

EVALUATION OF THE IMPACT OF TRAINING EFFORT IN WORKERS EMPLOYABILITY WITHIN THE INSTITUTIONAL SPANISH TRAINING MODEL

[*Evaluación del impacto del esfuerzo formativo en la empleabilidad de los trabajadores en el contexto del modelo formativo tripartito español*]

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Abstract

The association between quantity of training and employability was analysed through a non experimental research with two non equivalent groups. The operationalization of training quantity is considered to provide an indicator of training effort. Thus, training effort (number of courses) was analysed as the independent variable and employability as dependent variable (occupation indicators, activity enhancement and job performance). The results show that training is related to activity enhancement, specially when workers belong to a small/medium enterprise (SME) and/or to technical or qualified positions. A positive association between training and performance also appeared in the case of SMEs.

Keywords

Employability, labour market, social outcome, professional training, training paradigm, training assessment, training results, training impact.

Resumen

Se analiza la asociación entre cantidad de formación y empleabilidad mediante una investigación no experimental con dos grupos no equivalentes. Se considera que la operativización de la cantidad de formación proporciona un indicador próximo al esfuerzo formativo realizado. Así, se estudió la variable independiente *esfuerzo formativo* (número de cursos) y la dependiente, *empleabilidad* (indicadores de ocupación, enriquecimiento de actividad y desempeño). Los resultados muestran que la formación está asociada al enriquecimiento de la actividad, sobre todo si los trabajadores pertenecen a una PYME y/o a puestos técnicos o cualificados. También hay una asociación positiva entre formación y desempeño en PYMES.

Descriptores

Empleabilidad, mercado de trabajo, retorno social, formación profesional, paradigma de formación, evaluación de la formación, resultados de la formación, impacto de la formación.

Introduction

The financial crisis that we are going through in Spain has brought a high rate of unemployment with. When it comes to designing socioeconomic policies, it is not surprising that training and promotion of employability have become two critical ele-

ments of the equation to be solved. In such a context, knowledge of training programme results acquires a special relevance for training activity sponsors and those in charge of planning and managing training delivery. Measuring the impact of training provides reliable information in order to adopt technical/political decisions about the right activi-

ties to be developed, targeting groups, choosing most adequate training or management methods, among many other applications. In short, training assessment allows a better basis to training management whilst enhancing training results.

Two approaches can be used so as to assess training results: *microscopic* and *macroscopic*. From a microscopic approach, the assessment action is focused on single programmes or specific training events and their effects on individuals and the work they perform. Nevertheless, as a final result, it also focuses on the economic outcomes of an organisation (Return on Training Investment, ROI). From a macroscopic perspective, it is the result of a set of many different training programmes (training plan) that is evaluated through the use of socioeconomic global indicators related to company classifications, industrial sectors and worker groups, among other. This last perspective, much broader in terms of number of training courses analysed, is the one adopted in the current paper.

A previous bibliographical review made from a macroscopic approach shows that there are numerous studies in which the effect of training activity is evaluated by the use of different criteria related to the field of labour and organisations: labour insertion (Puhani, 2002; Herrarte & Sáez, 2004; Nivorozhikin and Nivorozhikin, 2005), productivity (Dearden, Reed and Van Reenen, 2000; Barrett and O'Connell, 2001; Sutherland, 2004; Zwick, 2004; Hempell, 2005; Cassidy, Görg and Strobl, 2005; Zwick, 2006), improvement of company's competitiveness (Van de Wiele, 2010; Molina and Ortega, 2003), wage variation (Bartel, 1995; Regner, 2002; Kuckulenz and Zwick, 2003; Greenberg, Michalopoulos and Robins, 2003; Budria and Pereira, 2004; Arulampalam, Booth and Bryan, 2004), employment stability (Mamaqi & Miguel, 2009), job performance (Bartel, 1995; Boon Heng et al. 2006).

If these results, although tending to favour the effects of training, do not show up as a fully forceful argument in all cases. As we shall see, a similar conclusion is also the consequence of the current work. With the difference that all these studies used the fact of *undergoing or not formal training activity* as independent variable. The only case that talks to us about training intensity (Zwick, 2006) refers to number of training participants, which is an indicator that from our point of view rather relates to the reach of training or training range. As a relevant conclusion for the purpose of this article, none of the reviewed studies refer to number of training events or number of training hours as a training intensity indicator. By means of the current research we want to gain a better understanding of the relationship between training and employability through the use of a quantity or intensity indicators as independent variable.

Hence, from this point onwards it is necessary to clarify what is usually understood by the term *training effort*. First of all, we believe that it is a multidimensional construct in the same way that happens with the construct of employability. But it is not such a common term in scientific literature as the one of employability. In spite of all, we state that training effort is an established term in the world of training management. A brief internet review in Spanish helps us to prove that it is frequently used within public and private institutions. Above all it alludes to a socioeconomic dimension related to training investment. In the academic field, we found a study of Pineda & Sarramona (2006) that contains an example of the socioeconomic sense given to the term. In addition, *training effort* could also have a psychological or motivational meaning. Due to this reason we believe that we stand in front of a multidimensional construct, although, for the purpose of the current research we shall only use a single indicator (number of training events), being aware of the need for further research in this direction.

In relation to the *environment in which the study took place*, it is important to briefly point out the *institutional frame of the analysed participants and training events*. Training operations that focused our attention were developed within the Spanish continuous training joint financed system, managed within the framework of a tripartite agreement between Public Administration, main employer associations and main labour unions. It is not the purpose of the current paper to describe the Spanish national training management system, but it is necessary to specify that the training plan that mostly provided the research data belonged to a funded modality called Offered Training (*Formación de Oferta*) as opposed to Demanded Training (*Formación de Demanda*). More specifically, it was a Regional State Cross Sector Training Plan (*Plan Formativo Autonómico Intersectorial*) promoted by a social agent whose identity is not being revealed in order to protect confidentiality.

In general, we consider that the *functioning of the Spanish national training system* can be characterized as double and frequently contradictory: *a paradigm oriented to the achievement of training range and another approach that reaches for training impact*. The first aims to achieve as many workers and organisations affected by training as possible, giving for granted its beneficial effects. The second focuses on attaining the best results possible in terms of socioeconomic outcomes. The concept of paradigm is used in the sense defined by Khun (1962). Therefore we point out the coexistence of the two operation models. These conclusions were contrasted in a qualitative diagnosis research in the field of local public administrations ordered by the Spanish State Federation of Town Councils and Provinces (FEMP) in 2009 with the collaboration of Griker Orgermer-Ramírez del Río. Not being our purpose to quantify these influences or describe their extensions, and being aware that this reasoning is part of a different investigation line, the aforementioned paradigms are only

pointed out with the purpose of contextualizing the practice of training and serving as an interpretative consideration when it latter comes to discussing results.

But there are *other variables equally influencing results that are also part of the environment* in which training takes place. On the one side, we refer to those variables that come from socioeconomic surrounding conditions which are foreign to training itself (industrial sector, size of organisation, worker groups...). On the other side, we refer to those variables that are part of the training treatment (training methods, transversal or specific nature of contents, programme duration, amount of practice...). Given the socioeconomic focus of our study we have only taken into account those variables that are not part of the training treatment. We therefore leave for later on what could be another research line focusing on the effect of training according to specific characteristics of training itself. On a longer term this should lead to further developments towards a theoretical model of training's influence on employability.

Regarding the *construct of employability*, reviewed literature agrees that it has changed throughout time and that it is difficult to define because it is the consequence of several interrelated variables and disciplines. Among the multiple definitions found, we think that it is worthwhile mentioning the essence of the following:

- Hillage & Pollard (1998): A dimension of people's labour life referred to being capable of getting and keeping fulfilling work and making progress in an organisation.
- Finn (2000): Skill "to be employed". Three elements are pointed out: getting an initial job, the skill to keep it and the skill to mobilize towards other jobs.
- Knight y Yorke (2003): Achievements and personal attributes that increase indi-

vidual probability of finding a job and performing successfully.

