



CAN I BE TRAINED TOO? AN ANALYSIS OF DETERMINANTS OF THE ACCESS TO TRAINING

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Abstract

This article aims to provide additional knowledge of the pre-conditions for access to training, thus, how access to training is related to age, type of organization, complexity of the work and level of education of the employees. Relying on secondary data from the European Working Conditions Survey, 2010 for Slovenia (n=1440), I provide two analysis, factor analysis and binomial logistic regression with categorical predictors. The factor analysis' results revealed the importance of organizational context for the employees' willingness to train. On the other hand, the binomial logistic regression's results showed that age, different skills requirement, level of education, complex tasks involvement and private sector are significantly associated with the on-the-job training access. While there is no significant gender profile for training, age showed a significant association with the access to train, due to the necessity to address skill inequalities among older employees. Moreover, I found a positive association between private sector employment and training and up-to-high education profile and training.

Keywords: *training, complexity of work, level of education, private sector, older employees*

1. INTRODUCTION

The European Union is increasingly emphasizing the importance of training and adult education as a measure for meeting the Europe 2020 targets on sustainability, education, innovation, and well-being increase (Kocanova, Bourgeois, & de Almeida Coutinho, 2015). However, despite continuous attention over the years, there is still a discrepancy between the skilled workforce supply and demand. The European Union supports the development of public policies that should contribute to a more qualified labor force for the achievement of the objectives of sustainable growth. The growing number of knowledge and skill-intensive jobs increases the need for highly-qualified employees with specific skill requirements. The management of organizations is pressed to change their policies and regulations frequently. Organizations aim to attract talented, dynamic, enthusiastic employees in an organization, at the same time to keep current employees up-to-date skilled. An adaptable workforce

is needed to respond to changes in labor market needs, which emphasizes the needs for further training and continuous education.

Formal school education ensures that the potential workforce has the appropriate level of human capital for the chosen occupation but is not efficient and sufficient method of training the workforce. It is more a process of acquisition of skills that continues to upgrade and differentiate throughout employees' working lives. Thus, different types of training are offered to employees, namely on-the-job training (job instructions, internship, training, apprenticeship, and coaching) and off-the-job training (classroom lectures, simulation exercises, computer modelling, case study methods) (Koike & Kikō, 1997).

Not surprisingly, therefore, understanding the determinants of training has attracted the interest of numerous organizational scholars (Kane, Abraham, & Crawford, 1994; Karthik, 2012; Oatey, 1970; Rhodes, Lubans, Karunamuni, Kennedy, & Plotnikoff, 2017; Tan, Hall, & Boyce, 2003; Weaver & Habibov, 2017). Despite

the definitional divergence, there exists a relative consensus within the literature that well-trained workforce is a valuable asset to the organization, which helps the organization for successive growth in a dynamic and highly competitive environment. As Oatey (1970) emphasized, training is essential in facilitating both levels of productivity and personal development in any organization. Kane et al. (1994) discuss the importance of strategic organizational approaches to training and development and suggest that the training should correspond to the organization's needs and financial and human resources that can be committed. Few authors have discussed the contribution of the training to the overall profitability and effectiveness of an organization (Adeniyi, 1995; Alasadi & Al Sabbagh, 2015; Mathieu, Tannenbaum, & Salas, 1992; Olaniyan & Ojo, 2008; Riley, Michael, & Mahoney, 2017). They found the importance of training in increasing productivity, improving the quality of work, knowledge, and skills, improving workforce development and ensuring the survival and growth of the organization.

Despite the increased research interest in the determinants to training, most of the research has mainly focused on formal, of-the-job training (Korpi & Tählin, 2018). While of-the job training offers important general skills and capabilities attainment, on-the job training allows employees to attain competencies, knowledge, and skills needed to perform a specific job at the workplace successfully. Hence, there is still a gap in our knowledge with regard to the determinants that affect the access to both, on-the-job and off-the job training as well as the factors that relate with the employees' willingness to take part of the training. Therefore, the purpose of this paper is to highlight the important predictors of the job training access, while considering the organizational context. We examined this association using factor analysis and binomial logistic regression with categorical predictors. Our results extend the current line of research by highlighting the important determinant of the training access.

