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Self-efficacy and home-based work engagement: Lessons of the Covid-19 pandemic

La autoeficacia y el engagement del trabajo en casa: aprendizajes durante la pandemia de Covid 19

Luis Felipe Llanos Reynoso*

Universidad Anáhuac, México

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Abstract

The objective of this research is to extend The Theory of Employee Engagement, centered on the analysis of the relationship between self-efficacy and the engagement of personnel who migrated their work to home office due to the confinement. An empirical, quantitative cross-sectional and longitudinal research design was developed, based on a 216 sample of workers, who changed their work to their homes. A structural equation model was used to find the causal relationships between both constructs. The results suggest that employees who transfer their work to their houses lose their self-efficacy and engagement. However, it was found that increasing their self-efficacy at home also increases their engagement at home. It is proposed that companies rethink their training, monitoring and action schemes aiming at better selfefficacy and therefore the engagement of their workers from the home office, especially in the face of an uncertain return to the work place, whether in a total or mixed way.

JEL Code: J24, J62, J70
Keywords: self-efficacy; engagement; work at home; telework; pandemic

* Corresponding author.
E-mail address: luis.llanos@anahuac.mx (L. F. Llanos Reynoso).
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Resumen

El teletrabajo ayudó a enfrentar la crisis de la pandemia y fortaleció la continuidad de muchas empresas. El objetivo de esta investigación es extender la Teoría del Engagement de los Empleados, a partir de la relación entre la autoeficacia y el engagement del personal que migró, por motivo del confinamiento obligatorio, su trabajo a su casa. El diseño del estudio es empírico estadístico y de corte longitudinal y parte de una muestra de 216 trabajadores que cambiaron su trabajo de sus oficinas a sus casas. Se analizaron los datos con un modelo de ecuaciones estructurales para buscar las relaciones causales entre los constructos. Los resultados sugieren que los empleados que migraron su trabajo a su la casa, pierden su autoeficacia y su engagement, sin embargo, se comprobó que al incrementar su autoeficacia en casa también se incrementa su engagement en casa. Se propone que las empresas replanteen sus esquemas de entrenamiento, monitoreo y de acciones orientadas a mejor la autoeficacia y por lo tanto el engagement de sus trabajadores para el teletrabajo, sobre todo ante un retorno incierto, ya sea de forma total o mixta, a los lugares de trabajo.

Código JEL: J24, J62, J70
Palabras clave: autoeficacia; engagement; trabajo en casa; teletrabajo; pandemia

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Introduction

Self-efficacy and engagement when migrating work to home

In just a few months, the mandatory lockdown required companies to implement multiple strategies to convince their employees to work in a telecommuting scheme, in most cases from home. Working outside of offices turned the 2020 situation into a great social experiment in labor (Hernández & Juárez, 2020). During this time, technology and the Internet played an essential role in assuring the operation of the production sector, both in service companies and in some industries where their operation allowed it (Bracciaforte, 2020; Muñiz, 2020). The specialized literature, until before 2020, had already focused on the operation, risks, and benefits of remote working but not on the effects of a forced transition.

It is to be expected that some people, when working remotely or from home, will have higher productivity (Hill et al., 2003), but some others will not, in particular, if they are not accustomed to using communication technology for remote working (González-Menéndez, López-González, González Menéndez, García González, & Álvarez Bayona, 2019). Additionally, in some cases, an appreciation of engagement[1]is to be expected when working remotely, since it generates a sense of freedom, while in other cases it does not since it is never possible to disconnect (Pérez Sánchez, 2010).

[1]The term *engagement* is generally translated into Spanish as *compromiso*, but in the literature there are conceptual elements that go beyond the Spanish term, so it was decided in the article to leave the term in English. Work engagement (Spanish: *compromiso laboral*) according to Meyer and Allen (1997) includes affective, normative, and continuity dimensions, while the English term *engagement*, according to Salanova

However, with this forced change, employees perceive that remote meetings are taking too long and that they are working more during the pandemic. Business Facilities (2020) reported 40% longer work hours, Eagle Hill Consulting (2020) 45%, and Reisenwitz (2020) of Clock Wise between 11 and 29%, which may be causing a kind of home burnout (Jang, Allen, & Regina, 2020) as the line between work and life becomes more blurred (Sonnemaker, 2020).

If a forced shift to home-based work practice is mandated, as was the 2020 mandatory lockdown, the question remains whether worker self-efficacy and engagement are lost. Both are key factors in the success of companies. A recent study, based on information from 1.8 million employees in 73 countries, conducted by Krekel, Ward, and De Neve (2019), reported a strong positive correlation (0.23) between the two constructs.

