Work based learning: Italian adaptation of the Learning Potential of the Workplace scale (LPW)

Nicola Cangialosi[1], Guillaume Roland Michel Deprez[2], Carlo Odoardi[1], Adalgisa Battistelli[2]

[1] Department of Education, Interculture, Literature and Psychology, University of Florence
[2] Université de Bordeaux, Laboratoire de Psychologie

nicola.cangialosi@unifi.it

☙ ABSTRACT. Il presente articolo si propone di tradurre e adattare la scala del potenziale di apprendimento lavorativo, *Learning Potential of the Workplace* (*LPW*), in lingua italiana e valutarne le proprietà psicometriche. Tre studi hanno testato la validità psicometrica della versione italiana su un campione di 729 lavoratori provenienti da 3 diverse organizzazioni italiane. Il primo ha esaminato la struttura e la validità della misura eseguendo una analisi fattoriale confermativa e calcolando l'affidabilità della scala. Il secondo ha analizzato le validità convergenti e divergenti della LPW attraverso l'analisi delle correlazioni tra le dimensioni della scala, le pratiche HR di formazione e il clima di tradizione organizzativa. Infine, il terzo studio ha testato la validità di costrutto utilizzando modelli di equazioni strutturali, indicando una relazione significativa tra attività sfidanti e feedback dalla mansione con le varie dimensioni della LPW. I risultati hanno indicato l'affidabilità della versione italiana, che presenta proprietà psicometriche simili a quelle della scala originale e, quindi, si presenta come uno strumento valido per valutare il potenziale di apprendimento del posto di lavoro.

☙ SUMMARY. *The present study sought to translate and adapt the Learning Potential of the Workplace Scale (LPW) into the Italian language and assess its psychometric properties. A sample of 729 workers was recruited from 3 different organizations located in Italy. Three studies tested the psychometric validity of the Italian version. The first tested the LPW's structure and validity by performing confirmatory factor analyses and calculating the scale's reliabilities. The second tested LPW's convergent and divergent validities through correlation analyses. The relationship between the LPW's dimensions, HR training practices, and organizational tradition climate were investigated. Lastly, the third study analyzed the scale construct validity by using structural equation modeling. The relationship of challenging tasks and task feedback with LPW dimensions was observed. Results indicated that the Italian version was reliable, with similar psychometric properties of the original scale and, therefore, a valid instrument for assessing the learning potential of the workplace.*

Keywords: *Scale validation, Italian translation, Workplace learning, Learning potential, Job characteristics*

INTRODUCTION

Theoretical framework

In the current socioeconomic situation, organizations are facing new challenges stemming from technological, economic, and labor market-related changes (Rintala, Nokelainen & Pylväs, 2018). Maintaining a skilled workforce is key to firm's success and survival as it facilitates organizational adaptation to the everchanging environment. Consequently, companies are increasing their effort in promoting employees' learning at work (Noe, Clarke & Klein, 2014).

Workplace learning is a complex phenomenon representing "the way in which individuals or groups acquire, interpret, reorganise, change or assimilate a related cluster of information, skills and feelings. It is also primary to the way in which people construct meaning in their personal and shared organisational lives" (Marsick, 1987, p. 4).

This construct has attracted a growing attention in the recent years, nevertheless, it is a still largely unexplored concept and neither the mechanisms underlying it or the personal and contextual factors that can stimulate this type of learning are fully understood (Billett, 2008; Cangialosi, Odoardi & Battistelli, in press; Ellström, 2001; Nikolova, Van Ruysseveldt, De Witte & Syroit, 2014;). Similarly, the majority of studies on workplace learning have focused on assessing the effects of formalized training systems, while the potential of informal workplace learning has been often neglected. Nevertheless, research has frequently underlined that learning in the workplace often derives from work-related activities and interactions and does not just occur through training and education (Coetzer, Kock & Wallo, 2017).

