# General vs. Specific-referent Instruments to Measure Training Transfer in a Transportation Organization in Canada

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## Abstract

In this study, we analyzed transfer, as measured by different instruments, and its relation to some of the factors that have been related to transfer in a Canadian transportation organization. Transfer was measured cross-sectionally through the application of three scales to short-distance truck drivers. Transfer was perceived as higher when a general rather than a specific transfer instrument was applied, implying that the choice of instrument could influence the results. This highlights the relevance of instrument selection in the design of studies. Additionally, while correlations between satisfaction with the training, content relevance and motivation to transfer and transfer differed with different instruments, the correlation between accountability and transfer did not. Contrary to the trend of using a single measure of transfer, this study provides empirical evidence of the transfer construct as measured through different instruments. This evidence can be useful in research methods on training transfer to understand better the construct and its operationalization. Implications for theory and practice are discussed.

**Keywords:** training transfer; predicting transfer; measurement instruments; general vs. specific transfer; human resource development (HRD)

**Resum.** *Instruments referents generals vs. específics per mesurar la transferència de la formació en una organització de transports al Canadà*

En aquest estudi hem analitzat la transferència de formació, mesurada per diferents instruments, i la seva relació amb alguns dels factors de transferència en una organització de transport canadenca. La transferència es va mesurar transversalment mitjançant l'aplicació de tres escales a conductors de camions de curta distància. La transferència va ser més alta quan es va aplicar un instrument de referència general en lloc d'un instrument de referència específic, fet que implica que l'elecció de l'instrument podria influir en els resultats. Això posa de manifest la rellevància de la selecció d'instruments en el disseny d'estudis. A més, si bé les correlacions entre la satisfacció amb la formació, la rellevància del contingut, la motivació per a la transferència i la transferència diferien amb els diferents instruments,

la correlació entre la rendició de comptes i la transferència no. Contràriament a la tendència d'utilitzar una única mesura de transferència, aquest estudi proporciona evidència empírica de la construcció de la transferència mesurada mitjançant diferents instruments. Aquesta evidència pot ser útil en mètodes d'investigació sobre la transferència de formació per entendre millor el constructe i la seva operativització. Es discuteixen implicacions per a la teoria i la pràctica.

**Paraules clau:** transferència de formació; predicció de transferència; instruments de mesura; transferència general vs. específica; desenvolupament de recursos humans

**Resumen.** *Instrumentos de referencia generales y específicos para medir la transferencia de formación en una organización de transporte en Canadá*

Se analiza la transferencia de formación y su relación con algunos de los factores de transferencia a través de diferentes instrumentos en una organización de transporte canadiense. A través de un diseño transversal se aplicaron tres escalas a conductoras de camión tras una formación en cabina. La transferencia percibida fue mayor cuando se aplicó un instrumento de referencia general en lugar de un instrumento de referencia específica, lo que implica que la elección del instrumento pudo influenciar en los resultados y resalta la relevancia de la elección de la escala en el diseño de los estudios. Mientras que las correlaciones entre la satisfacción con la formación, la relevancia del contenido y la motivación con la transferencia y la transferencia fueron diferentes al utilizar un instrumento general y uno específico, la correlación entre el interés del supervisor y la transferencia no difirió. Este estudio aporta evidencia empírica sobre la medición de la transferencia a través de diferentes instrumentos. Esta evidencia puede ser útil en diseños de investigación de estudios de transferencia para mejorar la operativización del constructo. Se discuten implicaciones para la teoría y la práctica.

**Palabras clave:** transferencia de formación; factores de transferencia; instrumentos de medida; referencia general *vs.* específica; desarrollo de recursos humanos

## Summary

## 1. Introduction

Canada's trucking sector is suffering a labour shortage (Government of Canada, 2021; Hanson, 2020). The lack of drivers is expected to increase to 48,000 drivers by 2024 (CPCS, 2016). The increasing demand for drivers results in greater difficulty in retention, coupled with challenges experienced in recruiting skilled young drivers (Crizzle et al., 2018).

