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Abstract

Purpose – The purpose of the study was to explore the moderating role of organizational learning culture in the relationship between training transfer and work performance.

Design/methodology/approach – A convenience group of 164 workers filled in an online questionnaire based on retrospective data about the last training experience they attended. Participants were 87 workers who attended an online course within the last six months. A moderated path analysis was tested to highlight the moderating role of learning culture in the relationships between training transfer and three dimensions of work performance (i.e., proficiency, adaptivity, and proactivity), controlling for gender, age, training contents and length.

Findings – Training transfer and learning culture were positively related to each dimension of work performance. Learning culture showed a significant moderation effect in the relationship between training transfer and each dimension of work performance, namely proficiency, adaptivity, and proactivity.

Originality – The study highlighted the role of organizational learning culture in influencing the process of training transfer: culture was proved to be associated not only with proficiency, adaptivity, and proactivity, but also to contribute creating the positive conditions that may allow training transfer.

Keywords – Training transfer, Work performance, Learning culture, Learning context, Proactivity, Adaptivity

Introduction

Workplace training is undoubtedly a key factor to boost organizational performance. However, to be effective training is subject to some specific organizational conditions. Yet, this strategic action, part of a wider human resource plan, is not automatically related to desired outcomes in terms of performance and productivity, rather training could equip workers with all the knowledge, skills and abilities that are necessary to perform in line with the organizational demands only if properly designed in contents, adequately delivered in terms of methodologies and modalities, and consistently framed within an organizational culture, granting concrete chances to "use" this heritage.

These assumptions are firmly rooted in the scientific literature on training transfer (Baldwin and Ford, 1988), maintaining that training is useful to organization if trainees are encouraged to retain, apply, adapt, and transfer learning from the context of learning to the workplace. Accordingly, this process is sensitive to trainees' characteristics, training design characteristics, and

work environment factors that might differently impact on learning and transfer (Baldwin *et al*., 2009; Burke and Hutchins, 2007; Sitzmann and Weinhardt, 2019). Prior studies in the field concentrated on the individual features of participants as prerequisite of training transfer, investigating specifically the role of motivation to learn, motivation to transfer, self-efficacy (Chiaburu and Lindsay, 2008; Gegenfurtner *et al*., 2009; Wen and Yung-Chuan Lin, 2014). Others have examined the feature of training design (Bhatti and Kaur, 2010; Lim, 2000; Velada *et al*., 2007) while others focused on the organizational factors influencing training transfer intentions like perceived organizational support, supervisor support, peer support, and the opportunity to use the acquired knowledge (Na-Nan *et al*., 2017; Schindler and Burkholder, 2016; Zumrah *et al*., 2012). Few contributions concentrated on the relationship between training transfer and performance, considering the role played in this relationship by some organizational "conditions" featuring the working context and deeply influencing trainees' perception about the possible transfer. Among these organizational conditions, learning culture was proved to be a significant factor in influencing trainees' motivation to transfer (Banerjee *et al*., 2017) and training transfer (Gil *et al*., 2021).

In view of the above, following some recent suggestions emerged in the literature about the impact of training transfer on performance (Ford *et al*., 2018; Blume *et al*., 2019) and some contradictory findings about the role of some of the work environment in predicting training transfer (Cheng and Hampson, 2008), the present paper aimed to contribute to this debate by investigating the influence of the organizational learning culture in the relationship between training transfer and work performance.

Theoretical background and state of research

Training transfer and work performance

Among Human Resource Management (HRM) practices, training evidently plays a strategic role in capitalising the intangible asset of knowledge, skills and abilities possessed by people in organizations and making the difference in terms of competitive advantage on the market. Accordingly, empirical research showed that effective training can yield higher productivity, improved work quality, increased motivation and commitment, sustain teamwork, and reduce errors (Salas *et al*., 2006). Therefore, it could be argued that if human resources are allowed to receive effective training their work performance would benefit and on a larger scale the organizational performance will improve as well. However, if we maintain that training in organizations is not simply a task to be accomplished, rather it is a practice that needs to be carefully designed according to both individual and organizational needs, the relationship between training and performance becomes more complex. For several decades it has been reported that to improve organizational performance, trainees must first apply and then transfer what they learn in training. Therefore, creating the conditions for training transfer is a prerequisite for effective learning and ultimately for excellent organizational performance.

Yet, training transfer can be defined as the application, generalization, and maintenance of learning, skills, and behaviours from the training context to the workplace (Baldwin and Ford, 1988). According to some of the most authoritative models in the field, there are three training-input factors that are important for training transfer: trainee characteristics, training design, and the work environment. (following to the seminal work by Baldwin and Ford, 1988 see also Burke and Hutchins, 2008; Ford and Weissbein, 1997). The interaction between these three input factors and the careful consideration of them while designing training in organizations might more probably support transfer and therefore impact on generalization of learning and on performance as well.

However, despite abundant evidence about the consistency of this model, organizations report that a very small percentage of what is learned in training is ultimately applied on the job (Baldwin and Ford, 1988; Burke, 2001; Ford and Weissbein, 1997; Grossman and Salas, 2011). Consequently, there is a paradox about organizational expectations that training interventions will almost "automatically" improve organizational performance assuring a 'return of investment' and directly influencing organizational-level outcomes. In other words, without transfer, which is the intention of trainees supported by the organizational culture to use new acquired knowledge and skills, any organizational efforts to plan and deliver training cannot contribute to organizational effectiveness (Kozlowski *et al*., 2000). This is a virtuous circle because if organizations create the conditions for transfer, then trainees will be encouraged to apply their skills and in turn organizational performance will improve as well. Surprisingly, within the last decades, few studies have paid attention to this paradox to the relationship between training transfer and work performance.

According to Saks and Burke-Smalley (2014) there are two independent but related streams in training research. The first stream of research the authors defined 'micro-training research' focuses on the transfer of training and mostly stems out from the organizational psychology literature. A second stream of research - 'macro-training research' – addressed the relationship between training and organizational performance and is rooted within the strategic human resource literature. The main difference between the two-research stream is that while micro-training research focuses on the individual level investigating specifically the features of trainees that might predict transfer of training, macro-training research is concentrated on the organizational level of analysis, examining the organizational outcomes that might derive from training transfer. Being focused on a different perspective (individual versus organizational) on transfer training these research streams have failed to integrate both contributions to study the issue and therefore the relationship between training transfer and work performance has remained largely unexplored (Tharenou *et al*., 2007).