Workplace learning involves both formal and informal aspects that occur in the work context in which learning, and work processes are intertwined (Hicks, Bagg, Doyle & Young, 2007). However, evidences suggest that employees acquire knowledge, skills and abilities more often outside formal learning contexts through informal learning activities, as interacting with others and through personal experiences (Eraut, 2000; Skule, 2004). Furthermore, providing formal learning has become more challenging due to limited resources and quickly changing work demands (Noe et al., 2014). Therefore, informal learning has gained increasing interest as it provides an important source for achieving personal and organizational goals (Eraut, 2004; Marsick & Watkins, 2015).

Several studies attempted to develop measures for workplace learning, but they were often context-dependent, and, as a consequence, scarcely applicable in different occupational settings (Nikolova et al., 2014). One exception is the van Veldhoven, Meijman, Broersen and Fortuin's four-item scale (2002) measuring learning opportunities at work.

This scale can be applied in different occupational contexts; however, it operationalizes workplace learning as a general concept, without detailing the processes and mechanisms underlying it. In order to overcome this drawback, a six-dimensional scale was constructed for measuring context-independent workplace learning including: learning via task execution, organizational facilitation for learning, learning through reflection, learning through exploration, learning via supervisor, and learning via colleagues (Taverniers, 2011). Moreover, Coetzer (2007) developed a multi-dimensional workplace learning instrument which incorporates multiple aspects of workplace learning, although it does not assess learning as a dynamic process.

Based on the efforts of Taverniers (2011) and Coetzer (2007) in assessing the different dimensions of learning in the workplace with a context-independent approach, Nikolova and colleagues (2014) presented a multidimensional scale measuring the learning potential of the workplace (LPW) designed for diverse occupations and settings.

The scale presents two core components of workplace learning: interactional and task-based. Based upon literature review, Nikolova and colleagues (2014) established that people develop and maintain interpersonal interactions in their work activities as source for gaining or increasing new KSAOs (Billett, 2004). Employees generally learn in the workplace through two types of interactions: with colleagues and supervisors (Coetzer, 2007; Evers, 2012; Kyndt, Dochy & Nijs, 2009; Taverniers, 2011). Learning from colleagues has been recognized as one of the most prevalent forms of workplace learning (Billett, 2004), because extensive professional contacts are salient for employees' development of their KSAOs (Billett, 2008). Also, learning from the direct supervisor is crucial for workplace learning as supervisors are an important source of vicarious experience (Hughes, 2004).

With regard to the task-related aspect of workplace learning, Nikolova and colleagues (2014) point out the difference between learning through reflection and learning through experimentation "as two interrelated cognitive-behavioral processes" (p. 3). Kolb (1984) posited that both reflective observation and active experimentation are essential to the learning cycle.

Also, Wielenga-Meijer, Taris, Kompier and Wigboldus (2010) underlined that in order to learn in the workplace individuals engage in practices of both exploration and experimentation.

In line with the aforementioned studies, workplace learning seems to play a major role in enhancing employees' individual growth and wellbeing as well as organizational success and competitive advantage (e.g., Noe et al., 2014; Watson, Tregaskis, Gedikli, Vaughn & Semkina, 2018). The aim of this study is to provide an Italian version of the Learning Potential of the Workplace (Nikolova et al., 2014), as having a reliable measure of workplace learning seems to be crucial in understanding learning dynamics happening within the organizational context, and no instrument has yet been developed to assess this construct in Italian.

Also, this paper analyzes its psychometric properties and validates it for following use in research and application in Italian-speaking population.

METHOD

The psychometric qualities of LPW were assessed by using a multiple analysis procedure (Hinkin, 1995) in 3 separated studies. The first study tested the structure validity of the overall scale by using confirmatory factor analysis (CFA) on the LPW four-factor initial model. Reliability was assessed by composite reliability and omega analysis. The second study tested a replication of CFA for the 4-factor model, and of the convergent/divergent validities by using correlation analysis. Finally, the last study tested another CFA of the 4-factor model and analysed the LPW construct validity via antecedents theoretically related to these factors.