According to the outlined definitions we shall define employability as been able to achieve and uphold employment as well as job improvements throughout individual labour life span. Hence we tackle measurement of employability by the use of three employability dimensions that can be compared offering an interesting overall view. These dimensions are: socioeconomic (employment attainment and upholding), organisational (job or role improvement) and inter-individual (performance improvement). This structure is consequent with the society-company-person triad highlighted in the outcome document of the Meeting on Employability (1999) of FUNDIPE which was written by Sáez and Torres, Professors at the Universidad Autónoma de Madrid.

The exposed structure has the following features regarding employability:

- The employability phenomenon occurs in the person, being somewhat observable in each individual. Indeed, the definition focuses on the working lives of people while acknowledging the possibility of other working life conditions that do not come solely from the individual.
- It is sensitive to the employment status of the worker, covering both employed and unemployed populations. This is implicit in the definition when referring to attaining and upholding employment.
- Complete and multidimensional. In practice, the model encompasses several dimensions or factors that range from the individual to the environment. Specifically, it identifies three areas of assessment which may shed an interesting simultaneous overview:
 - Attaining and upholding employment
 - Activity enrichment
 - Performance improvement

To which one might add other specific improvements like working conditions and wages. An indicator that appears in the literature review, but was not included as part of the study; although it could be considered in a latter work.

- Allow easy operational conversion of concepts using quantitative indicators that are directly observable and non-subjective. The three areas on which a person's employability can be measured support hard indicators formulated in quantitative terms.

In order to contextualize the *hypothesis of this work* in our current social environment, we should keep in mind that huge amounts of public resources are used for training. Therefore, there is an undeniable public interest in carrying out systematic work in order to find out what the return of these policies is. To be consistent with our theoretical exposition so far, we *hypothesize that there is a significant positive association between training effort (causal variable) and worker employability (effect variable)*.

This way:

- a) As a first result, we expect somewhat significant evidence of training impact on the attainment or upholding of employment.
- b) Second, in a higher proportion than the previous, it is estimated that there is a significant positive association between training and enhancement of the activity or role played by the worker.
- c) Thirdly, we expect the most significant and positive association to be between training and job performance.

Some prior theoretical and practical considerations that could frame the above hypotheses are:

- a) Attaining and upholding employment is a key goal pursued by Public Administration and social agents such as employer associations and labour unions.

Assuming that the level of employment is the variable that is most sensitive to economic conditions, it is expected that the association with training is not big, but at least significant other.

- b) With respect to activity enhancement, the individual should have a greater role, although it is also possible that the dynamics of the business and economic conditions still have a decisive influence. It is also possible that under both, favourable and unfavourable economic conditions, organisations will continue to produce internal movements of promotion or assumption of new functions/tasks by workers.
- c) Finally, in regard to job performance, it is conceivable that the individual himself has the lead role in the variation of this indicator. Individual ability to influence this variable is not so dependent on the economic environment since performance is a direct consequence of people's behaviour.

Research method

An *ex post facto correlational research design* was used to analyse the association between training effort and employability raised by our hypothesis. Specifically, we used a non-experimental design with two non-equivalent groups without pretest. The assignment of cases to each of the groups in this type of design is not random, which is certainly a weakness to internal validity. This difficulty was offset by paying special attention to those variables that, outside training, could affect the impact of the training, such as company size, industry, functional area in

which the participant develops the job, etc. All of these variables will be made explicit in the following section.

Variables and indicators

Two indicators, number of training activities and number of training hours were used to operationally define training effort. From the quartiles obtained for each of them, two levels were settled: low and high. Training effort levels were set as follows, although, as we shall see in the Results section on, we finally worked with a single indicator, "number of training events" (predominantly referring to number of training courses):

- Low effort (Q₁):
 - Number of events: 1 training event
 - Number of hours: 41 hours or less
- High effort (Q₃):
 - Number of events: 2 or more training events
 - Number of hours: 200 hours or more

Based on the employability definition that was outlined (attaining and maintaining a job, achieving activity enhancements throughout working life and improving professional performance) we used the following variables of employability:

- Attainment of employment
- Upholding of occupation
- Enhancement of activity
- Improvement in job performance

Finally, variables and indicators are shown in the following table (Table 1).

Table 1. Variables and indicators of the study

Type of variable	Name	Indicator
Independent	Training effort	-Number of training events
Modulating	Company type	-Size as number of employees -Economic sector
	Time under current employment status	-Time employed -Time unemployed
	Professional activity	- Functional area -Position
Dependent (Employability as multifactorial variable)	Employment attainment (EA)/Employment Upholding (EU)	-% of unemployed that shift to employed -% of employed that maintain their status
	Activity enhancement (AE)	-% that promote to another category -% that increase functions/responsibilities
	Job performance (JP)	-% that improve job performance

All indicators have an objective basis except the one relating to job performance where certain subjectivity can be found. In spite of all, in this case, data was recorded only when respondents gave a previous positive answer to the question of whether there was a formally established performance evaluation system in their company or not.

Control of modulating variables

Not being able to apply typical devices which are part of an experimental design in

order to control the effect of modulating variables (randomisation and/or maintaining constant values of indicators), we decided to find out what the underlying association between each of these variables and the relationship between central variables “training effort” and “employability” was. The additional information provided was useful to contextualize results interpretation. As noted in the Introduction, this information was limited to the modulating variables considered not to be part of the training. See Figure 1.

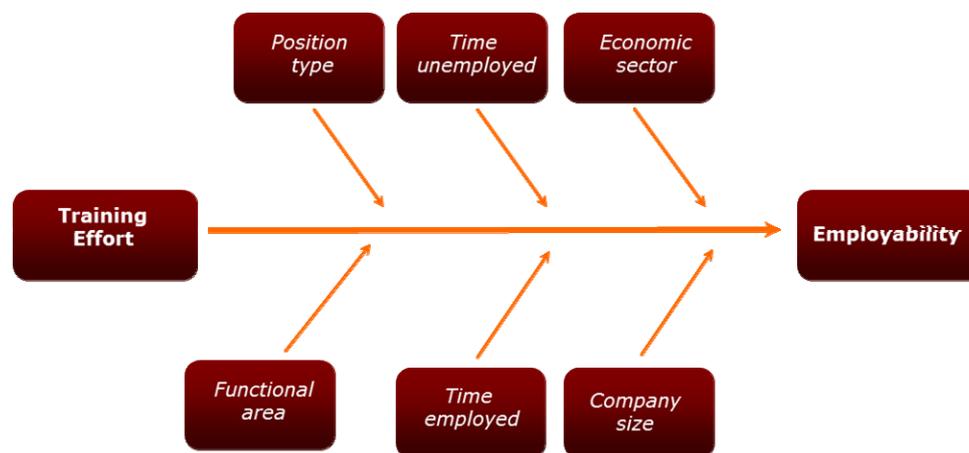


Figure 1. Modulating variables between training effort and employability

Research design

As pointed out previously, we used a research design that crossed both training ef-

fort and employability, using the same indicators listed above. This final design is shown on Table 2.

Table 2. Research design

Variables of Employability	{ ES=Employment Status AE=Activity Enhancement JP=Job Performance	EMPLOYABILITY		
		ES	AE	JP
TRAINING (Training effort)	High training effort (Q3 ↑)			
	Low training effort (Q1 ↓)			

Information sources and fieldwork

Information was obtained from a telephone interview during 2009 based on a brief questionnaire of closed responses that was applied to participants in training activities that were sponsored by an entity promoting Cross Sector Training Agreements (according to the institutional framework). The study was performed with the data supplied by *Esentia, Innovación, Seguridad y Desarrollo S.L.* Using a telephone interview allowed us to reduce costs while facilitating a faster and more efficient access to participants. Additionally, some questions about the knowledge of the promoter and the reasons for dropping out of training were included. Such information was relevant to the entity but has not been part of the current study.