Another reason for the lack of scientific insights into the transfer-performance relationship lies in the difficulty documented by several scholars to conceptualize and operationalize individual work performance. This evidence is known as the "criterion-problem" which affirmed the difficulty in capturing a multidimensional and dynamic construct relying upon insufficient indicators of a criterion close to that construct (Campbell *et al*., 2015). The first attempts to go beyond the criterion-problem of work performance were directed to the evaluation of the proficiency with which a worker effectively

completes the tasks prescribed by the formal role (Campbell *et al*., 1993). But this kind of conceptualization alone did not take into account the continuous transformations of the working context, requiring individuals to adapt to unpredictable situations, beyond any role prescriptions. Consequently, some scholars proposed to enlarge the paradigm of performance assessment, introducing new constructs aimed at defining the features of an effective work activity beyond formal tasks. Examples are the proactive behaviour (Crant, 2000), the organizational citizenship behaviour (Smith *et al*., 1983), the counterproductive behaviour (Bennett and Robinson, 2000), the adaptive performance (Pulakos *et al*., 2000), the contextual performance (Borman and Motowidlo, 1993). Griffin, Neal, and Parker (2007) integrated different perspectives of work performance proposing a comprehensive model of the main characteristics of any work activity that may contribute to job effectiveness in uncertain and changing contexts. Their model emphasized three forms of behaviour (proficiency, adaptivity, and proactivity) and cross-classified them into three organizational levels (individual, team, and organization). This conceptualization analyses worker's performance while accomplishing the activities required by the role (proficiency), in adapting and coping with changes affecting the job and its environment (adaptivity), and in taking initiatives and proposing ideas to improve the working situation (proactivity). All these forms of performance may be examined for different organizational levels, allowing specific insight on worker's behaviour which contributes to individual, team, or organization effectiveness. Griffin and colleagues (2007) concluded that the integration of proficiency, adaptivity and proactivity in a comprehensive model of work performance overcame some of the limits of previous models (e.g., the emphasis on passive behaviours by citizenship models focused on the compliance with procedures) and identified individual behaviours that lead to effectiveness of organization.

In this vein, the present study suggested to adopt a more flexible definition of performance not simply focused on the achievement of the outcomes that are specified by the job description and in line with the wider organizational goals, rather as a set of organizational behaviours, like proactivity and adaptability, that might respond efficiently to the changing and uncertain nature of work and organizations (Griffin *et al*., 2007). This approach seemed to be much more attuned also with a conception of training transfer allowing the mastering and adaptation of knowledge to fast changing contextual job demands.

Moving from this evidence, the present study addressed a first gap postulating that:

> H1: Training transfer is positively related to work performance, specifically to each of its constitutive dimensions: proficiency (H1a), adaptivity (H1b) and proactivity (H1c).

The role of organizational learning culture in the process of training transfer

As argued above, the literature on training transfer showed that some features of the work environment (e.g., perception of leader support, peer support, and transfer climate) might be crucial organizational factors impacting on this process. However, as noted by Cheng and Hampson (2008), empirical results drew different and sometimes even opposite conclusions about the role played by these organizational aspects in the process of transfer: some found a significant positive relationship, some a negative relationship, and some others reported no relationship at all between work environment factors and training transfer

(Cheng and Ho, 2001). These conclusions encouraged scholars in the field to conduct further investigations to explore the influence of different organizational factors on training transfer. Prior research showed a crucial role played by organizational learning culture (Bates and Khasawneh, 2005; Egan *et al*., 2004; Gil *et al*., 2021; Simosi, 2012) and by some related constructs like the learning climate (Cortini *et al*., 2016; D'Alterio *et al*., 2019; Gil and Mataveli, 2017; Nikolova *et al*., 2014) and the perceived support deriving from the organization, the supervisor, and the peers (Blume, 2010; Chiaburu, 2010; Reinhold *et al*., 2018; Schindler and Burkholder, 2016; Zumrah *et al*., 2012). However, the aims of the present study addressed the influence of culture as a wider framework of organizational action, evidently supporting learning efficacy and transfer.

Yet, organizational learning culture is defined as a set of values, beliefs, and assumptions about learning diffused within all organizational levels and endorsed by its members (Marsick and Watkins, 2003; Weldy and Gillis, 2010). It creates a set of expectations shaping the desired learning results to guide and motivate members' behaviours in the direction of continuous learning and knowledge integration. Culture is conceived as root metaphor of the organization and it is manifested not only in the formal decisions taken by the management and reified by policies and practices of human resources management, but also in the underlying interactive dynamics and sense making practices that concretely shape the relationships within the organizational context (Smircich, 1983). On the other hand, learning is the result of an interactive and interdependent process, determined by complex social practices in any learning settings, including formal as well as informal situations (Manuti *et al*., 2015). Consequently, the quality of learning culture invests both formal training strategies and informal learnings dynamics taking place spontaneously and unconsciously every time workers learn (Marsick and Watkins, 2015).

With specific reference to the training transfer literature, organizational learning culture was proved to be significantly related to trainees' intention to transfer and to job satisfaction (Egan *et al*., 2004), to training transfer and organizational innovation (Bates and Khasawneh, 2005), to training transfer and application of training to performance (Gil *et al*., 2021). The impact of organizational culture on training transfer was further underlined by Simosi (2012), who reported a significant interaction effect between employees' self-efficacy and identification with the organizational culture in predicting transfer, suggesting that when trainees feel confident about their abilities, they would more probably feel encouraged to transfer the knowledge and skills acquired during training if they perceive that the organizational culture is supportive and appreciate this effort.

As argued above, plenty of studies investigated the impact of different organizational factors on training transfer, but very few addressed the potential moderating role of these variables, as pointed out by Homklin and colleagues (2014). Among these, Richman-Hirsch (2001) reported results from two post-training interventions to improve the transfer of training and underlined that the efficacy of the interventions was more significant in work environments that were perceived supportive as compared to unsupportive ones. More recently, Homklin and colleagues (2014) explored the moderating roles of organizational support and supervisor support, finding no significant moderation effect in the relationship between knowledge

retained and transfer, neither significant direct relationship between the two types of support and training transfer. This evidence confirmed that the training transfer research on organizational factors adopting classical approaches and paradigms led to "counterintuitive results" (Cheng and Hampson, 2008, p. 334), with the consequence that it remained unclear whether work environment conditions may intervene in the relationships between training transfer and its antecedents or consequences. Therefore, the present study aimed at tackling this issue, proposing a new role for one of the organizational factors involved in the training transfer process, namely organizational learning culture, maintaining the following hypothesis:

> H2: Organizational learning culture will moderate the relationship between training transfer and each dimension of work performance, namely proficiency (H2a), adaptivity (H2b) and proactivity (H2c), strengthening the linkage for those who reported higher levels of the moderator.

