of informal learning should be nuanced. Employees may consider themselves as owner of the knowledge and competencies acquired through informal learning, because these result from self-directed learning efforts. Hence, these efforts could be more strongly oriented toward personal goals instead of organizational success (Bolino *et al.*, 2010). Organizational arrangements such as a strong learning climate or the installation of learning communities may be needed to safeguard the capacity of an organization to acquire, share and retain organization-specific knowledge (Bolino *et al.*, 2010). In this respect, SIWAL and informal learning should not be considered as plain substitutes for formal training and learning in organizations. Future research could investigate both the conditions that promote or hinder employees' SIWAL behaviors and the conditions that increase or decrease the organizational benefits of SIWAL and informal learning, e.g. successful organizational learning and knowledge sharing (Bolino *et al.*, 2010).

In general, more research is needed to better understand the antecedents of SIWAL. These may include organizational, work-related and personal factors. At the organizational level, learning climate (Nikolova *et al.*, 2016), management and supervisor support for learning (Bezuijen *et al.*, 2009; Lohman, 2005) and HRD policies (Jeon and Kim, 2012) have been shown to promote workplace learning and thus may play a role in stimulating SIWAL. Additionally, these organizational factors may counterbalance undesirable consequences of SIWAL and informal learning, such as a sub-optimal knowledge-sharing or a one-sided focus on personal, instead of organizational goals (Bolino *et al.*, 2010).

Regarding workplace characteristics, empirical evidence indicates that autonomy is an important condition for both adaptive behavior and learning (Cerasoli *et al.*, 2018; Wielenga-Meijer *et al.*, 2010). Similarly, the level of work demands may affect SIWAL behaviors: a certain level of work pressure may be challenging and advance learning (Doornbos *et al.*, 2008; LePine *et al.*, 2004), while too much work pressure may interfere with learning processes, as it puts a limit on the time needed for work adjustment and learning (Ellström, 2001; Van Ruysseveldt and Van Dijke, 2011). Future research is needed to look into the role of autonomy, work pressure and other job demands and resources as antecedents of SIWAL. With respect to personal characteristics, future research could investigate the role of other personal characteristics for SIWAL, such as need for (informal) learning (Cerasoli *et al.*, 2018) and self-efficacy (Lohman, 2005).

Research is also needed on the outcomes of SIWAL. The SIWAL measure builds on a set of work characteristics that have been shown to promote engagement in informal learning behaviors (Cerasoli *et al.*, 2018; Schürmann and Beausart, 2016) and learning outcomes (Doornbos *et al.*, 2008; Wielenga-Meijer *et al.*, 2010). New research is needed to substantiate the claim that SIWAL contributes to workplace learning and professional and personal growth, and subsequently advances P-E fit (Bayl-Smith and Griffin, 2018).

The work context may impact the use of specific SIWAL behaviors. For instance, workers operating in socially isolated work contexts might more heavily depend on task-related learning opportunities (Janssens *et al.*, 2017), and therefore will invest in adjusting job responsibilities. For workers in routine work contexts with limited job control, learning may be more dependent on opportunities to interact with others. The impact of contextual factors on the prevalence of specific SIWAL behaviors requires deeper investigation.

Finally, future studies may also include Tims *et al.*'s (2012) job-crafting scale along with the SIWAL scale. Inclusion of both scales in studies may contribute to the incremental validity of SIWAL above and beyond job crafting to better understand the nature of the differences.

Practical implications

SIWAL can be considered an important aspect of employees' performance at work as employee learning contributes to organizational performance and innovation (Noe *et al.*, 2017) and to employees' health, well-being and employability (Parker, 2014). As organizations benefit from the maintenance and replication of the D-A fit (Dawis, 2005), many organizations use job (re)design and HRD practices to facilitate workplace learning. This study draws attention to the fact that learning opportunities can also be created through self-initiated and self-directed interventions by the worker. Workers themselves can take responsibility for their development and growth by initiating work-adjustment activities to learn. Potentially, these SIWAL behaviors may supplement and/or strengthen existing job (re)design and HRD policies and practices in organizations, and, as a consequence, contribute to their effectiveness.

To stimulate these individual initiatives, it is of crucial importance that organizations facilitate SIWAL through supportive actions, such as providing time to adjust and learn, increasing room to maneuver on the job and promoting collaborations between colleagues within and beyond work units (Cerasoli *et al.*, 2018; Jeon and Kim, 2012). Additionally, the workplace learning literature suggests that organizations can enhance SIWAL through organizational policies supportive of workplace learning, such as a strong learning climate (Nikolova *et al.*, 2016) and development-oriented leadership (Bezuijen *et al.*, 2009).

SIWAL may benefit individuals, as well as organizations that have continuous development and learning, high on their agenda. This is especially useful for organizations and work environments with few opportunities for formal training and development or without elaborated HRD policies, such as small and medium-sized enterprises (Coetzer *et al.*, 2020). In these contexts,

SIWAL can serve as a tool to promote learning opportunities at work and reduce employees' dependence on organizational workplace learning initiatives.