The questionnaire was divided into three main sections: a) information identifying the participant (age, sex and job category), b) identification data of the training undertaken (designation of the training, mode, topic, number of hours and end date) and c) data on employability (promotion, change of duties, employment status...) and other modulating variables of training. Information on first two sections was completed from the database provided by the promoter, thus saving interview time and adding reliability to the data. When participants had completed additional training with other entities, such training was characterized by the questionnaire. The contents framed under the previous structure obey to the variables previously set to measure the impact of training.

In order to avoid subjectivity from respondents on the effects of training, information was collected based on specific facts oc-

curred during the career of the employee since his/her last training. Thus, when addressing labour mobility for example, the questionnaire included questions such as: Since the last course completed have you changed your job category? Since you completed the last training event have your responsibilities changed? Have you kept your role and responsibilities? Have they grown? Have they only changed? Through these types of questions we managed to reflect real changes in the individual situations, rather than only perceptions (See Annex Questionnaire).

Fieldwork

Fieldwork was conducted in March and April 2009, ending the first week of May. The contacting procedure was designed so as to suit the convenience of informants. Therefore, in many cases prior telephone appointments were arranged to complete the questionnaire. We performed an average of about 3 calls per informant which was a total of 1,526 calls, of which 54.6% were unsuccessful due to incorrect phone numbers, people refusing to participate or "No contact" after several attempts.

Sample of participants and training activities

In order to carry out the study we used a list of training participants in 2009 belonging to a training promoter from the Regional State of Madrid. That is, a total of 932 participants. 445 participants (47.75%) could be contacted and agreed to answer to the designed questionnaire. Participant demographic profile is shown in Table 3.

Table 3. Demographic profile of participant sample

Age Group	%	Sex	%
29 y/o or less	25,0	Men	55,9
30-39 y/o	43,7	Women	44,1
40-49 y/o	19,7		
50 y/o or more	9,0		
No Answer	2,6		

In Table 4 the sample is classified according to two indicators of training effort. A total of 275 participants went through two or more training events (high training effort) and a total of 128 participants went through 200 hours or more of training (high training effort). The difference in number of cases is due to the elimination of intermediate values (Q2 and Q3) when using the indicator "number of hours", this operation was not done when using the indicator "number of training activities". But as we shall see below, there are more reasons that account for differences between samples.

Table 4. Training effort values in participant sample

Training effort			
Training Events	Participants	Training Hours	Participants
High effort	275	High effort	128
Low effort	172	Low effort	95

Another difference that ought to be explained happened when a specific test sample did not match the total sample of the study (445 cases provided information). This was due to several reasons:

- In some occasions the respondents refused to answer all questions, other times there were previous filters or conditions that made cases not count. For example, in Figure 1 ("Relationship between training effort and employment status in employed subjects") the test sample is 335 participants. The group of unemployed participants (n = 103) were not included in this analysis. The sum of both groups is 438, close to initial sample 445. Seven of the respondents did not answer this question.

- Only extreme values of intervals were included. For example, in Figure 4 ("Time employed and training effort. Employed-Employed") apart from only analysing what happens in the group of participants who are occupied (n = 291), extreme values of time employed were the only ones to be taken into account: "more than 36 months" and "61 months or more".

Because of these sample variations from the initial group of people interviewed, each participant basis (n) from which results were calculated has been indicated at the foot of each chart that appears in the Results section.

Table 5. Training events sample characterization

Content Areas of all Training Events			
	%	Ttpe*	%
Real estate management	3,8	S	
Audiovisual communication	6,5	S	
Accounting and finance	11,7	S	
Graphic design	3,6	S	
Cosmetic cares	6,0	S	54,3
Explosives	1,8	S	
Marketing/Public events	3,3	S	
Insurance mediation	6,1	S	
Security patrol	8,3	S	
Social services	3,2	S	
Business administration	1,1	T	
Management skills	3,5	T	
Languages	15,4	T	35,4
Information systems	9,6	T	
Labour risk prevention	3,9	T	
Sales & negotiation skills	1,9	T	
Other	10,3	T	10,3
Total	100		100

*S: Specific; T: Transversal

It is interesting to roughly know what the contents of these training events were. They are specified in Table 5. As shown therein, the most often training courses carried out were related to Language (15.4%) and Accounting and Finance (11.7%). Overall, specific training activities predominated (54.3%).

Statistical analysis

In this section the major inferential statistical techniques that were used are listed. The confidence level in all tests was 95% in order

to determine statistical significance. The statistical processing application was SPSS 13.0. At first, with the purpose of finding out which training effort indicator was most convenient, a multiple logistic regression analysis was performed. As dependent variables of "number of training events" and "number of training hours" the chosen indicators were related to the different dimensions of the construct of employability (attainment and upholding of employment, labour activity enhancement and variation in job performance). The step by step method was followed.

The diverse associations between training effort and employability variations were studied based on the above preliminary analysis. Since the dependent and independent variables are nominal scales, we used Chi-square to determine whether differences in employability throughout the different groups of training effort were due to chance, or on the contrary, to an association between them. The Yates Continuity Correction (Colton, 1979; Domènech, 1995) was used as a more restrictive value than the Pearson correlation coefficient.

An additional analysis was performed when the previous results were statistically significant. Again by using Chi-square, the effect of modulating variables was analysed.

Variations of central variables (training effort and employability) were studied as controlled by different values of third variables (company size, job category, industry...). When a statistically significant association was found through including a third or modulating variable, we calculated the strength of such association by using the odds ratio technique (Risk estimate) (Domènech, 1995).

Results

Following, this section will describe results as obtained after statistical exploration, leaving its interpretation for the Conclusions section.

The selection of a training effort indicator

As noted above, a multiple logistic regression analysis was performed in which the number of training events and the number of training hours were used as independent variables in order to determine the extent to which training effort indicators were sensitive to the variation of employability. As a result, only the variable "number of training activities" proved to be a reliable predictor of some of the variables included in the construct of employability. These were "promotion" and "change of responsibilities" (Tables 6 and 7).

Table 6. Regression model of the influence of training effort in promotion (Promotion, No promotion). Step 1

	B	Standard Error	Wald Test	Degrees of freedom	Sig.	Exp(B)
Number of training events completed	1,384	,649	4,549	1	,033	3,991
Number of training hours completed	,759	,713	1,131	1	,288	2,135
Constant	1,382	,367	14,177	1	,000	3,982

N=153; Percent correct: 90,8%

Sensitivity: 0% Especificity: 100% Chi-square: 8,971, p= 0,011, R² de Nagelbekerke: 0,124

Table 7. Regression model of the influence of training effort in change of functions and/or responsibilities. Step 1 (Does change functions and/or responsibilities, Does not change functions and/or responsibilities)

	B	Standard Error	Wald Test	Degrees of freedom	Sig.	Exp(B)
Number of training events completed	1,207	,492	6,009	1	,014	3,343
Number of training hours completed	,197	,508	,151	1	,698	1,218
Constant	,961	,321	8,959	1	,003	2,615

N= 153; Percent correct: 84,3%

Sensitivity: 0% Especificity: 100% Chi-square: 8,070, p= 0,018, R² de Nagelbekerke: 0,088

Training effort results in workers employability

Following the dimensions included in the operational definition of employability, i.e., impact on socio-economic, organisational and individual aspects, we present the results grouped into three sections.

Socioeconomic dimension: Attainment and upholding of employment

The variation or maintenance of employment status does not show a significant association with the training effort that is made. Employment attainment or upholding is independent of the training effort one makes.

This relationship does not vary when including modulating variables in the analysis.

Variation of employment status of employed

Among the employed, regardless the training effort that was made, more than 80% maintained their jobs since last training course assistance (Figure 2). However, it is noteworthy that despite the lack of statistical significance, those who made greater training effort most often varied their employment status to unemployed. 17.07% of employed people who changed to an unemployed status performed a high training effort, which is 6.59 percentage points above those who made a low training effort.