Regardless of the effects of the COVID-19 pandemic, there were already signs of a growing trend of home-based work in Latin America.[2] Bautista (2020) reported that four out of 10 companies used remote working, mainly due to the adoption of a generational preference. According to Deloitte (2016), by 2020 millennials are projected to represent 35 percent of the global workforce and 75 percent of them prefer to work from home, where they believe they will be more productive. However, many companies see workers' return to the office as imminent. Accordingly, the International Labor Organization (ILO, 2021), issued for Latin America a set of 10 steps for a safe and healthy return to work, in which it raises, in step 2, a series of suggestions for "Deciding who returns to work and how" (p. 6).

The novelty of the present research is that it seeks to take advantage of the unique window of time generated at the beginning of 2020 and at least until 2021, in which many companies moved from 100% office-based work to 100% home-based work. That helped to enrich the discussion of the causal relation between the perception of self-efficacy and employee engagement, and also the Employee Engagement Theory, starting from the labor crisis that was triggered by COVID-19. The relevance lies in the generation of information on what retraining of personnel should include, especially since 72% of companies plan to reorganize a new mixed work scheme when resuming operations in the new normality (ITM, 2020).

The study continues with a review of the literature under three headings: the self-efficacy of theworkers, engagement, and previous studies that relate both constructs.

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and Schaufeli (2009), includes a positive affective psychological state characterized by vigor, dedication, and absorption.

[2]The WHO declared COVID19 a pandemic on March 11, 2020. Source: https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020

Literature review of worker self-efficacy

Bandura (1977, p. 193) was the first to define the concept of self-efficacy as the "conviction that one can successfully execute the behavior required to produce certain outcomes." Later, Wood and Bandura (1989, p. 364) added that it is "people's beliefs in their capabilities that generate the motivation, cognitive resources, and courses of action needed to produce outcomes." Subsequently, in an article on the history of the construct, Dagher, Chapa, and Junaid (2015, p. 241), based on a process of analysis and synthesis of 14 previous definitions, stated that "employees with high levels of self-efficacy are those who are more motivated and more confident in their ability to perform new tasks." In particular, Bandura (1994, p. 5) stated, "it is not the sheer intensity of the emotional and physical reactions that is important, but how they perceive and interpret it."

According to Staples, Hulland, and Higgins (1999), four factors influence an individual to develop self-efficacy: 1) Their ability to master a certain task, which appears to be the most important source of generating a state of self-efficacy; 2) Social reinforcement, which directs employees to believe that they can indeed perform their job effectively; 3) Observed experience, in the sense that if a worker sees that others can do the task, then they will think that they can too; and 4) Physiological or emotional state, such as anxiety and nervousness. In particular, self-efficacy is a dynamic state that, unlike other fixed personality traits, can change over time according to new information or expectations (Luthans & Peterson, 2002).

In recursive terms, several meta-analyses confirm the close bidirectional causality that exists between self-efficacy and productivity (Bandura & Locke, 2003; Cherian & Jacob, 2013; Stajkovic & Luthans, 1998).

Literature review of employee engagement

The term engagement was developed by Kahn (1990, p. 694), within his Theory of Employee Engagement, who identified it as "a worker's attachment to their role"; the author showed that, unlike detached employees, engaged employees are more satisfied and productive. His later studies proposed that engagement is a multidimensional construct with three qualities: vigor, dedication, and absorption (Kahn, 1992).[3] Subsequently, Schaufeli, Salanova, González-Romá, and Bakker (2002, pp. 74), defined engagement as "a positive state of mind of fulfillment at work, driven by vigor, dedication, and

[3]Vigor is distinguished by a high level of energy and mental endurance in the face of difficulties. Dedication is related to the time invested. Absorption occurs when employees are completely focused, happy, and absorbed in their tasks, find it difficult to separate themselves from their work and lose track of time (González-Romá, Schaufeli, Bakker, & Lioret, 2006).

absorption that transcends individual or one-off events and objectives, becoming a persistent affective-cognitive experience."

May, Gilson, and Harter (2004) and González-Romá, Schaufeli, Bakker, and Lioret (2006) focused on validating Kahn's Theory, and their results revealed that engagement is additionally related to the perception of feeling useful, skilled, and secure. Later on, Saks (2006) added that engagement is also composed of cognitive, emotional, and behavioral components, all of which are associated with the performance of individual roles, which are associated with what Herbert (2011) called the psychological capital of companies. A good synthesis of engagement is the definition of Shuck and Wollard (2010, p. 103): "the cognitive, emotional, and behavioral state of an employee directed toward desired organizational outcomes."

