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Validation of Predicting Transfer Instruments in Spain

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Validation of Predicting Transfer Instruments in Spain

Abstract

Purpose - To validate two scales, the Factors Predicting Transfer (FPT) and the Deferred Transfer Questionnaire (CdE), in the Spanish Public Administration (SPA).

Design/methodology/approach – The FPT was administered at the end of training, and the CdE four months after training. Participants had attended one of the 62 trainings offered by the SPA. With 1,457 participants, EFA (n=728) and CFA (n=729), randomly assigned, were performed on the FPT, and CFA (n=726) was applied to the CdE.

Findings – A 30-item and 4-factor solution emerged for the FPT through the EFA, which was confirmed by a good model fit through the CFA. A 7-item single-factor solution was confirmed for the CdE. Measurement invariance for mode of instruction and gender was accepted for both instruments.

Research limitations/implications – Further research should be done in a more heterogenous sample that includes private organizations, different sectors, and sizes. In the HRD field, these results suggest, in line with previous research, the existence of underlying constructs of factors of transfer that migrate across cultures.

Practical Implications – Potential use of the FPT is diagnosis of factors of transfer, and for the CdE, evaluation of the effectiveness of interventions at the behavioral level. The instruments are suitable for research and practice that compares online and in-class training.

Originality/value -The study performs the first rigorous analysis of measurement instruments to evaluate factors that predict transfer in Spain.

Keywords transfer, training transfer, transfer evaluation, training evaluation, instrument validation, factor analysis

Paper type Research paper

Introduction

The Division for Sustainable Development Goals in the United Nations Department of Economic and Social Affairs claimed, in the 2030 Agenda for Sustainable Development, that all people should have access to life-long learning opportunities to help them acquire the knowledge and skills required to have opportunities and fully participate in society (United Nations, 2015).

In the European Union, adult learning is understood as learning activities undertaken by adults after leaving initial education and training (ET 2020 Working Group on Adult Learning, 2019).

It is vital to overcome current economic challenges and develop the new skills required for the sustainable future and the digitalised world economy (European Commission, 2015).

One of the five priorities of the European Commission is to enhance the quality of adult learning by monitoring the impact of policies. Within the ways to assess and monitor the impact of policies, the evaluation of transfer of training is crucial to determine whether the learning that results from a training experience transfers to the job and leads to meaningful changes in work performance (Ford et al., 2017). To perform quantitative evaluations of transfer of training, ~~Despite the need of large organizations to~~ few instruments have undergone rigorous development and validation procedures, raising concerns about their psychometric properties (Bates *et al*., 2012). The concerns increase in Europe and around the world when instruments are translated into different languages and are applied to different cultural contexts, not controlling for the influence of bias (i.e., construct, method, sample, or instrument). To rule out the potential effect of such biases, cross-cultural methodologists have advocated for testing of invariance (He and Van de Vijver, 2016).

The most widely used instrument in the international literature in the area of training transfer is the Revised Learning Transfer System Inventory or LTSI (Bates *et al.,* 2012), which has been translated into at least 17 languages. It was applied in Spain in 2009, and even though the factors were theory grounded, unpublished results ~~also~~ showed that they were not of high ~~priority~~ applicability in Spain (Pineda, *et al.,* 2009). Cross-cultural invariance appears not to have been tested, suggesting that there was a lack of validated instruments to assess training transfer in Spain.

Framed within cultural relativism, the Factors to Evaluate Transfer (FET) and the Deferred Transfer Scale (CdE) were developed to measure the factors that predict transfer and perceived transfer, respectively, in Spain (Pineda *et al.,* 2012; Pineda, 2013; Pineda *et al.,* 2014a, 2014b). Although efforts were undertaken to test the psychometric properties of the instruments, these efforts were not enough to reach valid conclusions. Rigorous exploratory factor analysis (EFA) was performed on the CdE (Pineda *et al.,* 2014b); however, the FET validation raised several concerns (Pineda, 2013), and it did not meet international standards.

Purpose

The purpose of this study was to validate the FPT and the CdE in the SPA. EFA and CFA of the FPT, and CFA of the CdE were performed. Within the European Union, over 2.5 million public employees are native Spanish speakers (Ministerio de Política Territorial y Función Pública, 2019). The number increases to over 19.3 million when including Spanish public sector employees (Instituto Nacional de Estadística, 2019). The validation of the instruments would allow public organizations in the European Union to assess and monitor the impact of training of Spanish public employees through training transfer, through psychometrically tested instruments. Additionally, it will provide the beginning of evidence in the development of validated

instruments to measure training transfer in the broader context of Spain. It would also add to the literature by rigorously validating the first instruments in Spanish to measure the factors of transfer and training transfer.

Research Questions

This study focused on three research questions:

RQ1: What is the factorial structure of the FPT using EFA?

RQ2: Will the construct validation of the FPT, using CFA, result in a validated instrument to measure the factors predicting transfer of training?

RQ3: Will the construct validation of the CdE, using CFA, result in a validated instrument to measure perceived transfer of training?

Literature Review

International organizations, such as the United Nations and the European Union, advocate for the need of adult training (ET 2020 Working Group on Adult Learning, 2019; European Commission, 2015; United Nations, 2015). Monitoring the impact of training is one of the five priorities of the 2030 agenda of the European Commission and the United Nations ET 2020 Working Group on Adult Training (2015, 2019). Training transfer evaluation assesses the level of application of what was learned to the job (Baldwin and Ford, 1988), being a ~~Training transfer, defined as the degree to which the knowledge, skills, and attitudes acquired in training are applied to the job (Baldwin and Ford, 1988), is a~~ critical outcome of HRD (Yamnill and McLean, 2005).

In the last 30 years, relevant models of transfer have appeared (e. g., Baldwin and Ford, 1988; Blume *et al.,* 2017; Burke and Hutchins, 2008; Holton, 1996, 2005), and reviews and

meta-analyses on the key findings have been published (e. g., Bell *et al.,* 2017; Blume *et al.,* 2010; Ford *et al.,* 2018; Grossman *et al.,* 2011).