The analyses were performed with R 3.5.3 (R Core Team, 2019) and *Mplus 8.2* software (Muthen & Muthen, 1998-2017). Data were collected using online survey procedure for 3 different organizations, ensuring thus diversity between the samples.

STUDY 1

Study 1: translation and confirmatory factor analysis

The scale translation follows the 3 steps procedure: translation in Italian, retranslation in English, and use of the Italian version for the validation (Brislin, 1970). Two bilingual researchers realized the translation/retranslation process, one at each different phase. Then, to ensure adequate validation, the translations were presented to work and organizational psychology and human resource management experts. The more adequate translations were selected (see Table 1) and used for the validation procedure.

Study 1: method

The sample (*N* = 253) was composed of workers from an Italian private organization operating in the automatic food distribution sector in central Italy. Most respondents were male (82%) with an average organisational tenure ranging from 10 to 12 years and an average age ranging from 41 to 45 years. The items were scored on a 5-point scale ranging from 1 (*not agree at all*) to 5 (*strongly agree*).

Study 1: results

To ensure a good factorial structure of the LPW instrument, Italian version, a CFA was conducted testing the initial 4-factor model. Byrne (2012) and Kline (2016) recommend the use of multiple fit indices to ensure goodness of fit. Thus, the Root Mean Square Error of Approximation (RMSEA), the RMSEA 90% confidence interval, the chi-square value and degree of freedom, the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Standardized Root Mean Square Residual (SRMR) were examined (Tabachnik & Fidell, 2012). The data followed approximately a normal distribution, allowing the use of the maximum likelihood estimation with Robust Standard Errors (MLR). The initial 4-factor model (model 1) presented good adjustment indices ($\chi^2(48) = 127.815, p<.001$; RMSEA = .07 [90% confidence interval CI = .06-.09]; CFI = .93; TLI = .91; SRMR = .05). The internal consistency was measured by the omega index (Ω), the Average Variance

Table 1 – Items of the learning potential of the workplace scale and factor loadings (N = 253). Study 2
(N = 226) and Study 3 (N = 250)

Dimensions and items		Study 1	Study 2	Study 3
Italian version	English version			
Learning through reflection				
1 Nel mio lavoro mi viene data l'opportunità di riflettere su differenti metodi di lavoro	In my work I am given the opportunity to contemplate about different work methods	.66	.59	.63
2 Nel mio lavoro mi viene data la possibilità di pensare a come realizzare i miei compiti in maniera più efficace	In my work I am given the chance to think about how I can conduct my tasks more efficiently	.83	.76	.79
3 Quando incontro delle difficoltà nei miei compiti vengo stimolato a riflettere al modo migliore per risolverle	When confronted with difficulties in my tasks, I am given the opportunity to consider what the best possible approach is	.80	.77	.82
Learning through experimentation				
4 Nel mio lavoro posso sperimentare differenti metodi di lavoro	In my job I can try different work methods even if that does not deliver any useful results	.47	.70	.62
5 Nel mio lavoro mi viene dato sufficiente tempo per trovare come realizzare i miei compiti più efficacemente	In my job I am offered sufficient time to find out how to conduct tasks more efficiently	.85	.87	.86
6 Nel mio lavoro mi viene offerto sufficiente tempo e opportunità per cercare nuove soluzioni ai problemi legati al compito	In my job I am offered sufficient time and opportunities to search for new solutions regarding task-related problems	.87	.75	.92
Learning from colleagues				
7 I miei colleghi mi informano se faccio qualche errore nel mio lavoro	My colleagues tell me if I make mistakes in my work	.55	.52	.70
8 I miei colleghi mi informano se non conosco come realizzare certi compiti nel mio lavoro	My colleagues advise me if I don't know how to conduct a certain task	.73	.82	.72
9 I miei colleghi sono entusiasti di collaborare con me nel cercare una soluzione ad un problema di lavoro	My colleagues are eager to collaborate with me in finding a solution to a work problem	.62	.79	.68

