

THE INFLUENCE OF SELF-EFFICACY ON TRAINING EFFECTIVENESS IN COOPERATIVE ORGANIZATIONS

A INFLUÊNCIA DA AUTOEFICÁCIA NA EFICÁCIA DO TREINAMENTO EM ORGANIZAÇÕES COOPERATIVAS.

Submission: 17/12/2021

Accept: 20/04/2022

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ABSTRACT

Purpose – This research aims to analyze the relationship between the effectiveness of training at work and self-efficacy in cooperative organizations.

Theoretical framework - Considering its complexity and the conceptual gaps regarding the topic, it was decided to conduct an analysis of the relationship between a variable of the affective dimension (self-efficacy), and a performance variable (training effectiveness).

Design/methodology/approach – The research was conducted in the form of a survey and the data were obtained through questionnaires applied to employees from cooperatives in Paraná State who participated in acts of training and development. The data were analyzed using descriptive statistics, factor analysis and structural equation modeling.

Findings – The confirmation of the general hypothesis evidenced a positive relationship between self-efficacy and training effectiveness, demonstrating that, for cooperative organizations, investing in the development of people with high-efficacy results in learning and improves the outcome of their work.

Practical implications – The main practical contribution of this study lies in the importance of the affective dimension in the individual development process, as individual beliefs about the benefits of learning enable the development of new skills that influence work performance.

Originality/value – The results indicate the need for more in-depth studies of affective indicators of training and its impact on work, notably in relation to self-efficacy, through its capacity for modifying behavior and generating concrete actions through an individual's belief regarding what he is capable of achieving.

Keywords: Training effectiveness. Self-efficacy. Cooperative organizations.

RESUMO

Objetivo – Esta pesquisa tem como objetivo analisar a relação entre a eficácia do treinamento no trabalho e autoeficácia em organizações cooperativas.

Referencial teórico - Considerando sua complexidade e as lacunas conceituais sobre o tema, optou-se por realizar uma análise da relação entre uma variável da dimensão afetiva (autoeficácia), e uma variável de desempenho (eficácia do treinamento).

Desenho/metodologia/abordagem – A pesquisa foi realizada na forma de *survey* e os dados foram obtidos por meio de questionários aplicados a funcionários de cooperativas paranaenses que participaram de ações de treinamento e desenvolvimento. Os dados foram analisados por meio de estatística descritiva, análise fatorial e modelagem de equações estruturais.

Resultados – A confirmação da hipótese geral evidenciou uma relação positiva entre autoeficácia e eficácia do treinamento, demonstrando que, para as organizações cooperativas, investir no desenvolvimento de pessoas com alta eficácia resulta em aprendizado e melhora o resultado de seu trabalho.

Implicações práticas – A principal contribuição prática deste estudo está na importância da dimensão afetiva no processo de desenvolvimento individual, à medida que as crenças individuais sobre os benefícios da aprendizagem, possibilitam o desenvolvimento de novas competências que influenciam no desempenho no trabalho.

Originalidade/valor – Os resultados indicam a necessidade de estudos mais aprofundados sobre indicadores afetivos de treinamento e seu impacto no trabalho, notadamente em relação à autoeficácia, pela sua capacidade de modificar comportamentos e gerar ações concretas por meio da crença do indivíduo sobre o que ele é capaz de alcançar.

Palavras-chave: Eficácia do treinamento. Autoeficácia. Organizações cooperativas.

1 INTRODUCTION

One of the major challenges of human resources management is to show its strategic role in organizations, especially in creating indicators capable of measuring whether the resources invested in professional training result in the development of skills capable of generating effective results. These results should meet organizational expectations (aims and goals) and individual interests concerning the personal and professional growth of employees.

One of the seminal studies on this topic was conducted by Kirkpatrick (1959), with a four-level approach to assess training effectiveness: reaction evaluation, learning, behavior and results (Kraiger & Ford, 2007). Although this approach is acknowledged for its important contribution to scientific and managerial fields, several studies have disproved the model's assumptions (Alliger & Janak, 1989; Holton, 1996; Kraiger, 2002; Sitzmann et al., 2008; Sitzmann & Weinhardt, 2019). However, this does not mean that efforts to discuss Kirkpatrick's work serve no scientific purpose. On the contrary, the motivation behind replicating this approach was not only to test the model, but especially to enhance the coverage and new perspectives.

Recent studies have proposed a multilevel structure to measure training effectiveness, such as that of Sitzmann and Weinhardt (2017), who suggested an integrated model of indicators in personal analysis, at the interpersonal and macro levels. Nevertheless, the authors themselves recognized the difficulties involved in analyzing all the proposed indicators with one only instrument.

Some studies have even shown the relations among affective dimensions, performance and financial assessment, with a focus on training effectiveness (such as Colquitt, LePine & Noe, 2000; Sitzmann et al., 2008; Blume et al., 2010; Crook et al., 2011). These have had significant results, but have also highlighted the need for more in-depth studies, especially on under-explored sectors with this theoretical framework. This need can be verified in the study conducted by Festa (2018), which evaluated the relationship between training effectiveness, self-efficacy and organizational commitment in coops.

The practical justification for this study is the lack of methodologies to evaluate training effectiveness in coops, organizations which are of great importance in socioeconomic terms in countries like Brazil. These cooperatives believe that professional training is a source of competitive advantage with long-term perspectives, and are supported by SESCOOP/Paraná (National Service of Learning and Development of Cooperatives), which was created to professionalize cooperative management through programs of education, qualification, training and recycling of employees, cooperative managers and cooperative members.

In addition to the resources of SESCOOP/PR, coops also invest their own resources in employee training, seeking to transform investments into tangible results for coops and member satisfaction (Festa, 2018). By law, coops must contribute 2.5% of the total amount of their employee payroll to SESCOOP/PR, which is an independent service for professional training, research, technical assistance, consultancy and social assistance for cooperatives. Furthermore, with regard to the aforementioned investment, SESCOOP operates at the regional and national level, but always to fulfil its mission to “promote cooperative culture and improve governance and management for the development of Brazilian cooperatives” (OCEPAR, 2018).