During these years, research has advanced in four key themes: training criteria, trainee characteristics, training design and delivery, and training context (Bell *et al.,* 2017), and some consensus has been obtained, especially around the idea that some factors (e. g., motivation to transfer, perceived content relevance or utility, support, etc.) are relevant to transfer (Ford *et al.,* 2017; Gegenfurtner, 2011; Grossman and Salas, 2011). However, there are still some issues to study, such as the conceptualization of the traditional factors as multidimensional constructs (Ford *et al.,* 2017), the move towards a more consumer-centric inquiry (Baldwin *et al.,* 2017), or the comparative study of training transfer. While international results have pointed to the potential existence of underlying factors of transfer that migrate across cultures (Antunes *et al.,* 2018; Bates *et al.,* 2012; Soerensen *et al.,* 2017; Velada *et al.,* 2009; Yamnil and McLean, 2005), other studies have suggested that factors could be more contingent to the context (Antunes *et al.,* 2018; Soerensen *et al.,* 2017). Most of the reported studies were conducted in English-speaking countries.

There are over 47 million Spanish-speaking people in the European Union (Instituto Nacional de Estadistica, 2020), and over 400 million native Spanish speakers around the world, being the second language spoken in the United States (Stewart, 2012). If research on this population and comparative studies are to be performed in the area of training transfer, the need for validated instruments in Spanish is a reality.

~~Spanish researchers in the subject area have not traditionally published in international journals. However, during the last decade, research on transfer of training in Spain has grown~~

~~exponentially, and authors have experienced difficulties to get published in HRD due to the language barrier and the absence of validated instruments.~~

The LTSI (Holton *et al.,* 2000) is the most widely used instrument in the international literature in the area of training transfer. It was translated and applied in the Spanish context, but the factors were not a priority in this context (Pineda *et al.,* 2009). No cross-cultural validation has been identified (Pineda *et al.,* 2009). Over more than 10 years of research, several conceptualizations of models and instruments have been developed in Spain, such as the Evaluation of Transfer Factors (ETF, Pineda-Herrero *et al.,* 2010), and the Model for Evaluating the Variables Influencing Transfer (MEVIT, Quesada-Pallarès, 2012). The FET model was created specifically for the Spanish context to predict transfer, and two measurement instruments were developed: the Factors to Evaluate Transfer (FET) and the Deferred Transfer Scale (CdE).

The FET questionnaire (Pineda, 2013; Pineda *et al.,* 2012; Pineda *et al.,* 2014a, 2014b) contains 42 items grouped in 7 factors: satisfaction with the training, motivation to transfer, possibilities to transfer, support, locus of control, orientation towards the job's requirements, and accountability. It was validated in Spain with a sample of 1,493 respondents. Although the sample size was adequate, the factor analysis was not published in well-recognized international journals. Instead, publication occurred in conference papers, book chapters, and technical reports, and the procedures followed raised several concerns. First, it could have been more rigorous, as the preliminary validation procedure was performed with an extremely small sample. Later, when the factor structure was tested in a good-sized sample through EFA using maximum likelihood and promax rotation, some of the criteria used were quite liberal, such as the minimum factor loadings of .30, and the variance explained by the factors was below the 60% recommended threshold (Hair, 2014). Moreover, some of the decisions could have been made

more objectively. For example, between the EFA and the CFA, one item was trimmed because it did not make theoretical sense to the authors. A more rigorous factorial validation procedure was, therefore, considered necessary.

The CdE questionnaire, section I (Pineda, 2013; Pineda *et al.,* 2012; Pineda *et al.,* 2014b), was developed by the same group of researchers to measure transfer from participants' perspective with the goal of identifying the degree of application of knowledge, skills, and attitudes acquired in training (Quesada-Pallarès *et al.,* 2015). It was validated in a sample of 446 participants (a ratio of 63 participants per item) through EFA using the maximum likelihood method with an eigen value greater than one; promax rotation and a minimum loading of .30, not a very conservative decision, were used. Adequacy was good. A single-factor structure emerged that explained 64% of the variance with high internal consistency ($\alpha = .92$) with all items retained. Even though the validation procedure was not published in well-recognized international journals, the EFA followed the standard procedure; therefore, we believe the next step in the validation would be a CFA.

Based on the stated problem and literature review, the purpose of this study was validation of the FPT and the CdE in the Spanish Public Administration. EFA and CFA of the FPT, and the CFA of the CdE, were performed.

Methods

In this section, we described the procedures used, the training contexts, the sample, the instruments, and data analysis.

Procedures Used

The FPT was administered at the end of the training, in paper for classroom courses and online for online courses. The CdE was administered online four months after the training. Data

gathering occurred from January to July of 2016, and followed a longitudinal design (Hernández, Fernández-Collado and Baptista, 2006). The research was approved by the Doctoral Academic Commission of the Faculty of Psychology at the Complutense University of Madrid, and participants gave their informed consent before completing the instruments. Participants were free to stop answering at any point without completing the surveys.

Training Contexts

The training consisted of 62 different courses offered by the Spanish National Institute of Public Administration. Examples of the courses were Digital competencies, Web programming, Project Management, and Professional Skills in English. The criteria for selecting the training included that the course: (a) had a duration between 15 and 50 hours, (b) was a training and development course, meaning that it had the goal of acquiring or developing knowledge, skills, and competencies directly related to the current or future job of the participants, and (c) took place during the first semester of 2016.

Sixty-two courses were offered, 50% in a classroom setting and 50% online. The average length was 25.11 hours, ranging from 15 to 50 hours of instruction (SD=6.31), 26.78 hours for online courses, and 22.37 for face-to-face. There was an average of 50.14 students per program (SD=26.99); 65.07 attendees for online courses and 25.51 for face-to-face; 44% of the courses were offered during regular working hours, 23% outside of participants' work schedule, and 33% in a mixed context.

The Spanish National Institute of Public Administration classified the courses based in four categories and eight areas (Table 1).

[Put Table 1 about here.]

Sample

Participants were employees of the Spanish Public Administration who had attended a training course that met the criteria for inclusion in the study (n= 2,617). Immediately after the training, 1,475 participants completed the FPT questionnaire (response rate = 56%), and 726 participants completed the CdE questionnaire four months later (response rate = 28%). Ninety-one percent of participants attended one training course during the data gathering phase of the study, and 9% attended two courses. The average position tenure was 9.52 years (10.07 and 8.60 for online and in-class training, respectively). Respondent information by mode of instruction is shown in Table 2.

The common practice for this organization is for participants to select the training in which they are interested from the list of courses offered, with the advice to select courses with content that would help them improve their performance in their current or future job. If there were more enrolled participants than spaces available, the organization would select the participants whose job descriptions more closely related to the content of the training. Training was not related to wage supplements.

[Put Table 2 about here.]

Instruments

Two instruments were used: the FPT and the CdE.