continued

Dimensions and items		Study 1	Study 2	Study 3
Italian version	English version			

Learning from supervisor

	Italian version	English version	Study 1	Study 2	Study 3
10	I miei diretti superiori mi aiutano a vedere i miei errori come un'esperienza di apprendimento	My supervisor helps me see my mistakes as a learning experience	.74	.40	.90
11	Il mio diretto superiore si appassiona nel pensare insieme a me come risolvere un problema legato al lavoro	My supervisor is eager to think together with me how to solve a work-related problem	.77	.67	.75
12	Il mio diretto superiore mi dà suggerimenti su come svolgere il mio lavoro	My supervisor tips me on how to do my work	.75	.74	.80

Extracted (AVE), and the Composite Reliability (CR) showing acceptable reliabilities (Ω = .70 to .82; AVE = .41 to .59; CR = .67 to .81). The use of omega has been favoured over Cronbach's alpha for its properties more suitable for calculating internal consistency (Peters, 2014). However, the implied correlation of the latent variable showed scores from .58 to .89 indicating the possible existence of a single factor combining the two task-related factors (see Table 2).

To ensure that the 4-factor structure was the best, model 1 (1) was compared to 4 alternative nested models (see Table 3). Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) were added to allow the comparison between the 5 models. Furthermore, Satorra Bentler analysis ($\Delta\chi^2$) and the difference between TLI and CFI values (ΔTLI, ΔCFI) were also used. Overall, the initial model outperformed the 4 alternative models. The alternative 3-factor model (2), integrated the two task-related factors into a single factor ($\Delta\chi^2$ = 50.36, Δdf = 3, p<.01), while the second 3-factor model (3) the two interactional dimensions in a single factor ($\Delta\chi^2$ = 31.44, Δdf = 3, p<.01). The third model (4), combined the learning from colleagues and from supervisor into an interactional factor and learning through reflection and through experimentation into a task-related factor ($\Delta\chi^2$ = 58.93, Δdf = 5, p<.01). The last (5) model, consisted of the grouping of all the elements of the 4 subscales in a single factor ($\Delta\chi^2$ = 137.75, Δdf = 6, p<.01). These results confirm the structural validity of the scale in 4 factors.

Table 2 – Internal consistencies, implied correlation and intercept and standard deviation of LPW scale

	AVE	CR	Intercept	SD	1	2	3	4
Study 1 (N = 253)								
1. Learning through reflection	.59	.81	3.18	.70	(.82)			
2. Learning through experimentation	.57	.79	2.78	.60	.89**	(.81)		
3. Learning from colleagues	.41	.67	3.65	.59	.66**	.58**	(.70)	
4. Learning from supervisor	.57	.80	2.82	.89	.81**	.65**	.79**	(.80)
Study 2 (N = 226)								
1. Learning through reflection	.51	.75	3.74	.71	(.77)			
2. Learning through experimentation	.60	.82	3.51	.69	.90**	(.77)		
3. Learning from colleagues	.52	.76	4.65	.59	.87**	.64**	(.68)	
4. Learning from supervisor	.39	.64	3.08	.90	.66**	.63**	.53**	(.83)
Study 3 (N = 250)								
1. Learning through reflection	.56	.79	3.28	.60	(.81)			
2. Learning through experimentation	.66	.85	3.00	.63	.89**	(.75)		
3. Learning from colleagues	.49	.74	3.68	.62	.65**	.58**	(.88)	
4. Learning from supervisor	.67	.86	3.16	.92	.85**	.75**	.80**	(.90)

Legenda. AVE = Average variance extracted; CR = Composite reliability.

Note. **$p<.01$; number in parentheses are Omega (Ω).

