The effects of work engagement and self-efficacy on personal initiative and performance

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Abstract

Background: Two popular concepts, work engagement and personal initiative, are different but related constructs. This study is based on and extends the Frese and Fay (2001) model of personal initiative (PI) by including work engagement (WE) and self-efficacy as antecedents of PI, and performance as a consequence. **Method:** Two studies (study 1, with a cross-sectional design using N = 396 participants from 22 organizations, and study 2, with a longitudinal design conducted in two waves with N = 118 participants from 15 organizations) test the hypotheses. **Results:** Structural equation modeling and the PROCESS SPSS Macro were used to test the hypothesized mediating role of personal initiative in work engagement and performance, and the results show the indirect effect of WE on performance through PI. **Conclusions:** The results of these two studies confirmed our hypotheses: WE and self-efficacy lead to higher PI, which, in turn, leads to higher performance. In addition to considering WE as an antecedent of PI, the results lead to considering PI as an antecedent of performance.

Keywords: Personal initiative, self-efficacy, work engagement, performance.

Resumen

Los efectos del work engagement y la auto-eficacia en la iniciativa personal y el desempeño. **Antecedentes:** los conceptos work engagement e iniciativa personal están relacionados pero son conceptos diferentes. Este trabajo se basa en el modelo de la iniciativa personal de Frese y Fay (2001) y lo amplía incluyendo el work engagement como antecedente de la iniciativa personal, junto con la autoeficacia y el desempeño como resultado. **Método:** se realizaron dos estudios (estudio 1 con un diseño transversal N = 396 participantes de 22 organizaciones y estudio 2 con un diseño longitudinal con dos tiempos y N = 118 participantes de 15 organizaciones) para contrastar las hipótesis. **Resultados:** se utilizaron modelos de ecuaciones estructurales y el Macro de SPSS Process para contrastar el rol mediador de la iniciativa perosnal entre el work engagement y el desempeño, mostrando los resultados los efectos indirectos del work engagement sobre el desempeño a través de la iniciativa personal. **Conclusión:** los resultados de los dos estudios confirman nuestras hipótesis. Work engagment y autoeficacia llevan a una mayor iniciativa personal, que implica una mejora del desempeño. Junto a considerar el work engagment un antecedente de la iniciativa personal, los resultados permiten considerar a la iniciativa un antecedente del desempeño.

Palabras clave: iniciativa personal, autoeficacia, *work engagement,* desempeño.

Modern workplaces demand a high level of employee flexibility, rapid innovation, and efficient implementation of new products, ideas, and forms of work (Frese, 2000). In this changing work environment, employees are required to be more engaged and self-efficacious and show a greater degree of active performance at work (Griffin, Neal, & Parker, 2007). This situation has led to an interest in work engagement (WE) in practice (Macey & Schneider, 2008) and the development of concepts such as personal initiative (PI) in research (Frese & Fay 2001). Engagement is defined by Schaufeli, Salanova, González-Romá, and Bakker (2002, p. 74) as a positive, fulfilling, work-related mindset characterized by vigor, dedication, and absorption. Engagement refers to a persistent and pervasive affective-cognitive mindset that is not focused on any particular object, event, individual, or behavior. PI is in many ways similar to engagement due to being characterized by being self-starting, proactive, and persistent in overcoming barriers (Frese & Fay, 2001).

Macey and Schneider (2008) have suggested that PI is one example of WE. Other authors (see Frese, 2008; Salanova & Schaufeli, 2008) have argued that PI is more behavioral, whereas WE is more of a psychological state. However, as Frese suggested, "conceptual issues need to be decided on the basis of empirical evidence – thus, new empirical studies should help us to make decisions about which terminology to use. An empirically driven taxonomy of these concepts and differential validity approaches are needed" (Frese, 2008, p. 3). Thus, to fill this gap, the aim of this study is to provide empirical evidence about the relationship between WE and PI.

The concepts of Work Engagement and PI

The concepts of WE and PI have been studied in separate sets of literature that have minimal contact with each other. WE is

considered the opposite of burnout (e.g., Maslach & Leitter, 1997; Schaufeli et al., 2002), and PI is explained by action theory (Frese, King, Soose, & Zempel, 1996). Despite obvious similarities, there is little theoretical and empirical work that relates these two concepts, although there are obvious overlaps between them. PI and WE both involve a high degree of vigor and dedication. Being self-starting and proactive means that the person is greatly engaged in his/her work. Being dedicated implies persistence when difficulties (and barriers) arise. However, there are also differences in these concepts. The concepts of vigor and dedication refer to motivational states of mind that may help to develop PI, but they are not the same as the behavior of PI. Similarly, dedication is a willingness to be absorbed in one's work, but this is not the same as the behavior of continuing the work in spite of difficulties.