An additional element was provided by Hakanen, Bakker and Schaufeli (2006), who also related engagement to health; in particular, they found a negative and moderate correlation between the vigor dimension and psychosomatic health complaints such as chest pain. Recently, Dagher et al. (2015, p. 241) summarized studies on engagement in four lines of research: 1) with the boss; 2) with the job; 3) with co-workers; and 4) with burnout.

Previous studies linking self-efficacy and engagement

There is overwhelming evidence to suggest a strong relationship between self-efficacy and engagement. For example, Alessandri, Borgogni, Schaufeli, Caprara and Consiglio (2015), in a study of 388 security officers, and with feedback from their 3 respective supervisors, concluded that job engagement is stronger for workers with high job self-efficacy beliefs than for workers with low job self-efficacy beliefs. Llorens-Gumbau and Salanova-Soria (2014), in a study with 274 secondary school teachers and with information from 2 series of interviews, identified that job facilitators (FL) are positively related to engagement and self-efficacy, which in turn are related to long-term FLs, generating a virtuous circle.

Previous studies that relate self-efficacy and engagement with productivity

Carter, Nesbit, Badham, Parke, and Sung (2018), in a longitudinal study with 64 employees of a financial services firm, found that self-efficacy and engagement, if added together, increase sales productivity, while Lisbona, Palaci, Salanova, and Frese (2018), with 2 studies in 37 organizations, found that engagement and self-efficacy lead to higher personal initiative which in turn, leads to higher productivity. It is becoming increasingly clear that self-efficacy is related to engagement; however, these are two elements that need to go hand in hand to become real productivity, both individually (Lee,

Patterson, & Ngo, 2017), and in teamwork (Luthans & Peterson, 2002). Moreover, a virtuous circle is generated at work; for example, in fire departments (Pillai & Williams, 2004), in nursing corps (Fida, Laschinger, & Leiter, 2018), in manufacturing companies (Ahmed & Ahmed, 2019), and in high-tech personnel (Lin, 2020).

Post-pandemic studies and hypothesis development

Studies after the onset of the COVID pandemic have already associated self-efficacy with work engagement. A study in Persia indicates that if leaders boost the psychological capital of their employees to become and feel more effective, their engagement levels will improve (AlZgool, Ahmed, Pahi, & Ammar, 2020). A second study in Malaysia indicates that self-efficacy is the main variable impacting employee resilience, and that resilience is highly correlated with work engagement, especially if accompanied by support from family and friends during the pandemic (Ojo, Fawehinmi, & Yusliza, 2021.).

Kahn's Employee Engagement Theory (1990) maintains that generating work commitment requires, among other elements, the psychological availability of employees, in other words, the feeling of having the physical, emotional, or psychological resources to participate personally in a particular moment. With this background and context, the target questions of the present research, faced with an atypical reality in the world of work, are: Do employees lose both their self-efficacy and engagement when migrating their work from the office to their home? And, if post-pandemic, does employees' self-efficacy when working at home influence their engagement when working at home?

To validate and expand Kahn's (1990) Employee Engagement Theory, first, the relation between self-efficacy and engagement will be studied in light of two scenarios: before COVID-19, working in an office, and after COVID-19, working at home, with the following two cross-sectional hypotheses.

H1: Staff self-efficacy when working in their office influences their engagement when working in their office.

H2: Staff self-efficacy when working at home influences their engagement when working at home.

Due to the forced shift of thousands of jobs from the office to home due to COVID-19, it is suggested that two additional longitudinal hypotheses be included in the study. In the area of self-efficacy, Bandura (1994) and Staples *et al*. (1999) established that the main source for generating a state of self-efficacy in workers is the expectation of mastery of a given task. On the other hand, Staples *et al*. (1999) established that workers' physiological and emotional state also affects their self-efficacy, so it is suggested that it be rejected.

H3: Staff self-efficacy when working in their office influences their self-efficacy when moving to work at home.

In terms of engagement, Marais' (2012) finding suggests that operational restructuring profoundly impacts employee engagement. On the other hand, Hakanen *et al*. (2006) propose a negative correlation between engagement and psychosomatic health, as is to be expected in a pandemic situation such as the current one (Esperidião, Saidel, & Rodrigues, 2020), so it is suggested that it be rejected.

H4: Staff engagement when working in their office influences their engagement when moving to work at home.

Figure 1 shows a graphical representation of the theoretical structural model presented.