The research hypotheses are summarized and graphically represented in Figure 1 indicating the effect of training transfer on work performance dimensions (H1a-b-c) and the moderating effect of learning culture (H2a-b-c).

[Insert Figure 1]

Materials & methods

Participants and procedure

For the purposes of the study, a convenience sample was recruited from February to June 2021, through a digital call for participation widespread in social networks and blogs. 164 respondents participated voluntarily giving their informed consent after reading the aims of the research. Data were used for research purposes and shared within the research team. The study observed the Helsinki Declaration and the prescriptions of the General Data Protection European Regulation (GDPR, EU n. 2016/679). We decided to focus the study on workers who stated they had followed a training program in the last six months to ensure they properly remembered course's characteristics and consequences. Furthermore, considering the limits of sampling and the potential differences in the courses, we focused the study only on participants of online courses, in order to examine a sample with similar training experiences regarding modality.

The final sample consisted of 87 Italian workers of private (84%) or public (16%) sector, among which 67% of women and 33% of men, with a mean age of 31.4 (SD = 9.7) and high levels of education (57% had a bachelor's degree and 43% had a secondary school degree). They were blue-collars (20%), white-collars (69%), and managers (11%) from small and medium-sized (57%) or large enterprises (43%) who participated to online training sessions aimed at empowering soft (34%) or hard (66%) skills.

To overcome the limits of the cross-sectional procedure, we structured the questionnaire in four parts: socio-demographic information, training program information, retrospective psychosocial measures, and organizational factors' measures. The socio-demographic section aimed to identify participants' characteristics (e.g., age, gender, education, professional role, occupational sector, and organizational size). Afterwards, each respondent was invited to recall a specific training program. They were asked to retrieve information especially about the length of training, the skills that were intended to be promoted (linked to the contents of training), and the modality through which the training was performed. The order of administration of the psychosocial scales started with the training transfer measure allowing an easier recollection of the memories just retrieved. Then, the work performance scale was presented, requiring a further effort to recall the working experience after the training, followed by the learning culture scale.

Measures

To explore the hypothesized model, we used the following validated instruments to assess training transfer, work performance, and organizational learning culture.

Training transfer

Training transfer was measured using six items elaborated by Xiao (1996) with reference to the knowledge, skills, and attitudes (KSA) that participants considered the core of the training attended. They were asked to assess their agreement/disagreement with the extent to which they have transferred to the working context any content learnt using a 5-point Likert scale. A sample item is "I can accomplish job tasks better by using the new KSA".

Work performance

Work performance was assessed using a self-report measure consisting of three scales, each with three items, taken from the Individual Work Role Behaviours instrument by Griffin, Neal, and Parker (2007). Participants were asked to consider the period after the training for the evaluation of their own behaviours, expressing their agreement/disagreement on a 5-point Likert scale. The first scale was Individual Task Proficiency, referring to worker's behaviours that satisfy the known expectations and requirements of his/her role. A sample item is "You ensured your tasks were completed properly". The second scale was Individual Task Adaptivity, which proposes statements about possible coping with change behaviours. A sample item is "You coped with changes to the way you have to do your core tasks". The last scale was Individual Task Proactivity, which refers to self-starting behaviours aimed at improving and/or innovating his/her own work. A sample item is "You initiated better ways of doing your core tasks".

Organizational learning culture

Organizational learning culture was measured using six items on a 6-point Likert scale of the short-form of the scale developed by Marsick and Watkins (2003) for the individual level. The instrument aims at evaluating the extent to which interdependent and continuous learning is promoted and thrived by the organization's values, beliefs, and assumptions. A sample item is "In my organization, people help each other learn".

Control variables

Some covariates were added to the model to control for training characteristics that could influence the relationships between the core variables of the study, as stated in previous studies (Laker and Powell, 2011; Martins *et al*., 2019). As for the objective evaluation of training characteristics participants were asked about the length of the training course they followed and the specific contents of the training, distinguishing training focused on the implementation of hard/technical skills from training focused on the empowerment of soft skills. Furthermore, we controlled for participants' gender and age which could have a role in affecting performance behaviours (Levy and Sharma, 1994; Shirom *et al*., 2008; Wang *et al*., 2019).

Data analysis

We used the software Jamovi (The Jamovi Project, 2021) for descriptive statistics, reliability measures (Cronbach's alpha, McDonalds's Omega, and Guttman's lambda), Pearson's correlations, and path analysis. Dichotomous categorical variables were dummy recoded into values of zero or one. Distributions of continuous dependent variables did not meet univariate and multivariate normality checks. Therefore, these variables were square transformed and checked for normality, resulting in acceptable values of univariate skewness (between |0.03| and |0.18|) and kurtosis (between |0.20| and |0.54|) and confirming multivariate normality with not significant values of Mardia's skewness (17.23, p = .069) and kurtosis (0.73, p = .463).

The moderated path analysis was conducted with the module PATHj (Gallucci, 2021) in Jamovi, testing a model with continuous and categorical exogenous variables and multiple endogenous variables, using maximum likelihood estimation with robust standard errors. The moderated path analysis implies the interaction term between a moderator and a predictor variable, enabling to evaluate the extent to which the strength of an effect changes at different values of the moderation variable. This statistical method computed the estimate of the linear effect associated to an independent variable keeping to zero the other variable involved in the interaction. Therefore, we decided to mean-center exogenous variables to interpret the effect of training transfer at the mean level of organizational learning culture and vice versa. The simple effects analysis, aimed at detailing the interaction, was conducted choosing particular values of the moderator (i.e., one standard deviation above and one standard deviation below the mean) to compute the estimates of the effects of training transfer at a low and a high level of learning culture.

Results

Descriptive analyses

Means, standard deviations, and reliability measures of the variables of study are presented in Table I. All variables showed acceptable values of reliability. The correlation analysis, shown in Table II, highlighted strong relationships between training transfer and the three dimensions of work performance (i.e., proficiency, adaptivity, and proactivity). Furthermore, moderate significant correlations were found between learning culture and work performance dimensions, as well as between learning culture and training transfer. We created dummy variables for the dichotomous categorical factors, recoding contents of training with zero for "hard skills" and one for "soft skills", while gender was recoded with zero for "female" and one for "male". The relationships of the dummy variables with other factors were analysed through point-biserial correlation coefficient but did not show any statistical significance, as well as the other control variables, namely the length of the trainings and the age of participants.