The study will try to begin to empirically understand this relationship based on the comprehensive model of the antecedents and consequences of PI (Frese & Fay, 2001). Frese and Fay (2001) differentiate between generalized antecedents and proximal or specific antecedents such as orientations. This manuscript will focus on orientations, which are specific motivational antecedents.

The study proposes that WE is an orientation in the model and an antecedent of PI.

Macey and Schneider (2008) suggested a differentiation between trait engagement, state engagement, and behavioral engagement. Therefore, the exact theoretical status of engagement depends on the specificity and behavioral relationships of the concept.

Moreover, the relationship between engagement and PI was described in two of the few studies that linked these concepts. Salanova and Schaufeli (2008) confirmed that WE fully mediated the impact of job resources on proactive behavior. Hakanen, Perhoniemi, and Toppinen-Tanner (2008) found positive and cross-lagged associations between WE and PI.

Moreover, an empirical answer about the nature of these constructs and their relationships is needed. If both WE and PI are traits or psychological constructs, they should appear on the same level in a prediction model. Therefore, the main objective of this paper is to determine the role of the three variables in their relationship with performance. To this end, alternative research models, explained below, will be tested.

Salanova and Schaufeli (2008) found WE to be positively associated with proactive behavior. Hakanen et al. (2008) found that WE predicted PI over time, and PI positively influenced WE, as the title "Positive gain spirals at work" suggests. If PI is more behavioral than engagement is, then WE should affect PI, as the Affective Shift Model of WE by Bledow, Schmitt, Frese, and Khunel (2011) proposes. This argument leads to the following hypothesis:

H1: WE is an antecedent of PI.

Modeling self-efficacy, WE, and PI as predictors of work performance

Bandura (1997, p. 3) defined self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments." Self-efficacy should be related to PI because people need to believe in their own capacity, for example, to act competently in self-starting some changes in working conditions. Moreover, the belief in their own competency helps people to attempt to be proactive because they are more likely to react to changing conditions if they believe they cannot act competently. Finally, self-efficacy leads to a higher degree of persistence if things do not immediately work out because people know that they can act competently and, therefore, do not give up too soon. Speier and Frese (1997) assessed the role of self-efficacy as an intermediate variable between job control and complexity at work and PI (see Also, Frese, Garst, & Fay, 2007, where self-efficacy is part of the control orientations).

Similarly, self-efficacy is related to WE. The belief in one's own competency is a prerequisite for feeling vigorous and motivated to work. Furthermore, self-efficacy is a prerequisite for dedication because people tend to give up if they think of themselves as incompetent. Finally, being absorbed by work requires belief in one's competencies; otherwise, one is not absorbed by the tasks (Llorens, Schaufeli, Bakker, & Salanova, 2007). Similarly to PI, the relationship between self-efficacy and engagement has been studied (Salanova, Llorens, & Schaufeli, 2008; Xanthopoulou, Bakker, Demerouti, & Shaufeli, 2009). These studies suggest a positive gain spiral where self-efficacy increases engagement, which increases self-efficacy over time. This evidence leads to the following hypothesis:

H2: Self-efficacy is related to WE and to PI.

Another issue that needs to be addressed is the relationship between WE and PI and performance. Research shows positive relationships between WE and PI and performance.

Furthermore, in the theoretical model, PI exerts an influence on performance (Frese & Fay, 2001). The model and the empirical findings make a distinction between individual and organizational performance. For example, Fay, Sonnentag, and Frese, (1998) and Van Dyne and Le Pine (1998) found that PI is positively related to individual performance. Other studies have found relationships between PI and organizational-level performance (i.e., Baer & Frese, 2003; Bledow & Frese, 2009; Frese, 2000; Koop, De Reu, & Frese, 2000; Krauss, Frese, Friedrich, & Unger, 2005; Lisbona, Palací, & Gómez-Bernabeu, 2008).

Apart from this distinction, to understand organizational performance it is necessary to understand individual performance because we must consider not only organizational factors, but also factors that are inherent to the workers or affect them individually (Carlos & Rodríguez, 2016). This study will analyze individual performance.