Base: Employed-Employed: n=291; Employed-Unemployed: n=44
 Figure 2. Training effort and variation of employment status among employed

Due to the relevance of this negative trend between training effort and employment status in the group of employed people, further analysis was performed by independently studying the group of employed workers that maintain their status (Employed-Employed) and the one of the employed that change from employed to unemployed (Employed-Unemployed). In each group we independently analysed the association between training effort and the different variables considered as potentially modulating (company size, industry, functional area where work

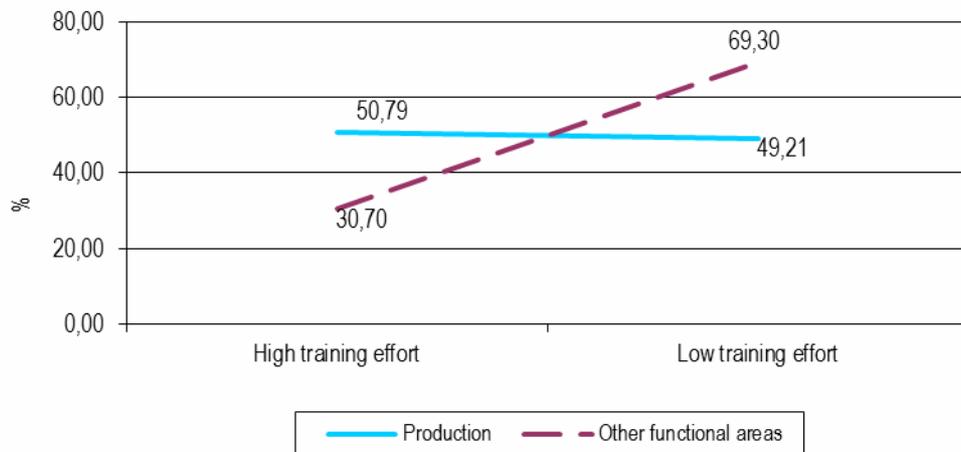
activity takes place, type of job, time employed and time unemployed).

Variables related to training effort of employed

In the category of *employed people who keep their employment*, the variables that are associated with training effort are "functional area" and "time employed". Workers who are in the functional area of production make a high training effort more frequently than those who develop their labour activity in other functional areas (Chi-square = 7.893, p = 0.005). 50.79% of production workers

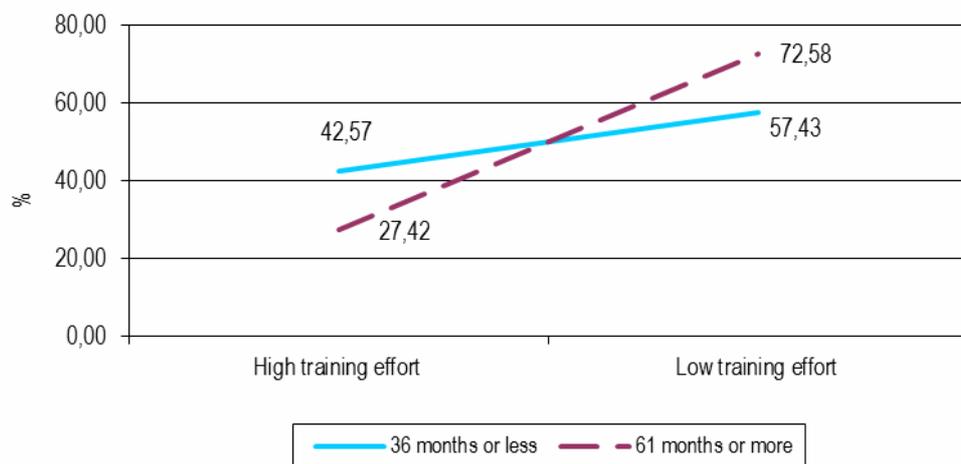
make a high training effort while in other functional areas the percentage reaches only

30.70% (Figure 3).



Base: Production: n=63; Other functional areas: n=228

Figure 3. Functional area and training effort. Employed-Employed



Base: 36 months or less: n=101; 61 months or more: n=124

Figure 4. Time employed and training effort. Employed-Employed

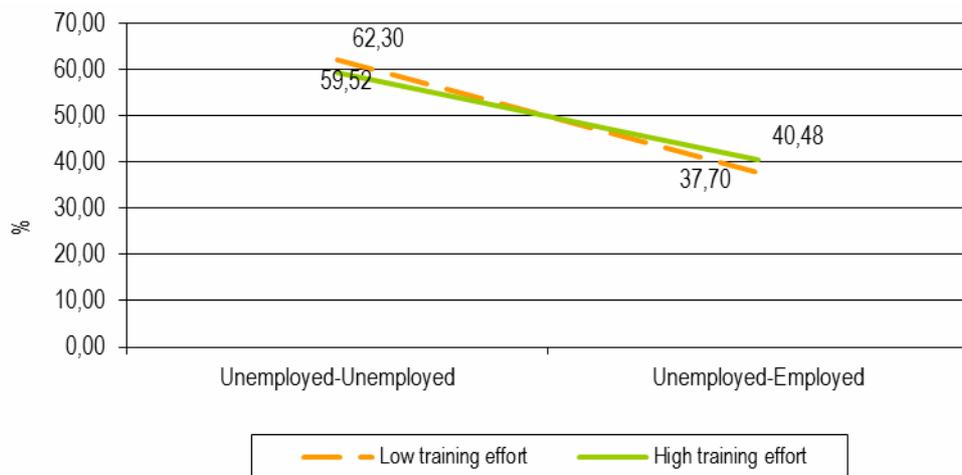
Regarding the time being employed, it appears that those who hold the position for less time (36 months or less) tend to make a higher effort in training than those employed for a longer period of time (Chi-square = 5.026, $p = 0.025$). 42.57% of those who were in their position for three years or less made a high training effort. This only happened for 27.42% of the people who were in their position for five years or more (Figure 4).

In the category of *employees who change to an unemployed status*, no additional factors associated with high training effort were found. More specifically and by contrast

with the previous result, in the case of workers who lose their jobs, their training effort is not associated with belonging to any organisational function, nor the time being employed.

Variation of employment status of unemployed

In this group results show that training effort is not associated with changes in employment status. Among those who were unemployed at the time of completion of their last training activity, around 40% happened to be employed, regardless the training effort they made (Figure 5).



Base: Unemployed-unemployed: n= 63; Unemployed-employed: n= 40
 Figure 5. Training effort and employment status variation of the unemployed

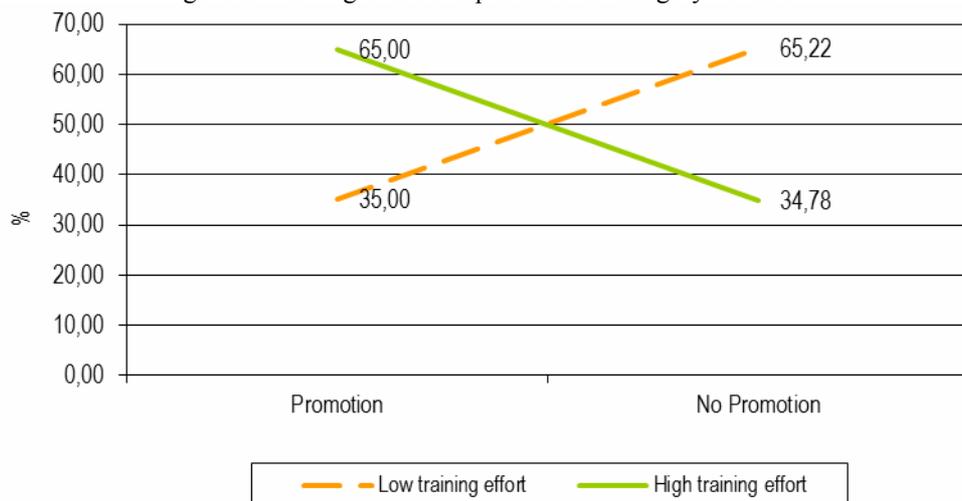
Organisational Dimension: Activity enhancement

This is the area in which training effort has a greater impact. Positive and statistically significant associations were found between both variables (training effort and activity enhancements related to promotions and other function or responsibility changes.