The remainder of this paper is structured as follows. In the first section, I provided a brief theoretical overview of the existing literature and formulated hypothesis. The second section outlines the research context and methodology, followed by the results section. The last section presents a discussion of the findings with implications for theory and practice, and limitations.

2. THEORETICAL BACKGROUND

In modern society, more than ever, companies compete with the knowledge and skills of the workforce needed for continuous improvement. According to a recent estimate, approximately 1.6% of the total wages are annually spent on employee training (investment in training activities). Thus 66% of firms provided training (Mignot, 2013). This investment is not only due to increased interest in training, but also due to the advancement of technologies and the need of organizational performance improvement - increased profit, productivity, enhanced market share and competitiveness (Salas & Cannon-Bowers, 2001). Different empirical studies have confirmed the firm increased organizational performance as a result of training, such as Seleim, Ashour, and Bontis (2007) in software companies, Bontis, Bart, Bontis, and Serenko (2009) in a financial services industry, Youndt, Snell, Dean, and Lepak (1996) in manufacturing firms.

Training programs by creating a supportive workplace environment, improve the overall satisfaction and quality of the work of the employees. Benefits from the training can be seen at both organizational and individual levels. At organizational level benefit come in the form of improved organizational performance (profitability, effectiveness) and improved organizational reputation (employee satisfaction, customer satisfaction). At an individual level, they come in the form of improved job performance (enhanced self-efficacy skills, cross-cultural adjustment, improved planning, and communication), increased declarative ("what") and procedural ("how") knowledge. Hence, before the training programs are developed, detailed organizational and job/task analysis (assessment) is needed. The organizational analysis should outline the system components of the organization that could influence the delivery of a training program (Goldstein, 1993). Hence, more factors should be analyzed as organizational goals, organizational structure, available resources, potential threats, and organizational climate and culture for knowledge and skill transfer/adaptation. Job/task analysis should outline the information necessary to create the learning objectives and factors as work functions, work conditions, abilities required for performing a job (Goldstein, 1993).

Much of the literature on training opportunities focus on the inequalities of access to training between private and public firms (Booth, 1991; Goldstein, 1993; Schraeder, Tears, & Jordan, 2005). This work provides insights into the more likely access to training in the public sector than in the private sector. Thus, private sector firms, because of the need to make a profit are more constrained for investing in training. An additional constraint is a fear of losing trained workers to competitor companies that have not invested in the training but can offer higher wages. The latter is especially the case with SMEs. Furthermore, they often have difficulties in financing the cost of training, due to the lack of resources of often expensive training programs (Loan-Clarke, Boocock, Smith, & Whittaker, 1999; Matlay & Bishop, 2008) and consequently, an only small number of workers get the opportunity to be trained.

Another problem is the small number of employees, so SMEs can experience difficulties in releasing employees for training, because of the potential disruption of day-to-day activities. However, the recent European Commission report states that financial support guaranteed by companies to employees engaged in training is greater than that guaranteed by the state (Federighi, 2013). As reported, the public sector is financing between 1.75 and 16 times less than the private sector. Private firms compete in a dynamic environment, where the educated and skilled workforce is a competitive advantage. Aguinis and Kraiger (2009) pointed out that the benefits of training programs are not assessed only regarding their financial benefits to the organization, but rather regarding productivity improvement, organization's reputation and organizational performance (effectiveness, operating revenue per employee). Thus, ensuring resources that allow access to training is prioritized from the private sector.

Hypothesis 1: Access to training (on-the-job training, off-the-job training) will be positively related to private sector organization's jobs.

Another claim of the recent European Commission report is the fairness of the distribution of access to training for different age and education groups (Federighi, 2013). As is identified there is a need to address skills inequalities among older employees. As the overall age of the workforce is increasing due to later re-

irement, organizations started to recognize the importance of retaining the skills updated to manage them effectively. Firms are prepared to invest more in training of the older workforce due to lack of fear of financial and knowledge losses because of the mobility of the workforce. Namely, the older workforce is assumed to be more resistant to change and more loyal to organizations compared with the younger employees. Also, as pointed out by Ntatsopoulos (2002) they have higher output because of their experience and greater organizational commitment and stability.