Individual performance is more than just the execution of specific tasks. It involves a wide variety of organizational activities, and it is an important part of job performance that needs to be measured and considered (Arvey & Murphy, 1998). Both individual performance and personal initiative have been treated as dependent variables. In both cases, this makes perfect sense from a practical point of view because individual performance and personal initiative are something organizations want to enhance and optimize (Sonnentag & Frese, 2002).

Due to the lack of objective measurements of work function and performance, especially if the sample is heterogeneous as in this study, self-report measures have been employed in a wide range of studies (Pransky et al., 2006). Some studies consider innovation as a personal initiative outcome (Binnewies & Gromer, 2012; Binnewies, Ohly, & Sonnentag, 2007; Fischer et al., 2014; Frese, Rooks, & Sserwanga, 2014; Rooks, Sserwanga, & Frese,

2016) or a performance indicator (Zacher, Robinson, & Rosing, 2016). Some studies, such as Zacher et al. (2016), also use a self-report measure to evaluate innovation.

H3: PI is positively related to performance.

In the discussion of alternative research models (see Figure 1), the concept of self-efficacy can help to empirically determine the relative status of WE and PI. If WE, like self-efficacy, is an antecedent of PI, then WE would be conceptualized as a motivational state, as shown in model M1 (Figure 1).

In this case, PI acts as a mediator between WE and performance. This is also the proposed model (M1), which conforms to the hypotheses developed above.

Method

Participants

The sample in study 1 consists of 396 employees (50 % men and 45.7 % women) from Spain (93 %) and Mexico (7 %), working in 22 organizations from various industries. Their mean age was 32.03 years (SD = 9.14). Study 2 contains a longitudinal sample (n = 118) of individuals working in 15 organizations. The mean age in this second sample was 33.2 years (SD = 8.58). The first data collection included 532 participants, and sample mortality was 73.71 %. The participants in the first and second studies did not overlap.
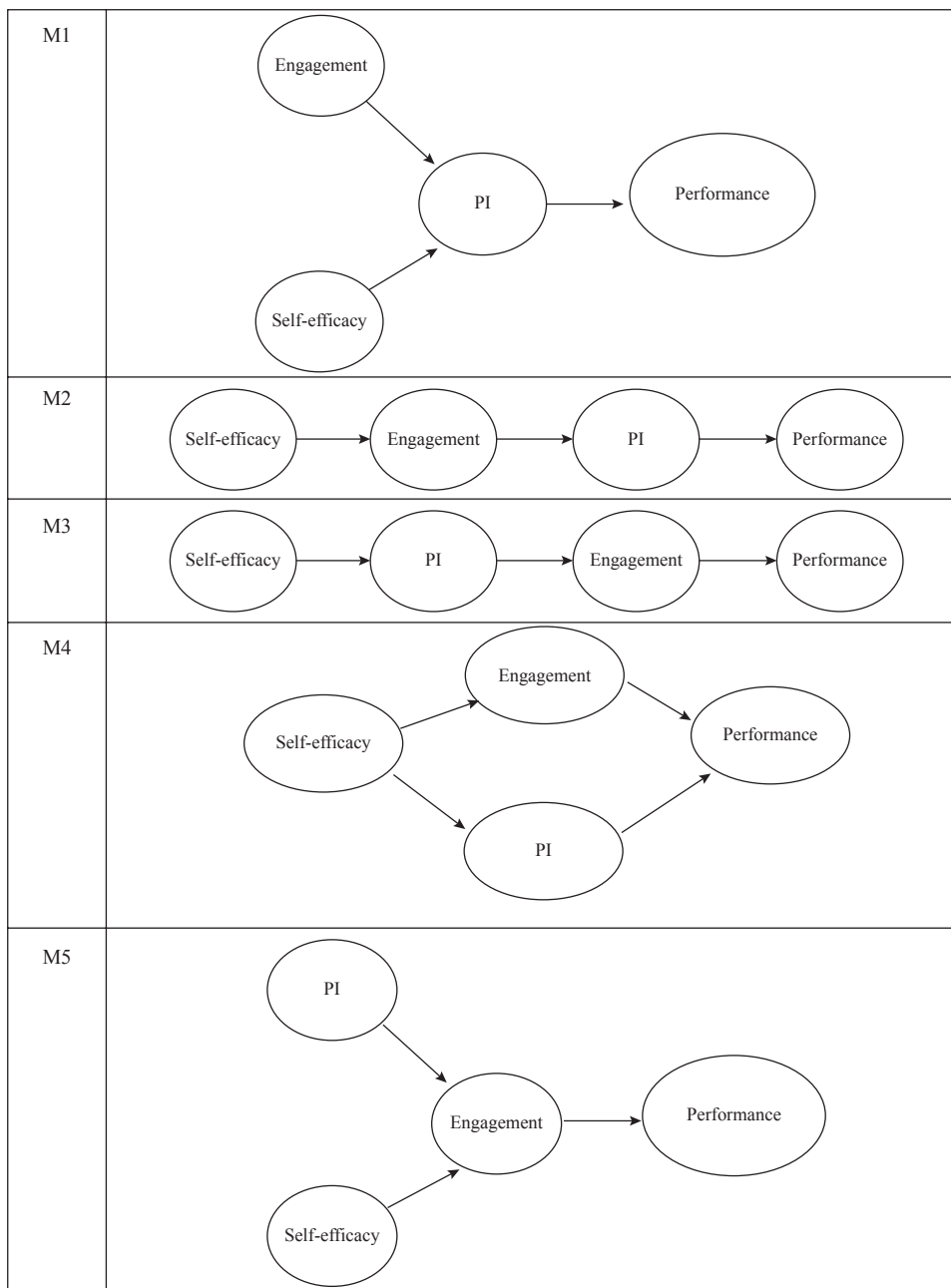