Conclusions

Individual employees can increase the learning potential of their workplace by adjusting job responsibilities and social interactions. Until now, these employees' initiatives have received limited research attention. The short SIWAL measure that was developed in this study has good psychometric properties and can be used by researchers and practitioners alike. Organizations can use the SIWAL scale to assess the occurrence and diffusion of SIWAL in the workplace. Modern economies and organizations need to foster a lasting capacity to adapt to technological, economic and social developments, and in this process, the continuous acquisition of new competencies through workplace learning plays a crucial role.

References

American Psychological Association (2017), "Ethical principles of psychologists and code of conduct", available at: https://www.apa.org/ethics/code/.

Ashford, S.J., Blatt, R. and Vande Walle, D. (2003), "Reflections on the looking glass: a review of research on feedback-seeking behavior in organizations", *Journal of Management*, Vol. 29 No. 6, pp. 773-799.

Bagozzi, R.P. and Yi, Y. (1988), "On the evaluation of structural equation models", *Journal of the Academy of Marketing Science*, Vol. 16 No. 1, pp. 74-94.

Bakker, A.B. and Demerouti, E. (2007), "The job demands-resources model: state of the art", *Journal of Managerial Psychology*, Vol. 22 No. 3, pp. 309-328.

Bandura, A. (2001), "Social cognitive theory: an agentic perspective", *Annual Review of Psychology*, Vol. 52 No. 1, pp. 1-26.

Battistelli, A., Odoardi, C., Vandenberghe, C., Di Napoli, G. and Piccione, L. (2019), "Information sharing and innovative work behavior: the role of work-based learning, challenging tasks, and organizational commitment", *Human Resource Development Quarterly*, Vol. 30 No. 3, pp. 361-381.

Bayl-Smith and Griffin, B. (2018), "Maintenance of D-A fit through work adjustment behaviors: the moderating effect of work style fit", *Journal of Vocational Behavior*, Vol. 106, pp. 209-219.

Bezuijen, X.M., Van den Berg, P.T., Van Dam, K. and Thierry, H. (2009), "Pygmalion and employee learning: the role of leader behaviors", *Journal of Management*, Vol. 35 No. 5, pp. 1248-1267.

Birdi, K., Allan, C. and Warr, P. (1997), "Correlates and perceived outcomes of 4 types of employee development activity", *Journal of Applied Psychology*, Vol. 82 No. 6, pp. 845-857.

Bolino, M., Valcea, S. and Harvey, J. (2010), "Employee, manage thyself: the potentially negative implications of expecting employees to behave proactively", *Journal of Occupational and Organizational Psychology*, Vol. 83 No. 2, pp. 325-345.

Byrne, B.M. (2010), *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*, Routledge/Taylor and Francis Group, New York, NY.

Cerasoli, C.P., Alliger, G.M., Donsbach, J.S., Mathieu, J.E., Tannenbaum, S.I. and Orvis, K.A. (2018), "Antecedents and outcomes of informal learning behaviors: a meta-analysis", *Journal of Business and Psychology*, Vol. 33 No. 2, pp. 203-230.

Coetzer, A., Susomrith, P. and Ampofo, E.T. (2020), "Opportunities to participate in formal and informal vocational learning activities and work-related outcomes in small professional services businesses", *Journal of Vocational Education and Training*, Vol. 72 No. 1, pp. 88-114.

Cohan, S.L., Jang, K.L. and Stein, M.B. (2006), "Confirmatory factor analysis of a short form of the coping inventory for stressful situations", *Journal of Clinical Psychology*, Vol. 62 No. 3, pp. 273-283.

Dawis, R.V. (2005), "The Minnesota theory of work adjustment", in Brown, S. and Lent, R. (Eds), *Career Development and Counseling: Putting Theory and Research to Work*, John Wiley and Sons, Hoboken, pp. 3-23.

Dawis, R.V. and Lofquist, L.H. (1984), *A Psychological Theory of Work Adjustment*, University of Minnesota Press, Minneapolis.

Demerouti, E., Bakker, A.B., Nachreiner, F. and Schaufeli, W.B. (2001), "The job demands-resources model of burnout", *Journal of Applied Psychology*, Vol. 86 No. 3, pp. 499-512.

Doornbos, A.J., Simons, R.J. and Denessen, E. (2008), "Relations between characteristics of work place practices and types of informal work-related learning: a survey among Dutch police", *Human Resource Development Quarterly*, Vol. 19 No. 2, pp. 129-151.

Ellström, P.E. (2001), "Integrating learning and work: problems and prospects", *Human Resource Development Quarterly*, Vol. 12 No. 4, pp. 421-435.

Froehlich, D.E., Beausaert, S.A.J. and Segers, M.S.R. (2015), "Age, employability and the role of learning activities and their motivational antecedents: a conceptual model", *International Journal of Human Resource Management*, Vol. 26 No. 16, pp. 2087-2101.