Professional category variation

Workers making a high training effort were promoted to a higher job category more often than those making a low training effort (Chi-square = 6.078, p = 0.014). 65% of those making a high training effort were promoted. In the group of lower training effort only 35% reached a superior job category (Figure 6).

Figure 6. Training effort and professional category variation



Base: Promotion: n=20; No promotion: n=276
 Figure 6. Training effort and professional category variation

This association was found to be modulated by the following variables: company

size and professional education/qualifications. The association holds in

the case of small/medium enterprises (Chi-square = 6.469, $p = 0.011$), especially in companies from 1 to 50 workers (Chi-square = 6.116, $p = 0.013$) and among technical/qualified workers (Chi-square = 8.241, $p = 0.004$).

The results show that in firms below 250 employees, workers making a high training

effort are 10.783 times more likely to be promoted than those who make low training effort (Risk estimates = 10.783). In the case of workers performing on technical jobs or skilled workers, the promotion probability increases 4.863 times (Risk estimates = 4.863). See Figure 7.

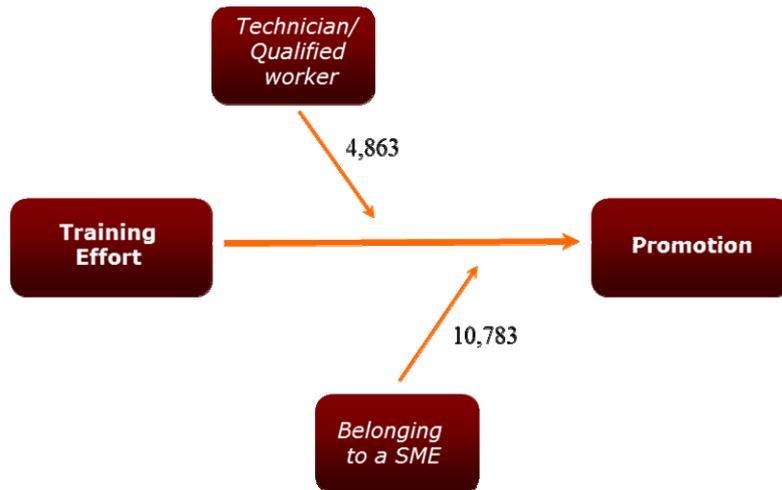
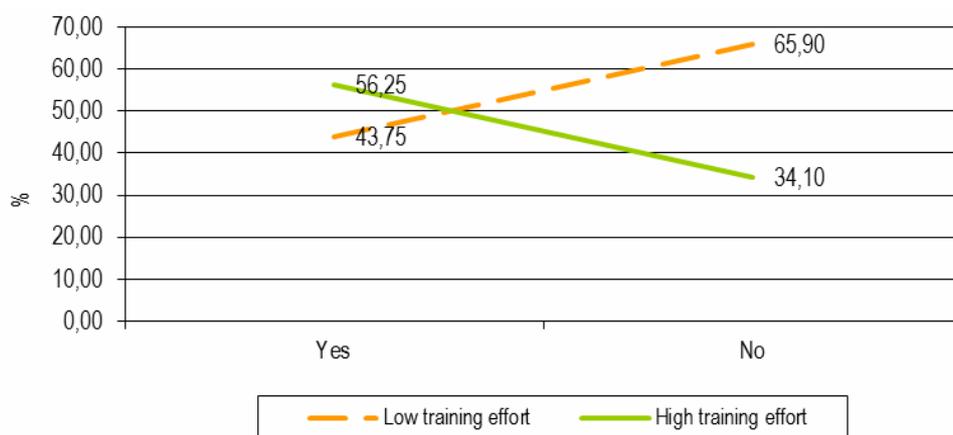


Figure 7. Modulating variables between training effort and promotion

Function and/or responsibility variation

The variation of functions and/or responsibilities followed a similar pattern than that of professional category variation. Workers who made a high training effort, more often

than those performing a low training effort changed functions and/or responsibilities (Chi-square = 5.115, $p = 0.024$). See Figure 8.



Base: Yes: n=32; No: n=261

Figure 8. Training effort and on the job function and/or responsibility

The variables that modulate this relationship, as in the variation of the professional category are again company size and professional qualifications. And just as in the previous case, the association is set to the group of small/medium enterprises (Chi-square = 7.399, $p = 0.007$), especially in companies from 1 to 50 workers (Chi-square = 11.573, $p = 0.001$) and the group of technical/qualified workers (Chi-square = 8.139, $p = 0.004$).

Accordingly, results show that in firms smaller than 250 employees workers who made a high training effort were 3.845 times more likely to have their functions and/or responsibilities changed than those making a smaller effort in training (Risk estimates = 3.845). In the case of workers in technical jobs or skilled workers, the probability of changing their functions and/or responsibilities was increased 4.863 times (Risk estimates = 3.108). (Figure 9).

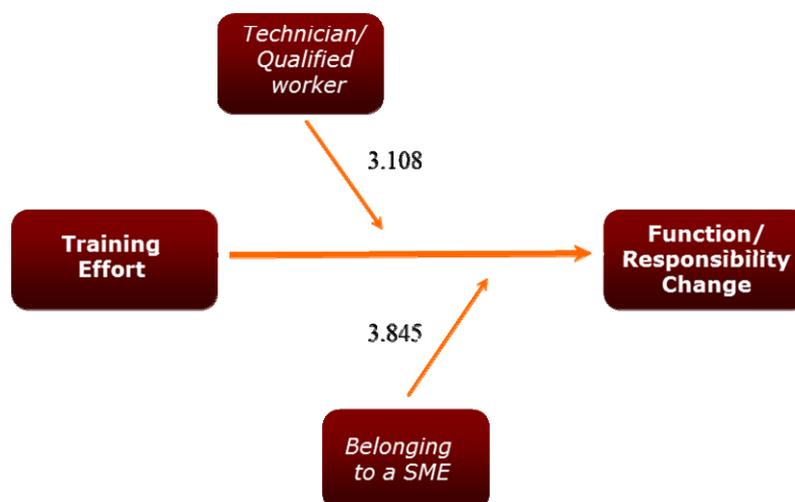
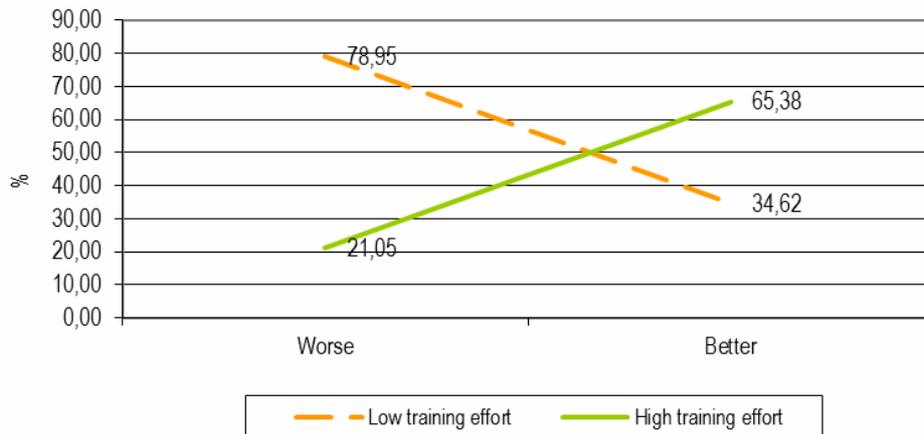


Figure 9. Modulating variables between training effort and function/responsibility change

Individual Dimension: Improvement in job performance

Prior to the presentation of results, it is worthwhile remembering that in order to obtain a more reliable measure of job performance, the data provided here only includes workers who reported that their companies had formal performance appraisal systems in place. The results confirm that a high training effort is not associated with better performance on the job. In general terms, variation of job performance is independent of the training effort one makes.