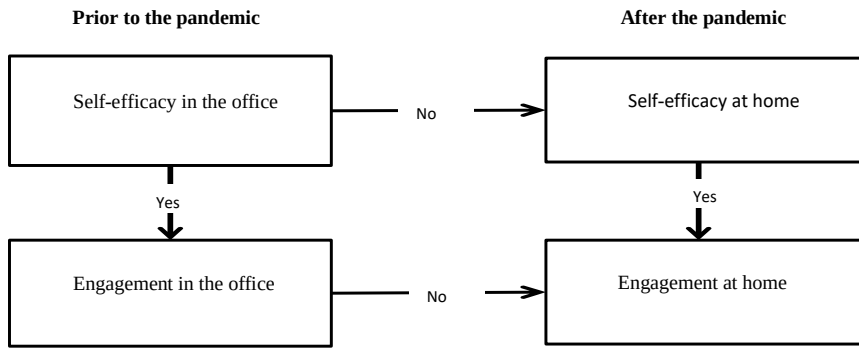


Figure 1. Theoretical model of the relations between work at the office and at home
Source: created by the author

The following chapters address the research method to be followed, the results, and theoretical discussion, and end with a series of practical conclusions, limitations, and future research guidelines.

Methodology

Measurement of variables

To measure the variable Self-efficacy, five items developed by Van der Vegt, Emans, and Van de Vliert (2000) were used. The Spanish translation of this scale was validated by Espinosa (2017) in a self-reported questionnaire to measure worker productivity in the service sector. The original questions of this scale were adapted to investigate the opinion of the study subjects in two work scenarios: before and after the pandemic. For example, Espinosa's (2017) question 5, "I have always exceeded our team's

goals," was modified for each of the circumstances, to read "When I worked physically in my office, I exceeded my work goals," and "Now working from home, I exceed my work goals."

To measure the Engagement variable, 9 items of the Utrecht Work Engagement Scale (UMES-17) proposed by the team of Schaufeli et al. (2002) were used. In particular, the translation for the Latin American population in the study of factor structure and internal consistency by Müller Gilchrist, Pérez Villalobos, and Ramirez Fernández (2013) was used. This scale was chosen because it has been consistently validated since its introduction in 1990 (Dagher et al., 2015; Vazquez, Magnan, Pacico, Hutz, & Schaufeli, 2015; Juyumaya, 2019). The original UMES-17 questions were also adapted to investigate the opinions of the study subjects in the two work settings: in their office before the pandemic, and at home after the pandemic. For example, question 1 of the UMES-17, "At my job I feel full of energy," was modified for each of the two circumstances to read "When I was working physically in my office, I felt full of energy," and "Now working from home, I feel full of energy.."

To avoid possible bias or manipulation of responses, the 14 questions were presented randomly within each of the two scenarios. The items were linked to a 5-point Likert scale and additionally control questions were included in the instrument to discard undesired subjects in the sample (Sierra Bravo, 2001): a) subjects who prior to the contingency were already working at home or on the street; b) subjects who at the time of the survey were not working at home; and c) subjects who were self-employed or freelance. Three pairs of similar questions were included to identify the dishonesty of some respondents, which were then repeated with a slight change in wording (Sierra Bravo, 2001; Posada, 2016). If their answers did not match, the questionnaires were discarded from the sample.

Sample

With the help of some graduate students at a university in Mexico City, 143 companies were located that changed their operations from their offices to a home-based work scheme due to COVID. For each company, a limited number of workers (maximum 10) were invited to voluntarily answer the research questionnaire on an electronic platform. The survey was conducted between May 9 and May 24, 2020 (15 days). To take care of the ethical aspects, it was explained to the participants that the questionnaire was voluntary and anonymous, and that it sought to compare their feelings about working in the office versus home-based work so there would be no right or wrong answers. They were told that 39 simple multiple-choice questions were included and that they would take no more than 10 minutes to answer. Finally, it was mentioned that the objective of the process was the development of a scientific article. In appreciation, at the end of the process, they were allowed to know the average responses of the total sample.

A total of 283 workers participated in the survey. Through the elimination process, the following were discarded: 18 subjects who already worked at home before the pandemic; 18 who continued to work in an office and did not move to working from home; 13 who previously worked on the street; 10 subjects who changed companies during the research period; and 8 who presented contradictions or inconsistencies in the answers to similar questions that denoted a lack of rigor in their participation. After the filtration process, the final sample database totaled 216 subjects.

The demographic statistics of the sample are presented in Table 1 below.