Hackman, J. and Oldham, G. (1980), *Work Redesign*, Addison-Wesley, Reading, Massachusetts.

Holman, D., Totterdell, P., Axtell, C., Stride, C., Port, R., Svensson, R. and Zibarras, L. (2012), "Job design and the employee innovation process: the mediating role of learning strategies", *Journal of Business and Psychology*, Vol. 27 No. 2, pp. 177-191.

Holman, D.J. and Wall, T.D. (2002), "Work characteristics, learning-related outcomes, and strain: a test of competing direct effects, mediated, and moderated models", *Journal of Occupational Health Psychology*, Vol. 7 No. 4, pp. 283-301.

Janssens, L., Smet, K., Onghena, P. and Kyndt, E. (2017), "The relationship between learning conditions in the workplace and informal learning outcomes: a study among police inspectors", *International Journal of Training and Development*, Vol. 21 No. 2, pp. 92-112.

Jeon, K.S. and Kim, K.-N. (2012), "How do organizational and task factors influence informal learning in the workplace?", *Human Resource Development International*, Vol. 15 No. 2, pp. 209-226.

Kyndt, E., Vermeire, E. and Cabus, S. (2016), "Informal workplace learning among nurses: organizational learning conditions and personal characteristics that predict learning outcomes", *Journal of Workplace Learning*, Vol. 28 No. 7, pp. 435-450.

LePine, J.A., LePine, M.A. and Jackson, C.L. (2004), "Challenge and hindrance stress: relationships with exhaustion, motivation to learn, and learning performance", *Journal of Applied Psychology*, Vol. 89 No. 5, pp. 883-891.

Lohman, M.C. (2005), "A survey of factors influencing the engagement of two professional groups in informal workplace learning activities", *Human Resource Development Quarterly*, Vol. 16 No. 4, pp. 501-527.

Martini, M. and Cavenago, D. (2017), "The role of perceived workplace development opportunities in enhancing individual employability", *International Journal of Training and Development*, Vol. 21 No. 1, pp. 18-34.

Nikolova, I., Van Ruysseveldt, J., De Witte, H. and Syroit, J. (2014), "Work-based learning: development and validation of a scale measuring the learning potential of the workplace (LPW)", *Journal of Vocational Behavior*, Vol. 84 No. 1, pp. 1-10.

Nikolova, I., Van Ruysseveldt, J., Van Dam, K. and De Witte, H. (2016), "Learning climate and workplace learning: does work restructuring make a difference?", *Journal of Personnel Psychology*, Vol. 15 No. 2, pp. 66-75.

Noe, R.A., Tews, M.J. and Michel, J.W. (2017), "Managers' informal learning: a trait activation theory perspective", *International Journal of Training and Development*, Vol. 21 No. 1, pp. 1-17.

Nunnally, J.C. and Bernstein, I.H. (1994), *Psychometric Theory*, McGraw-Hill, New York.

Parker, S. (2014), "Beyond motivation: job and work design for development, health, ambidexterity, and more", *Annual Review of Psychology*, Vol. 65, pp. 661-691.

Parker, S. and Wang, Y. (2015), "Helping people to 'make things happen': a framework for proactivity at work", *International Coaching Psychology Review*, Vol. 10 No. 1, pp. 62-75.

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903.

Schürmann, E. and Beausaert, S. (2016), "What are drivers for informal learning?", *European Journal of Training and Development*, Vol. 40 No. 3, pp. 130-154.

Tannenbaum, S.I., Beard, R.L., McNall, L.A. and Salas, E. (2010), "Informal learning and development in organizations", in Kozlowski, S.W.J. and Salas, E. (Eds), *Learning, Training, and Development in Organizations*, Routledge, New York, pp. 303-332.

Tims, M., Bakker, A.B. and Derks, D. (2012), "Development and validation of the job crafting scale", *Journal of Vocational Behavior*, Vol. 80, pp. 173-186.

Van der Klink, M., Boon, J. and Schlusmans, K. (2012), "All by myself: research into employees' informal learning experiences", *International Journal of Human Resources Development and Management*, Vol. 12 Nos 1/2, pp. 77-91.

Van Ruysseveldt, J. and Van Dijke, M. (2011), "When are workload and workplace learning opportunities related in a curvilinear manner? The moderating role of autonomy", *Journal of Vocational Behavior*, Vol. 79 No. 2, pp. 470-483.

Vande Walle, D. (1997), "Development and validation of a work domain goal orientation instrument", *Educational and Psychological Measurement*, Vol. 57 No. 6, pp. 995-1015.

Wielenga-Meijer, E.G., Taris, T.W., Kompier, M.A. and Wigboldus, D.H. (2010), "From task characteristics to learning: a systematic review", *Scandinavian Journal of Psychology*, Vol. 51 No. 5, pp. 363-375.

Zhang, F. and Parker, S.K. (2019), "Reorienting job crafting research: a hierarchical structure of job crafting concepts and integrative review", *Journal of Organizational Behavior*, Vol. 40 No. 2, pp. 126-146.

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