FPT

The FPT was developed for this study by adapting the FET questionnaire (Pineda *et al.,* 2013). A comprehensive literature review was performed on the FET in book chapters, technical reports, and conference papers. The authors of the instrument provided the documents that had

no open access. A group of three researchers reviewed the 42 items of the FET questionnaire and the labels for the factors that emerged and made the following changes.

One of the key theoretical factors included in the international literature, learning, was not included, as it was considered to be an independent construct and, therefore, was measured using a different scale. Following international standards, a definition of the construct was established, and four items were developed, using simple statements to cover the meaning of the construct (items 44-47). An example of a learning item is, "Point out the level of skill development you have acquired with the course."

Relevant parts of the core definitions of the factors previously contained in the FET were not sufficiently covered through the items; hence, we developed additional items and added them to the FET questionnaire to fill these gaps: satisfaction with the training (items 43 to 48), orientation to job requirements (items 49, 50, and 51), and motivation to transfer (items 52 and 53). In total, 11 items were added to the FET instrument to create the FPT scale.

FET items were written in first person and indicative mood with a 5-point Likert-type scale with 1 meaning *strongly disagree*, and 5 meaning *strongly agree (e.g.,* "I have liked the training I have attended"*).* Items developed in this study were written in imperative mood and answered by a 5-point Likert-type scale with 1 meaning *lowest*, and 5 meaning *highest (e.g.,* "Indicate the level of knowledge you have acquired or developed in the course").

CdE

The CdE questionnaire, section I, measures transfer from the participants' perspective with the goal of identifying the degree of application of knowledge, skills, and attitudes acquired in the training (Quesada-Pallarès *et al.,* 2015). It consists of 7 items answered by a 5-point Likert-type scale (1: *strongly disagree*, 5: *strongly agree*). It was validated in a sample of 446

participants (a ratio of 63 participants per item) through EFA, as mentioned in the literature review section, following standard procedures.

Data Analysis

The initial dataset containing all respondents was used (1,475 for the FPT and 726 for the CdE). SPSS 25 and Amos 22 were used for the analyses.

EFA and CFA for the FPT and CFA for the CdE were performed.

Data Screening

Overall analysis found 1% missing data, below the 5% borderline; hence, it was considered satisfactory (Schafer, 1999).

Responses were examined. Eighteen respondents did not respond to 10% or more of the items; therefore, they were deleted from the dataset; 1,457 respondents remained.

All items had a percentage of missing responses lower than 10%. Missing values were input to avoid difficulties with the Amos module of SPSS. Missing values were replaced with medians for that item. After screening, the dataset contained 1,457 respondents to the FPT and 726 respondents to the CdE.

To validate the FPT, respondents were randomly selected to create independent datasets for EFA (containing 728 respondents) and CFA (containing 729 respondents who were not included in the first dataset). To validate the CdE through CFA, only respondents to both questionnaires were retained (726 cases).

EFA of FPT

Half of the dataset selected randomly (728 respondents), with no missing data after replacement, were used for the EFA of FPT, which contained 53 items. A sample size of 10 respondents per

item has been recommended (e.g., Everitt, 1975). As the participant-to-item ratio was 13.74, the sample size was considered satisfactory.

The maximum likelihood (ML) extraction method was conducted to determine the factor structure, as it is the recommended method when followed by CFA, and it is the approach used in Amos. As the FET instrument showed that factors were related, oblique rotation (Promax) was selected as the rotation method. EFA is a data-driven method with no a priori specification of the number of factors. Bartlett's test of sphericity and the Kaiser–Meyer–Olkin's measure of sampling adequacy (MSA) tests were performed to examine the appropriateness of factor analysis for the scale (Hair *et al.,* 2010). The six criteria used for factor extraction included (1) eigenvalues of 1 or more, (2) percentage of variance explained of at least 60% (Hair *et al.,* 2010), (3) factor loadings equal to or greater than .40 to retain an item, which is recommended for samples larger than 200 (Meyers *et al.,* 2013), (4) excluding items with problematic cross-loadings (with a difference less than .20), (5) to maximize the extent to which the variance of the items could be explained by the factors, items with communalities between .00 and .40 were not retained, (Osborne *et al.,* 2008), and (6) a minimum of three items per factor to retain a factor (Comrey, 1988).

CFA of FPT

Psychometric properties of the FPT were evaluated by conducting a CFA. The resulting pattern matrix of the EFA was imported to Amos to perform the CFA on a sample of 729 new respondents, those remaining after the random sample for the EFA. As the moods used in the items (indicative vs imperative) and the answer scale differed from the FET, along with new items, we expected this difference to create a method effect, and error covariances are commonly

specified based on method effects (Brown, 2014). Therefore, we covaried intra-factor errors of the new items.

To assess the quality of the model, comparative fit index (CFI), Tucker-Lewis index (TLI) > 0.90 (Hair *et al.,* 2010; Meyers *et al.,* 2013) and root mean square error of approximation (RMSEA), with the upper bound < 0.08 (Meyers *et al.,* 2013), were analyzed.

Internal consistency was evaluated by calculating the Cronbach alphas > .70 for the factors and the scale (Nunnaly, 1978). Convergent validity analyses looked at the standardized regression weights for the factor loadings > .50 (Hair *et al.* 2010). Discriminant validity was assessed through the standardized inter-factor correlations ≤ .90 (Kline, 2015).

Common method bias (CMB) was tested through Harman's single factor model (Podsakoff *et al.,* 2003) and common latent factor analysis (CFL; Johnson *et al,* 2011).

Configural, metric, and scalar measurement invariance was evaluated by analyzing how well the specified model fit the data (Putnick and Bornstein, 2016). Multiple fit statistics were used (Putnick and Bornstein, 2016) with reference cut-off criteria of .00 for the change in CFI (Meade *et al.,* 2008) and .02 for the change in RMSEA.

CFA of CdE

Psychometric properties of the CdE were evaluated by conducting a CFA. We specified the model with the 7 items in a single factor, training transfer, and tested it with a sample of 726 respondents. Although the answer scale was the same for all items, the syntax differed. Items 1 and 7, 2 and 5, and 3, 4, and 6, respectively, shared a common phrase structure (e.g., items 1 and 7 started with the words, *I have applied*, and items 2 and 5 started with the words, *Due to the training*). We expected these differences to create a method effect, and error covariances are

commonly specified based on method effects (Brown, 2014); therefore, we covaried the errors of the specified items.

Model fit, internal consistency, convergent validity, and measurement invariance were analyzed applying the same criteria applied to the FPT.

Results

Results are provided in this section: EFA and CFA for the FPT, and CFA for the CdE. CFAs are shown along with common method variance tests and reliability estimates.