Thus, considering the socioeconomic relevance of coops and the various possibilities for analyzing variables related to the development and performance of people, the focus of this study is to analyze the relationship between the effectiveness of training at work and self-efficacy in cooperative organizations.

Measuring the results of training (Garavan et al., 2019) is a major challenge for human resources management owing to the diversity of variables that make up this process, involving elements of training utilization, affect, financial impact and performance (Sitzmann & Weinhardt, 2019). Although studies often prioritize the relationship between training and financial indicators (Phillips, Phillips, & Burkett, 2007; Aragón-Sánchez, Barba-Aragón, & Sanz-Valle, 2003; Aragon, & Sanz-Valle, 2013), recent studies have demonstrated the important effect of individual variables on the results of training (Ling, Qing, & Shen, 2014; Ibrahim, Zin, & Vengdasamy, 2020), especially with regard to affective aspects (El Hajjar, & Alkhanaizi, 2028; Kim, Park, & Kang, 2019), which is the case of self-efficacy, considered a predictor variable in the present study.

Regarding the effectiveness of training and development, self-efficacy is an influential factor among the variables that can affect outcomes (Kirkpatrick, 1967). Perceived self-efficacy acts as an impulse on academic development. Students who believe in their efficacy tend to regulate their learning, master academic activities and determine their academic aspirations and achievements (Bandura, 1988). Therefore, people who believe in their ability tend to achieve better results in training and development.

Although several studies have related self-efficacy to other variables (Mathieu, Martineau, & Tannenbaum, 1993; Raelin et al., 2011; Mingyue et al., 2020), there are still behavioral gaps that need to be explored (Alvarez et al., 2004), especially since it is an affective element (Sitzmann, & Weinhardt, 2018), which can change in different contexts. Specifically in this study, there are strong indications that the moral commitment made by employees who participate in training is based on the belief that effort and motivation for learning (Tai, 2006) lead to better results for, cooperatives.

Based on the preceding considerations, the intention is to analyze the following problem: What is the influence of self-efficacy on training effectiveness in cooperative organizations?

To advance beyond isolated evaluations to measure training effectiveness, this work aims to broaden the scope, considering specific evaluation metrics that could be captured to examine different dimensions as facets of the same dimension. To bridge the theoretical gap that has briefly been seen, it was decided to consider the dimensions of training effectiveness at work and self-effi-



cacy, notably in a specific reference context for which there have traditionally been no studies of this nature: Brazilian cooperative organizations in Paraná State.

2 THEORETICAL BACKGROUND

The theoretical framework that supports the study is divided into two subsections: (1) training effectiveness at work; and (2) self-efficacy.

2.1 Training Effectiveness at Work (TE)

Faced with the complexity and conceptual gaps related to training effectiveness at work, it has been suggested that studies should be conducted based on conceptual models that seek to lend objectivity to the theme, which has traditionally been addressed subjectively. In this respect, the work of Sitzmann and Weinhardt (2017) sought to theorize the relationships between the evaluation criteria of training based on four taxonomies of evaluation: training utilization, affect, performance and financial impact. However, the establishment of this model assumes a connection of diverse variables that continue to require deeper partial studies for a better understanding of the whole.

In this sense, despite the recognized appeal in the specialist literature to report on the organizational dimension of return on investment (ROI) with regard to training (Aguinis & Kraiger, 2009; Ployhart & Hale, 2014), understanding the relationship between individual self-perception variables has sparked interest in the scientific and managerial community. In practical terms, organizations dedicate more effort to attempting to assess training effectiveness only based on the evaluation of reaction. The result of this type of evaluation might provide evidence of a certain degree of satisfaction, but it will not necessarily be reflected in performance. Therefore, although several contemporary studies have discussed training effectiveness (Sitzmann & Weinhardt, 2019; Bell *et al.*, 2017; Uttl, White & Gonzalez, 2016; Aziz *et al.*, 2016; Ganesh & Indradevi, 2015; Sung & Choi, 2014), there is a perceived scarcity of works in the international literature addressing this theme with regard to cooperative societies.

To define training effectiveness at work, it is first necessary to understand some concepts of training and development that are often correlated. According to Borges-Andrade (2002), the definition of training is a systematically planned action by an organization to enable students to develop diverse skills and cognitive strategies to improve their current or future efficiency. The concept of TDE (Training, Development and Education) in this study is considered broader because it encompasses education actions in the short and long term that aim to develop people's skills and maturity with a long-term perspective.

The study of Kirkpatrick (1959) has inspired several studies related to training effectiveness, highlighting the need for further researches with different theoretical and methodological approaches. It is in this perspective that the present study is proposed, making important connections regarding dimensions of learning and performance, albeit of self-perception, since cognitive elements can be viewed as antecedents of the learning process and its outcomes, which is the main hypothesis of this work.

Sitzmann and Weinhardt (2019), in accordance with Brown (2005), classified satisfaction, self-efficacy and motivation as affective results, but they broadened the perspectives of analysis, proposing that the affective constructs be monitored at the intra- and interpersonal levels. In this case, it is assumed that training effectiveness is directly linked to the knowledge acquired in training and to the extent of its application in scenarios and situations over time (Blume *et al.*, 2010; Colquitt *et al.*, 2000).



It is important to note that, in this study, the concept of self-efficacy is considered an element of the affective dimension of training, in accordance with the classification proposed by Sitzmann and Weinhardt (2019). The construct chosen to measure the level of training effectiveness is based on Pilati and Abbad (2005), which was adapted and validated in Brazil.

The terms “impact” and “effectiveness” are treated as equals in this study, based on the argument that the “Impact of training at work is the main indicator of the effectiveness of training actions at the individual level and of behavior changes at work” (Pilati & Abbad, 2005, p.1). In addition, the ISO 10015 standard defines that, in order to guarantee the effectiveness of training, it is necessary to carry out long-term post-training evaluations to evaluate the increase in productivity and employee performance at work (Huang et al., 2017).