Table 3 – Fit statistic of the initial and alternative model

Model	χ^2	df	RMSEA *(≤.08)	RMSEA 90% CI	CFI *(≥.90)	TLI *(≥.90)	SRMR *(≤.08)	AIC *smallest	BIC *smallest	Model Comparison	ΔCFI	ΔTLI	$\Delta\chi^2$
(1)	122.81	48	.07	.06 .09	.93	.91	.05	7327.91	7476.31	-	-	-	-
(2)	153.79	51	.08	.07 .10	.91	.88	.061	7357.78	7495.58	2 versus 1	-.02	-.02	$\chi^2(3) = 50.36^{**}$
(3)	140.94	51	.08	.06 .10	.92	.89	.059	7344.90	7482.70	3 versus 1	-.01	-.01	$\chi^2(3) = 31.44^{**}$
(4)	169.29	53	.09	.07 .10	.89	.87	.064	7374.64	7505.37	4 versus 1	-.03	-.03	$\chi^2(5) = 58.93^{**}$
(5)	260.02	54	.12	.10 .13	.82	.78	.079	7482.36	7609.57	5 versus 1	-.11	-.13	$\chi^2(6) = 137.7^{**}$

Legenda. df = degree of freedom; RMSEA = Root Mean Square Error of Approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardized Root Mean Square Residual; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion.

Note. $N = 253$. $^{**}p<.01$; *cut-off.

STUDY 2

Study 2: convergent and divergent validities

Scale validation common procedure is to test the convergent and divergent properties of the construct by comparing it to close and opposite variables. Two constructs were selected: human resource training practices (Boselie, Hesselink, Paauwe & van der Wiele, 2001), and organizational tradition climate (Patterson et al., 2005). These factors were chosen by their relation to LPW, as it is well established in literature that HR training practices are salient for enhancing learning processes among employees (Nikolova et al., 2014),

Training practices are a function of HRM designed for increasing work performance through training processes aimed at improving knowledge, skills and specific attitudes for work tasks (Noe, Wilk, Mullen & Wanek, 2014). Previous studies show that HR training practices supports the acquisition, distribution and sharing of information and these are factors that constitute the learning potential of the workplace (Noe et al., 2014; Seeck & Diehl, 2017). The consensus among scholars is that certain HR training practices have to be present to trigger and improve knowledge acquisition, dissemination, and sharing, and that "… a good deal more work needs to be done to uncover the underlying mechanisms by which HR practices influence the development of knowledge" (Minbaeva, Foss & Snell, 2009, p. 478).

Conversely, an organizational tradition climate is detrimental to learning in the workplace as it hinders the required cognitive and interactional processes (Schein, 1993). Organizational tradition climate is part of Internal Process Model (Patterson et al., 2005) focused on stability, and on ignoring or minimizing environmental uncertainty. Organizational tradition climate is the extent to which established ways of doing things are valued and it was negatively related to adoption of a number of management practices associated with learning and communication in the organization (Dean & Snell, 1991; Patterson et al., 2005).

H1: HR training practices will be positively related to LPW;

H2: Organizational tradition climate will be negatively related to LPW.

Study 2: method

The sample (N = 226, 93% male) was carried out in an Italian public company belonging to the aerospace sector and operating on the entire national territory. Most of the employees were over 36 years (81%) and worked in the organization for more than 13 years (85%) and had an education level as follows: 10% master's degree, 7% bachelor's degree, 57% high school diploma, and 24% secondary school diploma.

Study 2: measures

Human resources training practices were assessed with a three-item scale developed by Boselie et al. (2000) which assesses the extent to which organizations developed training for their employees. An example of item is, "In my job, I get enough opportunities for personal growth and development".

Organizational tradition climate was measured with four items from the Organizational Climate Measure scale (OCM; Patterson et al., 2005). An example of item is "Management is not interested in trying out new ideas".