Canada's economic prosperity depends on how well talent is attracted and retained (Gill, 2021). Effective talent management strategies, including attrac-

tion efforts and learning and development opportunities, are used to engage and retain employees (Narayanan et al., 2019). Structured workplace training is not just attractive, but also a key necessity in engaging and retaining new generations (Chopra & Bhilare, 2020). Despite the importance of performing training evaluation (Philips & Philips, 2016), this practice is scarce in the sector. Employers are not trained to perform evaluation, and it has traditionally been costly and time consuming. The sector could, therefore, benefit from the knowledge achieved in training transfer.

Training transfer has been studied for more than three decades (Bell et al., 2017; Ford et al., 2018). Many scales measuring transfer have been used, but the majority have been developed for the purposes of only one study, and vary according to the choice of referent (general versus specific) (Schoeb et al., 2020). Studies that utilized instruments that had been used and validated previously are a minority (Schoeb et al., 2020).

Filling this gap, a recent study validated the deferred transfer questionnaire (CdE), a scale to measure transfer from a general perspective; and the factors predicting transfer questionnaire (FPT), which measures some of the factors that have been related to transfer (satisfaction with the training, content relevance, accountability and motivation to transfer) (Gonzalez-Ortiz-de-Zarate et al., 2020, Pineda-Herrero et al., 2020). Further, relations between the FPT and the CdE have been analyzed (Gonzalez-Ortiz-de-Zarate et al., 2021). However, to date, no identified study has analyzed the differences in transfer when applying general vs. specific referent instruments, nor have the correlations between these instruments been reported in the trucking or any other sector.

## 2. Purpose

This study analyzed transfer as measured through general and specific referent instruments and their relation to some of the factors that have been identified as related to transfer in a Canadian transportation organization.

## 3. Literature Review

This study draws on previous advances in training transfer (Bell et al., 2017; Blume et al., 2010; Blume et al., 2019; Ford et al., 2018) and the study of transfer in the transportation sector (Smidt et al., 2021). It focuses on the measurement of transfer, the distinction between general and specific referent instruments (Schoeb et al., 2020), and the predicting transfer model (González-Ortiz-de-Zárate et al., 2021).

### 3.1. Training Transfer

Training transfer has been understood as the extent to which the learning acquired during training is applied at work (Baldwin et al., 2017). Since publication of the review by Baldwin and Ford (1988), researchers in the field have

been very active in publishing empirical research, reviews (e.g., Botke et al., 2018; Ford et al., 2018; Ling & Yusof, 2017) and meta-analyses (e.g., Blume et al., 2010; Cook et al., 2013; Wang et al., 2013). Satisfaction with the training, content relevance, accountability and motivation to transfer are some of the factors that have been related to transfer (González-Ortiz-de-Zárate et al., 2021). At this point, it has been suggested that researchers should go one step further than most previous studies and be more precise in their specification and measurement of variables and interventions (Ford et al., 2018).

### 3.1.1. Training Transfer in the Transportation Sector
In the transportation sector, classroom training transfer has been studied (e.g. Huang & Ford, 2012; Freitas et al., 2019). Huang and Ford (2012) examined some trainee factors (locus of control and self-efficacy) and training behaviours after a classroom course, while Freitas et al. (2019) studied in-class safety training transfer, identifying the influence of social dimensions of the work environment and the employees' felt responsibility on the transfer of training.

Recent technology developments related to simulations and automated driving have produced a proliferation of studies that have analyzed driver behaviours and performance (transfer) following simulation training (e.g. Falkmer, 2017; Hirsch et al., 2017; Parkes & Reed, 2017) and automated driving training (e.g. Payre et al. 2017; Sportillo et al., 2019; Van Direl et al., 2019).

A recent review that included technology-based and in-class training found support for the effectiveness of training at the level of behaviours (transfer) and recommended providing individual feedback or coaching after classroom training (Smidt et al., 2021).

A study of the best safety performing U.S. truck firms found that top safety performing firms employed in-vehicle and classroom-based training and evaluated whether learning occurred (Mejza et al., 2003).

Most studies analyzed technology-based and in-class training, and a few studies analyzed in-vehicle or on-the-job training. Knowing the relevance of this training to foster road-safe behaviour (Mejza et al., 2003), more studies are needed to examine in-vehicle training transfer.

