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THE PREDICTING ROLE OF PROFESSIONAL SELF-EFFICACY IN TEACHERS' WELL-BEING: CHALLENGE AND HINDRANCE DEMANDS

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ABSTRACT

The objective of the present study is to analyse the role of professional self-efficacy as a predictor of psychosocial well-being (burnout and engagement), following the Dual Self-Efficacy Model (Salanova, Llorens, Cifre, & Martínez, 2006) of Bandura's Social Cognitive Theory (1997). We performed structural equation modelling (SEM) in a sample of secondary school teachers (n=460). The results support the predicting role that professional self-efficacy plays in the perception of challenge (i.e., mental overload) and hindrance (i.e., role conflict, lack of control, and lack of social support) demands, which, in turn, lead to burnout (i.e., erosion process) and engagement (i.e., motivational process). Finally, the study analyses the theoretical and practical implications, and also presents future research in this area.

Keywords: Professional Self-Efficacy, Challenge Demands, Hindrance Demands, Engagement and Burnout.

INTRODUCTION

In recent years, teaching has been considered as one of the most stressful professions with significant levels of burnout, distress, depression and absenteeism (DeFrank & Stroup, 1989, Griffith, Steptoe, & Cropley, 1999; Van-Der-Doef & Maes, 2002), caused by economical, social, cultural and technological changes. All this means that people have to face new demands, such as time-related stress, work and mental overload, role ambiguity and conflict, lack of professional recognition, adapting to complex and more technical systems, lack of support at work, inadequate resources, etc. (Doménech, 2006).

Recent research has shown that people may see these new job demands as an opportunity or a threat (Lepine, Podsakoff, & Lepine, 2005), depending on how people perceive them; that is, as a challenge or a hindrance.

One of the most important personal resources which influences how people perceive the job demands or work environment is self-efficacy. The Social Cognitive Theory (SCT; Bandura, 1999, 2001) understands that people with high levels of self-efficacy tend to interpret demands and problems more as challenges rather than hindrances or subjectively uncontrollable events. In this sense, self-efficacy is postulated as possibly playing a predicting role of psychosocial well-being (burnout and engagement).

In this context, the objective of this research is to analyse the relationship that self-efficacy has as a predicting variable of the perception of challenge and hindrance demands, and its consequences on burnout and engagement in a sample of secondary school teachers.

Dual Self-Efficacy Model

The theoretical model of this study is an extended version of the Dual Self-Efficacy Model (see Salanova, Llorens, Cifre, & Martínez, 2006). This model is based on traditional job-related stress models, such as Demands-Control, Job Demands-Resources and Dual Process (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001 Karasek, 1979; Karasek & Theorell, 1990; Schaufeli & Bakker, 2004).

This model, developed by Salanova et al. (2006), includes self-efficacy as a key element to control the environment. The definition of self-efficacy in accordance with Bandura's SCT is the "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3).

Literature on self-efficacy in occupational contexts has shown that self-efficacy is relevant in both theory and research on job stress. Recent research indicates that self-efficacy plays a predicting role of psychosocial well-being (Caprara, Concetta, Regalia, Scabini, & Bandura, 2005; Salanova, Llorens, & Schaufeli, 2008). Also, this research indicates that high levels of self-efficacy favor the perception of more job resources which in turn produce high levels of engagement and low levels of burnout (Salanova et al., 2006). Although this model demonstrates a clear relationship between job demands and burnout, it also shows the ambiguous role which job demands play in their relationship with engagement. Indeed as we have already mentioned, some studies demonstrate that demands either relate negatively with engagement (Llorens, Bakker, Schaufeli and Salanova, 2006), positively (Llorens, 2004), or there may even be no relationship at all (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). The relationship between demands and engagement will depend on the type of job demand in question.

To solve this ambivalence of the impact that demands have on psychosocial well-being, Lepine and colleagues in different research works (Lepine et al., 2005; Podsakoff, Lepine, & Lepine, 2007) propose to differentiate demands into two types by following the findings of Lazarus and Folkman (1984). These authors differentiated between challenge and hindrance demands. With an evaluation process, such demands have an influence on emotions which, at the same time, influences the way in which the person copes with these demands.

Challenge demands are defined as "positively valued demands since they have the potential to promote personal gain or growth, trigger positive emotions and an active or problem-solving style of coping" (Lepine et al., 2005, p. 765). In this sense, they considered the following variables to be challenge demands: time pressure, responsibility, workload and mental overload (Podsakoff et al., 2007).

On the other hand, the definition of hindrance demands is "the negative demands that may potentially harm personal growth or gain, which trigger negative emotions and a passive or emotional style of coping" (Lepine et al., 2005, p. 765). In this sense, Podsakoff et al. (2007) considered inadequate resources (i.e., role conflict, role ambiguity, organizational politics and concerns about job security) to be hindrance demands.

So, the research done on this revealed that challenge demands are positively associated with performance, motivation, and job satisfaction, and that positive emotions and attitudes toward work negatively associated with job-search behaviours. Conversely, hindrance demands are negatively associated with performance, motivation and job-satisfaction, but positively associated with job-search behaviours (Podsakoff et al., 2007).

The present research considers that secondary school teachers with high levels of efficacy will perceive demands as challenges. High levels of efficacy will enhance the development of engagement (Llorens, Schaufeli, Bakker, & Salanova, 2007), and low levels of efficacy will be responsible for the appearance of burnout (Cherniss, 1993; Llorens, García, & Salanova, 2005).