Figure 1. The models tested

Instruments

Self-efficacy. Self-efficacy was assessed with 4 items using a Likert-type response format, based on Jones (1986). An example item is "I feel confident that my skills and abilities are equal to or exceed those of my colleagues." Internal consistency (Cronbach's alpha) was .61 (study 1), .62 (T1. Study 2), and .64 (T2. Study 2). As Cronbach's alphas did not fulfil the .70 criterion, the Composite Scale Reliability (CFC) was calculated. Both the cross-sectional (CFC= 0.70) and longitudinal studies (CFC T 1 = .798 and CFC T2 = .745) met the criterion. In addition, all the loadings of the indicators on the constructs (λ) were higher than the criterion of .60 proposed by Hair, Black, Babin, Anderson, and Tatham (2006).

Work engagement. WE was assessed with the Utrecht WE Scale, which contains three 5-item subscales: vigor, dedication, and absorption (UWES: Schaufeli et al. 2002). A sample item is "In my work, I feel full of energy." WE in Study 2 was measured only at T2, and all the other variables were measured in both Wave 1 (T1) and Wave 2 (T2). Internal consistency (Cronbach's alpha) was .94 (study 1) and .93 (T2. Study 2).

Personal initiative. PI was analyzed with the Self-report Initiative Scale by Frese et al., (1997), which contains 6 items with a Likert-type response format. A sample item is "*Whenever something goes wrong, I search for a solution immediately*." Internal consistency (Cronbach's alpha) was .72 (study 1), .71 (T1. Study 2), and .74 (T2. Study 2).

Performance. Finally, to assess individual performance, subjective performance was measured with a 3-item scale (Lisbona & Palací, in press) taken from Bass and Avoilo's "extra effort" scale (2000), which has been widely used in leadership research. This scale asks participants about their performance and what they believe others—coworkers and supervisors—think of their performance, using a Likert-type response scale. A sample item is: "*I think that my performance is*". A subjective measure of performance could produce problems with common method variance bias. However, this is true only in the cross-sectional study, but not in the longitudinal study, which holds prior performance constant and, thus, considerably reduces the threat to the internal validity of the proposed longitudinal model. Internal consistency (Cronbach's alpha) was .81 (study 1), .76 (T1. Study 2), and .77 (T2. Study 2).

Procedure

Questionnaires were administered to 582 employees whose participation was voluntary. A researcher visited the organizations and administered the questionnaires. This researcher subsequently delivered a brief report to the company about the overall performance of the organization and its relationship to the total sample. A total of 396 employees returned the questionnaires (response rate 68.04 %). The same procedure was applied in study 2. The first data collection included 532 participants in T1. After one year, the data collection included 118 participants in T2, and sample mortality was 73.71 %. The procedure tried to guarantee the participants' anonymity. They gave a code that only they could know, in order to keep them from writing down any personal data. This procedure made it impossible to monitor changes in the position, job, or organization.