However, this association is modulated by the variable "firm size". In small/medium companies, training effort does show a significant association with improvement of job performance (Chi-square = 6.979, $p = 0.008$). Within this company size a high training effort is most often associated with job performance improvement. 65.38% of the workers in small/medium companies making a high training effort improve their job performance. Only 34, 62% improve when making a low training effort (Figure 10).



Base: Worse: n=19; Better: n=26

Figure 10. Training effort and job performance variation. Small/medium enterprises

In companies smaller than 250 employees, workers who made a high training effort were 0.463 times more likely to have im-

proved their job performance than those having made a low training effort (Risk estimates = 0.463) (Figure 11).



Figure 11. Modulating variables between training effort and job performance

Conclusions and results discussion

In general, the association between educational effort (as amount of training) and employability rises mixed results, depending on which indicator of employability is chosen when looking for a relationship. Thus, overall, the hypothesis is confirmed only partially. First, the clearest association is established in the group of employed workers. In this group, training effort made by employees contributes to promotion or changes in functions/responsibilities. Thus, referring to the organisational dimension of employability, the specifically formulated hypothesis is confirmed. However, when studying the association between training effort and attain-

ment/upholding of employment (regarding both, employed and unemployed groups), the data do not show any significant association. Consequently, in the case of the socioeconomic dimension of employability, the hypothesis has been clearly refuted.

Given this result it could still be clarified that employment attainment and upholding depends on the economic environment very much more than on training itself. However, other causes such as training management by the companies or even the design and operation of the public training model in place cannot be excluded. Especially if we take into account that other studies in other con-

texts provide evidence for the existence of a positive relationship between training and employment. Added to this is that in our own study, the influence of training in individual performance is shown not as forceful as initially expected. Thus, in the case of the effect of training on the individual's dimension of employability, the hypothesis is confirmed only partially. That is, the association between training effort and job performance is set to positive and significant only when the workers belong to a small or very small company. In this sense we can state that according to results, the smaller the company is, the better the social return on the amount of training will be. A relationship that is also confirmed by other studies as discussed below.

Training effort variables predicting employability

The number of training events is a better predictor of job or activity enhancement (promotion and change of functions/responsibilities) than the number of training hours. However, the number of hours is a fundamental criterion in the planning and management of training. The reasons for this finding require further investigation using qualitative methods (interviews, group techniques...) so as to provide information from employers, managers, directors, or specifically, HR professionals, on the reasons that support their promotion or functional mobility decisions.

We anticipate a preliminary hypothesis by considering that at first, when deciding a promotion or a change in the activity that a worker does, what is important is to provide some proof of knowledge, though not exhaustive. It would be an informal accreditation exercise that values having undergone some training, but not the length of it.

Attainment and upholding of employment (socioeconomic dimension)

In terms of *employment attainment* the results of this study do not confirm the find-

ings of other studies that formulated the independent variable as presence of training or no training at all (Nivorozhkin and Nivorozhkin, 2005; Boon Heng et al. 2006). In our case, no significant training effort differences were found among the unemployed who remained unemployed and those who found a job since the end of their last training activity. Although the indicated studies present their results according to demographic variables (as opposed to ours): men and part-time or temporary workers (Boon Heng et al. 2006) and low skilled workers (Nivorozhkin and Nivorozhkin, 2005), it is most often that workers get employed after training. From another perspective, Mamaqi, X and Michael, J.A. (2009), achieve empirical evidence of training increasing employment stability when such training is specific, agreed between employee and employer and above basic levels.

Nevertheless, regardless the segmentation of participants in terms of demographic variables (to be taken into account in future analysis), the fact that professional education appears not to be associated to job attainment could refer to the significant weight that the economic recession might be having overall during the period of the study. Studies of similar characteristics within different macroeconomic contexts should provide insight into how this factor affects the relationship between the variables under study. Yet, given the existing training management model in Spain, one of its crucial goals is to be a facilitator of employment. However, perhaps due to a predominant operating orientation towards maximum range instead of socioeconomic results (FEMP, 2009), the application of the current model does not seem to be reaching its purpose. This would need further research.

Regarding *employment upholding*, no association was found with the performed training effort. Perhaps due to the same reasons noted previously. In spite of all, in this group of workers who keep their jobs, those

who are in a functional area of production tend to make a bigger educational effort than the rest. This finding is consistent with studies related to the economic crisis of the early 90's. They show that industrial production is the sector that keeps further investment in training (Ramírez del Río, A. 1997). In the framework of an economic crisis, social outcomes of training would be higher in functional areas and in sectors that are directly linked to production because in these organisation areas or sectors, economic results easier to see.

In this same group of participants that kept their employments, the workers that were less time holding their position (36 months or less versus 61 months or more) were also the ones that made a higher training effort. This behaviour could highlight an attitude of interest of companies and employees to gain the necessary knowledge for a good job performance. This result would be in line with the value that workers give to training (CEOE, 2001, cited by Pineda, 2007). 90% of them valued training as a means for improvement, personal development and achievement of new skills and 25% of them value training as a resource to find work in another company.

Yet, far from confirming a positive association between training effort and employment upholding, a striking inverse trend arouse (the more training, the less job upheld) which was however, not significant. It is possible that in anticipation of losing the job, this group was more worried about their professional capability and thus pursued more training than usual, either to reduce the possibility of becoming unemployed, either to gain personal resources that increase the possibility of obtaining a new job. This result leads us to propose that, being occupied, unemployment expectation could be a powerful driver for making a stronger educational exercise. However, this would be a hypothesis to be tested in future studies.

Role activity enrichment (organisational dimension)

Improvement of worker's position in the organization refers to worker's activity enhancement (increasing job category and changes in functions/responsibilities). This dimension appears to be positively associated to training effort. Thus, we confirm that increased participation in training has a positive effect on improving the formal or informal position of a jobholder. Especially if we consider that companies can plan special development programmes for employees considered potentially valid for promotion. However, in addition to this explanation, a higher position –or just certain activity enrichment– may also be the consequence of the normal functional mobility involved in usual business dynamics within organisations. For example, in a situation of economic constraint, vacancies might not be replaced, involving greater responsibility for the employees still engaged in the company. In these cases, workers who go through a greater educational effort are also more likely to promote or change functions and/or responsibilities.

Worker's activity enhancement as a result of educational effort is evident in SMEs (250 employees or less) and mainly in micro-SMEs (between 1 and 50 workers). This outcome is consistent with the findings of Yli-Renko et al. (2001) and Autio et al. (2000) who state that the size of the organization can influence the acquisition and exploitation of knowledge. Large companies to achieve competitive advantage have resources other than knowledge (Gopalakrishnan and Bierly, 2006). They can access specialized personnel, equipment, software applications, procedures and other tools to meet specific demands of the environment (Yli-Renko et al., 2001; Debowski, 2006). Moreover, its structured and more complex procedures, highly formalized HR policies (talent management, 360° assessment systems...) can determine a lower reactivity to training. The mobility of workers in these bigger companies (promo-

tion and changes of activity) is not an immediate result of professional training, but rather a consequence of standardized processes.

SMEs, however, have to be more responsive to market demands with the staff they have. Generally they have fewer resources and this makes them less likely to employ highly specialized personnel. Thus, expanding the versatility of current employees becomes a critical issue. On the other hand, their lower structure allows them greater flexibility in order to respond to changes in both external and internal environment (Bierly and Daly, 2002, Gopalakrishnan and Bierly, 2006). Therefore, when businesses are small, knowledge expansion and staff expertise achieved through training has a more immediate impact on internal mobility than in the case of larger companies.