Table 1

Demographic statistics of the sample (n=216)

Descriptive	Group	Frequency
Activity of participating companies:	Services	18.5%
	Banking and finance	18.1%
	Food and beverages	17.1%
	Education	17.6%
	Public management	12.5%;
	Technology	6.5%
	Commerce	4.6%
	Production	3.7%
	Construction	1.4%;
Gender of respondents	Men	54.2%
	Women	44.9%
	Did not report	0.9%
Ages	Between 20 and 30	31.0%
	Between 30 and 40	30.6%
	Between 40 and 50	18.1%
	Over 50	20.4%
Hierarchy	Upper management	12.5%
	Management	38.4%
	Professional	49.1%
Seniority	Average years completed	6.91 (DS= 7.25)

SD = standard deviation

From the review of the demographic data, it can be observed that there is no preponderant group in the sample.

Reliability of the instrument

The reliability of the questions of the instrument was reviewed with the help of a confirmatory factor analysis; therefore, prior to the analysis of the data, it was decided to discard four items, two for having loadings lower than 0.40 (Hair, Anderson, Tatham, & Black, 1999, p. 99)[4], and two others for having loadings that target the two study factors at the same time, Engagement and Self-Efficacy (Hair *et al*., 1999, p. 101).

Once the 4 items were removed, the data structure was suitable for factor analysis, since the sample adequacy tests yielded positive results. The statistics for the Office Work scenario were: the total variance extracted for two factors was 0.631 (Self-Efficacy factor 0.337, Engagement factor 0.294); the Kaiser-Meyer-Olkin Measure (KMO) of sampling adequacy = 0.901, which is adequate being greater than or equal to 0.80; Bartlett's Test of Sphericity (with Approx. Chi-square) = 1049.931; gl = 45; and p-val < 0.001, which suggests that the sample variables are sufficiently correlated with each other to perform the factor analysis. For the Working from Home scenario the results were: total variance extracted for two factors was 0.698 (Self-efficacy factor 0.431, Engagement factor 0.267); KMO = 0.927; Bartlett's Test of Sphericity = 1481.067; gl = 45; and p-val < 0.001.

Additionally, since the data collection required the use of the memory of the sample subjects, the Harman Test was performed to validate that there was no significant difference between the data reported before and after the pandemic. As a result of the longitudinal analysis of the Self-efficacy factor, forcing the extraction to a single factor (without differentiating the time factor), the total variance explained was 0.398. In contrast, the total variance explained when the 2 factors were differentiated, before and after the pandemic, was much higher at 0.730. A similar situation occurred with the Engagement factor, where the total variance explained, forcing the extraction to a single factor, was 0.308, while the total variance explained when the 2 factors were differentiated, before and after the pandemic, was much higher at 0.597. This suggests that respondents had no problem differentiating the situations of the two scenarios over time.

Convergent reliability and discriminant validity

Regarding the office work scenario, the Engagement variable (with 5 items) obtained a Cronbach's alpha of 0.813, and the Self-efficacy variable (with 5 items) obtained a Cronbach's alpha of 0.873. For the home-based work scenario, the Engagement variable (with 5 items) obtained a Cronbach's alpha of 0.824, and the Self-efficacy variable (with 5 items) a Cronbach's alpha of 0.932.

[4]The authors suggest a factor loading of 0.4 to be significant for a sample size of 200.

Regarding discriminant validity (Fornell & Larcker, 1981), acceptable values were also obtained as the square roots of the average variance extracted (AVE) of each factor were 0.833 for Office Engagement; 0. 869 for Self-efficacy in the office; 0.792 for Engagement at home; and 0.902 Self-efficacy at home, higher than the pairwise correlations between factors, which ranged between 0.059 and 0.757 (see details in Table 2).

The questions for the analysis of the results, including the discarded and trick questions, can be identified in Table A1.

Data analysis method

For data analysis and hypothesis testing, a multi-step procedure was applied: 1) the correlation of the data was calculated in their cross sections, before and after the onset of the pandemic, and significant correlations were identified through Pearson's test; 2) the correlation of the constructs was calculated in their longitudinal sections, and significant correlations were identified through Pearson's test; 3) the theoretical model was tested from a system of structural equations, and the indicators of the system were analyzed with the help of Minitab 17 and LISREL 10.10 Student systems; and 4) the indices were considered to observe the goodness of fit of the model.