[Insert Table I]

[Insert Table II]

Moderated path analysis

A moderated path analysis was tested to investigate the extent to which the strength of the relationship between training transfer and work performance dimensions (i.e., proficiency, adaptivity, and proactivity) changes at different levels of learning culture, controlling for gender, age, training contents and length. Table III shows the results of the path model testing, after mean centering the variables involved in the interaction (i.e., training transfer and learning culture) and after dummy recoding categorical variables (i.e, contents of training and gender).

[Insert Table III]

The main effects of the key exogenous variables on work performance dimensions were statistically significant, highlighting that both training transfer and organizational learning culture had important relationships with proficiency, adaptivity, and proactivity. Conversely, the control variables (i.e., gender, age, contents, and length of training) did not show any statistically significant effect, as expected, but it was indispensable to control for their influence to evaluate the relationship of training transfer and learning culture with performance dimensions while holding participants' and courses' characteristics unaltered. The core finding was that the interaction effects between training transfer and learning culture on work performance scales of proficiency ($\beta = .30$, $p < .001$), adaptivity ($\beta = .28$, $p = .001$), and proactivity ($\beta = .18$, $p = .024$) were statistically significant. These indices suggested differences in the transfer-performance relationships for different levels of the moderator. In fact, the

simple effects analyses (see Table IV) highlighted significant relationships of training transfer with proficiency, adaptivity, and proactivity for a mean level of learning culture, but those relationships were significantly stronger at high levels (i.e., one standard deviation above the mean) of the moderator variable than at low levels (i.e., one standard deviation below the mean) of the moderator. These results are graphically shown in Figure 2 for proficiency, Figure 3 for adaptivity, and Figure 4 for proactivity, which evidenced the extent to which the transfer-performance linkages changed for low, mean, and high levels of the moderator, highlighting that the relationships became stronger as the learning culture grew. The R-squared measures evidenced that the moderated model explained the 41% of the variance of proficiency, the 46% of adaptivity, and the 52% of proactivity, underlining the importance of the predictors for consistent amounts of work performance dimensions. These findings suggested that workers involved in organizational context with a broad learning culture may be more likely to translate the transfer of learnings into better performances in terms of behaviours of proficiency, adaptivity, and proactivity.

[Insert Table IV]

[Insert Figure 3]

[Insert Figure 4]

Discussion

The aim of the study was to explore a new moderating role of organizational learning culture in the relationship between training transfer and work performance, to investigate the contextual conditions that may contribute to turn learning into concrete performance. In this vein, learning culture was considered as a significant moderator of this relationship because it represents a set of values, beliefs and attitudes about learning conceived by the organization, shared with its members and reified in Human Resource Management practices. Prior research in the field showed that the organizational cultural orientation toward learning could encourage workers attitudes and behaviours toward knowledge management, acting on their intentions to transfer learning to performance with positive effects at a short, medium, and long-term from the conclusion of formal training (Egan *et al*., 2004; Gil *et al*., 2021; Simosi, 2012). In line with previous studies (e.g., Hung *et al*., 2010; Nam and Park, 2019; Škerlavaj *et al*., 2007), results from moderated path analysis confirmed the effects of organizational learning culture on the dimensions of work performance.

Furthermore, basing on a number of theoretical contributions about training transfer addressed to explain if and to what extent training could improve work performance because of the transfer of learning (Baldwin *et al*., 2009; Blume *et al*., 2019; Burke and Hutchins, 2007; Ford *et al*., 2018), results supported hypotheses H1a-b-c showing significant effects of training transfer on work performance dimensions of proficiency, adaptivity, and proactivity. However, hypotheses H2a-b-c specified that the transfer-performance relationship may be weaker in presence of low levels of organizational learning culture. The core aim of

the study was fulfilled, since the results of the moderated path analysis showed significant moderation effects of organizational learning culture in the paths from training transfer to work performance scales of proficiency, adaptivity, and proactivity. These results seemed to suggest that employees perceiving their workplace to be a positive and supporting environment for their development and learning would more probably have positive consequences in terms of performance because of the transfer of training. Conversely, the relationships between training transfer and performance dimensions resulted to be weaker for employees reporting low levels of organizational learning culture, suggesting that in this case training would risk being vain in terms of impact on the improvement of performance. It is important to notice that at different levels of learning culture the transfer-performance relationships changed in terms of behaviours of proficiency, adaptivity, and proactivity; this underlines that the environmental conditions created by the organizational culture may lead the transfer of training to enhance different types of work behaviours which contribute together to develop better individual performances.

Accordingly, if on the one hand, it is evident that the effect of training transfer on work performance was confirmed by previous studies (e.g., Blume *et al*., 2010; Burke and Hutchins, 2008), on the other, the introduction of the moderation of a supportive organizational feature for employees' development and learning in this relationship could represent a novelty for training transfer research, which was rather focused on investigating the role of organizational factors as predictors of the transfer getting to discordant conclusions (Cheng and Hampson, 2008). Therefore, the contribution of the present study investigating this moderation was addressed to show to what extent the organizational learning culture might foster the effect of training transfer on work performance. In view of the above, the perceived organizational culture toward learning seemed to be crucial in capitalising any investment in training, finally making the difference in terms of competitive advantage for the organization itself.

Research limitations/implications

The main limitations related to the cross-sectional nature of the study, the self-report measures, and the retrospective data used to assess the variables. The cross-sectional nature did not allow strict casual conclusions on the impact of training transfer on work performance, because all the variables were measured at the same time, and this might have caused a common-method-bias problem that could have inflated the relationships. Furthermore, self-report measures may be proper to investigate the perceptions of participants about their work performance and the extent to which they were able to transfer the learning to work but did not allow the objective assessment of transfer behaviours and the consequent achievement of performance goals after the training. Finally, asking workers to think about the last training experience before answering might have caused some biases of memory, since we cannot be sure that they remembered properly. Future research should overcome these limitations to explore the hypothesized moderated path model adopting a longitudinal design focusing on specific training, assessing transfer of training and work performance by multiple sources, and collecting data before beginning the training, at the end, and after some months from the end of the session, as suggested by Blume and colleagues (2010).