Data analyses

First, Harman's test (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) was performed using AMOS17.0 to conduct confirmatory factor analysis with three models: (1) a one-factor model where all the constructs are the expression of a single latent factor; (2) a four-factor model where all the factors (self-efficacy, work engagement, personal initiative, and performance) are independent; and (3) a four-factor model where all the factors are correlated. If the four-factor model provides a better fit than the model with one factor, this shows that common method variance is less prevalent. A second CFA was performed with three models: (1) a one-factor model where the constructs PI and WE are the expression of a single latent factor; (2) a two-factor model where the factors (WE and PI) are independent; and (3) a two-factor model where the two factors are correlated.

The absolute goodness-of-fit indices were: (1) the 2 goodness-of-fit statistic and (2) the root mean square error of approximation (RMSEA). The computation of relative goodness-of-fit indices is highly recommended because the 2-test is sensitive to sample size (Bentler, 1990). Therefore, the relative goodness-of-fit indices were calculated with the comparative fit index –CFI– (Marsh, Balla, & Hau, 1996). A parsimony and comparative index were also calculated with the Akaiké Information Criterion –AIC– (Akaike, 1987). For the RMSEA, values smaller than .08 are considered to indicate an acceptable model fit (Browne & Cudeck, 1993). For the relative fit index (CFI), values greater than .90 are considered to indicate a good fit (Hoyle, 1995). For the AIC index, which is an index to compare non-nested competing models, the lower the index is, the better the fit of the model.

Second, maximum likelihood estimation methods of structural equation modeling (SEM) as implemented by AMOS 17.0 were used to test the five competing models (see figure 1).

The hypothesized mediating role of personal initiative between work engagement and performance, proposed in model 1, was tested using PROCESS, an SPSS macro created by Hayes (2013) to perform conditional process analysis. The macro relies on the re-sampling method of bootstrapping, a procedure that provides an estimate of the indirect effect in the population by resampling the data-set k times (5000 iterations in this study) to obtain the indirect effect's sampling distribution and confidence intervals (CIs). An estimate is considered statistically significant if the CI is 95% and does not include zero.

These models were tested with the help of one large-scale cross-sectional study and a smaller longitudinal study. The longitudinal study was necessary because our reasoning assumes a causal ordering of the constructs, and we wanted to reduce common method variance problems of the subjective performance scale.

Results

Descriptive analyses

Table 1 presents the means, standard deviations, inter-correlations, and Cronbach's alphas for all the study variables in Study 1, and Table 2 presents the same information for Study 2.

There were significant correlations in both studies between WE and PI (Hypothesis 1); there were also significant correlations

Table 1
Means, standard deviations, correlations, and internal consistencies (Cronbach's α) of the variables in Study 1

	M	SD	1	2	2a	2b	2c	3	4
1. Self-Efficacy	4.09	0.57	(.61)	.119**	.197**	.060	.090	.362**	.220**
2. WE	4.10	1.10		(.94)	.934**	.946**	.935**	.336**	.234**
3. PI	3.84	0.61						(.72)	.203**
4. Performance	3.37	0.55							(.81)

Note: n = 396; * *p* < .05; ** *p* < .01

RMSEA= .094; CFI=.841; AIC=500.70) and better than the first one-factor model (χ^2=1047.93; df =104; RMSEA= .159; CFI=.550; AIC=1111.939).

In addition, we compared the second CFA with three models. The fit of the third model with two correlated factors –WE and PI–(χ^2= 41.782; df=33; RMSEA= .048; CFI= .986; AIC= 85.782) is better than the fit of the second model with two independent factors (χ^2=93.255; df=24; RMSEA= .090; CFI=.949; AIC= 135.255) and better than the fit of the first one-factor model (χ^2= 327.639; df= 27; RMSEA= .176; CFI= .778; AIC= 363.039).