Although there are other types of scales (Chen, Gully, & Eden. 2001), the choice of General self-efficacy (GSE) is justified by the consistent evidence for associations between perceived self-efficacy and the variables under study, considering the universal construct that yields meaningful relations with other psychological constructs (Luszczynska, Scholz, & Schwarzer, 2005).

2.2 Self-Efficacy (SE)

Social Cognitive Theory (SCT) paved the way for the self-efficacy proposed by Bandura in studies published between 1977 and 1993. Bandura (1977) conceptualized self-efficacy as an individual’s belief in his or her own performance capacity regarding a specific task, or an individual’s perception of his or her ability to achieve success or successfully achieve a certain goal.

As the subject in question is an affective dimension (Sitzmann & Weinhardt, 2019), understanding the different sources of self-efficacy means considerable challenges for scholars with different trains of thought, especially researchers from the fields of education and organizations, who have different but complementary interests. The results of the study by Howardson and Behrend (2015), for instance, suggest that when accounting for achievement goal orientation, Bandura’s sources of vicarious experience and negative emotional arousal remain important contributors to pretraining self-efficacy beliefs.

Indeed, although the main goal of the present study lies in the organizational perspective (impact of training on work), the importance of behavioral elements is recognized (Chiaburu & Marinova, 2005) in the transfer of training (Grossman & Salas, 2011) and its role in organizational goals (Smith, Jayasuriya, & Hammer, 2008), and quality of life (Rocha et al, 2022).

To Condon and Holleque (2013), self-efficacy is defined as a psychological aspect of each person regarding their ability to perform their tasks well. Brouwers and Tomic (2000) added that self-efficacy should be conceptualized in each specific situation, in the same way that the level of generality or specificity also varies with each situation.

Self-efficacy can also be seen as a personality trait that affects an individual’s motivation to perform tasks successfully, or his or her degree of resilience to face obstacles and adverse situations, as well as individual risk perception (Bandura, 1986). Thus, perceived self-efficacy does not correspond to people’s skills, but rather to how they judge themselves capable of being successful under a wide variety of circumstances (Azzi and Polydoro, 2006). In other words, it is not enough to have skills and competencies, it is necessary for people to believe that they have them (Bandura, 1989; Navarro and De Quijano, 2003).

Belief in self-efficacy influences a person’s motivation and performance. In short, individuals with the same knowledge can demonstrate mediocre, adequate or extraordinary performances depending on the variation of their belief in self-efficacy (Bandura, 1991). A person sets personal



goals, conducting a self-evaluation of his or her capacity. The stronger the perceived self-efficacy, the greater the challenges that the person sets him or herself and the more firmly the person is committed to those challenges (Bandura, 1991). Individuals with low efficacy belief avoid difficult tasks because they view them as personal threats (Bandura, 1993). On the other hand, individuals with high efficacy beliefs approach difficult tasks as a challenge to be overcome rather than a threat to be avoided, remaining highly committed to a successful outcome.

The hypothesis that low self-efficacy has a negative relationship with learning is supported in research at the intrapersonal level, establishing positive relationships between self-efficacy and the transfer of learning and training in a perspective of meta-analyses (Blume *et al.*, 2010; Colquitt *et al.*, 2000; Sitzmann and Ely, 2011). Nevertheless, the study of Sitzmann and Weinhardt (2019) pointed out that research conducted among people is essential to untangle the dynamic interaction between indicators of self-efficacy and performance (Sitzmann and Yeo, 2013; Vancouver, 2005; Vancouver *et al.*, 2013).

To Abbad and Borges-Andrade (2004), self-efficacy has an important influence with regard to training, development and education (TDE). To Salas and Cannon-Bowers (2001), self-efficacy holds a prominent position in the theoretical framework, evidencing its positive influence on the learning and performance of students. This notion is reinforced by Pantoja, Porto, Mourão and Borges-Andrade (2005).

In TDE programs, when the trainee believes he is capable of learning the proposed content, he will achieve good results easily. This is the basic relationship of reciprocity between self-efficacy and training (Bandura, 1977; Abbad & Borges-Andrade, 2004). The use of TDE can be maximized or minimized by the influence of self-efficacy. Thus, the self-efficacy variable can be viewed as a predictor of training effectiveness at work among other human behavior variables. This assumption resulted in the following hypothesis for this study:

Hypothesis: Self-efficacy has a positive influence on training effectiveness at work.

Due to the complexity and conceptual gaps related to the theme, it was decided to analyze only one hypothesis, aiming to deepen a specific relationship between a variable of the affective dimension (self-efficacy as predictor variable) and a performance variable (training effectiveness at work) instead of presenting a wide nomologic network of a specific construct. This choice can be justified by the difficulty involved in analyzing variables from different theoretical approaches in a multi-paradigmatic perspective.

This choice was also made for the research by Sitzmann and Weinhardt (2019), which aimed to theorize the relationships between training assessment criteria considering four different taxonomies. Furthermore, this choice of relating these variables is valid according to Kraiger (2002), who stated that the first step in any evaluation must take into consideration the research purpose, which in this case is to achieve a deeper understanding of the relationship between self-efficacy and training effectiveness at work in coops.

3 METHODOLOGICAL PROCEDURES

The present study is characterized as descriptive. It was conducted with a temporal cross-section analysis, in which the analysis unit is the individual (Babbie, 1998). The study focused on employees of cooperative societies, restricting the population to Paraná State in the south of Brazil. The population comprised professionals from cooperatives that attended technical or specializa-



tion courses in 2017, using resources of SESCOOP/PR. They were employed by cooperative societies in Paraná State at the time the study was conducted. A total of 1,156 questionnaires were forwarded to the population, which includes every cooperative employee who met these requirements.

The questionnaire was sent using the Qualtrics tool, which forwarded to Every cooperative employee who completed their courses. The total number of respondents was 308 and, of these, 284 responses were considered valid, containing only complete and relevant information for the research purposes. The questionnaire was applied after 1 month (at least) after the course ended in order to avoid common method bias (Doty & Glick, 1998).