Evidently, after considering those limitations, the present study could be considered a first attempt to explore a new moderating role of organizational learning culture in the relationship between training transfer and work performance, proposing an enlargement of previous paradigms which limited the investigation of organizational features considering them strictly predictors of the training transfer process and often getting discordant conclusions as showed earlier (Cheng and Hampson, 2008). Our findings suggested the primary role of an organizational culture oriented toward continuous learning because it was proved not only to affect performance behaviours, but also to enable and foster the effects of training transfer on work performance. A practical implications is that companies that aim to invest and promote training to enhance workers' skills, should pay attention to the learning culture widespread in the organization, since it has an important role in enabling the new knowledge and skills brought in work activities to lead to effective improvements in performances, because the transfer of training needs to be encouraged and powered on daily basis by a continuous supportive context to enhance workers' behaviours of proficiency, adaptivity, and proactivity.

References

Baldwin, T., and Ford, K., (1988). Transfer of training: a review and directions for future research. *Personnel Psychology, 41*(1), 63-105. https://doi.org/10.1111/j.1744-6570.1988.tb00632.x

Baldwin, T., Ford, K., and Blume, B., (2009). Transfer of Training 1988-2008: An undated review and agenda for future research, In G. P. Hodgkinson & J. K. Ford (Eds.), *International Review of Industrial and Organizational Psychology* (Vol. 24, pp. 41-70). Wiley. http://dx.doi.org/10.1002/9780470745267.ch2

Banerjee, P., Gupta, R., & Bates, R. (2017). Influence of organizational learning culture on knowledge Worker's motivation to transfer training: Testing moderating effects of learning transfer climate. *Current Psychology, 36*(3), 606-617. doi:10.1007/s12144-016-9449-8

Bates, R., and Khasawneh, S., (2005). Organizational learning culture, learning transfer climate and perceived innovation in Jordanian organizations. *International Journal of Training and Development, 9*(2), 96-109.

Bennett, R. J., and Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology, 85*(3), 349-360. doi:10.1037/0021-9010.85.3.349

Bhatti, M.A., and Kaur, S., (2010). The role of individual and training design factors on training transfer. *Journal of European Industrial Training, 34*(7), 656-672. https://doi.org/10.1108/03090591011070770

Blume B., Ford, K., Surface, E., and Olenick, J., (2019) A dynamic model of training transfer. *Human Resource Management Review, 29*(2), 270-283. https://doi.org/10.1016/j.hrmr.2017.11.004

Blume, B. D., Ford, J. K., Baldwin, T. T., and Huang, J. L. (2010). Transfer of training: A meta-analytic review. *Journal of Management, 36*(4), 1065-1105. doi:10.1177/0149206309352880.

Borman, W.C., & Motowidlo, S. (1993). Expanding the Criterion Domain to Include Elements of Contextual Performance. In N. Schmitt, W. C. Borman, and associates (Eds*.), Personnel selection in organizations* (pp. 71–98). Jossey-Bass.

Burke, L. A. and Hutchins, H. M. (2008). A study of best practices in training transfer and proposed model of transfer. *Human Resource Development Quarterly, 19*(2), 107-128. doi:10.1002/hrdq.1230.

Burke, L. A., and Hutchins, H. M. (2007). Training transfer: An integrative literature review. *Human Resource Development Review, 6,* 263-296.

Campbell, J. P., McCloy, R. A., Oppler, S. H., and Sager, C. E. (1993). A theory of performance. In E. Schmitt, W. C. Borman, and Associates (Eds.), *Personnel selection in organizations* (pp. 35–70). Jossey-Bass.

Campbell, J. P., and Wiernik, B. M. (2015). The modeling and assessment of work performance. *Annual Review of Organizational Psychology and Organizational Behavior, 2*, 47-74. doi:10.1146/annurev-orgpsych-032414-111427

Cheng, E. W. L. and Hampson, I. (2008). Transfer of training: A review and new insights. *International Journal of Management Reviews, 10*(4), 327-341. doi:10.1111/j.1468-2370.2007.00230.x.

Cheng, E. W. L. and Ho, D. C. K. (2001). A review of transfer of training studies in the past decade. *Personnel Review, 30*(1), 102-118. doi:10.1108/00483480110380163.

Chiaburu, D., (2010). The social context of training: coworker, supervisor, or organizational support?. *Industrial and Commercial Training, 42*(1), 53-56. doi:10.1108/00197851011013724

Chiaburu, D. S., & Lindsay, D. R. (2008). Can do or will do? the importance of self-efficacy and instrumentality for training transfer. *Human Resource Development International, 11*(2), 199-206. doi:10.1080/13678860801933004

Chiaburu, D., Van Dam, K., and Hutchins, H., (2010). Social Support in the Workplace and Training Transfer: A longitudinal analysis. *International Journal of Selection and Assessment, 18*(2), 187-200.

Cortini, M., Pivetti, M., and Cervai, S. (2016). Learning climate and job performance among health workers. A pilot study. *Frontiers in Psychology, 7*(OCT). doi:10.3389/fpsyg.2016.01644

Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management, 26*(3), 435-462. doi:10.1177/014920630002600304

D'Alterio, N., Fantinelli, S., Galanti, T., and Cortini, M. (2019). The mediator role of the job related stress in the relation between learning climate and job performance. evidences from the health sector. [Il ruolo mediatore dello stress lavorativo nella relazione tra clima d'apprendimento e performance. Evidenze nel settore sanitario] *Recenti Progressi in Medicina, 110*(5), 251-254. doi:10.1701/3163.31448

Egan, T. M., Yang, B., and Bartlett, K. R. (2004). The effects of organizational learning culture and job satisfaction on motivation to transfer learning and turnover intention. *Human Resource Development Quarterly, 15*(3), 279-301. doi:10.1002/hrdq.1104

Ford, J. K. and Weissbein, D. A. (1997). Transfer of training: an updated review and analysis. *Performance Improvement Quarterly, 10*, 22–41. https://doi.org/10.1111/j.1937-8327.1997.tb00047.x

Ford, J. K., Baldwin, T. T., and Prasad, J. (2018). Transfer of training: The known and the unknown. *Annual Review of Organizational Psychology and Organizational Behavior, 5*, 201-225. doi:10.1146/annurev-orgpsych-032117-104443

Gallucci, M. (2021). *PATHj: jamovi Path Analysis*. [jamovi module].