Study 2: results

First, a CFA confirmed a second time the 4-factor structure of the scale on the new sample (χ^2(48) = 99.767, p<.001; RMSEA = .06 [90% CI = .05-.08]; CFI = .93; TLI = .90; SRMR = .04). Then, internal consistency analyses (Omega) assessed the measurements accuracy used for convergent and divergent validities. Omega scores were acceptable, ranging from Ω = .77 to .83 (see Table 4), except for learning from colleagues' dimension (Ω = .68). The analysis of convergent validity was conducted using HR training practice, and divergent validity was assessed using organizational tradition climate. The results are reported in Table 4. Concerning the convergent validities, correlation analysis confirmed positive and significative relationship between LPW factors and HR training practices (r = .31 to .42; p<.01). Hypothesis 1 is thus supported. The divergent validity analysis supported also Hypothesis 2. Results showed that negative correlation exist between 3 factors of LPW and organisational tradition climate (r = −.13 to −.14; p<.05). The correlation with learning from colleagues was found to be insignificant (r = −.00; p = ns). Furthermore, moderate to high correlation were

Table 4 – Mean, standard deviation, omega and score correlations for convergent and divergent validities

	M	SD	1.	2.	3.	4.	5.	6.
1. Learning through reflection	3.25	.71	(.77)					
2. Learning through experimentation	2.96	.69	.69**	(.77)				
3. Learning from colleagues	3.64	.59	.46**	.37**	(.68)			
4. Learning from supervisor	3.21	.90	.70**	.52**	.47**	(.83)		
5. Human resources practices for training	3.10	.81	.42**	.31**	.37**	.41**	(.82)	
6. Organizational Traditional climate	2.67	.71	−.14*	−.14*	−.00	−.13*	−.25**	(.79)

Note. N = 226. *$p<.05$, **$p<.01$; number in parentheses are Omega (Ω).

observed between the 4 LPW factors ($r = .37$ to $.70$; $p<.01$). All these results provide evidence for a good convergent and divergent validity of the Italian translation of LPW scale.

STUDY 3

Study 3: construct validities

This study investigates construct validities of LPW factors and thus develops an understanding of their commonalities and differences. Learning processes are facilitated by organizational contexts providing learning resources (Battistelli, Odoardi, Vandenberghe, Di Napoli & Piccione, 2019). From a theoretical point of view, job characteristics such as task feedback and challenging tasks have been described as learning supportive work features (Hackman & Oldham, 1980; Nikolova et al., 2014). Thus, the choice of antecedents focused on challenging task (Dragoni, Tesluk, Russell & Oh, 2009; Preenen, De Pater, van Vianen & Keijzer, 2011; Preenen,

van Vianen & De Pater, 2014) and task feedback (Morgeson & Humphrey, 2006).

Challenging tasks are the level of difficulty and stimulation required by one's job and they are able to enhance on-the-job learning as they involve confronting new situations in which employees have to develop new strategies and skills (Preeneen et al., 2011).

Task feedback represents the opportunity to know how effectively one is performing directly from the job itself, it supports learning as it directly informs the employee on the quality of execution of the task, thus developing a deeper knowledge of the task itself (Bayona, Caballer & Peiró, 2015).

Several studies have highlighted the positive effect of job characteristics on workplace learning (e.g., Nikolova et al., 2014; Preeneen et al., 2011). Therefore, we expect that tasks that can challenge and offer feedback to the worker will stimulate employees to engage in more learning as they necessitate more complex solutions.

H3: Challenging tasks will be positively related to LPW;
H4: Task feedback will be positively related to LPW.

Study 3: methods

Data ($N = 250$, 90% of men) were collected from an Italian multinational manufacturing company in the production of recirculating ballscrews. The average age of employees interviewed were as follows: 11% between 18 and 30 years, 32% between 31 and 40 years, 36% between 41 and 50 years, 21% between 51 and 65 years. The tenure in the sample was over 11 years (70%). Finally, most of the workers were blue collars (86%).

Study 3: measures

Challenging tasks was assessed with a 6-item scale developed by Preenen et al. (2011) using a 5-point scale ranging from 1 (*Not at all*) to 5 (*Completely*). To evaluate challenging tasks, we followed Preenen et al. (2014) procedure and replaced "my supervisor" with "my job" in the items. An example item is, "My job provides me with tasks that are challenging". Omega was .84.

Task feedback was measured with a three-item scale from the *Work Design Questionary* (Morgeson & Humphrey, 2006). An example item is, "The job itself provides feedback on my performance". Omega was .82.