EFA for FPT

After analyzing the 53 items applying the eigenvalue of at least 1 criterion, a 9-factor solution emerged. Factors containing fewer than three items that met the factor loading criterion were not retained. Items with loadings lower than 0.40 were trimmed one by one, following the item loading criterion, starting with the lowest value until loadings were all above the 0.40 threshold. In this process, 9 items were excluded from the analysis (items 16, 48, 39, 11, 27, 53, 52, 19, and 4, respectively). Items with particularly low communalities (between .00-.40) did not load significantly on any factor, hence, 14 items were trimmed one by one until communalities were all above 0.40 (items 23, 13, 22, 34, 38, 31, 42, 29, 15, 3, 33, 10, 18. and 12, respectively). The solution was reduced to a 4-factor structure that contained 30 items. Adequacy was satisfactory (KMO: .94; Bartlett´s Sphericity Test: approx. $x^2 = 15670.51$, df = 435, sig < .001). The 4-factor structure explained 60% of the variance. Each factor contained four or more items. The thirty items that remained showed no problematic cross-loadings, had communalities above the .40 mark, and loaded over .50 (Table 3).

[Put Table 3 about here.]

Ten items (observed variables) loaded onto the latent factor satisfaction with the training (4 newly developed and 6 from the original FET), explaining most of the variance (36%). Nine items loaded onto the factor content relevance (3 new and 6 from the FET), explaining 13% of the variance. Seven items loaded onto the accountability factor and 4 items loaded onto motivation to transfer (all from the original FET), respectively explaining 7% and 4% of the variance.

Discriminant validity refers to the extent to which factors are distinct and uncorrelated. As recommended, cross-loadings that differed less than .20 were deleted. Items related more strongly to one factor than to the rest of the factors were retained in the strongest factor. The correlation matrix (Table 4) was inspected, finding no correlations between the factors greater than .70. Hence, discriminant validity was considered satisfactory.

[Put Table 4 about here.]

Reliability generally refers to consistency of items. In this study, Cronbach's alphas were used to estimate stability and was used as a proxy for reliability. These need to be above .70 (Nunnaly, 1978). Alphas were above .80 for all 4 factors as shown in Table 5; hence, reliability was considered satisfactory.

If multicollinearity existed, variance would be explained by independent items overlapping. Tests for multicollinearity were performed: (1) no correlation above the .90 threshold was found (Hair *et al.,* 2014), and (2) no item showed a variance inflation factor (VIF) over 10 (Hair *et al.,* 2014). Together with good reliability ($\alpha > .70$) and a large sample size (participant to item ratio above 10), any problems caused by multicollinearity were effectively offset. Therefore, multicollinearity was not a concern.

The four factors identified were labelled (Table 5).

[Place Table 5 about here.]

Table 6 shows a description of the items that remained after the EFA grouped by factor.

[Place Table 6 about here.]

CFA for FPT

Model fit refers to how well the proposed model (the solution resulting from the EFA) describes the correlations in our dataset. A good fit exists if we account for all the major correlations among the variables included in the model.

The specified model fit the data well. Although the $\chi 2$ (1384.78) was statistically significant ($df = 39$, $p < .001$), as anticipated, due to sensitivity to large samples, the TLI (.92) and CFI (.93) values were above the .90 threshold (Hair *et al.,* 2010; Meyers *et al.,* 2013). These results suggest that more than 90% of the variance and covariance of the model could be explained by the data. The RMSEA (.06), with a two-sided 90% confidence interval (CI), as often used (Browne and Cudeck, 1992), of .06 to .06 also supported the model fit in terms of the lower level of error variance. The upper bound of RMSEA (.06) was still lower than the .08 recommendation (Meyers *et al.,* 2013).

Cronbach alphas ranged from .82 (motivation to transfer) to .95 (satisfaction with the training) for the factors, being .94 for the complete FPT scale, all above the minimum recommended standard of .70 for reliability (Nunnaly, 1978). Hence, reliability was considered satisfactory. Table 5 shows the Cronbach alphas for the factors.

The standardized regression weights for the factor loadings ranged from .53 (item 35) to .90 (item 43), above the minimum recommended standard of .50 for convergent validity of each factor (Hair et al. 2010). The standardized inter-factor correlations ranged from .13 to .57, indicating that there is enough discriminant validity among factors (≤ .90, Kline 2015).

To test for common method bias (CMB), we performed Harman's single factor model (Podsakoff *et al.,* 2003). The unrotated solution showed that the single factor accounted for 38% of the variance; hence, it did not account for most of the variance in the model, suggesting the absence of CMB. The $\chi 2$ value was statistically significant ($\chi 2 = 6881.34$, df = 421, $p < .001$). Model fit indices (CFI = .56; RMSEA = .15 [90% CI: .14 – .15]) demonstrated a very poor model fit and thus the absence of CMB. As Harman's single factor test does not adequately account for measurement error or distinguish between the effects of a method factor on the measures of the construct (Podsakoff *et al.,* 2003), we added a common latent factor (CFL) to the 4-factor CFA model, in which all of the 30 items loaded onto the CLF with no correlations with the four first-order factors (Johnson et al, 2011). Then we compared the standardized regression weights of the two models, resulting in differences lower than .20, suggesting no need to retain the CFL.

Measurement Invariance

Measures are invariant when members of different groups who have the same standing on the construct being measured obtain the same observed score on the scales (Schmitt and Kuljanin, 2008). It applies to group comparison and to differential relations between constructs by group (Putnick and Bornstein, 2016). As most organizations offer online and in-class training, and we aimed to apply the instrument regardless of the mode of instruction, and the gender, measurement invariance was tested. The most widely used steps were applied: configural, metric, and scalar (Putnick and Bornstein, 2016). As recommended, invariance was tested by analyzing how well the specified model fit the data, and multiple fit statistics were used to prevent over-rejection of models that demonstrate practical fit in large samples (Putnick and Bornstein, 2016). Reference cut-off criteria included .00 for the change in CFI (Meade *et al.,*

2008) and .02 for the change in RMSEA (Chen, 2007). Table 7 shows the tests of measurement invariance, resulting in acceptance of the three levels (configural, metric, and scalar).

[Put Table 7 about here.]

CFA for CdE

The specified model fit the data well. Although the $\chi 2$ (28.24) was statistically significant ($df = 9$, $p < .001$), as anticipated due to sensitivity to large samples, the TLI (.99) and CFI (.99) values were above the .90 threshold (Hair et al. 2010; Meyers at al., 2013). These results suggest that more than 90% of the variance and covariance of the model could be explained by the data. The RMSEA (.05), with a 90% confidence interval (CI) of .03 to .09, also supported the model fit in terms of the lower level of error variance.