Gegenfurtner, A., Veermans, K., Festner, D., & Gruber, H. (2009). Motivation to transfer training: An integrative literature review. *Human Resource Development Review, 8*(3), 403-423. doi:10.1177/1534484309335970

Gil, A. J., García-Alcaraz, J. L., and Mataveli, M. (2021). The effect of learning culture on training transfer: Empirical evidence in spanish teachers. *International Journal of Human Resource Management, 32*(5), 1038-1061. doi:10.1080/09585192.2018.1505763

Gil, A. J., and Mataveli, M. (2017). Learning opportunities for group learning: An empirical assessment from the learning organization perspective. *Journal of Workplace Learning, 29*(1), 65-78. doi:10.1108/JWL-02-2016-0009

Gravetter, F. and Wallnau, L. (2014). *Essentials of statistics for the behavioral sciences* (8th ed.). Wadsworth.

Griffin, M. A., Neal, A., and Parker, S. K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of Management Journal, 50*(2), 327-347. doi:10.5465/AMJ.2007.24634438.

Homklin, T., Takahashi, Y., and Techakanont, K. (2014). The influence of social and organizational support on transfer of training: Evidence from thailand. *International Journal of Training and Development, 18*(2), 116-131. doi:10.1111/ijtd.12031.

Hung, R. Y. Y., Yang, B., Lien, B. Y. H., McLean, G. N., & Kuo, Y. -. (2010). Dynamic capability: Impact of process alignment and organizational learning culture on performance. *Journal of World Business, 45*(3), 285-294. doi:10.1016/j.jwb.2009.09.003

Kozlowski, S. W. J., Brown, K. G., Weissbein, D. A., Cannon-Bowers, J. A., and Salas, E. (2000), 'A Multilevel Approach to Training Effectiveness', in K. J. Klein and S. W. J. Kozlowski (eds), *Multilevel Theory, Research, and Methods in Organizations: Foundations, Extensions, and New Directions (*pp. 157–210). Jossey-Bass.

Laker, D. R. and Powell, J. L. (2011). The differences between hard and soft skills and their relative impact on training transfer. *Human Resource Development Quarterly, 22*(1), 111-122. doi:10.1002/hrdq.20063.

Lim, D. H. (2000). Training design factors influencing transfer of training to the workplace within an international context. *Journal of Vocational Education and Training, 52*(2), 243-258. doi:10.1080/13636820000200118

Levy, M., & Sharma, A. (1994). Adaptive selling: The role of gender, age, sales experience, and education. *Journal of Business Research, 31*(1), 39-47. doi:10.1016/0148-2963(94)90044-2

Manuti, A., Pastore, S., Scardigno, A. F., Giancaspro, M. L., & Morciano, D. (2015). Formal and informal learning in the workplace: A research review. *International Journal of Training and Development, 19*(1), 1-17. doi:10.1111/ijtd.12044

Marsick, V. J., & Watkins, K. (2015). *Informal and incidental learning in the workplace* (pp. 1-270). Routledge Revivals. doi:10.4324/9781315715926

Marsick, V. J. and Watkins, K. E. (2003). Demonstrating the value of an organization's learning culture: the dimensions of the learning organization questionnaire. *Advances in developing human resources, 5*(2), 132-151. doi:10.1177/1523422303005002002.

Martins, L. B., Zerbini, T., and Medina, F. J. (2019). Impact of online training on behavioral transfer and job performance in a large organization. *Revista De Psicologia Del Trabajo y De Las Organizaciones, 35*(1), 27-37. doi:10.5093/jwop2019a4.

Na-Nan, K., Chaiprasit K., and Pukkeeree, K., (2017). Influences of workplace environment factors on employees' training transfer, *Industrial and Commercial Training, 49*(6), 303-314. https://doi.org/10.1108/ICT-02-2017-0010

Nam, K. A., and Park, S. (2019). Factors influencing job performance: organizational learning culture, cultural intelligence, and transformational leadership. *Performance Improvement Quarterly*, *32*(2), 137-158. doi:10.1002/piq.21292

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, 15*(2), 66-75. doi:10.1027/1866-5888/a000151

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

Reinhold, S., Gegefurtner, A., and Lewalter, D. (2018). Social support and motivation to transfer as predictors of training transfer: testing full and partial mediation using meta-analytic structural equation modelling. *International Journal of Training and Development, 22*(1), 1-14.

Richman-Hirsch, W. L. (2001). Posttraining interventions to enhance transfer: The moderating effects of work environments. *Human Resource Development Quarterly, 12*(2), 105-120. doi:10.1002/hrdq.2.abs.

Saks, A., and Burke-Smalley, L. (2014). Is transfer of training related to firm performance?. *International Journal of Training and Development, 18*(2), 104-115. doi:10.1111/ijtd.12029

Salas, E., Wilson, K. A., Priest, H. A., and Guthrie, J. W. (2006). Design, delivery, and evaluation of training systems. In G. Salvendy (Ed.), *Handbook of human factors and ergonomics* (pp. 472–512). John Wiley & Sons, Inc.. https://doi.org/10.1002/0470048204.ch18

Schindler, L., and Burkholder, G. (2016). A Mixed Methods Examination of the Influence of Dimensions of Support on Training Transfer, *Journal of Mixed Methods Research, 10*(3), 292–310.

Shirom, A., Gilboa, S. S., Fried, Y., and Cooper, C. L. (2008). Gender, age and tenure as moderators of work-related stressors' relationships with job performance: A meta-analysis. *Human Relations, 61*(10), 1371-1398. doi:10.1177/0018726708095708

Simosi, M. (2012). The moderating role of self-efficacy in the organizational culture-training transfer relationship. *International Journal of Training and Development, 16*(2), 92-106. doi:10.1111/j.1468-2419.2011.00396.x.

Sitzmann, T., and Weinhardt, J. (2017). Approaching evaluation from a multilevel perspective: A comprehensive analysis of the indicators of training effectiveness. *Human Resource Management Review, 29*(2), 253-269.

Smircich, L. (1983). Concepts of Culture and Organizational Analysis. *Administrative Science Quarterly*, *28*(3), 339–358. doi:10.4324/9781315241371-20

Smith, C. A., Organ, D. W., and Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology, 68*(4), 653-663. doi:10.1037/0021-9010.68.4.653

Škerlavaj, M., Štemberger, M. I., and Dimovski, V. (2007). Organizational learning culture—the missing link between business process change and organizational performance. *International Journal of Production Economics*, *106*(2), 346-367. doi:10.1016/j.ijpe.2006.07.009

Tharenou, P., Saks, A., and Moore, C. (2007). A review and critique of research on training and organization level outcomes. *Human Resource Management Review,* 17(3), 251-273. doi:10.1016/j.hrmr.2007.07.004

The jamovi project (2021). *jamovi* (Version 1.6) [Computer Software].