Study 3: results

Structural validity was tested with CFA for the new sample ($\chi^2(48) = 131.301$, $p<.001$; RMSEA = .08 [90% CI = .06-.10]; CFI = .92; TLI = .90; SRMR = .05). Then, the positive association of challenging tasks and task feedback with the 4-factor LPW model was analysed. Structural equation modelling (Bootstrap, 5000) was used to test model fit adequacy. The suggested structural model showed good fit indices ($\chi^2(172) = 417.314$, $p<.001$; RMSEA = .07; CFI = .91; TLI = .90; SRMR = .06). Hypotheses 3 and 4 were supported (see Table 5). Challenging tasks were less related to interactional LPW dimensions (β = .24 to .40; $p<.05$) than to the task-related (β = .40 to .62; $p<.01$). Task feedback was moderately related to each LPW factors (β = .24 to .31;

Table 5 – Path coefficients for the structural model testing the convergent validity

	Learning through reflection	95% CI	Learning through experimentation	95% CI	Learning from colleagues	95% CI	Learning from supervisor	95% CI
Challenging assignment	.62**(.07)	.46 - .76	.40**(.08)	.22 - .57	.24*(.10)	.02 - .44.	.40**(.08)	.22 - .55
Task feedback	.27**(.08)	.10 - .45	.31**(.08)	.14 - .49	.27**(.09)	08 - .46	.24**(.08)	.08 - .46
R^2	.58**	-	.35**	-	.17*	-	.28**	-

Legenda. 95% CI = 95% confidence interval.

Note. N = 250. *$p<.05$, **$p<.01$; number in parentheses are standard errors.

$p<.01$). Latent correlation between LPW scale interactional factors ($r = .75$; $p<.01$) and between task-related factors ($r = .87$; $p<.01$) were high. Learning from colleague's factor showed moderate latent correlation with learning through reflexion ($r = .58$; $p<.01$) and trough experimentation ($r =.46$; $p<.01$). Learning from supervisor factor showed higher latent correlation with through reflexion ($r = .80$; $p<.01$) and through experimentation ($r = .65$; $p<.01$). Latent correlation between challenging tasks and task feedback was the lowest ($r = .33$; $p<.01$).

GENERAL DISCUSSION

The aim of the present study was to translate the Learning Potential of the Workplace scale to Italian and assess its psychometric properties. The results provide evidence for the reliability and validity of the Italian version of the LPW. Several analyses, rigorously following well-established validation procedures, were carried out in order to analyze the psychometric characteristics of this scale.

First, the CFAs in Study 1 confirmed the internal and structural validity of the Italian version. The results obtained clearly showed that LPW scale is composed of 4 distinct factors. However, some intra-factor correlations were high (e.g., learning through reflection and learning through experimentation). Thus, it corroborated the potential existence of two second-order factors: task-related and interactional learning. Second, the correlational scores of Study 2 convergent and divergent validity analyses, supported most of the hypotheses formulated. Convergent validity was verified as the four LPW dimensions correlated moderately and positively to the HR training practices. Divergent validity was also established as low correlations between the three LPW dimensions and organizational tradition climate was observed. Moreover, a non-significant correlation, as observed between learning from colleagues and organizational tradition climate, is also an establishment of divergent validities.

Finally, study 3 examined how relevant job characteristics, such as challenging tasks or task feedback, were related to LPW dimensions, and a positive relationship between these constructs was observed. These results are related to previously observed researches showing that workplace learning is related to learning oriented job characteristics (Battistelli et al., 2019; De Witte, Verhofstadt & Omey, 2007;

Nikolova et al., 2014). Results provided thus strong evidence of convergent validities.