### 3.1.2. Measurement of Training Transfer
A systematic review of transfer studies published in 2020 identified that the definitions of transfer vary among studies, and that this variance reflects the measurement instruments used (Schoeb et al., 2020). In addition, it found that many different instruments have been used to measure transfer, and scant information is provided in publications related to training parameters for which transfer was measured (Schoeb et al., 2020). Measurement instruments varied in the choice of general vs. specific referent items. While general referent items measure transfer through the application of general statements (e.g. I have changed my behaviour because of the training), specific referent items refer to the specific behaviours being transferred (e.g. I have applied the training in my job) (Schoeb et al., 2020). Additionally, transfer appears to be measured

through the application of a single measure involving a single source (Schoeb et al., 2020).

To our knowledge, no research has examined the differences in transfer when different instruments are applied (general vs. specific), and it is important for better understanding of transfer and its operationalization. Based on past research, our research in this area is exploratory, as follows:

> *Research Question 1:* How does the use of different measurement instruments (general vs. specific) affect training transfer?

Although the tradition has been to develop instruments for the purpose of the study, there have been some exceptions, such us the many publications that validated the Learning Transfer System Inventory in several countries (e.g. Soerensen et al., 2017; Zamani et al., 2016), and some of the recent instruments that have been developed and validated in different contexts to measure transfer and some of the factors related to transfer (González-Ortiz-de-Zárate et al., 2020; Ford et al., 2018; Pineda-Herrero et al., 2020). Two of these instruments were applied to validate a predicting transfer model in southern Europe (González-Ortiz-de-Zárate et al., 2021). In this study, the factors of transfer correlated with transfer. The study found that while satisfaction with the training and motivation to transfer did not influence transfer, content relevance and accountability did influence it. Transfer was measured through a general referent instrument. It was recommended that the model be tested in different contexts to examine whether the factors showed stability across cultures (Ford et al., 2018) or change across them (Yamnill & McLean, 2005).

> *Research Question 2:* Do the Factors Predicting Transfer (satisfaction with the training, content relevance, accountability and motivation to transfer) correlate with transfer when using general and specific referent instruments?

## 4. Methods

In this section, we describe the research methods, sample, training context, procedures used, instruments and data analysis.

### 4.1 Research Methods

We explored, through a case study, the phenomenon of transfer within its real-life context (Yin, 2018). A case study technique (Shareia, 2016) was used to understand a specific organization, adopting a quantitative approach.

### 4.2. Sample

The sample is described in this section, including both the organization in which the study was conducted and the participants.

### 4.2.1. Organization

A bulk transportation company serving the mining and forestry industries in Northern British Columbia, Canada, was used for the study. The organization had been operating for 40 years, dedicated to designing transport systems that benefit the operations of their clients.

### 4.2.2. Participants

The organization employed 116 drivers, 78 of whom had attended the training and were the target of the study. Surveys were provided to the 78 drivers who had attended the training. Responses from 43 trained drivers were received (response rate = 55 %). Because previously examined correlations between the FPT factors and transfer were above .30 (Gonzalez-Ortiz-de-Zarate et al., 2020; Bujang & Baharum, 2016), a participant pool of 42 (after screening) was considered acceptable.

Participant ages ranged from 22 to 67 ($M$=47 years, $SD$=12.49). Tenure with the current employer was 8.37 years ($SD$=11.34). Participant demographics are shown in Table 1.

**Table 1.** Participant Demographics ($n$ = 42)

| Demographic | Frequency | % |
| --- | :---: | :---: |
| Male | 36 | 86 |
| Female | 6 | 14 |
| Secondary Education | 35 | 83 |
| Post-secondary Education | 7 | 17 |
| Single | 6 | 14 |
| Common law | 11 | 26 |
| Married | 21 | 50 |
| Separated | 2 | 5 |
| Divorced | 2 | 5 |

Source: Own elaboration.

### 4.3. Training Context

The training consisted of a one-on-one training program offered by one of the three trainers at the organization. The length varied between one and three weeks, based on the needs and experience of the drivers. The average reported duration was 11 days. During this time, the trainer accompanied the driver in the cab and offered *in situ* training. Training content was divided into 17 categories:

— Pre-trip inspections and emergency/safety equipment
— Placing vehicle in motion and use of controls

— Coupling and un-coupling
— Backing
— Parking
— Slowing and stopping
— Turning
— Traffic signs and signals
— Intersections
— Passing
— Speed
— Courtesy and safety
— Demonstration of safe work habits
— General driving ability and habits
— Loading/unloading
— Rules and regulations
— Inside cab maintenance

### 4.4. Procedures Used

The study comprised four phases: (1) instrument adjustment, (2) participant recruitment strategy, (3) data collection, and (4) data analysis. Data were collected cross-sectionally at a specific point in time (Zangirolami-Raimundo et al., 2018).