On the other hand, it was also found that workers employed in direct production activities improved their professional status when making a higher training effort. This finding is consistent with that of Krueger and Rose (1998) who studied results of training on the job according to different types of companies. Their results show that in manufacturing firms training had a positive effect on workers that was not found in service companies.

Again, these findings may be determined by the fact that some jobs are more directly related to the output of the business. Being the needs of these positions more directly linked to business performance, training takes on added importance for organisations. It is, therefore, that in times of crisis the training that most directly impacts on the company's economic performance is not reduced (or is less reduced), unlike training with a more indirect result.

Finally, in the case of technical/skilled workers, we also found a higher incidence of training in promotion or activity shifts. Unlike the work of Nivorozhkin and Nivo-

rozhkin (2005) showing evidence that training improves blue collar workers' professional development, our study does not establish the latter association specifically. The explanation could be similar to the previous case referred to the production area. A higher value can be expected from the work of technicians or skilled workers and consequently in a time of economic constraint, making an educational effort would make more sense in the group of employees that bring higher value to the company. So, this group would become a major contributor to maintaining or improving overall business results.

Job performance (individual dimension)

The positive result of training in job performance appears to be consistent in different studies (Bartel, 1995; Boon Heng et al. 2006). However, in our analysis, in general terms, the variation in job performance was not related to the educational effort made. However, when the frame of analysis was restricted to what happens in small/medium enterprises (250 employees or less) training effort produced a better job performance result. Consistently with previous data referring to the organizational dimension of employability, it could mean that smaller firms make better use of training in terms of its application to business. Perhaps, through the means of being smaller and more cost-sensitive SMEs are more focused on getting a return from their job absences due to training attendance. Finally, it is also possible that by being less structure than large firms, SMEs are more permeable to individual contribution.

Proposals for future

This analysis is a first approximation to the relationship training effort-employability. Further studies along these lines will allow a better understanding of the factors that influence this relationship. In this regard, some suggestions are as follows:

- The replication of similar studies performed with other training plans and training promotion associations would provide strength to the current results. For example, testing the non-association between educational effort and employment attainment and upholding, is of great importance not only for a scientific interest, but also because of the employment policies and training model questions that arise from a result like this.
- Additionally, further findings on the influence of other variables that have not been analysed would be convenient. We are referring to: a) specific training variables (types of content, training delivery methodology, technological and collaborative resources, etc.) b) demographic variables (sex, age, educational level, etc.) and c) macro socioeconomic context variables (expansion or constriction, economic income per capita, regional predominance of productive sectors, etc.) e) the time factor should also be included as an independent variable associated with the effect of training.
- From a methodological perspective, the inclusion of a control group would confer greater robustness to the obtained results. Furthermore, longitudinal studies would allow more information on the effect of the time variable in the relationship training effort-employability.
- The work suggests that unemployment expectations could be an important driver for workers to attend training. Increased knowledge about the role that the expectation of unemployment can have on the decision of workers to undertake training initiatives would be useful for making sound training and employment policies.
- The number of training hours was not a good predictor of functional mobility decisions in workers. Development of qualitative studies would provide important information about the real value that organisations give to the number of training

hours and the number of training events at the time of promotion or activity changes. As indicated, the number of hours is a widely used standard in educational management.

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ANNEX

QUESTIONNAIRE ON TRAINING AND EMPLOYABILITY

(Graphical elements and texts that could identify the training plan promoter have been eliminated in order to protect confidentiality).

Code

I. PARTICIPANT IDENTIFICATION DETAILS (Filled by interviewer)

Name and Surname

Telephone Number

A1. Age

A2. Sex

1.Woman

2.Man

A7. Professional category/Position occupied in the company

- | | |
|--------------------------|-------------------------|
| <input type="checkbox"/> | 1. Director |
| <input type="checkbox"/> | 2. Middle Management |
| <input type="checkbox"/> | 3. Technician |
| <input type="checkbox"/> | 4. Qualified worker |
| <input type="checkbox"/> | 5. Non-qualified worker |
| <input type="checkbox"/> | 98. Other. Which? |
| <input type="checkbox"/> | 99. N/R |

II. TRAINING IDENTIFICATION DETAILS (*Filled by interviewer in Training Follow-up Table I*)

19. Number of training events or courses in which you participated during last year
 Please specify number

17. Name of each training event

110. Content area of each training event

111. Number of hours of each training event

18. Training modality of each training event

- 1. Classroom
- 2. Distance learning
- 3. Blended training
- 4. Computer based (*Only uses training platform*)

112. Ending date of each training event

TRAINING FOLLOW-UP TABLE I

EVENT	NAME	AREA	DAYS	MODALITY	END DATE
Event 1					
Event 2					
Event 3					
Event 4					
Event 5					
Total					

III. TRAINING IMPACT ON PARTICIPANTS (*Questions to be made to participants*)

Good morning/evening/afternoon, my name is... (*personal and institutional introduction of interviewer*) we are contacting you because we are performing telephone interviews in order to evaluate the impact of training delivered through the Employment Regional Service (S.R.E.) All data provided in the survey are confidential and will only be used with statistical purposes.

F1. Did you know about the existence of public funded free training for workers?

1-Sí F1.1 How did you know? Through which channel?

- 1. Press
- 2. Radio
- 3. Television
- 4. Internet
- 5. Work unions
- 6. From my company
- 98. Other. Which?
- 99. N/R

2-No

F2. Do you remember going through training during last year 2009?

- 1. Yes
- 2. I started a course but did not finish
- 3. No (*Please explain that contact details were obtained through the Annex I that you signed for the S.R.E. managed by xxxxxxxx. If still in doubt please go to item P1*)
- 3. N/R (*Please explain that contact details were obtained through the Annex I that you signed for the S.R.E. managed by xxxxxxxx. If still in doubt please go to item P1*)

F2.1 *Only if F2=1 or 2.* Do you remember if training was funded?

- 1.Yes
- 2.No

F2.2 *Only if F2=1 or 2.* Do you remember the promoting entity

1-Yes F2.2.1 Which was it? *Read possible answers*

- 1.xxxxxxxx
- 2.UGT
- 3.CCOO
- 4.CEIM-CEOE
- 98.Other: Which?
- 99.N/R

Go to F2.3

2-No *Read possible answers. If still not remembering go to F3*

F2.3 *Only if F2.2.1=2,3,4 or 98. Don't ask for training done with xxxxxxxx.* What training event/s was/were done with each of these entities? *Interviewer to fill in Training Follow-up Table II.*

F2.4 *Only if F2.2.1=2,3,4 or 98. Don't ask for training done with xxxxxxxx.* In hours, what was/were the duration/s of each training event/s? *Interviewer to fill in Training Follow-up Table II.*

F2.5 *Only if F2.2.1=2,3,4 or 98. Don't ask for training done with xxxxxxxx.* In which modality was/were each training event performed? *Interviewer to fill in Training Follow-up Table II.*

- 1.Presencial
- 2.Distance
- 3.Mixta
- 4.Teleformación (*Only uses on-line platform*)

F2.6 *Only if F2.2.1=2,3,4 or 98. Don't ask for training done with xxxxxxxx.* Approximately when did each training event finish? *Interviewer to fill in Training Follow-up Table II.*

TRAINING FOLLOW-UP TABLE I II

EVENT	ENTITY	NAME	HORAS	MODALITY	END DATE
Event 1					
Event 2					
Event 3					
Event 4					
Event 5					
Total					

F3. *For all.* Did you finish all started training events? If not remembering all events in which participant participated, name 5 maximum. *Interviewer to fill in Training Follow-up Table III.*

- 1.Yes, all (*Go to P1*)
- 2.Only a few
- 3.None
- 4.No (*End of interview*)

Go to F2.3

Go to F2.3

F4. *Only if F3=2 y 3.* Why dropping off or not finishing the training? *Ask of each training event that was not finished. Multiple responses. Interviewer to fill in Training Follow-up Table III.*

- 1.Time schedule
- 2. Material
- 3.Teaching
- 4. Bad customer service

- 5. Organisation of programme
- 6. Instalations/equipment
- 7. Group-class (unbalanced...)
- 8. Not according to previous information
- 9. Course expectation (not accomplished)
- 10. Inadequate level (too high, too low...)
- 11. Contents are different than the programme
- 12. Illness
- 13. Family passing
- 14. I found a Job
- 15. Labour reasons (too much work load...)
- 16. I am leaving the company/dismissal/layoff
- 98. Other. Which?
- 99.N/R

TRAINING FOLLOW-UP TABLE III

EVENT	ENDED	DROPPED OFF	REASONS FOR DROP OFF
Event1			
Event 2			
Event 3			
Event 4			
Event 5			
Total			

P1. *For all.* Currently, what is your employment status? Are you employed/working or are you unemployed?