The survey was the research strategy chosen for data collection. The data collection began in July of 2017, achieving a significant sample by October of that year. The research instruments had been validated in previous studies. For the training effectiveness at work construct, the study of Pilati and Abbad (2005), which uses twelve questions, was chosen. The research tool chosen for the self-efficacy construct was the Generalized Self-Efficacy Scale, validated by Schwarzer and Jerusalem (1995), who developed general self-efficacy scales.

The questionnaires used in the data collection were made up of control questions, which characterized the sample, and questions on a 5-point numerical scale varying from 1 (I totally disagree) to 5 (I fully agree). Although the research instruments had already been validated, a pre-test was conducted involving 15 people from the field of T&D, employees of cooperatives in Paraná and SESCOOP/PR. The purpose of the pre-test was to validate the expressions used and the proposed scale. Some expressions were replaced by synonyms, and the terms “organization”, “company” and “institution” by “cooperative” to make the questions easier to understand. The control variables used were position in the cooperative, gender, cooperative’s line of business, age group, time employed by the cooperative, region of the cooperative and type of course attended.

In the data analysis phase, univariate statistical techniques were used for distributions with a single variable, and multivariate techniques for the simultaneous analysis of multiple constructs. The tools used for this purpose were Microsoft Excel, IBM SPSS and IBM Amos software.

The data analysis was divided into 4 stages. The first was a descriptive and exploratory analysis to identify and eliminate incomplete responses and those inconsistent with the logic of the questionnaires. In the second phase, an exploratory factor analysis with principal components estimation was performed to identify the shared covariance structure and “purify” the variables, in accordance with the suggestions of Hair et al. (2009), for later use in a confirmatory factor analysis which was estimated with maximum likelihood estimation. The reliability of the internal consistency of the scales was verified with the extracted factors using Cronbach’s alpha.

The exploratory analysis of each variable and latent factor was conducted individually in the third stage, along with some comparative tests using two control variables: type of course and cooperative’s line of business. These characteristics were chosen considering the different practical realities of each sector. In the fourth and final phase of the data analysis, confirmatory factor analyses were used to validate the measurement instrument, and structural equation modeling to validate the proposed structural model that reflects the relationships between the constructs, as suggested by the theory considered in this study.

The methodological path of the research is illustrated in Figure 1.

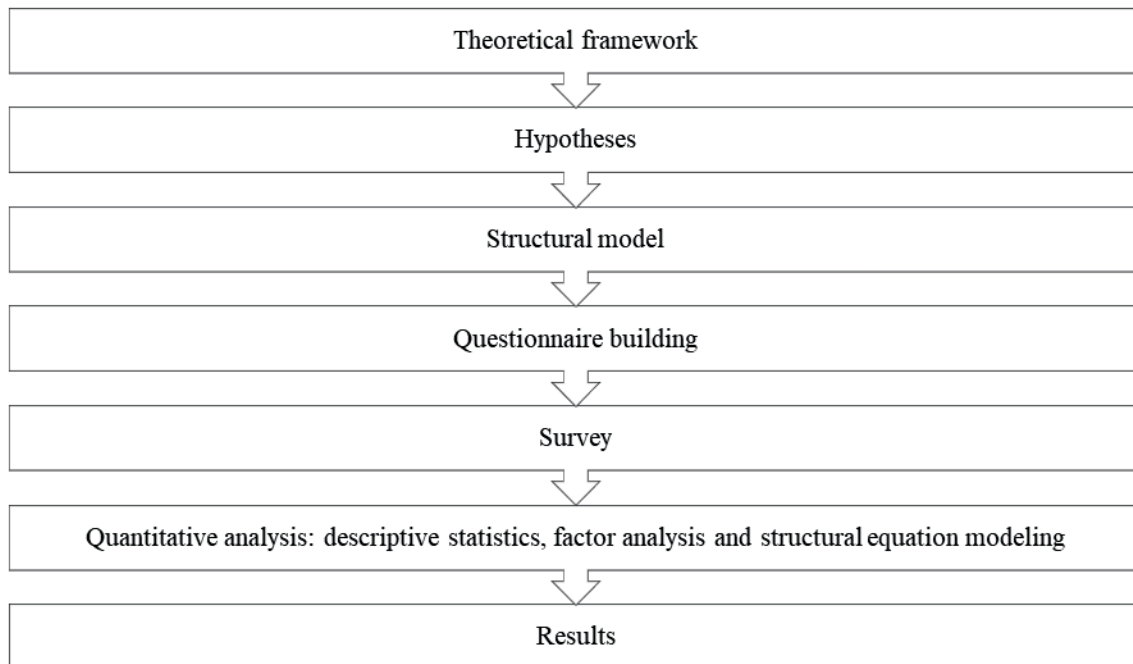


Figure 1. Methodological Path of the Research

4 DATA ANALYSIS

The gender of the respondents was predominantly male, at 68.3%, and with regard to the cooperative's line of business, 73.9% were in agriculture. Over half of the respondents were in the 26 to 30 age group, and almost 80% of the respondents were employees who had been working at the cooperatives for 2 to 15 years. The predominant type of course was a graduate course, accounting for 71.8% of the respondents, and the positions of the respondents were mostly strategic and tactical.

4.1 Descriptive Analysis of the Questionnaire

Table 1 shows the means of the responses to the questionnaires regarding the training effectiveness at work construct. Seven of the twelve variables had means higher than 4 points, i.e., between "I partially agree" and "I fully agree". The variables in this construct list training as a factor that can directly influence the following aspects: faster execution of work, quality of work, motivation in work, self-confidence, proactivity and openness to change. Therefore, it can be said that the respondents agreed that training positively contributed to improving these six aspects.