The criteria used to test the stated hypotheses are: 1) the P-val obtained from the Chi-square test with 2 degrees of freedom, which must have a significance > 0.05; 2) the square root of the root mean squared average of approximation (RMSEA), which must be < 0. 08; and 3) the P-val of the close fit test (RMSEA < 0.05), which must be greater than 5% in order not to reject the null hypothesis that its RAMSEA is below 0.05; additionally, other secondary indicators were used to verify the results obtained.

Results

In the two cross-sectional studies, a significant and positive correlation is observed between the variables Self-efficacy and Engagement, but this is no longer detected in the longitudinal studies when the environment is changed. The basic statistics by factor and the correlation matrix of the study variables for both scenarios are presented in Table 2 below.

Table 2
Statistics, correlations, and extracted factor loadings (N=216)

	Variable	Mean	SDM	DS	1	2	3	4
1	Engagement in the office	3.90	0.06	0.81	0.833			
2	Self-efficacy in the office	4.02	0.05	0.77	0.688**	0.869		
3	Engagement at home	3.95	0.06	0.85	-0.041	-0.059	0.792	
4	Self-efficacy at home	3.88	0.06	0.89	-0.042	-0.017	0.757**	0.902

The diagonal presents the square root of the average loadings extracted from the items of each factor (AVE). ** Correlations with significance p<0.001 (2-tailed). SMD = standard deviation of the mean; SD = standard deviation. Source: created by the author

The resulting structural equation model is:

With $R^2 = 0.473$ (1)

Office Engagement = 0.727 Office Self-efficacy, Error-var.= 0.350 (2)

Standard error	-0.056	-0.046
Z-val	13.080	7.530
P-val	0	0

With $R^2 < 0.001$ (3)

Self-efficacy home = - 0.0197 Self-efficacy office, Error-var.= 0.788 (4)

Standard error	-0.079	-0.0712
Z-val	-0.251	11.077

P-val	0.802	0

With $R^2 = 0.574$ (5)

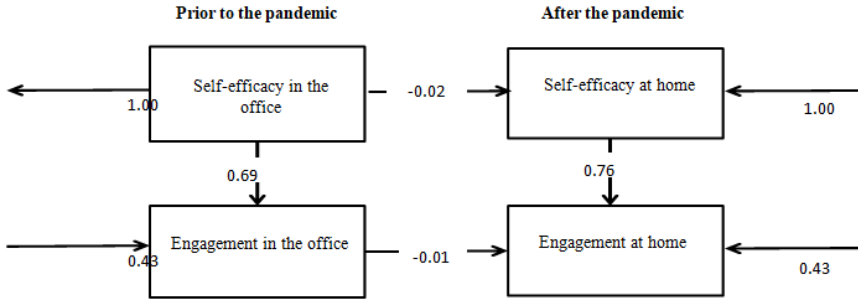
Engagement home = - 0.010 Engagement office + 0.721 Self-efficacy home, Error-var=0.305 (6)

Standard error	-0.047	-0.045	-0.038
Z-val	-0.209	16.129	7.951
P-val	0.834	0	0

The cross-sectional analysis shows that Kahn's (1990) Employee Engagement Theory is valid within each scenario; in particular, the variable Office Self-Efficacy significantly influences the variable Office Engagement, and the variable Working from Home Self-Efficacy positively influences the variable Engagement when working from home. However, longitudinal analysis shows that neither Self-Efficacy nor Engagement transitions from one post-pandemic scenario to another.

The theoretical model obtained acceptable values of goodness of fit: a Chi-square = 1.91; df = 2; P-val= 0.3851; RMSEA < 0.01. In particular, the p-val of the close fit test was P(RMSEA < 0.05) = 0.557. The other values of the model were also acceptable: Normed Fit Index (NFI) = 0.994; Comparative Fit Index (CFI) = 1.000; Root Mean Square Residual (RMR) = 0.0119; Goodness of Fit Index (GFI) = 0.996; Adjusted Goodness of Fit Index (AGFI) = 0.978. Figure 2 shows the standardized solution diagram of the model[5].

[5]Table A2 presents a table with the detailed results of the goodness of fit tests of the structural equation estimates.



Chi-square=1.91 df=2. p-val=0.38508 RMSEA=0.00
Figure 2. Standardized structural relations between work at the office and at home
Source: created by the author

With the cross-sectional analysis, hypotheses H1 and H2 are accepted, since the values of their standardized estimators turned out to be significant, 0.69 and 0.76 respectively. In contrast, with the longitudinal analysis, hypotheses H3 and H4 are rejected because the variables within the office scenario do not influence the variables within the new home scenario since the values of their standardized estimators turned out to be non-significant, -0.02 and -0.01, respectively.