Cronbach alpha for the scale ($\alpha = .93$) was above the minimum recommended standard of .70 for reliability (Nunnaly, 1978). Hence, reliability was considered satisfactory.

The standardized regression weights for the factor loadings ranged from .68 (item 7) to .93 (item 3), above the minimum recommended standard of .50 for convergent validity (Hair et al. 2010).

Table 5 shows the definition of the single factor, an example item, the number of items that made up the factor, and the Cronbach alpha, which showed good reliability (Nunnaly, 1978).

Table 8 shows the tests of measurement invariance, which resulted in accepting the three levels of invariance (configural, metric, and scalar).

[Put Table 8 about here.]

Discussion

~~In this section, we provide limitations of the study, implications for practice, implications for theory, and recommendations for future research.~~

Our results validate the FPT and the CdE in the SPA. This study adds value in the areas of HRD and adult learning by rigorously validating the first set of instruments to measure the factors predicting transfer and transfer in the SPA and provides the beginning of evidence towards the validation of the instruments among European and worldwide Spanish speakers.

To address the first research question, EFA of the FPT was performed, resulting in a 30-item, 4-factor solution with distinct and uncorrelated items while supporting the consistency of the items. Multicollinearity was not considered a concern (Hair *et al.,* 2010), suggesting that variance was not explained by overlapping independent items. These results suggest the existence of four underlying factors (satisfaction with the training, content relevance, accountability, and motivation to transfer) for the set of items, all well-established factors in HRD (e. g., Baldwin and Ford, 1988; Burke and Hutchins, 2008, Burke and Sacks, 2009; Gegenfurtner, 2011).

Seven of the 11 new items developed strongly loaded on the factors, pointing to an improvement in the ability of the items to cover the complete meaning of the constructs compared to the ability of the FET items (Pineda *et al.,* 2014a, 2014b).

The FPT resulted from adding 11 new items to the FET and performing a more conservative and rigorous EFA. FET factors (locus of control, possibilities to transfer, and support) did not emerge when a more conservative approach was adopted, suggesting, as anticipated, potential deficiencies in the validation of the FET (Pineda, 2013; Pineda *et al.,* 2012; Pineda *et al.,* 2014a, 2014b).

Although support has been unequivocally considered to be a factor of transfer (Ford *et al.,* 2018), it did not emerge in this study. Interestingly, the factor of accountability, which measured the extent to which the participants perceived their supervisors wanted them to apply

and showed interest in them transferring the learnings to the job, did emerge. These two results, interpreted together, could suggest the multidimensionality of support (Ford *et al.,* 2018) or the overlap between the two constructs. Similar results have been found in Portugal, where supervisory support did not emerge with the application of the LTSI (Antunes *et al.,* 2018). Cultural variation was proposed as a possible explanation, as power distance and paternalism were considered high in Portugal (Hofstede *et al.,* 2010), which could have had an impact in the construct. Being that Portugal and Spain are geographically and culturally close, the potential migration of the underlying constructs of factors could be facilitated. Expanding the study along these lines could prove to be interesting.

The four items developed to measure the theoretical construct of learning did not emerge as an independent factor. Instead, the items loaded strongly onto satisfaction with the training. This result suggests the merger of two theoretical factors (satisfaction with the training and perceived learning) into a single empirical factor, again, suggesting the multidimensionality of the construct of satisfaction with the training, or the overlap between the theoretical factors. Future research is recommended to explore the potential multidimensionality of the construct and its relationship with the theoretical models (Ford *et al.,* 2017).

By addressing the second research question, we accounted for all major correlations among the variables included in the model. The results confirm the validation of the FPT in the SPA and provide the beginning of the evidence towards the validation of the instrument in Spain and among Spanish speakers. While the sample was large and the item-respondent ratio was more than adequate, participants were all public employees. Therefore, results do not represent all Spanish employees. More research on this topic is needed to include private organizations from different sectors, thus providing validation of a solid measurement tool in the Spanish

context. Invariance should be tested then for organization size, sector, and nature (public vs private), if the instrument is to be used in the Spanish context regardless of these characteristics.

Further, the number of items across factors was disproportionate, suggesting the need for further revision and additional research to equalize the number of items in each factor. Also, although the FPT items loaded onto the factors regardless of the grammatical mood of the items and the answer scale, these differences most likely created a method effect. Future research should address this effect aiming to standardize the items in grammar, syntax, and answer form.

The results associated with the third research question confirm the single-factor structure of the CdE, which was considered measurement invariant (configural, metric, and scalar) to mode of instruction and gender (Putnick and Bornstein, 2016). These results indicate the validation of the CdE in the SPA and provides beginning of evidence of the validation of the instrument in Spain and among Spanish speakers. As the sample used had limitations, as described for the FPT, further research is recommended including private organizations from different sizes and sectors. If the instrument is to be used in the broader context of Spain, invariance should be tested for organizational size, sector, and nature (public vs private).

Further, although the CdE items loaded onto a single factor regardless of the syntaxes of the items, these differences most likely created a method effect. Future research should address this effect aiming to standardize the items in syntax.

The instruments used self-report data. Although this is common practice due to its efficiency, data may, to some degree, be flawed. Future research should combine self-reported data measures from other sources.

Invariance looked only at gender and form of training. Other demographics are available and could be used to determine if there are differences based on these demographics.

Furthermore, this study was conducted in Spain, only. Future research could be conducted in other countries in which the Spanish language is dominant to determine if the instrument can be used universally, or if its value is limited to Spain.

Last, the acceptance of the instruments' measurement invariance for mode of instruction opens the door for future research that compares online and in-classroom settings when studying training transfer and the factors predicting transfer.

