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TOWARDS A CONFIRMATIVE EVALUATION OF TRAINING TRANSFER: TRANSLATION, CULTURAL ADAPTATION AND VALIDATION

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Abstract

Training transfer evaluations have gained in interest. Indeed, evaluating to which extent training knowledge and skills are applied is valuable. It establishes training effectiveness and return on investment (Phillips, 2012), identifies barriers to application (Burke and Hutchins, 2007) and supports improvement of training designs (Salas et al., 2012).
Two evaluation approaches are commonly accepted. First, the objective-based that focuses on the application of the skills after training (e.g. Kirkpatrick, 1976). Although shown to be effective (Kirkpatrick & Kirkpatrick, 2006), this approach relies on self-reported data which can be biased in terms of social desirability, recall and objectivity (Holton, 1996; Arthur et al., 2003; Alliger et al., 1997).
Second, the system-based approach that analyses the predictors of training transfer (i.e. Holton et al., 2005). Literature suggests that the predictors are effective in divers contexts (Bates et al., 2012) but critics claim that this approach lacks to analyse training transfer itself (Holton et al., 2005).
Thus, Zinovieff (2008) theorized a confirmative approach that combines the before-mentioned to a questionnaire that focuses on systems and objectives. A first attempt by Gonzáles et al. (2022) relying on scales proposed by Kirkpatrick (1976) and Holton et al. (2005) has been validated in Spanish. The analysis shows motivation to transfer as a weak predictor of training transfer. This is inconsistent with current findings and thus further research is needed.
The aim of our paper is to include a validated motivation to transfer scale by Gegenfurtner and Quesada (2022) and to culturally adapt and validate the scales in French in order to propose a confirmative evaluation.
The scales have been culturally adapted and translated according to Corbière & Fraccaroli (2020). Data collection takes place at firefighters' training department with 590 participants planned. The study follows a longitudinal repeated measure design, so participation is requested at the end of the training and one week after for the system-based evaluation and four months after that for motivation to transfer and objective-based evaluation. The analyses includes descriptive statistics and exploratory factor analysis.
Data collection will be launched beginning of November 2025. We will present the preliminary results of the survey. The latter is expected to provide information on whether the evaluation is valid or if adjustments are needed.
The study is intended to contribute a confirmative training transfer evaluation and may reveal efficient factors for this approach. Results should contribute to training effectiveness.

Keywords: *Confirmative evaluation, training, transfer.*

1. Introduction

The Universal Declaration of Human Rights states that education and more precisely "*professional education shall be made generally available"* (United Nations, 1948, art. 26.1). Therefore adult trainings have multiplied and the interest for training transfer has risen. The latter is defined as "t*he effective and continuous application by trainees to their work of the knowledge and skills acquired during training*" (Broad and Newsroom, 1992, p. 5).

Indeed, this is the final purpose of every training (Wear, 2020). However, training effectiveness is compromised in terms of training transfer (Ahmadi and Keshavarzi, 2013). According to research by Saks and Belcourt (2006) only one participant out of three transfers training content one year after. Therefore, researchers have turned to training transfer evaluations.

Doubtlessly, evaluating to which extent training knowledge and skills are applied is valuable. It establishes training effectiveness and return on investment (Phillips, 2012), identifies barriers to application (Burke and Hutchins, 2007) and supports improvement of training designs (Salas et al., 2012).

Two major types of training transfer evaluations have evolved simultaneously, namely objective-based and system-based. First, the objective-based evaluation of training transfer focuses on the training objectives and especially on *behavior* as defined by Kirkpatrick (1976). The latter is the extend to which knowledge and skills are applied on the job.

According to Kirkpatrick & Kirkpatrick (2016) such *behavior* is dependent of *critical behaviors*. These are basic actions that are necessary to achieve organizational objectives. In order to reinforce those *critical behaviors*, Kirkpatrick & Kirkpatrick (2016) suggest that management insists on feedback systems (*required drivers)* to encourage, monitor and reinforce their (correct) application. In fact, organisations that have introduced required drivers are believed to have identified a more reliable training transfer behavior unlike organizations that introduced training alone (Brinkerhoff, 2006).