Table 1 - Means of the variables of training effectiveness at work

	Variables	Mean	Standard Deviation
TE1	In my current job, I often use what I was taught in training.	3.98	0.95
TE2	I seize opportunities to put what I was taught in training into practice.	4.37	0.72
TE3	The skills I learned in training resulted in fewer errors in my work in activities related to the content of my training.	4.36	0.90
TE4	I remember well the content I was taught in training.	3.74	0.86
TE5	When I apply what I learned in training, I do my work more quickly.	4.04	0.82
TE6	The quality of my work improved in activities directly related to the content of my training.	4.23	0.79
TE7	The quality of my work improved in activities that did not seem to be related to the content of my training.	3.79	0.95
TE8	Doing training served to increase my motivation for work.	4.16	0.91
TE9	Attending this training course increased my self-confidence. (Now I have more confidence in my ability to do my work successfully).	4.13	0.88
TE10	Since doing training, I have suggested changes to work routines more frequently.	3.90	0.97
TE11	The training I did make me more receptive to changes at work.	4.08	0.89
TE12	The training I did benefitted my colleagues, who learned some new skills from me.	3.79	0.96

A prominent point is the issue of the influence of training on the quality of the trainee's work, which had a mean of 4.23 points. This finding strengthens the theoretical foundation of Abbad et al. (1999) that training has an effect on the productive performance of trainees at work. Likewise, to Borges-Andrade (2002), training is intended to develop diverse skills and cognitive strategies in students to improve their current or future efficiency. Thus, if trainees perform their tasks more quickly and with greater quality and proactivity, for instance, it could be said that they have improved their skills and become more productive.

Therefore, from the student's viewpoint, the concept adopted in this study regarding training effectiveness at work is strengthened, viewed as having a positive influence on the later performance of trainees at work (Abbad et al., 1999). It is also possible to refer to the study of Sitzmann and Weinhardt (2019), corroborating the idea that employees acquire knowledge and skills through training and use these new competencies in the workplace.

With regard to Vargas and Abbad (2006), who claimed that education aims not only to improve performance but also to make people more mature, the increase in self-confidence and receptivity to change perceived by students could lend weight to this theory. In the same context, Wallington (1979) also claimed that changes in behavior in the workplace could be the result of training actions.

Table 2 shows the means of the responses to the questionnaire concerning the self-efficacy construct. Six of the ten variables had means higher than 4 points, reflecting responses of "I partially agree" and "I fully agree". These variables are related to persistence, self-confidence, ability to handle the unexpected, effort and focus in solving problems. Thus, in the environment of the cooperative societies under study, the respondents demonstrated that they believe in their own abilities.



Table 2 - Means of the self-efficacy variables

	Variables	Mean	Standard deviation
SE1	I always manage to solve difficult problems if I am persistent.	4.13	0.90
SE2	If someone opposes me, I usually find ways and means to achieve what I want.	3.90	0.86
SE3	For me, it is easy to stick to my guns and achieve my goals.	4.08	0.82
SE4	I am confident that I could efficiently handle unexpected events.	3.79	0.79
SE5	Thanks to my abilities, I know how to handle unforeseen situations.	4.16	0.95
SE6	I manage to solve most problems if I make the necessary effort.	4.13	0.91
SE7	When facing difficulty, I manage to keep calm because I believe in my ability.	3.90	0.88
SE8	When confronted with a problem, I usually manage to find several solutions.	4.08	0.97
SE9	If I have problems, I usually manage to think of a solution.	3.88	0.89
SE10	I usually manage to handle everything that crosses my path.	4.16	0.96

Self-confidence and focus on solving problems, characteristics of self-efficacy, are connected to individual performance. According to Bandura (1993), individuals with low efficacy belief avoid difficult tasks because they view them as personal threats. Their aspirations are mediocre and they do not demonstrate commitment to achieving goals. Furthermore, their efforts are weak and they give up easily when faced with difficulties.

4.2 Exploratory Factor Analysis

An exploratory factor analysis was performed initially to identify the shared covariance structure between the variables and perform an initial purification, as suggested by Hair et al. (2009). Thus, it was possible to explore the correlations between the 41 variables in the questionnaire and exclude those that did not share the same covariance structure. According to Hair et al. (2009), this procedure is recommended as a step prior to the confirmatory factor analysis and structural analysis of constructs.

The resulting factor model, considered adequate in terms of statistical significance and conceptual adherence to the theory adopted in this study, was composed of 15 variables with significant factor loadings in 2 factors (constructs) and with explanatory power of 63% of the accumulated variance. The model was validated by the analysis of Bartlett's test of sphericity, the KMO (Kaiser-Meyer-Olkin) and the individual MSA (measure of sampling adequacy) of the variables, communalities and factor loadings. Bartlett's test of sphericity had a p-value of 0.00 and the KMO measure was 0.887. In the anti-image matrix, which in its diagonal shows the individual MSA of the variables, all the values were greater than 0.5. The resulting communalities were also significant, with values higher than 0.5, as were the factor loadings listing the variables that compose the 2 factors. The Varimax rotation procedure was used to increase the explanatory power of the factors.

A single factor was extracted from the variables manifested in the training effectiveness at work construct. From this analysis, 5 variables were maintained and 6 were excluded, considering the factor loadings higher than 0.5, in other words, with high communalities (TE5, TE6, TE8, TE9, TE10 and TE11). Likewise, a single factor was extracted from among the variables related to self-efficacy. In this dimension, 4 variables were maintained and 6 excluded, considering factor loadings with high communalities, or greater than 0.5 (SE1, SE4, SE6 and SE9).

The reliability of the internal consistency of the scales was verified following the extraction of the factors, using Cronbach's alpha, where the satisfactory limits must be higher than 0.70 (Hair et al., 2009). Both dimensions demonstrated satisfactory consistency: 0.855 and 0.793.



4.3 Confirmatory Factor Analysis (CFA)

Following the exploratory factor analysis, enabling the identification of which variables share a structure of covariance, the CFA was conducted to assess the validity of the measurement model, which represents how measured variables are related to represent constructs. The analysis of the validity of the measurement model, through the CFA, is a necessary condition for the analysis of a structural model, which shows how constructs are related to one another (Hair et al., 2014; Schumacker & Lomax, 2010).

The diagram of the pathways of the measurement model is shown in Figure 2, highlighting the constructs (latent variables), their indicators and the possible correlation between the constructs. With regard to the one-dimensionality, all of the items measured had loadings on only one construct, as found in the exploratory factor analysis. Thus, the terms of error are not related to any other measured variable, and the measurement model is similar. The constructs are indicated by at least four measured variables and are consistent with the practical rule that recommends a minimum of three indicators.