The nature of the drivers' work and schedules made online surveys untenable. As a result, one researcher dropped off the survey and protocols in the drivers' mailboxes. Participants filled out the surveys and dropped them off in a confidential general mailbox. Participants were rewarded with a symbolic gift-card for breakfast at a local establishment. One researcher then picked up the completed surveys on a weekly basis. The information from each survey was imported into an excel spreadsheet that was then imported into SPSS 25 to run the analyses.

The study was approved by the Research Ethics Board at the College of New Caledonia, Prince George, British Columbia, which complied with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (Canada).

### 4.5. Instrument

The survey instrument contained the factors predicting transfer questionnaire (FPT) and the deferred transfer questionnaire (CdE) (Gonzalez-Ortiz-de-Zarate et al., 2020; Pineda-Herrero et al., 2020), and an adaptation of the Perceived Application Survey (Lim & Morris, 2006).

#### 4.5.1. Factors of Transfer
The FPT is a 30-item, four-factor questionnaire that measures some of the factors that have been associated with transfer: satisfaction with the training,

content relevance, accountability and motivation to transfer. Answers are given through a five-point Likert-type scale (1=*strongly disagree*, 5=*strongly agree)*. The FPT was validated through EFA and CFA (Gonzalez-Ortiz-de-Zárate et al., 2020).

Table 2 contains the names, definitions, a sample item, the total number of items, and the reliability estimate for each factor.

**Table 2.** FPT Factors

| Factor | Definition | Sample Item | Number of items | A |
|---|---|---|---|---|
| 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 | .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 | .93 |
| Accountability | The extent to which the participants perceive their supervisors want 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 | .88 |
| 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 | .82 |

Source: Adapted from Gonzalez-Ortiz-de-Zárate et al. (2020).

### 4.5.2. General Training Transfer

The CdE questionnaire measures transfer from the participants' perspective, with the goal of identifying the degree of application of the learnings acquired in the training (Quesada-Pallarès et al., 2015). Examples of items are: *I have applied to my job the learnings I acquired in the training*; and *Due to the training, I have modified my performance.* Answers are given through a five-point Likert-type scale (1=*strongly disagree*; 5=*strongly agree)*. It was validated through EFA (Quesada-Pallarès et al., 2015) and CFA (Gonzalez-Ortiz-de-Zárate et al., 2020).

The FPT and CdE questionnaires were developed in Spanish. To use the instrument in this context, where English is the dominant language, a team translation was performed, as recommended in latest translation research (Mohler et al., 2016; Willis et al., 2010). Two researchers acted as individual translators and created initial translations, one reviewer reviewed the translation, and one adjudicator decided when the questionnaires were ready to be tested. To evaluate the consistency of the measures, a Cronbach's alpha was determined.

### 4.5.3. Specific Training Transfer

An adaptation of the Perceived Application Survey (Lim & Morris, 2006) was applied. Participants were asked to rate how frequently different aspects of training were utilized on the job after training was completed. It consisted of 17 items that match the training content. Examples of the items are *After the training, the following content was… 1=Not used; 4=Frequently used:*

> *Pre-trip inspections and emergency/safety equipment checked.*
> *Backing (checked behind unit, sounded air horn, backed slowly and in control).*
> Previous studies using 13 items yielded high reliability (Lim & Morris, 2006).

### 4.5.4. Reliability Analysis

In this study, Cronbach's alphas were used to estimate stability and were used as a proxy for reliability. Alphas were above .70 for all variables, as shown in Table 3; hence, reliability was considered satisfactory (Nunnaly, 1978).

**Table 3.** Reliability of Constructs (*n* = 42)

| Construct | Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|---|
| Satisfaction with the training | 0.89 | 0.89 | 10 |
| Perceived content relevance | 0.92 | 0.93 | 9 |
| Accountability | 0.91 | 0.91 | 7 |
| Motivation to transfer | 0.78 | 0.81 | 4 |
| General training transfer | 0.85 | 0.90 | 7 |
| Specific training transfer | 0.77 | 0.77 | 17 |

Source: Own elaboration.