Hypothesis 2: Access to training (on-the-job training, off-the-job training) will be positively related to employees' age.

The access to training is unevenly distributed among employees depending on their level of education. In the literature, the reasons for this unequal distribution of training opportunities is discussed on organizational and individual, worker's level (Zupan, Eftimov, Božič, & Petrovski, 2017). As identified in the literature, unevenly distribution on an organizational level is due to larger economic returns for high-educated workers (Arulampalam & Booth, 1998; Kuckulenz & Zwick, 2003). The economic returns from training depending on the level of education differ across studies (vary on the country and period). Few studies show larger economic returns for high-educated workers (Arulampalam & Booth, 1998; Kuckulenz & Zwick, 2003). Conversely, other studies show a higher return for low-educated workers (Brunello & De Paola, 2004; Budría & Pereira, 2007). However, Maximiano (2011) found that the firms' willingness to train low- and high-educated workers is not significantly different. Therefore, he found reasons for lesser willingness to train on the individual, worker's level. Hence, Fouarge, Schils, and De Grip (2013) noted that low-educated workers are less willing to participate in training, but when participating, economic returns are positive and not significantly different from high-educated workers economic returns. They showed that the lesser willingness for training is due to economic preferences and personality traits. Hence, I hypothesize:

Hypothesis 3: Access to training (on-the-job training, off-the-job training) will be positively related to employees' educational level.

Acquisition and maintenance of relevant skills are crucial for sustainable and strong growth and adaptation to a rapidly changing environment. Development of workforce with required job skills is a strategic concern in the development outlooks. Nowadays, more than ever required skills within a different occupation are evolving, due to the intense knowledge economy. Employers invest in training of the employees in the hope of increasing the productivity, competitiveness and firm profitability in the future. Advantages are visible in both new product innovations and adaptation of production processes to new developments and technology (Agarwala, 2003; Bishop, 1994). Investment in the human capital of the employees is not only short term business goal but rather a long-term goal of sustainable growth.

Effective training for the acquisition of complex skills is long and effortful processes. As Van Merriënboer (1997) noted, to reach proficiency in a complex cognitive skill at least 100 hours of training are required. A true expert level can require up to a few years of experience and training. Diversity skilled workforce gives the firm a competitive edge and increases the firms' productivity. As nowadays dynamic environment requires flexible and rapid accommodation to different market needs, different skills from the workforce are required. The formal education gives to the potential workforce very limited skills that must be upgraded after enrolling at work. The firms often find training as an appropriate measure for developing competitive skills for keeping in step with the last technological improvements and changes.

Hypothesis 4: Access to training (on-the-job training, off-the-job training) will be positively related to the job's complexity and job's different skills requirement.

Effective training as a systematic approach to learning and development of employees and organization, it is highly dependent on the contextual pre-conditions for training. The work environment can influence the employees' willingness to train. Organizations that build on the inherent value of the employees as well motivated and committed are growing faster than competitive organizations (Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989). A positive and cooperative atmosphere within an or-

ganization can contribute to the creation of a motivated and committed workforce, thus, improving the overall effectiveness of an organization. Emotions can affect communication, thinking, and effective acting. Emotions, if negative can harm employees and cause low productivity and poor results. The negative consequences arise if there is a need for employees to suppress emotion expression. "Toxic" working environment is characterized by poor performance, high levels of employee dissatisfaction and stress well beyond workload issues (Coccia, 1998). Research findings have indicated the importance of not only extrinsic (outcomes), but intrinsic purposes of work (finding a purpose in work) for many employees (Salancik & Pfeffer, 1978; Wrzesniewski & Dutton, 2001). Meaningful work is related to jobs with characteristics as identity, self-actualization, significance, feedback, autonomy and task variety (Kulik, Oldham, & Hackman, 1987). Having a meaningful work in long-term can enhance organization' performance and stimulate innovation. Organizations need analysis of contextual pre-conditions before the development of training program to determine who needs training (criterion development process), what kind of training is needed (specification of training objectives and design of the program), and where the training should be conducted (delivery of the training).