- 1. Employed/Working (*Go to P2*)
- 2. Desempleado/Parado (*Go to P12*)
- 3. N/R (*End of interview*)

P2. Since when are you in this employment situation, since when are you employed?
Specify how much time

P3. *Only if P1=1.* To which functional area/department do you belong to in your organisation? *Only one answer, in case of doubt, read answers.*

- 1. Company's direction
- 2. Maintenance
- 3. N/R (*End of interview*)
- 4. Production
- 5. Commercial
- 6. Administration
- 98. Other Which?
- 99. N/R

P4. *Only if P1=1.* What is the main activity of your company? What is the economic sector? *Only one answer, in case of doubt, read answers.*

- 1. Saving industry
- 2. Graphics
- 3. Banking
- 4. Communication media/cultural or sports activities
- 5. Cleaning sector
- 6. Security
- 7. Insurance and offices
- 98. Other: Which?

99.N/R

P4.2 *Only if P1=1*. What is your position within the company?

- 1. Director
- 2. Middle Management
- 3. Technician
- 4. Qualified worker
- 5. Non-qualified worker
- 98. Other Which?
- 99. N/R

P5. *Only if P1=1*. Company size. How many employees work in your company?

- 1. Between 1 and 50
- 2. Between 51 and 250
- 3. 251 or more

P6. *Only if P1=1*. Since date X (*interviewer to take into account the ending date of last training event*) have you changed your company or are you still working in the same one?

- 1. Yes I changed (Go to P7)
- 2. No, I still work in the same company (Go to P9)

P7. *Only if P6=1*. In your new company, are you holding the same position and/or the same functions as before?

- 1. Yes, the same
- 2. No, I changed

P8. *Only if P1=1*. In your new company, did you get a salary improvement compared to the former company?

- 1. Yes (Go to P11)
- 2. No (Go to P11)

P9. *Only if P1=1.* Since date X (interviewer to take into account the ending date of last training event) have you been promoted, are you holding a higher position?

1-Sí P9.1. Which

- | | |
|--------------------------|-------------------------|
| <input type="checkbox"/> | 1. Director |
| <input type="checkbox"/> | 2. Middle Management |
| <input type="checkbox"/> | 3. Technician |
| <input type="checkbox"/> | 4. Qualified worker |
| <input type="checkbox"/> | 5. Non-qualified worker |
| <input type="checkbox"/> | 98. Other Which? |
| <input type="checkbox"/> | 99. N/R |

2-No

P10. *Only if P1=1.* Since date X (interviewer to take into account the ending date of last training event) have your functions or responsibilities changed?

1-Sí P10.1. What did this change mean?

- | | |
|--------------------------|---|
| <input type="checkbox"/> | 1. More functions or different functions |
| <input type="checkbox"/> | 2. More responsibilities or different ones? |
| <input type="checkbox"/> | 98. Other Which? |

2-No

P11. *Only if P1=1.* Is there any kind of formal device/system for on the job performance appraisal?

1-Yes P11.1. Up to what extent has your performance changed since date X (interviewer to take into account the ending date of last training event)? *Do not read option 3.*

- | | |
|--------------------------|--------------------------------------|
| <input type="checkbox"/> | 1. It has worsened a lot |
| <input type="checkbox"/> | 2. It has worsened quite |
| <input type="checkbox"/> | 3. It has not changed, it's the same |
| <input type="checkbox"/> | 4. It has improved quite |
| <input type="checkbox"/> | 5. it has improved a lot |
| <input type="checkbox"/> | 98. Other Which? |
| <input type="checkbox"/> | 99. N/R |

2-No/N/R

P11.2. Up to what extent has your performance changed since date X (interviewer to take into account the ending date of last training event)? *Do not read option 3.*

- | | |
|--------------------------|--------------------------------------|
| <input type="checkbox"/> | 1. It has worsened a lot |
| <input type="checkbox"/> | 2. It has worsened quite |
| <input type="checkbox"/> | 3. It has not changed, it's the same |
| <input type="checkbox"/> | 4. It has improved quite |
| <input type="checkbox"/> | 5. it has improved a lot |
| <input type="checkbox"/> | 98. Other Which? |
| <input type="checkbox"/> | 99. N/R |

Go to P15

P12. *Only if P1=2.* Since when are you in this employment situation, since when are you unemployed? Specify how much time

P13. *Only if P1=2.* Although being currently unemployed, have you worked before?

1-Yes P13.1. What is the main activity of your company? What is the economic sector? *Only one answer, in case of doubt, read answers.*

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 1. Saving industry |
| <input type="checkbox"/> | 2. Graphics |
| <input type="checkbox"/> | 3. Banking |
| <input type="checkbox"/> | 4. Communication media/cultural or sports activities |

- | | |
|--------------------------|-------------------------|
| <input type="checkbox"/> | 5.Cleaning sector |
| <input type="checkbox"/> | 6.Security |
| <input type="checkbox"/> | 7.Insurance and offices |
| <input type="checkbox"/> | 98.Other: Which? |
| <input type="checkbox"/> | 99.N/R |

2-No/ N/R

P14. *Only if P1=2.* In a scale from 1 to 5, one equals nothing and 5 a lot, Up to what extent do you believe that training will help you to find a job? *Do not read option 3.*

- | | |
|--------------------------|-------------------------|
| <input type="checkbox"/> | 1.Nothing |
| <input type="checkbox"/> | 2.A little |
| <input type="checkbox"/> | 3.Neither less nor much |
| <input type="checkbox"/> | 4.Some |
| <input type="checkbox"/> | 5.A lot |

P15. *For all. Suggestions.* Do you P15.Do you wish to make any suggestions or observations?

THANKS AND FAREWELL

Date of fulfilment

<input type="text"/>					
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Abstract / Resúmen	<p><i>The association between quantity of training and employability was analysed through a non experimental research with two non equivalent groups. The operationalization of training quantity is considered to provide an indicator of training effort. Thus, training effort (number of courses) was analysed as the independent variable and employability as dependent variable (occupation indicators, activity enhancement and job performance). The results show that training is related to activity enhancement, specially when workers belong to a small/medium enterprise (SME) and/or to technical or qualified positions. A positive association between training and performance also appeared in the case of SMEs.</i></p> <p>Se analiza la asociación entre cantidad de formación y empleabilidad mediante una investigación no experimental con dos grupos no equivalentes. Se considera que la operativización de la cantidad de formación proporciona un indicador próximo al esfuerzo formativo realizado. Así, se estudió la variable independiente <i>esfuerzo formativo</i> (número de cursos) y la dependiente, <i>empleabilidad</i> (indicadores de ocupación, enriquecimiento de actividad y desempeño). Los resultados muestran que la formación está asociada al enriquecimiento de la actividad, sobre todo si los trabajadores pertenecen a una PYME y/o a puestos técnicos o cualificados. También hay una asociación positiva entre formación y desempeño en PYMES.</p>
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