Table 2
Means, standard deviations, correlations, and internal consistencies (Cronbach's α) of the variables in Study 2

	M	SD	1	2	3	4	4.a	4.b	4.c	5	6	7
1. Self-Efficacy T1	4.07	0.55	(.62)	.493**	.318**	.104	.255*	.098	.202	.426**	.318**	.292**
2. PI T1	3.91	0.55		(.71)	.334**	.189	.132	.132	.148	.220*	.417**	.191
3. Performance T1	3.38	0.56			(.76)	-.113	-.103	-.129	-.079	.212*	.198	.362**
4.WE	3.89	0.96				(.93)	.916**	.947**	.938**	-.144	.403**	-.012
4a. Vigor T2	4.27	0.98					(.85)	.801**	.769**	.235*	.449**	.028
4b. Dedication T2	3.71	1.15						(.86)	.855**	.127	.340**	-.025
4c. Absorption T2	3.54	1.04							(.81)	.127	.342**	-.041
5. Self-Efficacy T2	4.12	0.52								(.64)	.476**	.213*
6. PI T2	4.01	0.55									(.74)	.296**
7. Performance T2	3.25	0.55										(.77)

Note: n=118; * *p* < .05; ** *p* < .01

Table 3
Model fit (n = 396)

	χ^2	df	RMSEA	CFI	AIC	$\Delta\chi^2$	df
M1	244.94	97	.065	.929	322.94		
M2	354.18	101	.083	.879	424.18	M2 - M1 = 109.24***	4
M3	297.227	101	.073	.906	367.23	M3 - M1 = 52.29***	4
M4	313.82	100	.077	.898	385.82	M4 - M1 = 68.88***	3
M5	362.19	101	.085	.875	432.19	M5 - M1 =117.25***	4

Note: RMSEA= root mean square error of approximation; CFI= comparative fit index. AIC= Akaike information criterion

between self-efficacy, on the one hand, and WE and PI on the other (Hypothesis 2), with one exception (the correlation between self-efficacy and WE was not significant in Study 2). Furthermore, in Study 2 there were significant long-term correlations between self –efficacy (T1) and PI (T2) and between PI (T1) and self-efficacy (T2). There were significant correlations between WE and performance and between PI and performance (Hypothesis 3). A second exception was the correlation between WE and performance in Study 2.

Confirmatory factor analysis

We compared the first CFA with three models. The fit of the third model with four correlated factors –self-efficacy, work engagement, personal initiative, and performance–(χ^2=278.95; df =98; RMSEA= .072; CFI=.914; AIC=354.95) is better than the second model with four independents factors (χ^2=436.70; df =104;

Model testing

Model 1 (M1), which summarized our hypotheses, showed a good fit to the data, with all the fit indices meeting their respective criteria (Table 3). This research model was compared to the four alternative models. The fit indices of models M2, M3, M4 and M5 were not as good as those for M1. All the paths in Model 1 were significant (*t* > 1.96) (c.f. Figure 2). PI is related to performance, and self-efficacy is related to PI; in turn, engagement predicts PI. Model 1 explains 55 % of the variance in PI and 12 % of the variance in performance.

We also tested the mediation effect of PI found in M1 between WE and performance.

The regression mediation model shows that WE has an indirect effect on performance through PI (*B* = .023, SE .011 95 % CI [.002, .046]).

Model 1 was also tested in longitudinal Study 2 (see Figure 3). The research model (see figure 3) fit the data well (χ^2 = 323.2; df = 267; RMSEA = .052; CFI = .933; AIC = 497.21), and all the path coefficients were significant (*t* > 1.96).

We also tested the mediation effects of PI between WE and performance in T2. The regression mediation model shows that WE has an indirect effect on performance through PI (*B* = .081, SE .030. 95 % CI [.033, .154]).