3. METHODOLOGY

3.1 Sample and data collection

One thousand four hundred four employees aged 15 and over, who were employed during the reference period and with a place of residence in the territory of Slovenia from the European Working Condition Survey 2010 were included. Individuals were selected using a random sampling procedure (a random sample of workers, a random selection of individual from the population registry). I sought to examine the access to training within different sectors, different age and education groups and different job requirements. Hence, of the participants, 46.2% were men (648 employees), the mean age was 41 years old, and approximately 72.3% held a maximum of a four-year high school.

3.2 Measures

To capture the access to training, the participants were asked to define whether they work in a public, private, or joint public/private sector organization, in non-for-profit sector or other; what is the highest level of education or training that they have successfully completed (ranging from primary education not completed to Ph.D. degree); do their main paid job involve complex tasks; do the tasks require different skills; over the past 12 months, have they undergone any of types of training to improve their skills or not?

Binomial regression with categorical and continuous exploratory variables was applied to provide knowledge on the relationships and strengths among the variables. The dependent variable is the access to training over the past 12 months, and it is categorical (consist of two groups: yes, versus not). Also, exploratory factor analysis was applied to simplify the employment status information to a few representative factors (16 questions analyzed).

4. RESULTS

4.1 Exploratory Factor Analysis

Initially, the factorability of the 16 items was examined. The Principal Component Analysis was used as an extraction method and Oblimin with Kaiser Normalization as a rotation method. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.816, above the recommended value of 0.6, and Bartlett's test of sphericity was significant ($\chi^2(120) = 3960.144, p < 0.01$). The first four factors explained 53.1% of the variance. However, additionally parallel analysis was applied, and the analysis identified only three factors that should be retained for interpretation and subsequent rotation. As the missing cases for individual observations were under 10%, the missing cases were excluded listwise.

Importance for the work, ability to influence decisions that are important for the work, involvement in improving the work organization, been consulted before targets for work are set, having a say in the choice of the working partners, ability to apply own ideas in the work, having support and help from the colleagues and from the manager,

and possibility to take break when wish have gone to the first factor.

Experiencing stress at work, been emotionally involved, and job requirement to hide feelings have gone to the second factor. Having the feeling of doing useful work, feeling of work well done, and having clear expectation from work have gone to the third factor. Table 1 presents the exploratory factor analysis results.

Factor 1 contains eight items that reflect **job involvement** (role, importance, influence, creativity, support). Factor 2 contains three items that reflect **toxicity in the workplace** (stress, emotions involvement, emotions hiding). Factor 3 contains three items that reflect having **meaningful work** (usefulness, clear expectations, satisfaction).

4.2 Binomial Logical Regression analysis

Table 2 presents the binomial logistic regression analysis results. As hypothesized, all independent variables, except the gender were significantly associated with the access to training for improving the skills over the past 12 months. Hypotheses 1 to 3 predicted that the private sector organization jobs, employees' age, and employees' educational level are positively related to access to training. The regression model reveals that the private sector access to training is greater compared with public, private/public and NGO sectors ($p < 0.05$). Employees with educational level up-to-high school got greater access to training ($p < 0.05$). High level of education was not statistically significant in predicting access to training. Employees' age is highly important in access to training for improving skills. Job complexity is a very important factor in employer decision for investing in training ($p < 0.01$). Also, jobs that require different skills are significantly related to access to training. Thus, hypothesis 1 to 4 were supported.

The Omnibus Tests of Model Coefficients yielded a chi-square value of 163.312 with 11 degrees of freedom and significance. Thus, the overall model is statistically significant. Adding the 11 predictor variables to the model significantly increased our ability to predict whether the person had or had not undergone training for improving the skills over the past 12 months.