Discussion

Concerning Self-efficacy, the structural equation model showed that the variable Self-efficacy of employees prior to the migration from work to home has no relation with the variable Self-efficacy after the change, since between the two scenarios there was a non-significant correlation of r = -0.017, p=0.803; moreover, its average decreased from 4.02 to 3.88. This outcome is predictable based on theory, since, during the 2020 work migration, the four necessary conditions established by Staples *et al*. (1999) for the development of self-efficacy were lost: mastery, social reinforcement, observed experience, and physiological or emotional state. What is clearer is that self-efficacy is a dynamic state, as predicted by Luthans and Peterson (2002), and is affected by the decrease in employees' skills in their work, basically due to the appearance of new communication tools; the disappearance of social support from their collaborators, not having them close by at home; not having the visible example of colleagues doing their tasks properly; and their degraded emotional state due to the risks to health.

Regarding engagement, the structural equation model also showed that the Engagement variable prior to the migration from work to home (longitudinal effect) does not correspond to the Engagement variable after the change, with a non-significant correlation of r = -0.041, p - val = 0.545. This result is in line with the expected effect proposed by Hakanen, *et al*. (2006), as employees are

immersed in multiple risks, and with the effect proposed by Dagher *et al*. (2015, p. 241) due to an increase in job burnout, basically as a result of having to adapt to new processes and technologies.

With respect to the studies reviewed in the literature, which relate self-efficacy with engagement, the research results corroborate that, despite the atypical reality experienced by the world of work due to the pandemic, the conclusions of Alessandri *et al*. (2015), that work engagement is stronger for workers with high work self-efficacy beliefs, and Llorens-Gumbau and Salanova-Soria (2014), that self-efficacy and engagement are part of a virtuous circle, are still valid. However, when contrasting the studies reviewed in the literature after the onset of the pandemic, similar results are obtained (AlZgool, Ahmed, Pahi, & Ammar, 2020; Ojo, Fawehinmi, & Yusliza, 2021), in the sense that if employees improve their levels of self-efficacy, including working at home, their levels of engagement will improve.

Conclusions

The present research strengthens Kahn's (1990) Employee Engagement Theory by complementing with empirical results obtained from the analysis of the two work scenarios experienced due to the forced workplace transition due to the pandemic, two particular facts: 1) that the self-efficacy of employees when working in their office is lost when their work is forcibly migrated to their home; and 2) that the new self-efficacy developed in home-based work will influence workers' engagement in their new environment. The novelty of the present study is precisely to make known an atypical reality in the world of work and to point out some lessons that can be followed, in particular, when an unplanned change of workplace is made due to an external agent, as was the case of the mandatory lockdown at home due to the 2020 pandemic.

Based on the results obtained, two practical implications are proposed for entrepreneurs and managers of organizations faced with the challenge of returning to the workplace. First, it is necessary to implement a new process, on the part of the companies and the workers themselves, of retraining and revaluation of skills and competencies in their new work environment. In other words, spaces should be opened to develop their self-efficacy. Second, it is necessary to create action plans aimed at improving their development in order to ensure identification and engagement with their mission in the face of a new normality.

A limitation of the analysis was that it did not generate a larger mass of data that could be used to study in depth the possible significant differences in the variables of the model, depending on the demographic characteristics of the employees (subsamples by activity, gender, age, or hierarchy). As a future line of study, it is proposed, in the face of an imminent return to the workplace, to measure the self-efficacy and engagement of personnel returning to the workplace again and to identify whether

these characteristics return to their original levels, increase, or decrease again, and if so, to determine whether their causal relation continues to be maintained.