Discussion

To answer the research question about whether WE is, like self-efficacy, an antecedent of PI and, thus, could be conceptualized as a motivational state, we conducted two studies: one cross-sectional
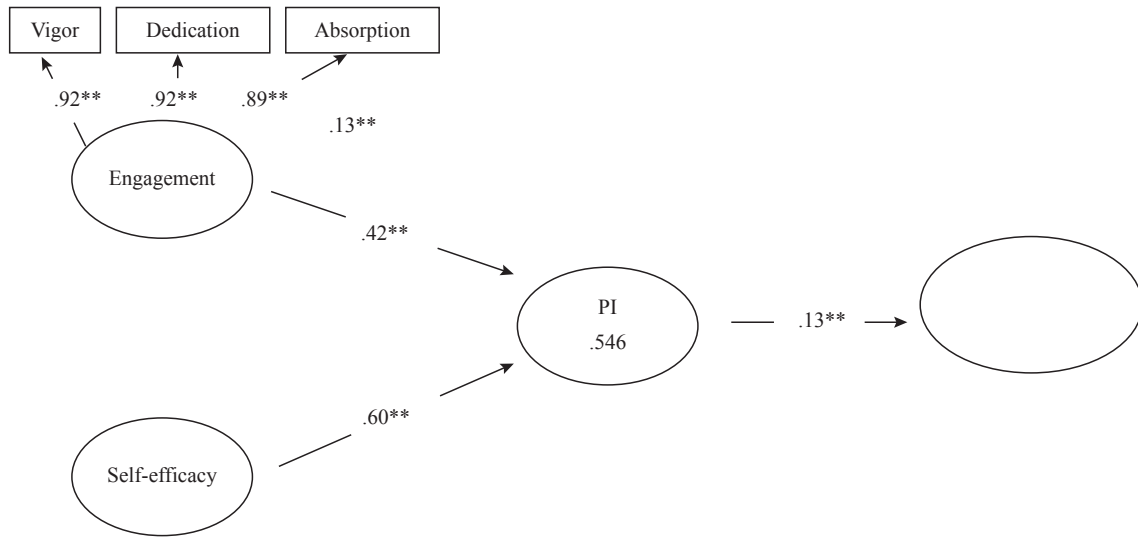
Figure 2. The final model with standardized path coefficients (n = 396)
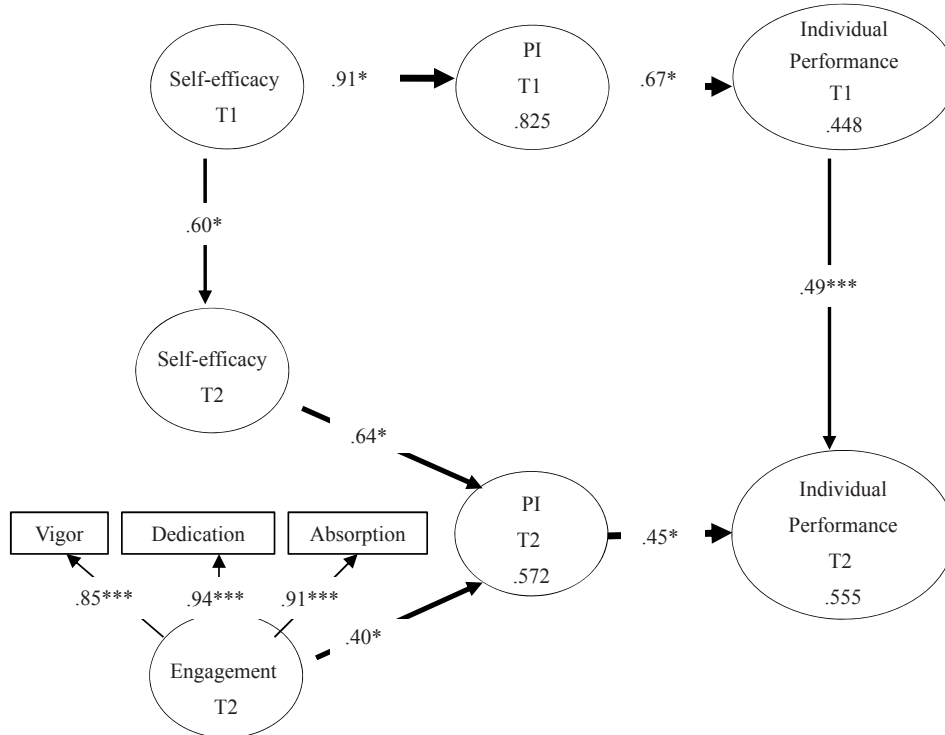

Figure 3. The final longitudinal model with standardized path coefficients (n = 118)
Note: * *p*< .05, ** *p*< .01, *** *p*< .001

and another longitudinal. The concept of self-efficacy helped us to empirically determine the relative status of WE and PI. They are correlated constructs, but they do not overlap.

This study helped us to make decisions about which terminology to use and about the conceptual issues regarding PI as a more behavioral concept and WE as a trait.

The relationship between engagement and PI was proposed by Salanova and Schaufeli (2008), but the present study considered engagement to be a new part of the previously proposed theoretical model of antecedents and consequences of PI (Frese & Fay, 2001). We proposed engagement as a new orientation because it has an intermediate degree of specificity and cognitive-affective components, by definition.

The fit of the model is adequate, and the robustness of the model is supported by the fact that approximately 55 % of the variance in PI is accounted for by considering only self-efficacy and engagement. The full mediation model of PI and engagement proposed by Salanova and Schaufeli (2008) explains an average of

36.5 % of the variance in proactive behavior (37 % in the Spanish sample and 36 % in the Dutch sample).