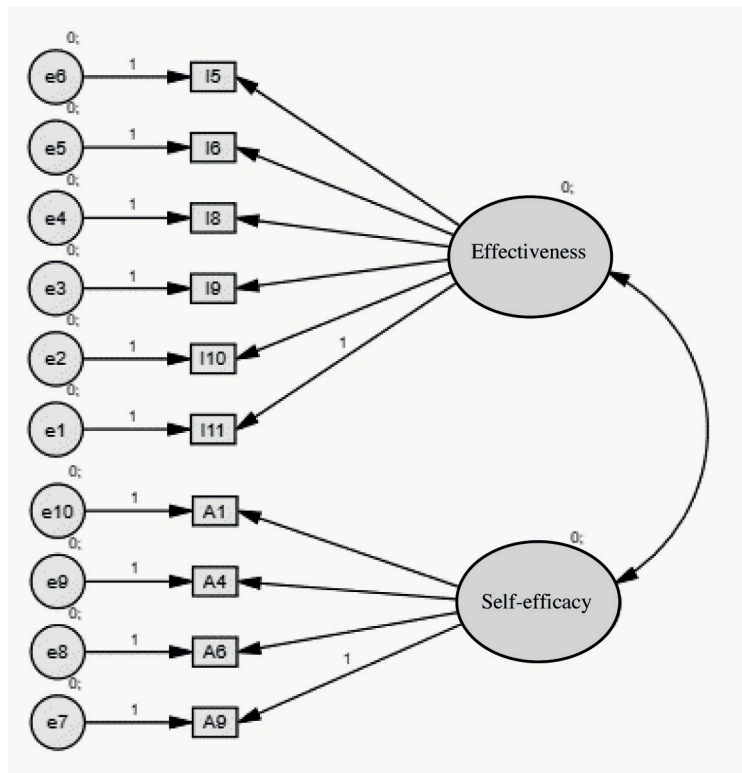


Figure 2. Measurement model

Regarding the identification issue, the model has more degrees of freedom than paths to be estimated: $120 - 33 = 87$. Therefore, the model is super-identified, where the communalities exceed 0.5 and the sample size is considered adequate and sufficient to enable maximum likelihood estimation. To analyze causality, all the measured variables are reflected by the constructs. Therefore, they are reflexive.

After the stages of assessing the validity of the measurement model, recommended by Hair et al. (2009), the following analyses were conducted: 1) Validity of the construct (convergent, discriminant, nomological and expression), 2) Identification of the model: degrees of freedom, 3) Goodness of fit of the model and 4) Diagnostic measures.

First, the convergent validity was evaluated by an analysis of the (i) factor loadings, (ii) variance extracted and (iii) reliability. These estimates are presented in Table 3.

Table 3 - Estimates for convergent validity – CFA

Relations/constructs			Factor loadings	Variance extracted	Composite reliability
Effectiveness				0,55	0,88
Self-efficacy				0,50	0,80
Effectiveness	<---	Self-efficacy	0,611		
I11	<---	Effectiveness	0,754		
I10	<---	Effectiveness	0,731		
I9	<---	Effectiveness	0,773		
I8	<---	Effectiveness	0,799		
I6	<---	Effectiveness	0,736		
I5	<---	Effectiveness	0,657		
A9	<---	Self-efficacy	0,755		
A6	<---	Self-efficacy	0,784		
A4	<---	Self-efficacy	0,703		
A1	<---	Self-efficacy	0,579		

All the factor loadings extracted from the analysis conducted using Amos software were greater than 0.5. The measures of variance extracted were calculated for each construct, achieving values of 0.55 for training effectiveness at work and 0.50 for self-efficacy. The values for reliability of the construct, regarding internal consistency, were 0.88 for training effectiveness at work and 0.80 for self-efficacy. These values are higher than the minimum reliability standard of 0.7, in accordance with Hair et al. (2009).

The estimated correlation between the constructs was 0.611. The square correlation between the constructs was calculated at 0.37, confirming the discriminant validity as the value is lower than the variances extracted (0.55 and 0.50). The similar measurement model also supports the discriminant validity, as it does not contain any cross loadings between the measured variables or between the terms of error. Therefore, analyzed jointly, these results support the discriminant validity of this measurement model.

Regarding the nomological validity, it is necessary to assess whether the correlations between the constructs make sense in accordance with the proposed theory. Previous studies on training effectiveness at work had a positive relationship with self-efficacy. Thus, the constructs have nomological validity, also considering that these theorized relationships were identified in the goodness of fit of the model.

The validity of expression of the study, i.e., the verification of the conceptual definitions in keeping with the description of the items, was gauged through a pre-test by specialists. The participants in the pre-test had no difficulty connecting the proposed variables with the constructs, suggesting only small grammatical contributions and thus demonstrating that the scales contained validity of expression. Therefore, it can be concluded that the validity of the construct was confirmed in accordance with convergent validity (factor loadings, variance extracted and reliability), as well as discriminant and nomological validity and validity of expression.

Some authors have suggested that the model's global fit should be assessed using a combination of measures: model fit, model comparison and model parsimony (Lattin, Carrol, & Green, 2003; Hair et al., 2009; Schumacker & Lomax, 2010). Therefore, the goodness of fit (GOF) was evaluated using three indicators: a) chi-square statistic; b) an absolute fit index (RMSEA); and c) an incremental fit index (CFI), according to the procedure suggested by Hair et al. (2009).



The chi-square statistic was significant ($p\text{-value} = 0$). This indicates that the observed covariance matrix cannot be considered equal to the estimated one. However, this isolated result does not preclude the general validity of the model, as it is a statistic sensitive to the size of the sample and number of variables. It is necessary to examine other statistics of fit.

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The absolute fit index RMSEA, which represents the root mean square error of approximation, was 0.060. This value is adequate as it is below 0.1. With a confidence interval of 90% for the RMSEA, it can be concluded that the true RMSEA value is between 0.047 and 0.072, demonstrating that even the upper limit of the RMSEA is low. The result of the incremental fit index, the comparative fit index (CFI), was 0.954. It can be considered valid because it is higher than the recommended minimum of 0.9. Therefore, it can be affirmed that the measurement model is valid, with a good fit.