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Appendix

Table A1
Questionnaire applied in the present research

Item	Question		Source	Possible answers	Type of question
1	Prior to the lockdown of COVID-19, I worked primarily for:			my/a company	Control
2	The line of business of the company I work for is:			Open Text	Control
3	Prior to the lockdown of COVID-19, I worked mainly in the following areas			Street/House/Office	Control
4		when I was physically working in my office,	1	Likert 1 to 5	Engagement Factor (mirror item 22)
5		my work had meaning and purpose for me.	1	Likert 1 to 5	Engagement Factor (mirror item 23)
6		time flew by.	1	Likert 1 to 5	Engagement Factor (mirror item 24)
7		I felt energized	1	Likert 1 to 5	Similar honesty question item 4
8		I forgot everything that was going on around me	1	Likert 1 to 5	Discarded
9		I forgot everything that was going on around me	1	Likert 1 to 5	Similar honesty question item 8
10	When I was	I was happy when I was focused.	1	Likert 1 to 5	Engagement Factor (mirror item 27)
11	physically	I was involved with my work.	1	Likert 1 to 5	Discarded
12	working in my	I could continue to work for long periods.	1	Likert 1 to 5	Engagement Factor (mirror item 29)
13	office,	the job was a challenge for me.	1	Likert 1 to 5	Discarded
14		I was very persistent in my job.	1	Likert 1 to 5	Discarded
15		I had a high level of job performance.	2	Likert 1 to 5	Self-efficacy factor (mirror item 32)
16		I accomplished tasks quickly and efficiently.	2	Likert 1 to 5	Self-efficacy factor (mirror item 33)
17		I exceeded my work goals.	2	Likert 1 to 5	Self-efficacy factor (mirror item 34)
18		I achieved a high level of task accomplishment.	2	Likert 1 to 5	Self-efficacy factor (mirror item 35)
19		I always exceeded the company's goals.	2	Likert 1 to 5	Self-efficacy factor (mirror item 36)
20	I currently work for the same company as the one I worked for before Covid-19			Yes / No	Control
21	Currently, after COVID19, I work mainly at			Street/House/Office	Control
22		I feel energized.	1	Likert 1 to 5	Engagement Factor
23		my work has meaning and purpose for me.	1	Likert 1 to 5	Engagement Factor
24		time flies by.	1	Likert 1 to 5	Engagement Factor
25		I feel energized.	1	Likert 1 to 5	Similar honesty question item 22
26		I forget everything that happens around me.	1	Likert 1 to 5	Discarded
27		I am happy when I am focused.	1	Likert 1 to 5	Engagement Factor
28	Now from my	I am involved with my job.	1	Likert 1 to 5	Discarded
29	home,	I can continue working for long periods.	1	Likert 1 to 5	Engagement Factor
30		work is a challenge for me.	1	Likert 1 to 5	Discarded
31		I am very persistent in my job.	1	Likert 1 to 5	Discarded
32		I have a high level of job performance.	2	Likert 1 to 5	Self-Efficacy Factor
33		I accomplish tasks quickly and efficiently.	2	Likert 1 to 5	Self-Efficacy Factor
34		I exceed my work goals.	2	Likert 1 to 5	Self-Efficacy Factor
35		I achieve a high level of task accomplishment.	2	Likert 1 to 5	Self-Efficacy Factor
36		I always exceed the company's goals.	2	Likert 1 to 5	Self-Efficacy Factor
37	Gender			Male/Female	Control
38	Years of service in the company (years completed)			Numerical	Control
39	Age			20s/30s/40s/more	Control
40	Position			Open	Control

Sources of items: 1) Müller Gilchrist et al. (2013); 2) Espinosa (2017)

Table A2
Table showing the results of the structural equation estimations

Degrees of Freedom for (C1)-(C3),C(5)	2
Maximum Likelihood Ratio Chi-Square (C1)	1.913 (P = 0.3842)
Browne's (1984) ADF Chi-Square (C2_NT)	1.907 (P = 0.3854)
Browne's (1984) ADF Chi-Square (C2_NNT)	1.634 (P = 0.4417)
Satorra-Bentler (1988) Scaled Chi-Square (C3)	1.909 (P = 0.3851)
Degrees of Freedom for C4	1.859
Chi-Square Scaled and Shifted (C5)	1.912 (P = 0.3844)
P-Value of C1 under Non-Normality	= 0.3778
Estimated Non-centrality Parameter (NCP)	0
90 Percent Confidence Interval for NCP	(0.0 ; 7.635)
Minimum Fit Function Value	0.00886
Population Discrepancy Function Value (F0)	0
90 Percent Confidence Interval for F0	(0.0 ; 0.0353)
Root Mean Square Error of Approximation (RMSEA)	0
90 Percent Confidence Interval for RMSEA (0.0 ; 0.133) P-Value for Test of Close Fit (RMSEA < 0.05)	0.557
Expected Cross-Validation Index (ECVI)	0.0833
90 Percent Confidence Interval for ECVI	(0.0833 ; 0.119)
ECVI for Saturated Model	0.0926
ECVI for Independence Model	1.54
Chi-Square for Independence Model (6 df)	324.584
Normed Fit Index (NFI)	0.994
Non-Normed Fit Index (NNFI)	1.001
Parsimony Normed Fit Index (PNFI)	0.331
Comparative Fit Index (CFI)	1
Incremental Fit Index (IFI)	1
Relative Fit Index (RFI)	0.982
Critical N (CN)	1038.615

Source: created by the author.