### 4.6. Data Analysis

The initial dataset containing all respondents was used (n = 43).

### 4.6.1. Data Screening

Because there is no clear cut-off regarding an acceptable percentage of missing data (Dong & Peng, 2013), less than 5% was considered good (Schafer, 1999) and less than 10% was considered adequate (Bennett, 2001). The demographic item *nationality* had a percentage of missing responses of 21% and was therefore excluded from the analysis to avoid making nationality-biased conclusions. One participant did not respond to more than 10% of the items and was therefore deleted from the dataset. The screened dataset contained 42 responses. Overall analysis found 1% missing data, which was considered satisfactory. Eight participants had missing responses, with percentages ranging between 2% and 8%. Ten variables contained missing data lower than 5%. Missing data were input using medians for ordinal variables and means for continuous variables.

### 4.6.2. Data Analysis

Data analysis included descriptive statistics (mean, median, standard deviation, standard error of the mean, minimum, maximum, range, variance and correlation).

Because data were ordinal and the goal was to analyze how different instruments affect training transfer, the Wilcoxon Matched Pairs test was used to answer research question 1 (MacFarland & Yates, 2016). The goal of the test was to determine if two sets of pairs that belonged to the same sample (responses to general vs. specific referent responses) were statistically different from one another.

To answer research question 2 and test the significance of the correlations, a significance test statistic ($z$) for dependent samples was applied (Eid et al., 2017). The dependent sample test was chosen because measures were taken on the same participants.

## 5. Results

Items of the four FPT factors were transformed into composite scales by computing the median of the items, following common practice (Sullivan & Artino, 2013). Descriptive statistics were applied to the composite scales, the general transfer scale and the specific transfer scale. Table 4 shows descriptive statistics, and Table 5 shows correlations and significance of the correlations.

**Table 4.** Descriptive Analyses ($N = 42$)

|          | Satisfaction with the training | Perceived content relevance | Account-ability | Motivation to transfer | General transfer | Specific transfer |
|----------|------|------|------|------|------|------|
| *M*      | 4.45 | 4.70 | 3.90 | 4.73 | 4.56 | 3.93 |
| *Median* | 4.40 | 4.83 | 4.00 | 5.00 | 4.71 | 4.00 |
| *SD*     | .48  | .37  | .88  | .39  | .51  | .15  |
| *SE*     | .07  | .06  | .14  | .06  | .08  | .02  |
| *Minimum*| 3.50 | 3.89 | 1.43 | 4.00 | 3.43 | 3.24 |
| *Maximum*| 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 4.00 |
| *Range*  | 1.50 | 1.11 | 3.57 | 1.00 | 1.57 | .76  |
| Variance | .23  | .14  | .78  | .15  | .26  | .02  |
| Response | 1 to 5 | 2 to 5 | 3 to 5 | 4 to 5 | 1 to 5 | 1 to 4 |

Source: Own elaboration.

**Table 5.** Correlations and Significance of the Correlations (*N* = 42)

| Variable | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Satisfaction with the training | – | .66** | .52** | .70** | .73** | .34* |
| 2. Perceived content relevance | – | – | .38* | .61** | .47** | 0.20 |
| 3. Accountability | – | – | – | .38* | .47** | .41** |
| 4. Motivation to transfer | – | – | – | – | .79** | .31* |
| 5. General training transfer | – | – | – | – | – | .45** |
| 6. Specific training transfer | – | – | – | – | – | – |

*$p \leq .05$, **$p \leq .01$.

Source: Own elaboration.

First, the non-parametric Wilcoxon Matched Pairs test indicated that the general referent responses (M = 4.56, SD = 0.51) were significantly higher than the specific referent transfer responses (M = 3.93, SD = 0.15) ($Z$ = -5.09, $p < .000$).

Second, the significance of the comparison of correlations was analyzed by applying a significance test statistic ($z$) for dependent samples (Eid et al., 2017). Table 6 shows correlations and significance test statistic ($z$) for dependent samples. While satisfaction with the training, content relevance and motivation to transfer showed differences in their correlations when using different instruments, accountability did not.