Following the analysis of the fit and validity of the model, the diagnostic measures were executed to identify the possibility of improvements to the fit. The diagnostic measures were the analysis of the pathway estimates and standardized residues.

Through pathway estimates, it is possible to identify the loadings of each indicator on its related construct. Two loading estimates ($TE5 = 0.657$ and $SE1 = 0.579$) were highlighted because they were below the ideal cutoff point of 0.7. However, as the other fit indicators were good and no other diagnostic information suggested a problem with these variables, no corrective action was necessary. The standardized residues of covariances of the observable variables were all under 4.0, reinforcing the condition of a good fit of the model.

4.4 Structural Model Analysis

The CFA evaluates the validity of the measurement model of the proposed theory. The final result was the validation of a set of indicators that allowed a study of the relationships between the two constructs (training effectiveness at work and self-efficacy). As the measurement model was valid, it was possible to test the structural relationships between the constructs.

This study proposes a theory based on the organizational literature and the experience of cooperatives. The tested hypothesis is that self-efficacy (SE) affects training effectiveness at work (TE). The diagram of pathways of the proposed theory with the standardized factor loadings of the structural pathways, generated using AMOS software through likelihood estimation, is shown in Figure 3.



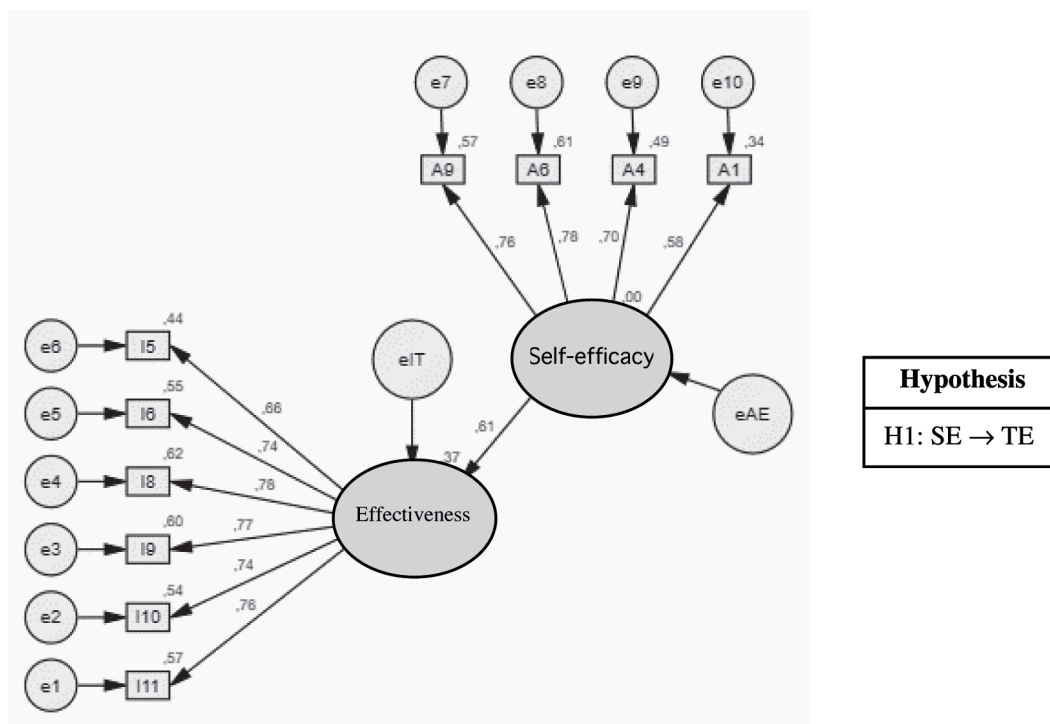


Figure 3. Model of training effectiveness at work for the cooperatives

The evaluation of the fit of the structural model followed the same directives of CFA. The estimated loads of the structural model and the chi-square statistic were unaltered in relation to the results of the CFA. The results indicate parametric stability between the measured items. The absolute fit index (RMSEA), with a value of 0.06, is also adequate, as is the incremental fit index (CFI), with a value of 0.954. These indicators suggest that the structural model provides a good general fit.

With the fit of the model verified, it is possible to gauge the relationships of dependence (Hypothesis SE → TE, in this study). To this end, the size, direction and significance of the individual estimates of pathway parameters are evaluated, described with arrows in the pathways diagram. A structural pathway estimate is statistically significant if its p-value of the t test is lower than 0.05 and is in the predicted direction. The structural pathway estimate for SE → TE was significant, with a p-value = 0.00, in other words, significant and in the expected direction, supporting the researched hypothesis.

In the standardized residues matrix, no residue was found to exceed the maximum limit of 4.0. This result indicates that the modification indices do not require alterations in the structural relations of the model. Likewise, the modification indices of the model did not have sufficiently high values to raise doubts over their structural premises. It could be said that the diagnostic measures, the standardized residues and the modification indices do not indicate a need to respecify the model. Therefore, the theorized relationship was supported (SE → TE).

5 DISCUSSION

Considering that the results support the hypothesis that self-efficacy has a positive influence on training effectiveness at work, the contribution of this study lies not only in aiding decision making beyond cooperative organizations. It also makes a particular contribution by strengthening the affective dimension in the training process and its impact on work by relating individual beliefs with learning and performance (Abbad & Borges-Andrade, 2004; Salas & Cannon-Bowers, 2001; Pantoja et al., 2005).

It is precisely through this feeling of being able to achieve something that new competencies can be developed or improved. For example, when the respondents stated that training led them to do their work more quickly, it may be supposed that their individual performance improved. In this case, speed can also be an indicator of self-confidence, which generates a substantiated practical action and optimizes both personal and organizational results.

This means that behavioral aspects such as self-confidence, proactiveness, determination and focus on results make it possible to take greater advantage of training because trainees believe that learning supported by the organization can be applied to their respective workplaces, reciprocating the investment through added value.