For assessing the overall model fit three measures were used. The first two ones, the Cox and Snell R^2 and the Nagelkerke R^2 are measures of the pseudo- R -square. The value of the Cox and Snell R^2 in this analysis has been (0.152) and the value of Nagelkerke R^2 (0.203). The third one, Hosmer and Lemeshow test result has been $\chi^2 (df=8) = 4.296, p = 0.829 > 0.05$, which means there is a non-significant difference in the distribution of the actual and predicted dependent values. The classification results showed an overall success rate of 66.4 %.

5. DISCUSSION AND CONCLUSION

I advance our understanding of the employees' access to training in different organizations. In doing so, I explained who of the employees get the

chance to train within an organization, thereby establishing pre-training context conceptualization. Specifically, I found that private organizations are more likely to train their employees than in the private sector. Private firms find highly skilled and educated workforce as a competitive advantage (Javalgi, Gross, Benoy Joseph, & Granot, 2011). In the dynamic and competitive environment, private firms invest in training not only due to financial benefits but rather due to increased organization' reputation, improved productivity and increased effectiveness. Greater opportunities to training are offered to the older workforce, that can be explained by the need to address skills inequalities among older employees to manage them effectively (Lee, Czaja, & Sharit, 2008). There is an additional incentive due to greater loyalty and lower

Table 1: Exploratory factor analysis results

Item/Factor	Job involvement	Toxicity in the workplace	Meaningful work	Community
Select the response which best describes your work situation				
You can influence decisions that are important for your work	0.738	0.180	0.040	0.571
You are involved in improving the work organization	0.724	0.126	0.059	0.545
You are consulted before targets for your work are set	0.669	-0.200	0.064	0.524
You have a say in the choice of your working partners	0.667	0.174	-0.042	0.459
You are able to apply your own ideas in your work	0.643	0.172	0.242	0.523
You can take a break when you wish	0.574	-0.128	-0.290	0.374
Your manager helps and supports you	0.541	-0.411	0.096	0.524
Your colleagues help and support you	0.490	-0.330	0.099	0.402
You experience stress in your work	0.011	0.758	0.034	0.566
You get emotionally involved in your work	0.176	0.616	0.057	0.393
Your job requires that you hide your feelings	-0.020	0.592	0.041	0.345
You have enough time to get the job done	0.130	-0.550	0.134	0.376
Your job involves tasks that are in conflict	0.106	0.332	-0.290	0.225
You have the feeling of doing useful work	0.078	0.081	0.807	0.660
Your job gives you the feeling of work well done	0.105	-0.127	0.709	0.585
You know what is expected of you at work	-0.039	0.024	0.705	0.486
Share of variance explained (%)	23.48	14.17	9.58	47.24
Cronbach's alpha	0.793	0.546	0.642	

Note: Extraction Method: Principal Component Analysis; Rotation Method: Oblimin with Kaiser Normalization.

Table 2: Binomial logistic regression analysis of undergone training for improving the skills over the past 12 months

Independent variable	b	se	z ratio	Prob.	Odds
Age	0.017	0.006	7.063	0.008***	1.017
Gender	-0.114	0.145	.620	0.431	0.892
Education					
Up-to-high school	1.143	0.542	4.453	0.035**	3.137
High education	0.049	0.552	.008	0.930	1.050
Sector					
Private sector	1.197	0.534	5.031	0.025**	3.309
Public sector	0.043	0.534	.006	0.936	1.044
Joint public/private organization	0.455	0.584	.607	0.436	1.575
NGO	1.471	1.072	1.883	0.170	4.354
Different skills requirement					
Complex tasks	-0.465	0.231	4.068	0.044**	0.628
Constant					
Constant	-1.492	0.870	2.941	0.086	0.225
Model χ^2	163.821 p. < .05				
Pseudo R^2	0.203				
n=	1404				

Note: The dependent variable in this analysis is undergone training for improving the skills over the past 12 months coded so that 1 = yes, undergone training over the past 12 months and 2=No, no training over the past 12 months.

*, ** and *** indicate significant at 90%, 95% and 99% level of significance respectively.

Source: European Working Conditions Survey (2010)

mobility of the older workforce compared to younger employees. Thus, the fear of financial and knowledge losses is minimized.