~~**Limitations and Recommendations for Future Research**~~

~~First, while the sample was large and the item-respondent ratio was more than adequate, participants were all public employees. Therefore, results do not represent all Spanish employees. More research on this topic is needed to include private organizations from different sectors, thus providing validation of a solid measurement tool in the Spanish context. Invariance should be tested then for organization size, sector, and nature (public vs private), if the instrument is to be used in the Spanish context regardless of these characteristics.~~

~~Second, the instruments used self-report data. Although this is common practice due to its efficiency, data may, to some degree, be flawed. Future research should combine self-reported data with more objective measures.~~

~~Third, the number of items across factors was disproportionate. Therefore, further revision and additional research is needed to equalize the number of items in each factor.~~

~~Fourth, although the FPT items loaded onto the factors regardless of the grammatical mood of the items and the answer-scale, these differences most likely created a method effect. A similar effect was anticipated for the CdE based on the different syntaxes of the items. Future research should address this effect aiming to standardize the items in grammar, syntax, and answer form.~~

~~Fifth, invariance looked only at form of training. Other demographics are available and could be used to determine if there are differences based on these demographics.~~

~~Sixth, the acceptance of the instruments' measurement invariance for mode of instruction opens the door for future research that compares online and in-classroom settings when studying training transfer and the factors predicting transfer.~~

~~Seventh, this study was conducted in Spain, only. Future research could be conducted in other countries to determine if the instrument can be used universally, or if its value is limited to Spain. Further, although support has been unequivocally considered a factor of transfer (Ford *et al.*, 2018), it did not emerge in this study. Similar results have been found in Portugal, where supervisory support did not emerge after the application of the LTSI (Atunes *et al.*, 2018). Cultural variation was proposed as a possible explanation, as power distance and paternalism were considered high in Portugal (Hofstede *et al.*, 2010), which could have had an impact in the construct. Being that Portugal and Spain are geographically and culturally close, the potential migration of the underlying constructs of factors could be facilitated. Expanding the study in these lines could probe interesting.~~

~~Eighth, research on the effects of transfer factors on transfer and work performance should be done through regression analysis to determine the nature of the relationship in Spain.~~

Recommendations for Practice

What gets measured, gets done (Burke and Hutchins, 2008). If transfer is a key result in HRD (Yamnil and McLean, 2005), and high transfer is a goal to be achieved, then it should be measured.

The instruments can be used to draw a predicting transfer model at the department, unit, or organizational level, and results can be compared between public administrations, starting to build benchmark data to be compared with in the future by public organizations.

The FPT can be used as a diagnostic tool of some of the factors that have been related to transfer (i.e., satisfaction with the training, content relevance, accountability, and motivation to transfer). Because transfer contexts vary, particularly with the type of organization (Yamnill and McLean, 2005), HRD professionals in Spain need to assess the factors of transfer in their organizations and prescribe interventions based on their specific results. The application of the instrument is especially recommended for Spanish public employees from all levels and geographies of the administration to adjust training based on the results for each factor of transfer.

Results could be shared with participants, trainers, supervisors, HRD practitioners, and others accountable for transfer success to help create a culture that values learning and its application to the job (Bates, 2003). Specifically, sharing aggregated results on the factors of satisfaction with the training and content relevance with the trainers could positively impact the programs, as the trainers could use the input to adjust the training based on participants' reactions and participants' perceptions on the relevance of the contents to their jobs. Aggregated results on the factor of accountability could be shared with the direct supervisor to make them aware of the perception of their team regarding his/her interest in the transfer process. The direct supervisor and the participant can meet after the training to discuss transfer results and valuable opportunities for practice (Burke and Sacks, 2009). Aggregated results on all factors could also be studied by HR to gain an overview of the different aspects of the training process. Results on the factor motivation to transfer can be analyzed by HRD practitioners, and the aggregated

values can be used together with results on the CdE to make decisions at the cluster level (department or unit) on the potential offer of training programs based on the department's level of motivation to transfer towards these courses. Individual results on each factor could be shared with participants and supervisors, acting as input information to be discussed in performance management reviews, career development plan, mentoring sessions, and so on.

Recommended uses of the instrument can be to assess potential transfer factor problems prior to implementing major talent development programs, and evaluation of the factors of transfer can be used as a regular assessment prior to attending training. The instrument can be applied to training interventions regardless of the mode of instruction.

The CdE can be used as an effective diagnostic tool of transfer in Spanish public organizations to measure the effectiveness of interventions at the levels of perceived behaviours. It could be used as a key performance indicator to be included in the human resources balanced scorecard to manage the human resource function and allow management teams to make strategic decisions. If measured after every training, this indicator at the individual level could be discussed in performance reviews and serve as input for performance and career development plans. It could be used in mentoring programs as a self-evaluation tool of the results of the participants' attendance in training programs.

These instruments, validated in the specific context of the Spanish Public Administration, offers beginning evidence of their usefulness in Spain.

The study has relevant implications for HRD. First, the factors are consistent with those of the international literature. All are well established factors in HRD, suggesting, as Yamnill and McLean did in 2005, that there might be underlying constructs of factors of transfer that migrate across cultures. Studies combining data from the application of the LTSI in more than 6,000

participants in at least 17 countries and 14 languages, support the idea of underlying factors (e.g., Antunes *et al.,* 2018; Bates *et al.,* 2012; Soerensen *et al.,* 2017; Velada *et al.,* 2009). Although cross-culture validations of the LTSI have revealed a common structure of factors, it has also pointed out some discrepancies in the factorial structures between cultures (Antunes *et al.,* 2018; Soerensen *et al.,* 2017).

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Tables

Table 1

Frequency and percentage of courses by type and area of training and mode of instruction

	Frequency Online	*% Online*	*Frequency In-class*	*% In-class*
Type of Training				
General training	293	32	113	21
IT	531	59	242	44
Professional skills	74	8	106	19
Skills development in a foreign language	9	1	89	16
Total	907	100	550	100
Area of Training				
Electronic administration and computer tools	281	31	44	8
Economic and contracts management	248	27	33	6
Professional skills	74	8	106	19
Computer tools	43	5	94	17
Organization and functioning	45	5	80	15
Programming and programming languages	126	14	37	7
Networks, communications, and internet	81	9	67	12

Languages	9	1	89	16
Total	907	100	550	100

Note. N = 1457, after screening.

Table 2

Sample information by mode of instruction

	Frequency Online	*% Online*	*Frequency In-class*	*% In-class*	*% Total*
Male	421	29	238	16	45
Female	485	33	309	21	55
Missing	1	0	3	0	0
Supervisory position	249	17	206	14	31
Non-supervisory position	648	44	341	23	68
Missing supervisory information	10	1	3	0	1
Attended on their own initiative	877	60	516	35	96
Attended encouraged by supervisor	20	1	34	2	4
Missing motivation to attend information	10	1	0	0	1
Mandatory education	18	1	18	1	2
Last year of high school	156	11	63	4	15
Technical studies	135	9	53	4	13

University studies	598	41	413	28	69
Educational level missing information	0	0	3	0	0
Level in the hierarchy of the SPA					
14-19	415	46	174	32	46
20-25	312	34	181	33	34
26-30	106	12	133	24	12
Missing	74	8	62	11	8

Note. n = 1457, after screening. Levels in the hierarchy of the SPA range from 7 to 30.