Critical behavior is also believed to rely on *on-the-job learning* since it creates a sense of responsibility for participants and superiors to transfer the training. Research by Swanson (2005) confirms this influence of context on *critical behavior* and training transfer. This approach has been supported by a considerable number of authors and applied in diverse contexts (e.g. Hamblin, 1974; Brinkenhoff, 1987; Phillips, 1996; Grohmann & Kauffeld, 2013). Nevertheless, research has revealed some shortcomings of this approach. Mainly, authors such as Guerci et al. (2010) claim that the training transfer process is complex and that a focus on results only sets important variables aside.

Therefore, some authors have turned to the system-based approach of training transfer evaluation. This approach concentrates on the predictors of training transfer rather than the behavior itself. Seminal contributions in this field have been made by Baldwin & Ford (1988) who introduced *training inputs.*

The latter depends on three cornerstone, more precisely, *trainee characteristics* such as their personality, their abilities and their motivation; *training design* with variables including training content and information sequencing; and finally the *work environment* that relies on variables like organizational support and opportunities to transfer.

A large body of data concerning training inputs has been reported and indicates a significant predictive effect of training transfer (Kirwan & Birchall, 2006; Monnot, 2012; Bezrukova et al., 2016). Consequently, training inputs are believed to play an important role as foundation of training transfer evaluation and has hence be widely applied.

To assess it, Holton et al. (2000) proposed the Learning Transfer System Inventory - a collection of 16 variables that have been shown to predict transfer. Among others, these include transfert motivation, transfer design and transfer effort - performance expectations which are the most reliable predictors (Hutchins et al., 2013).

Despite a large body of data underlying the strength of the LTSI predictors, some authors claim that this kind of evaluation does not allow an exact analysis of how to improve training transfer, nor does it assess transfer itself to control results (Holton et al., 2000; Holton et al., 2005; Pineda-Herrero et al., 2012).

One of the major topics to be investigated was thus to develop a training transfer evaluation that combines the strengths of both approaches by minimizing shortcomings. In this context, Zinovieff (2008) theorized a *confirmative* approach that aims to understand behavior, accomplishment and results by focusing on continuing competences. Accordingly, three aspects for data collection are recommended:

A first one aiming to understand participant's need for training. A second concerning their objectives to transfer training and finally, an assessment of their training transfer behavior (Zinovieff, 2008).

Indeed, this suggests to combine the objective-based approach with the system-based approach to evaluate training transfer. A rare attempt of such an evaluation has been made by González-Ortiz-de-Zárate et al. (2020). Two questionnaires have been developed based on the works of Kirkpatrick (1976) and Holton et al. (2005).

On the one hand, the effectiveness questionnaire (CdE) that is based on the objective-based approach and thus questions key performance indicators, return on investment and return on expectations. On the other hand, the Factors Predicting Transfer (FPT) questionnaire is composed of predicting variables of training transfer. Based on the system-based approach and especially on the LTSI (Holton et al., 2000), González-Ortiz-de-Zárate et al. (2020) reduced the factors to four main variables:

First, *motivation to transfer* defined as the extend to which participants are ready to transfer and to which they perceive training transfer as a catalyst of professional development. Second, *satisfaction with the training* which is the degree to which participants appreciated the training and to which they feel a progression of skills, knowledge. Third, *content relevance* that represents the extent to which participants perceive the content to be relevant for their job. And finally, *accountability* as the degree to which superiors are interested and drive training transfer on the job.

Both questionnaires and their joint application have been validated in Spanish (González-Ortiz-de-Zárate et al., 2020). Although the literature pertaining to the CdE confirms it's

reliability, the FPT questionnaire seems to present shortcomings. In fact, the analysis shows motivation to transfer as a weak predictor of training transfer. This is inconsistent with current findings (e.g. Van den Bossche et al., 2010; Gegenfurtner et al., 2009).

As a matter of fact, most authors suggest that motivation to transfer is a trainee characteristic. Alternatively, some authors have insisted that it may act as a mediator of training transfer predictors and training transfer (Kontoghiorghes, 2004; Pugh & Bergin, 2006; Gegenfurtner et al. 2009). First findings support this hypothesis (e.g. Suleiman et al., 2018; Wirdani & Wulansari, 2019) and underline the importance of trainees perception of training transfer as being internal, this is to say self-determined or external (Gegenfurtner et al., 2009). Deci & Ryan (2002) concluded that the more participants are self-determined, in other words to what extent they sense a freedom of choice, the more they are committed to the action. In contrast, the less participants are self-determined, the less they are committed.