The relationship between engagement and PI was found by Salanova and Schaufeli (2008), who confirmed that WE fully mediates the impact of job resources on proactive behavior, and by Hakanen, Perhoniemi, and Toppinen-Tanner (2008), who found positive and cross-lagged associations between WE and PI. However, model 1 adds self-efficacy to this relationship between engagement and PI, and we expected that performance would be a consequence of PI in this model.

We suggest that the new antecedent, engagement, makes its own contribution to explaining the complex phenomenon of PI, beyond its role as a mediator between environmental supports and PI, as in the original model, or between job resources and proactive behavior (Salanova & Schaufeli, 2008).

As Salanova and Schaufeli (2008) also noted, our results indicate that engagement involves high levels of energy, persistence, identification, and goal-directness, and that high levels of engagement can be expected to increase proactive work behavior in terms of PI. Moreover, they also indicate that engagement has become one more piece in the complex model of the antecedents and consequences of PI. It should be kept in mind that engagement is related to performance, even though this relationship occurs via PI. We also emphasize the mediation role of PI between WE and performance.

Engagement and its three dimensions have been included in the proposed model, in contrast to the work by Salanova and Schaufeli (2008), which did not include the third dimension of engagement, absorption. The main reason for not including this third dimension, which is similar to the concept of *flow* (Csikszentmihalyi, 1990), is that they believed it should be considered a *consequence* of WE rather than one of its components (Salanova, Llorens, Cifre, Martínez, & Schaufeli, 2003). By contrast, vigor and dedication are considered the core dimensions of engagement. We decided to include this third dimension precisely because of its proximity to the concept of flow. Thus, Fay and Frese (2000) mention these aspects in their proposal for the PI theory. Specifically, they said that "Self-starting behavior in terms of voluntary action has been described in the field of intrinsic motivation. (…) The rewards of intrinsically motivated activities are the experience of effectance and autonomy and the experience of positive emotions such as enjoyment and excitement" (Fay & Frese, 2000, pp. 308-309). These same authors also quote one of Csikszentmihalyi's first works to introduce the concept of flow: "Sometimes, people can experience flow when they are intrinsically motivated" (Csikszentmihalyi, 1975).

This was the origin of our investigation when we wondered whether the expression of intrinsic motivation was a prerequisite for PI, and we found a possible answer to this question in the three components of engagement.

These empirical results of the SEM models in the cross-sectional and longitudinal studies and the relationships in the mediation model, also performed in both studies, support the need to introduce a new antecedent in the model of the antecedents and consequences of PI. The original model underlined the importance of intrinsic motivation, but this motivation was not reflected in the more direct antecedents of PI. Likewise, empirical studies on the model of the antecedents and consequences of PI, as implied by the name of the model, should not stop at PI. Instead, they should also include its consequences, that is, high organizational and individual performance.

Empirical research in work settings has established solid relationships between self-efficacy and well-being by considering self-efficacy to be a source of well-being and a valuable resource to address work demands by acting as a buffer of stress. However, the results of this study suggest that PI is also related to performance, at least subjectively. In our results, PI is necessary to explain performance behavior. This result also supports the ideas that initiative is more behavioral, WE is more of a trait, and self-efficacy is more of a belief.

Our work shows that engagement and self-efficacy are among the more proximal antecedents of PI. This finding is related to positive psychology and the notion of healthy organizations, where these are key concepts. In this regard, the issue is whether PI is an indicator of healthy organizations. Based on the results of this study, organizations should foster an appropriate context where their employees can develop self-efficacy and engagement, which have been shown to affect PI and performance.

One limitation of this study is that performance is measured with a subjective scale, which can lead to the problem of acquiescence (Solís, 2015). However, the longitudinal design, the results of the Confirmatory Factorial Analysis, and the analysis with Structural Equation Modeling indicate that PI and performance are constant over time, and that common method variance is not a problem. It is necessary to study more complex models that include the remaining orientations and more distal antecedents or environmental supports, among others. A third wave in the longitudinal study would have allowed us to research the influence of PI on WE across time, but this could be topic for future research.

Despite these limitations, and although additional work is required, these results contribute to the explanation of PI and suggest that WE is an additional antecedent of PI, which was not proposed in Frese and Fay's (2001) original study. Likewise, the results contribute to explaining the effect of PI on performance.

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