**Table 6.** Correlations and significance of the correlations (*N* = 42)

| Pair of Correlations | $r_{12}$ | $r_{13}$ | $r_{23}$ | Test statistic $z$ |
|---|---|---|---|---|
| $r_{satisfaction\text{-}general\ transfer} > r_{satisfaction\text{-}specific\ transfer}$ | .73 | .34 | .45 | 3.07** |
| $r_{content\ relevance\text{-}general\ transfer} > r_{content\ relevance\text{-}specific\ transfer}$ | .47 | .20 | .45 | 1.76* |
| $r_{accountability\text{-}general\ transfer} > r_{accountability\text{-}specific\ transfer}$ | .47 | .41 | .45 | .41 |
| $r_{motivation\text{-}general\ transfer} > r_{motivation\text{-}specific\ transfer}$ | .79 | .31 | .45 | 3.98** |

*1* = factors predicting transfer (satisfaction with the training, content relevance, accountability, and motivation to transfer), *2* = general transfer, *3* = specific transfer.

Source: Own elaboration.

## 6. Discussion

The goal of this study was to analyze transfer, as measured by different instruments, and its relation to some of the factors that have been related to transfer in a Canadian transportation organization. We measured transfer through general and specific referent instruments and examined the correlations between satisfaction with the training, content relevance, accountability and motivation to transfer and transfer, as measured by scales that contained general vs. specific referent items. Contrary to the trend of using a single measure

of transfer (Schoeb et al., 2020), this study provides empirical evidence of the transfer construct as measured through different instruments. This evidence can be useful in research methods in training transfer, to understand better the construct and its operationalization.

First, we asked what the transfer of training was when different measurement instruments were applied. Transfer was perceived as higher when a general, rather than a specific, referent instrument was applied. This result implies that the choice of instrument (adopting a general or specific perspective) could influence the results obtained in transfer, highlighting the relevance of this selection in the design of the studies. This result helps to enlarge the current knowledge of the various features of the measurement instruments used by researchers, and to consider these variations in relation to their ability accurately to estimate transfer (Schoeb et al., 2020). This result, together with the positive bias towards training, which can result in high levels of satisfaction with the training (Alliger & Horowitz, 1989; Alliger & Janak, 1989), and some of the limitations related to self-reported measures, could facilitate the overestimation of transfer (Taylor et al., 2009). Future research could examine these differences when transfer is measured through different agents (i.e. supervisor, colleagues, clients and so on). In addition, as transfer measures tend to be self-reported and -perceived, and perceptual mechanisms represent events in experience that have effects on memory (Zacks, 2020), this result could be further explored by examining advances in research in cognitive processes, perception and memory retention. By doing so, additional interpretations of the results could be extracted. In addition, future research could examine how learning and memory operations participate in the flexible construction of general and specific memories of the events (McClelland & Rumelhart, 1985; Robin & Moscovitch, 2017).

Second, we questioned what the correlation of the Factors Predicting Transfer (satisfaction with the training, content relevance, accountability and motivation to transfer) was with transfer when using different measures (general vs. specific). Results showed differences in the correlations between satisfaction with the training, content relevance and motivation to transfer and transfer when using different instruments. However, no differences were found between the correlations of accountability and transfer when using different instruments. Future studies could explore this result for better understanding of the relations between transfer and the factors of transfer when using different instruments. These results suggest that not only do the transfer measures differ when using general vs. specific-referent instruments, but also that the correlation between some of the factors that have been related to transfer and transfer varies when using different instruments. These results imply that some transfer ideas should be revisited, and that the selection of the measurement instruments may be a key step in the design of transfer studies.

Despite the relevance of the results and its implications for research methods in training transfer, the number of participants was limited and linked to a specific context. We recommend that future studies target a larger sample and include different measurement instruments with various characteristics. These

results have relevant implications for HRD practitioners as they might help in making informed decisions when selecting the instruments to be used in their transfer evaluations.

We can conclude that perceptions of transfer varied when transfer was measured with different instruments. First, transfer was perceived as higher when a general rather than a specific transfer instrument was applied; and second, while correlations between satisfaction with the training, content relevance and motivation to transfer and transfer differed with different instruments, the correlation between accountability and transfer did not.

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