The study of Jehanzeb (2020), for instance, identified a strong relationship between perceived organizational support, employee development and organizational commitment, evidencing the existence of a moderating effect on the person-organization relationship as employees who learn through investments by the organization became more committed to it. This finding is important for managers' decision making when they seek a balance between individual and organizational interests, defining training policies in keeping with organizational strategies, which contribute to the creation of organizational links (Pellin, Weymer, Dissenha, & Bauer, 2021).

It is in this respect that the confirmation of this study's hypothesis becomes significantly important, suggesting that the return on investment in training professionals with high levels of self-efficacy is supported by the individual belief that they are capable of delivering results due to learning through training. This finding poses a considerable challenge for managers, since organizational support and motivation for learning are closely related to intention to transfer in a work context (Kim, Park, & Kang, 2019).

This challenge is supported by the ability to recognize in advance motivated employees who value training and who are self-disciplined and persevering. These are predictors of affective characteristics (Sitzmann & Weinhardt, 2019) that can be identified through their needs, abilities, skills and work requirements (Ibrahim, Zin, & Vengdasamy, 2020). In accordance with one of the indicators of the study, the training courses provided by cooperatives influence motivation to work and can improve the indicators of employee retention, organizational climate and results.

In this respect, Lacerda and Abbad (2003) reinforce the importance of motivation, not only to learn and transfer, but also with regard to the instrumental value of training, in other words, the trainee's belief that the new skills he acquires through training will be useful to achieve goals and, consequently, result in greater rewards.

Both motivation and self-efficacy are perceived to be individual characteristics that act as antecedent variables when it comes to training effectiveness. Nevertheless, even though these variables are facets of the same (affective) dimension, we can suggest that they do not act concomitantly, but rather that motivation is a consequence of self-efficacy. In other words, motivation (direction, intensity and effort) is triggered by the individual's belief concerning his own ability to mobilize resources to achieve results (Meneses & Abbad, 2010).

Regarding self-efficacy, in their individual analysis, the cooperative employees showed a high level of belief in their own abilities. Believing in oneself is a determining factor directly linked to the deliveries people make, including in complex situations, redoubling their efforts to overcome obstacles (Bandura, 1977).

With regard to the extrapolation of the results of this study to other non-cooperative organizations, it should be highlighted that cooperatives operate in a highly competitive and complex environment in diverse economic sectors (agroindustry, finance and health, as is the case of this study) that demand high levels of professionalization to mobilize resources more efficiently than



their competitors. In Brazil, cooperatives are highlighted among the ranking of the best companies to work for, especially in terms of investments in training, pay and job creation. From 2014 to 2018, for instance, cooperatives were responsible for creating 18% of new jobs, far above the average of other economic sectors. This scenario was even better in the following years, especially 2020 in agroindustry. This sector saw significant growth during the COVID-19 pandemic.

6 FINAL CONSIDERATIONS

The aim of this study was to identify the influence of self-efficacy (SE) on training effectiveness at work in cooperative organizations. The confirmation of the general hypothesis provided evidence of a positive relationship between the variables, as predicted in the theoretical development.

One of the practical implications of this study was the discovery that investments in training are recognized by employees as a source of learning, with a potential for better performance at work through the possibility of developing new competencies. These competencies, however, seem not to be limited to short-term behavior, as planned education is not only intended to improve performance but also to make people more mature and increase their self-confidence and openness to change (Vargas & Abbad, 2006).

It can be concluded that investing in the development of people with high self-efficacy levels means better results and performance. Developing people who believe in their own abilities can aid the improvement of competencies and a potential return on investment in training. Managers who head a team that is persistent, hardworking and focused on solving problems will have greater chances of success, commitment to achieving goals and resilience to overcome obstacles.

With regard to theoretical implications, the results indicate a need for more in-depth studies on affective indicators of training and their impact on work, most notably in relation to self-efficacy, as it is capable of modifying behavior and generating concrete actions through individuals' beliefs concerning what they are capable or not capable of achieving.

As for the scope, although this study is of Brazilian cooperative organizations in Paraná State, the results could be helpful to managers of human resources that extrapolate the regional and national context and face similar challenges common to organizations (cooperatives and non-cooperatives) embedded in highly competitive environments. The study of Hassan, Rymbai and Bhat (2019), for instance, explored to what extent the development of human resources affects the economic growth of the BRICS countries in the age of globalization, taking into account important variables from the viewpoint of government policy. According to the authors, the development of human resources has a significant impact on the economic growth of the BRICS countries, but limited to few cases, such as Russia, China and Brazil.

In this respect, like other organizations, cooperatives need to make an effort to evolve through a continuous learning process that trains employees in order to mobilize internal resources more efficiently than their competitors (Souza et al., 2016). Furthermore, as cooperatives are guided by universal principles, it is also important to highlight the possibility of generalizing the results to cooperatives in other countries.

Contrary to what common sense suggests, cooperatives are not philanthropic agencies. They are organizations that seek to add economic and social value for their members. Therefore, when they fail as economic organizations, they equally fail in their intended social and human projections (Schneider, 2012), evidencing that, for the purposes of management and economic sustainability, they need to respond strategically to environmental forces, irrespective of the nature of their existence.



Finally, the results constitute a major challenge for managers by including self-efficacy as a significant variable for evaluating training effectiveness. This means that training policies must place greater emphasis on the selection of trainees, aligning individual and organizational expectations to increase the likelihood of a return on investment. A suggestion for future research would be to relate self-efficacy to other variables of return on investment, which could include aspects related to career growth, promotion and contribution to achieving strategic goals. In addition, studies of a qualitative nature could increase the explanatory power of the affective variables of training.

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1. Definition of research problem	√	√	
2. Development of hypotheses or research questions (empirical studies)	√	√	√
3. Development of theoretical propositions (theoretical work)	√		
4. Theoretical foundation / Literature review	√	√	
5. Definition of methodological procedures	√	√	√
6. Data collection	√		
7. Statistical analysis	√		√
8. Analysis and interpretation of data	√	√	√
9. Critical revision of the manuscript		√	√
10. Manuscript writing	√	√	
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Conflict of Interest

The authors have stated that there is no conflict of interest.

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