Table 3

Pattern Matrix of the 4-factor and 30-item solution (FPT)

Pattern Matrix[a]				
	Factor			
	1. Satisfaction with the training	2. Content relevance	3. Accountability	4. Motivation to transfer
efi43	0.96			
efi17	0.84			
efi1	0.82			
efi44	0.80			
efi5	0.80			
efi45	0.77			

efi8	0.77			
efi47	0.76			
efi14	0.73			
efi46	0.67			
efi49		0.89		
efi21		0.84		
efi28		0.77		
efi25		0.74		
efi51		0.71		
efi7		0.70		
efi40		0.68		
efi50		0.65		
efi36		0.60		
efi41			0.86	
efi32			0.77	
efi30			0.74	
efi24			0.71	
efi35			0.71	
efi26			0.63	
efi6			0.58	
efi9				0.76
efi2				0.72
efi20				0.58
efi37				0.53

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.[a]

a. Rotation converged in 6 iterations.

Note. n = 728

Table 4

Factor correlation matrix for the 4-factor and 30-item solution

Factor Correlation Matrix

Factor	1. Satisfaction with the training	2. Content relevance	3. Accountability	4. Motivation to transfer
1. Satisfaction with the training	1.00	0.53	0.14	0.45
2. Content relevance	0.53	1.00	0.44	0.51
3. Accountability	0.14	0.44	1.00	0.16
4. Motivation to transfer	0.45	0.51	0.16	1.00

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.

Note. n = 728

Table 5

Definitions, sample items, number of items, and Cronbach´s alphas for the 4 FPT emerged factors and the single CdE factor.

Factor	*Definition*	*Sample Item*	*Number of items*	*α EFA*	*α CFA*
Satisfaction with the training	The extent to which the participants like the training and the instructor and perceive they have learned	I have liked the training I have attended	10	0.95	0.95
Perceived content relevance	The extent to which the participant believes the contents and materials of the training related to the	The activities were similar to the tasks of my job	9	0.93	0.93

	activities of their current or future job and meets its necessities				
Accountability	The extent to which the participants perceive their supervisors wants them to apply and show interest in them transferring the learnings to the job	My boss wants to know what I apply from the training in my job	7	0.88	0.85
Motivation to transfer	The extent to which the participants are willing to apply the learnings and believe the new skills will help them develop professionally	I would like the training I attended to help me develop professionally	4	0.82	0.80
Deferred transfer	The extent to which the participants perceive they have applied the knowledge, skills, and attitudes acquired in the training to their job	I have applied the learnings acquired during the training to my job	7	-	0.93

Note. Full instruments are available in English and Spanish upon request to the corresponding author (aitana.gonzalez.ortiz@gmail.com). The English version is the result of a double-blind translation.

Table 6

Four emerged factors, coding, and description of items

	43	Indicate your level of General Satisfaction with the course you just completed
	17	I am happy about the training
	1	I have liked the training I have attended
	44	Indicate the level of knowledge you have acquired or developed in the course
Satisfaction	5	The training has been interesting
with the	45	Point out the level of skill development you have acquired with the course
training	8	The training has been enjoyable
	47	Indicate the level of achievement of the course objectives
	14	The trainer has done a good job
	46	Think that your level of learning before starting the course was "zero", now indicate your level of learning at the end of the course
	49	Degree to which the contents of the course relate to the activities you perform at your workplace
	21	The activities were similar to the tasks of my job
	28	The training has been linked to what I need to do my job
	25	In the training, there have been examples close to my work reality
Content	51	Degree in which the course will cover needs or solve certain difficulties that you have or could have in your work
relevance	7	The training has met the necessities of my job
	40	The training materials have been similar to those I use in my work
	50	Degree in which the contents of the course are related to the activities that you could carry out in the future in your work
	36	The training allows me to achieve the objectives of my job
Accountability	41	My boss wants to know what I apply from the training in my job

	32	My boss congratulates me when I apply what I have learned in training to my job
	30	After the training, I explain to my boss the changes introduced in my job
	24	My boss asks me to meet to check that I apply what I learnt in training
	35	My boss asks me for evidence of the application of the training
	26	My boss wants me to apply the training to my job
	6	My boss incentives me to make changes based on the training
Motivation to transfer	9	I would like the training to help me improve in my job
	2	I would like the training I attended to help me develop professionally
	20	I tend to want to apply what I have learned in training
	37	Once the training is over, I want to put into practice what I have learned

Table 7

FPT - Measurement invariance for mode of instruction and gender

Group	*Model*	*χ2 (df)*	*CFI*	*RMSA (90% CI)*	*Model Com*	*Δχ2*	*ΔCFI*	*ΔRMSEA*	*Decision*
Mode of instruction (online vs in-class)	M1m: Configural Invariance	2.43 (772)	0.92	0.04 (.04-.05)	-	-	-	-	-
	M2m: Metric Invariance	2.42 (802)	0.92	0.04 (.04-.05)	M1m	0.01 (30) **	0.00	0.00	Accept

	M3m: Scalar Invariance	2.47 (809)	0.92	0.05 (.04-.05)	M2m	.05 (7) **	0.00	0.01	Accept
Gender	M1g: Configural Invariance	2.32 (772)	0.93	.04 (.04-.05)	-	-	-	-	-
	M2g: Metric Invariance	2.28 (802)	0.93	.04 (.04-.05)	M1g	0.04 (30) **	0.00	0.00	Accept
	M3g: Scalar Invariance	2.28 (832)	0.93	0.04 *.04-.04)	M2g	0.00 (30) **	0.00	0.00	Accept

Note. n = 729; group 1 online = 459; group 2 in-class = 270; group 3 male = 330; group 4 female = 397

*p ≤ .05.

**p ≤ .01.

Table 8

CdE - Measurement invariance for mode of instruction and gender

Group	*Model*	*χ2 (df)*	*CFI*	*RMSA (90% CI)*	*Model Com*	*Δχ2*	*ΔCFI*	*ΔRMSEA*	*Decision*
Mode of instruction (online vs in-class)	M1m: Configural Invariance	3.40 (18)	0.99	0.06 (.04-.07)	-	-	-	-	-
	M2m: Metric Invariance	3.06 (25)	0.99	0.05 (.04-.07)	M1m	0.34 (7)	0.00	0.01	Accept
	M3m: Scalar Invariance	2.76 (32)	0.99	0.05 (.04-.06)	M2m	.03 (7)	0.00	0	Accept
Gender (male vs female)	M1g: Configural Invariance	2.19 (18)	0.99	.04 (.02-.06)	-	-	-	-	-
	M2g: Metric Invariance	1.82 (25)	0.99	.03 (.02-.05)	M1g	0.37 (7)	0.00	0.01	Accept
	M3g: Scalar Invariance	1.76 (32)	0.99	.03 (.02-.05)	M2g	0.06 (7)	0.00	0.00	Accept

Note. n = 726; group 1 online = 492; group 2 in-class = 234; group 3 male = 308; group 4 female = 418

*p ≤ .05.