Velada, R., Caetano, A., Michel, J. W., Lyons, B. D., and Kavanagh, M. J. (2007). The effects of training design, individual characteristics and work environment on transfer of training. *International journal of training and development*, *11*(4), 282-294. https://doi.org/10.1111/j.1468-2419.2007.00286.x

Wang, Q., Mei, Q., Liu, S., Zhou, Q., and Zhang, J. (2019). Demographic differences in safety proactivity behaviors and safety management in chinese small–scale enterprises. *Safety Science, 120*, 179-184. doi:10.1016/j.ssci.2019.06.016

Weldy, T. G., and Gillis, W. E. (2010). The learning organization: Variations at different organizational levels. *Learning Organization, 17*(5), 455-470. doi:10.1108/09696471011059831

Wen, M., and Yung-Chuan Lin, D. (2014). Trainees' Characteristics in Training Transfer: The Relationship among Self-Efficacy, Motivation to Learn, Motivation to Transfer and Training Transfer. *International Journal of Human Resource Studies, 4*(1), 114-129.

Xiao, J. (1996). The relationship between organizational factors and the transfer of training in the electronics industry in shenzhen, china. *Human Resource Development Quarterly, 7*(1), 55-73. doi:10.1002/hrdq.3920070107.

Zumrah, A. R., Boyle, S., and Fein, E. (2012). The effect of perceived organizational support on the transfer of training outcomes to the workplace. *World Review of Business Research, 2*(4), 130-147.

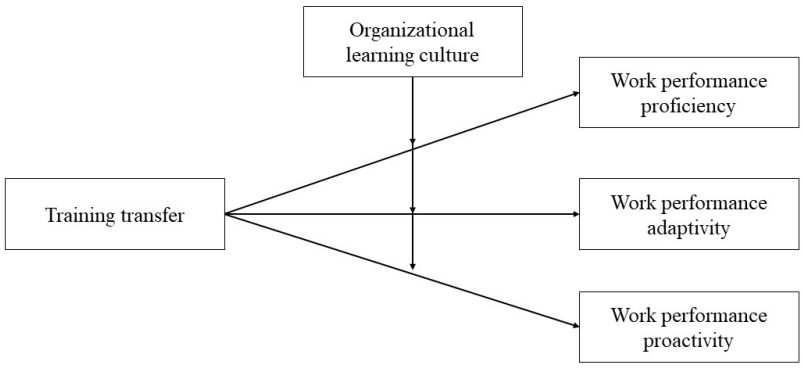

Figure 1. The research model.

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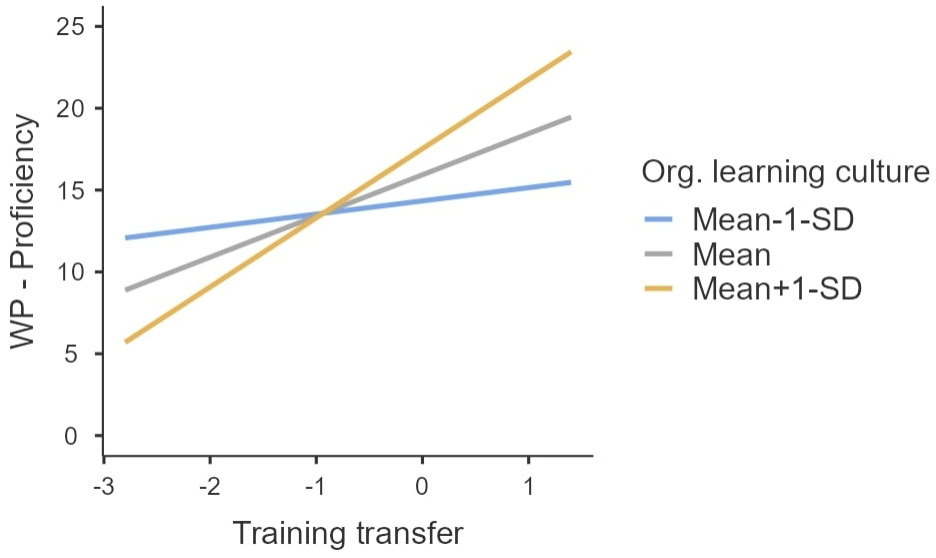

Figure 2. The effect of training transfer on proficiency at different levels of organizational learning culture.

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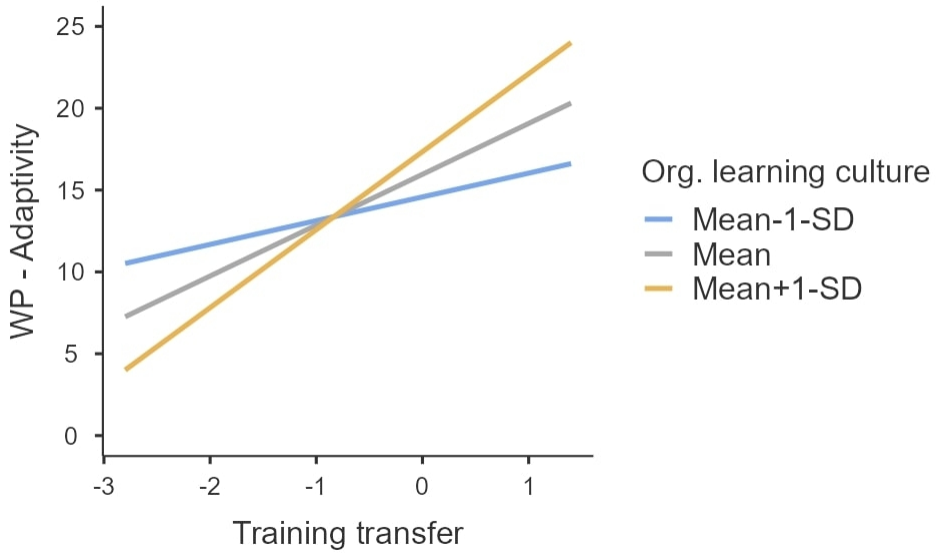

Figure 3. The effect of training transfer on adaptivity at different levels of organizational learning culture.