Employees with an educational level up-to-high school got greater access to training. This can be explained on both an organizational and individual level. Employers find a motivation to invest in the low-educated workers' human capital because of their skills shortcomings that are crucial to the knowledge economy. At an individual level, employees can find a motivation to train because of extrinsic motivation (economic preferences) and because of intrinsic motivation (desire for reward, improving capabilities, self-efficacy) (Groot & De Brink, 2000). Investment in training can be explained by the need

for an acquisition and maintenance of relevant skills for sustainable and strong growth. Formal education is insufficient in the acquisition of skills in the intense knowledge economy (Brabeck, 1983). Due to different market needs, nowadays' workforce needs diverse skills to accommodate rapidly. Training plays an important role in developing competitive skills for keeping in step with the work changing context. This is especially the case with the acquisition of skills needed for complex jobs. As effective training in the latter case is a long process, better access to training for these employees is expected.

With the factor analysis, I advance our understanding of the contextual pre-condition for training. Namely, three unobserved latent variables

showed up: job involvement, toxicity in the workplace and meaningful work. As the work environment influences the employees' willingness to train, organizations should aim to build on the committed and motivated human resources. Having meaningful work and being involved in the job can contribute to the creating of positive and cooperative organization culture, thus, improving the effectiveness of an organization. On the other hand, having a "toxic" work environment can cause poor result and dissatisfaction. Wider analysis of the organization is needed before developing training programs.

The present research offers several contributions to theory and practice. First, my findings advance the literature on access to training within organizations by providing new insights into which parameters can influence the opportunities to train. Scholars have studied different aspects. However, joint analysis has not been done. This research also illuminates the contextual pre-condition for training important for practice. I found that three parameters can influence the employees' willingness to train. Thus, employers should prepare an analysis of the organization context before developing training programs, to maximize the effect of training.

My research has aimed to examine how access to training is related to age, type of organi-

zation, the complexity of the work and level of education of the employees. My research, however, is not without limitations. While this approach provides greater knowledge of the pre-conditions for access to training, it does not provide knowledge of how access to training is related to the particular profession, work experience, and different economies. Therefore, a useful next step would be to examine the causal relationship between access to training and different professions, different countries, and different work experience.

As organizations aim to keep current employees up-to-date skilled to respond to changes in market needs, training is strategically important. Access to training is determined by age, type of organization, the complexity of the work and level of education of the employees. There is a positive association between training and private sector employment, high education profile and job complexity. Age shows a significant effect on the access to train, due to the necessity to address skill inequalities among older employees. The employees' willingness to train is dependent on the organization context. Therefore, an analysis is needed before preparing training programs. The present research offers a richer and more precise perspective on the determinants of access to training.

SUMMARY IN SLOVENE / IZVLEČEK

Namen prispevka je poglobiti poznavanje predpogojev za dostop do usposabljanja in preko tega ugotoviti, kako je dostop do usposabljanja povezan s starostjo, vrsto organizacije, zahtevnostjo dela in stopnjo izobrazbe zaposlenih. Na temelju sekundarnih podatkov Evropske raziskave o delovnih razmerah za Slovenijo 2010 (n = 1440) sta v članku predstavljeni dve analizi: faktorska analiza in binomna logistična regresija s kategoričnimi napovedniki. Rezultati faktorskih analiz so pokazali pomen organizacijskega konteksta za pripravljenost zaposlenih, da se usposablajo. Po drugi strani so rezultati binomske logistične regresije pokazali, da so starost, različne spretnostne zahteve, stopnja izobrazbe, vključevanje kompleksnih nalog in delovanje v zasebnem sektorju pomembno povezani z dostopom do usposabljanja na delovnem mestu. Medtem ko spol za usposabljanje ni pomemben, je starost močno povezana z dostopom do usposabljanja zaradi potrebe po odpravljanju neenakosti med usposobljenostjo starejših zaposlenih. Poleg tega je bila ugotovljena pozitivna povezava med zaposlovanjem in usposabljanjem v zasebnem sektorju ter visokošolskim profilom in usposabljanjem.

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