The main contribution of the study was to show that the Italian version of the LPW scale has the appropriate characteristics to be used in research as well as in applied contexts. Considering that no instruments assessing workplace learning are available in Italian there is a clear need for a tool to measure this construct. As specified by Nikolova et al. (2014), the scale is both useful for practices and research, as it is oriented to help practitioners to examine the learning potential of organizations thus allowing them to gain a better understanding of the workplace learning dynamics. Furthermore, this study advances the literature by clarifying the contextual and psychological concepts related to the task-related and interactional learning potential of workplace, as shown in Study 3. Furthermore, by re-examining the psychometric properties of the LPW scale and testing it on different datasets from the original, this study increases the cultural generalizability of the original scale by successfully applying it in Italian cultural settings.

Limits and future research

Despite the practical and theoretical contributions of the studies, several limitations should be mentioned. First, the samples employed were essentially composed of male participants. Although we tried to recruit samples with similar gender proportions of male and female, the sectors investigated in each of the samples, whether private or public, were still mainly male oriented. Indeed, the female population responding in each of the samples concerned women working in management and administrative positions. Future research should investigate the gender proprieties of the Italian translation LPW scale. Nevertheless, different studies have shown no significant effect of gender on informal learning related constructs (e.g. Berg & Chyung, 2008; Harteis, Billett, Goller, Rausch & Seifried, 2015).

Second, contrary to the original scale validation, our studies used three independent samples to test the Italian translation scale validities, as traditionally used in cross-validation analysis (e.g., Mînjină, 2017). Despite this adapted procedure and the good fit indices for each sample that confirmed the four-factor structure as the best one, minor inconsistencies were observable in the reliability level. This could indicate an existing variance between original LPW

scale and the translated version. The scale structure could thus vary according to the national or even on the organizational cultural context. It will thus be necessary to use different structure between the factors for the LPW's scale. For example, Battistelli and colleagues (2019) used a two-factor structure LPW instead of the four-factor initial structure to test their hypothesized model in a military setting. Therefore, future research should investigate the role of national and organisational culture on the structure validity of the LPW scale and their respective effect on it.

Finally, all variables were self-reported. Although we used procedural remedies (Podsakoff, MacKenzie & Podsakoff, 2012), as creating a different sample to reduce potential inflation of the relationship between the measurement, Common Method Variance (CMV) remained possible. Therefore, we tested the CMV impact on data (Podsakoff, MacKenzie, Lee & Podsakoff, 2003) by introducing an orthogonal CMV factor to the hypothesized models, and on which all items displayed a separate loading (in addition to the existing loadings). Results suggest that CMV was not a

serious concern for the three sample studies[1]. However, even if procedural remedies were used and CMV factor variance were under the recommended cut off, they exceed the twenty-five percent of the median score, especially for Study 1. Future research should address this issue by testing in advance common method variance bias or using the Johnson and colleagues' recommendation (Johnson, Rosen & Djurdjevic, 2011) for second higher order factors.

CONCLUSION

Workplace learning plays a fundamental role in many positive organizational outcomes. Therefore, it is important to establish psychometrically sound instruments for assessing this variable. The results of this research indicate that the Italian version of the LPW is reliable. As the scale is relatively new, we hope that it will activate new researches and practices aimed at improving workplace learning in the Italian community.

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1 The fit of the CMV CFA (4 factor model) were good for Study 1 (χ^2(36) = 78.872, p<.001; RMSEA = .06 [90% CI = .04-.08]; CFI = .96; TLI = .93; SRMR = .03), Study 2 (χ^2(36) = 74.697, p<.001; RMSEA = .06 [90% CI = .04-.09]; CFI = .94; TLI = .90; SRMR = .03) and Study 3 (χ(153)= 224.744, p<.001; RMSEA = .04 [90% CI = .03-.05]; CFI = .93; TLI = .90; SRMR = .04). They improved over the hypothesized models (Study 1: $\Delta\chi^2$ = 21.46, Δdf = 12, p<.05; Study 2: $\Delta\chi^2$ = 77.20, Δdf = 12, p<.01; Study 3: $\Delta\chi^2$ = 31.42, Δdf = 12, p<.01). The CMV factor had score variance all inferior to the 50% score recommended (Study 1: 46%; Study 2: 30%; Study 3: 36%) in Podsakoff et al. (2003).

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