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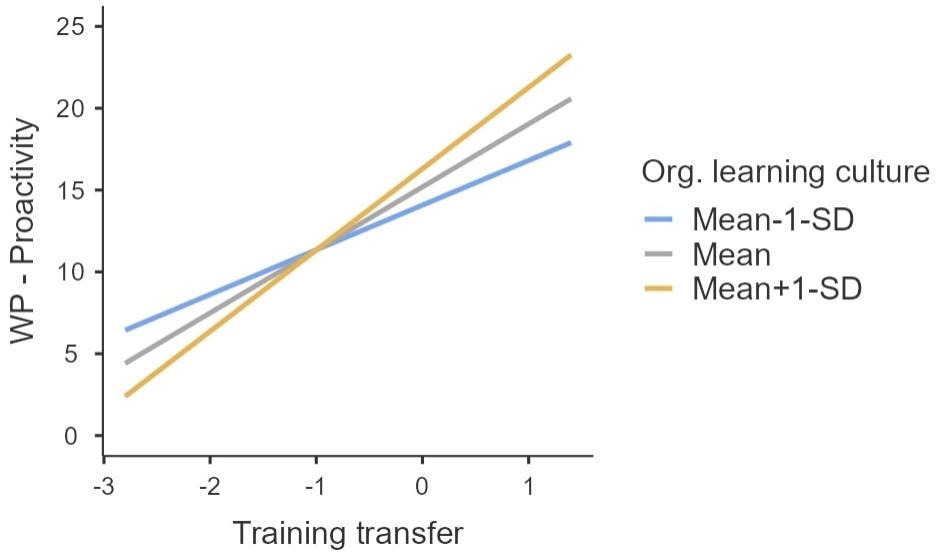

Figure 4. The effect of training transfer on proactivity at different levels of organizational learning culture.

352x211mm (72 x 72 DPI)

Table I. Means, standard deviations, and reliability measures of the study variables.

Variables	M	SD	α	ω	λ-6
1. Training transfer	3.62	0.94	0.93	0.93	0.95
2. Org. learning culture	4.28	1.11	0.90	0.91	0.93
3. WP - Proficiency	4.00	0.77	0.87	0.87	0.87
4. WP - Adaptivity	3.99	0.78	0.85	0.86	0.88
5. WP - Proactivity	3.82	0.85	0.83	0.84	0.84

Note. N = 87. α = Cronbach's alpha; ω = McDonald's omega; λ-6 = Guttman's lambda 6.

Table II. Pearson's correlations.

Variables	1	2	3	4	5	6	7	8	9
1. Org. learning culture	—								
2. Training transfer	0.41*	—							
3. WP - Proficiency	0.49*	0.42*	—						
4. WP - Adaptivity	0.57*	0.44*	0.88*	—					
5. WP - Proactivity	0.66*	0.41*	0.70*	0.79*	—				
6. Training length	0.05	0.02	-0.03	-0.07	0.07	—			
7. Training contents	0.01	-0.13	0.05	-0.03	0.04	-0.16	—		
8. Gender	0.10	0.14	0.01	0.10	0.15	0.21	-0.21	—	
9. Age	-0.11	-0.16	0.09	0.05	0.04	-0.14	-0.12	-0.02	—

Note. Training contents and gender are dummy variables. * $p < .001$.

Table III. Moderated path analysis.

Dependent variable	Indipendent variable	Estimate	SE	95% CI Lower	95% CI Upper	β	z	p
	Training transfer	2.52	0.62	1.31	3.73	0.42	4.07	< .001
	Org. learning culture	1.44	0.56	0.34	2.54	0.28	2.56	0.011
	Training trasfer * Org. Learning culture	1.54	0.44	0.68	2.40	0.30	3.50	< .001
WP - Proficiency	Training contents	0.52	1.09	-1.60	2.65	0.04	0.48	0.629
	Training length	0.00	0.01	-0.03	0.03	-0.01	-0.11	0.913
	Gender	-0.30	0.95	-2.17	1.56	-0.03	-0.32	0.748
	Age	0.05	0.04	-0.03	0.14	0.09	1.19	0.234
	Training transfer	3.11	0.58	1.98	4.24	0.51	5.39	< .001
	Org. learning culture	1.24	0.43	0.41	2.08	0.24	2.91	0.004
	Training trasfer * Org. Learning culture	1.49	0.43	0.65	2.33	0.28	3.47	< .001
WP - Adaptivity	Training contents	-0.49	1.02	-2.50	1.51	-0.04	-0.48	0.629
	Training length	-0.02	0.02	-0.05	0.02	-0.09	-0.96	0.336
	Gender	0.72	0.99	-1.21	2.66	0.06	0.73	0.465
	Age	0.02	0.05	-0.08	0.12	0.04	0.46	0.647
	Training transfer	3.85	0.56	2.76	4.94	0.60	6.93	< .001
	Org. learning culture	1.00	0.41	0.20	1.80	0.18	2.45	0.014
	Training trasfer * Org. Learning culture	1.01	0.45	0.13	1.88	0.18	2.26	0.024
WP - Proactivity	Training contents	0.87	1.02	-1.13	2.87	0.07	0.85	0.393
	Training length	0.01	0.02	-0.02	0.04	0.05	0.61	0.545
	Gender	1.21	1.04	-0.83	3.25	0.10	1.16	0.247
	Age	0.06	0.05	-0.04	0.15	0.09	1.21	0.226

Note. 'Training transfer' and 'Org. learning culture' are mean-centered variables. 'Training trasfer * Org. Learning culture' is the interaction effect.

Table IV. Simple effects analyses.

Dependent variables	Moderator levels	Estimate	SE	95% CI Lower	95% CI Upper	β	z	p
WP - Proficiency	Mean - 1SD	0.64	0.80	-0.93	2.21	0.11	0.80	0.422
	Mean	2.52	0.62	1.31	3.73	0.42	4.07	< .001
	Mean + 1SD	3.95	0.75	2.47	5.42	0.66	5.24	< .001
WP - Adaptivity	Mean - 1SD	1.29	0.81	-0.29	2.87	0.21	1.60	0.109
	Mean	3.11	0.58	1.98	4.24	0.51	5.39	< .001
	Mean + 1SD	4.50	0.68	3.17	5.82	0.74	6.63	< .001
WP - Proactivity	Mean - 1SD	2.62	0.84	0.98	4.26	0.41	3.13	0.002
	Mean	3.85	0.56	2.76	4.94	0.60	6.93	< .001
	Mean + 1SD	4.79	0.64	3.54	6.03	0.75	7.52	< .001