**p ≤ .01.

Tables

Table 1

Frequency and percentage of courses by type and area of training and mode of instruction

	Frequency Online	*% Online*	*Frequency In-class*	*% In-class*
Type of Training				
General training	293	32	113	21
IT	531	59	242	44
Professional skills	74	8	106	19
Skills development in a foreign language	9	1	89	16
Total	907	100	550	100
Area of Training				
Electronic administration and computer tools	281	31	44	8
Economic and contracts management	248	27	33	6
Professional skills	74	8	106	19
Computer tools	43	5	94	17
Organization and functioning	45	5	80	15
Programming and programming languages	126	14	37	7
Networks, communications, and internet	81	9	67	12

Languages	9	1	89	16
Total	907	100	550	100

Note. N = 1457, after screening.

Table 2

Sample information by mode of instruction

	Frequency Online	*% Online*	*Frequency In-class*	*% In-class*	*% Total*
Male	421	29	238	16	45
Female	485	33	309	21	55
Missing	1	0	3	0	0
Supervisory position	249	17	206	14	31
Non-supervisory position	648	44	341	23	68
Missing supervisory information	10	1	3	0	1
Attended on their own initiative	877	60	516	35	96
Attended encouraged by supervisor	20	1	34	2	4
Missing motivation to attend information	10	1	0	0	1
Mandatory education	18	1	18	1	2
Last year of high school	156	11	63	4	15
Technical studies	135	9	53	4	13
University studies	598	41	413	28	69

Educational level missing information	0	0	3	0	0
Level in the hierarchy of the SPA					
14-19	415	46	174	32	46
20-25	312	34	181	33	34
26-30	106	12	133	24	12
Missing	74	8	62	11	8

Note. n = 1457, after screening. Levels in the hierarchy of the SPA range from 7 to 30.

Table 3

Pattern Matrix of the 4-factor and 30-item solution (FPT)

Pattern Matrix[a]				
	Factor			
	1. Satisfaction with the training	2. Content relevance	3. Accountability	4. Motivation to transfer
efi43	0.96			
efi17	0.84			
efi1	0.82			
efi44	0.80			
efi5	0.80			
efi45	0.77			
efi8	0.77			
efi47	0.76			

efi14	0.73		
efi46	0.67		
efi49		0.89	
efi21		0.84	
efi28		0.77	
efi25		0.74	
efi51		0.71	
efi7		0.70	
efi40		0.68	
efi50		0.65	
efi36		0.60	
efi41			0.86
efi32			0.77
efi30			0.74
efi24			0.71
efi35			0.71
efi26			0.63
efi6			0.58
efi9			0.76
efi2			0.72
efi20			0.58
efi37			0.53

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.[a]

a. Rotation converged in 6 iterations.

Note. n = 728

Table 4

Factor correlation matrix for the 4-factor and 30-item solution

Factor Correlation Matrix

Factor	1. Satisfaction with the training	2. Content relevance	3. Accountability	4. Motivation to transfer
1. Satisfaction with the training	1.00	0.53	0.14	0.45
2. Content relevance	0.53	1.00	0.44	0.51
3. Accountability	0.14	0.44	1.00	0.16
4. Motivation to transfer	0.45	0.51	0.16	1.00

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.

Note. n = 728

Table 5

Definitions, sample items, number of items, and Cronbach´s alphas for the 4 FPT emerged factors and the single CdE factor.

Factor	*Definition*	*Sample Item*	*Number of items*	*α EFA*	*α CFA*
Satisfaction with the training	The extent to which the participants like the training and the instructor and perceive they have learned	I have liked the training I have attended	10	0.95	0.95
Perceived content relevance	The extent to which the participant believes the contents and materials of the training related to the activities of their current or future job and meets its necessities	The activities were similar to the tasks of my job	9	0.93	0.93
Accountability	The extent to which the participants perceive their supervisors wants them to apply and show interest in them transferring the learnings to the job	My boss wants to know what I apply from the training in my job	7	0.88	0.85
Motivation to transfer	The extent to which the participants are willing to apply the learnings and believe the new	I would like the training I attended to help	4	0.82	0.80

	skills will help them develop professionally	me develop professionally			
Deferred transfer	The extent to which the participants perceive they have applied the knowledge, skills, and attitudes acquired in the training to their job	I have applied the learnings acquired during the training to my job	7	-	0.93

Note. Full instruments are available in English and Spanish upon request to the corresponding author (aitana.gonzalez.ortiz@gmail.com). The English version is the result of a double-blind translation.

Table 6

Four emerged factors, coding, and description of items

Satisfaction with the training	43	Indicate your level of General Satisfaction with the course you just completed
	17	I am happy about the training
	1	I have liked the training I have attended
	44	Indicate the level of knowledge you have acquired or developed in the course
	5	The training has been interesting
	45	Point out the level of skill development you have acquired with the course
	8	The training has been enjoyable
	47	Indicate the level of achievement of the course objectives
	14	The trainer has done a good job

	46	Think that your level of learning before starting the course was "zero", now indicate your level of learning at the end of the course
Content relevance	49	Degree to which the contents of the course relate to the activities you perform at your workplace
	21	The activities were similar to the tasks of my job
	28	The training has been linked to what I need to do my job
	25	In the training, there have been examples close to my work reality
	51	Degree in which the course will cover needs or solve certain difficulties that you have or could have in your work
	7	The training has met the necessities of my job
	40	The training materials have been similar to those I use in my work
	50	Degree in which the contents of the course are related to the activities that you could carry out in the future in your work
	36	The training allows me to achieve the objectives of my job
Accountability	41	My boss wants to know what I apply from the training in my job
	32	My boss congratulates me when I apply what I have learned in training to my job
	30	After the training, I explain to my boss the changes introduced in my job
	24	My boss asks me to meet to check that I apply what I learnt in training
	35	My boss asks me for evidence of the application of the training
	26	My boss wants me to apply the training to my job
	6	My boss incentives me to make changes based on the training
Motivation to transfer	9	I would like the training to help me improve in my job
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