Recent work by Gegenfurtner & Quesada-Pallarès (2022) validated the Transfer Motivation Questionnaire (TMQ) from a self-determination theory perspective. The TMQ is composed of four scales, two relative to intrinsic motivation to transfer and two relative to extrinsic motivation to transfer. Unlike previous questionnaires, the TMQ includes scales for *integrated regulation* and *identified regulation* (internal motivation) to transfer. Indeed, previous questionnaires did not manage to validate those scales. Consequently, they could yet not be evaluated directly which may explain the inconsistency of González-Ortiz-de-Zárate et al. (2020) results on motivation to transfer.

The aim of our paper is thus to propose a questionnaire that tends towards a confirmative approach of training transfer. Based on the work of González-Ortiz-de-Zárate et al. (2022), our objective is to improve the motivation to transfer scale by including the TMQ (Gegenfurtner & Quesada-Pallarès, 2022) and to culturally adapt and valid the questionnaires in France.

2. Methods

2.1. Participants

Participants (N = 590 planned) are to be recruited from the local firefighters' training department. The last-mentioned signed a research agreement with the University of Lille. All participants complete workplace trainings during data collection. Participants are excluded if they do not complete the questionnaire and if they are absent from work over the data collection period.

Participation was facultative and no external incentives were provided. All participants gave their consent for participation before data collection.

2.2. Materials

The study uses three questionnaires, namely the FPT, the TMQ and the CdE (González-Ortiz-de-Zárate et al., 2022; Gegenfurtner & Quesada-Pallarès, 2022). The scales have been culturally adapted and translated according to Corbière & Fraccaroli (2020). This is to say that translations followed their 5 step methodology:

First, two French translators translate the questionnaire from the original language to French. Following, a meeting between the research team with the two translators allows to identify possible differences and to find a consensus on the translation. Then, this translation is given to two professional translators whose mother language is the original language of the questionnaire, in our case Spanish and German. After, the research team meets with those two translators to identify some last differences before including the two first translators to the meeting. The objective of this step is to agree on the final version of the questionnaire. Once all translators agree, the questionnaire can be pretested on a sample group in order to test comprehension.

2.3. Procédure

At the end of training, the instructors present the collaboration between the firefighters' training department and Lille University and share the information letter with trainees. Instructors will also send the letter per email to trainees.They have then the opportunity to participate via a Limesurvey link. Before participation, they are requested to read the information letter and to consent for participation.

The study follows a longitudinal repeated measure design. Thus, participants are encouraged to take part in four data collections. The first concerns the FPT and is administered right after training (T1) and one week after that (T2). The MTQ and the CdE are administered four months after training (T3) and one week after that (T4).

During T1 participants have the opportunity to share their contact information if they would like to pursue their participation at the following steps of the study. They are then recontacted per email with the information letter and the following Limesuvey links.

This procedure was approved by the ethics committee of the University of Lille n° 2025-155.

2.4. Data analysis

Descriptive analysis and internal consistency analysis (McDonald's omega) are planned. Moreover, we will proceed to an exploratory factor analysis. To decide whether to maintain or to exclude a factor, we will rely on Kaiser's Eigenvalue, the Scree Plot and Parallel Analysis.

To underpin the exploratory factor analysis, we will analyse the Kaiser-Meyer-Olkin, as well as Bartlett's test.

Concerning the supposed mediating position of motivation to transfer, we will apply the process of Bootstraps.

All analysis will be executed on the SPSS program (or equivalent as Jamovi).

3. Discussion

Our paper is intended to contribute a confirmative training transfer evaluation in French. We aim to identify the variables that are efficient for this approach and to adapt their use for optimal results. Furthermore, we hope to point out leads that may allow to identify and include variables that have been neglected. We especially aim to recognize the impact of motivation to transfer in order to set it's place in the confirmative approach of training transfer.

On a larger scale, this paper should provide evidence for the efficiency of the confirmative approach of training transfer evaluation. Hence, providing further steps towards more efficient training.

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