Job Burnout

Several works have defined burnout as a negative psychological experience that is the teachers' reaction to job-related stress (e.g., role stress, poor working conditions, lack of professional recognition, staff conflicts and pupil misbehaviour) (Beemsterboer & Baum, 1984; Chan, 2002; Maslack, 1982, Van-Der-Doef & Maes, 2002).

More recently, Schaufeli & Enzmann (1998, p. 3) defined burnout as "a persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterized by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviours at work". Burnout has a tridimensional structure: *exhaustion* (i.e., fatigue due to excessive efforts at work), *cynicism* (i.e., indifference, detached and distant attitudes toward work in general) and *lack of professional* efficacy (i.e., the tendency to

evaluate one's work negatively and a reduction in feelings of job competence and work performance) (Maslach, Schaufeli, & Leiter, 2001; Schaufeli, Maslach, & Marek, 1993). This tridimensional structure may be assessed through the Maslach Burnout Inventory-General Survey (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996).

Thus, professional efficacy, as the third dimension of burnout, has received criticism since it may be considered to come closer to a variable of personality (Cordes & Dougherty, 1993; Shirom, 1989). Empirical research shows that exhaustion and cynicism constitute what has become known as the 'core of burnout' (Green, Walkey, & Taylor, 1991, p. 463). From this empirical viewpoint, the results of a meta-analysis show the independent role of professional efficacy compared with the exhaustion and cynicism dimensions (Lee & Ashforth, 1996). Indeed, Leiter (1992) assumed that burnout is a consequence of a 'crisis in efficacy'. Along the same lines, Cherniss (1993) suggested that lack of confidence in one's own competences is a critical factor in the development of burnout. Studies using longitudinal designs indicate that a successive crisis of professional efficacy is the proximal antecedent for the burnout syndrome to appear (Llorens et al., 2005).

Work Engagement

One definition of work engagement is "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption" (Schaufeli, Salanova, González-Romá, & Baker, 2002, p. 74). *Vigor* refers to high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. *Dedication* suggests being strongly involved in one's work, and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Finally, *absorption* indicates a person being fully concentrated and happily engrossed in one's work, who feels that time passes quickly and one has difficulties with detaching oneself from work. The Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002) may be used to assess this tridimensional structure.

In general terms, research proposes that engagement develops as a result of the motivational process originated by antecedents such as job resources and positive experiences, and it may produce different consequences such as positive attitudes, extra-role behaviours, psychosocial health, and performance (Schaufeli & Salanova, 2007). Therefore, with the SCT we may state that engagement is the drive of intrinsic motivation through work which is a result of people's high levels of self-efficacy (Salanova, Grau, Cifre, & Llorens, 2005).

The present study: self-efficacy, challenge/hindrance demands, work engagement and burnout

This research considers an extended version of the Dual Self-efficacy model by proposing the differentiation between challenge and hindrance demands following Lepine et al. (2005), who inform us that not all demands in the occupational context are negative, rather, they depend on how we perceive them. Based on the SCT of Bandura (1997), the objective of this research is to, therefore, analyse the role of professional self-efficacy as a predictor variable of the perception of challenge and hindrance demands, and its repercussion on burnout and work engagement in secondary school teachers.

Specifically, we expect that:

Hypothesis 1: Professional self-efficacy will relate negatively with burnout through hindrance demands (i.e., erosion process). That is, the workers who show low levels of professional self-efficacy will perceive more hindrance demands, and, in turn, higher burnout.

Hypothesis 2: Professional self-efficacy will relate positively with engagement through challenge demands (i.e., the motivation process). That is, the workers who show high levels of professional self-efficacy will perceive more challenge demands, and, in turn, higher engagement.

Hypothesis 3: Professional self-efficacy will relate negatively with burnout through challenge demands. That is, the workers with low levels of professional self-efficacy will perceive less challenge demands, thus increasing levels of burnout.

Hypothesis 4: Professional self-efficacy will relate positively with engagement through hindrance demands. That is, the workers who show high levels of professional self-efficacy will perceive less hindrance demands, thus increasing levels of work engagement.

METHOD

Participants and Procedure

We conducted this study with a total of 460 secondary school teachers (56% women) from 34 public and private schools in Spain. Ages ranged from 23 to 60 years, with a mean age of 40, and a standard deviation (SD) of 8.2 years. The research team was present at the 34 schools where its members explained how to complete the self-report questionnaires that they had handed out: the RED questionnaire (Resources, Experiences and Demands; Salanova et al., 2006). Subsequently, and for the purpose of facilitating data protection and of ensuring anonymity, team members also handed out envelopes for the participants to return their completed questionnaires to the research team.

Variables

We measured professional self-efficacy with the professional self-efficacy version by Schwarzer (1999) adapted to a specific domain, that is, adapted to work. We assessed the secondary school teachers sample with 10 items (e.g., *"I will be capable of efficiently handling unexpected events in my work"*) on a Likert-type scale with 7 points ranging from 0 (never) to 6 (always).

We measured challenge demands with mental overload using the questionnaire of Van Veldhoven and Meijman (1994). It comprises 5 items (e.g., *"My work requires me to be continuously alert"*). We used a Likert-type scale with replies ranging from 0 (it does not describe it all) to 6 (it fully describes it).

We measured hindrance demands with role conflict, lack of autonomy and lack of social support. We reversed the items on the

autonomy and social support scale (which were resources originally) so we negatively assessed 'lack of autonomy' and 'lack of social support', just as Podsakoff et al (2007) indicated. First, we used the scale of Rizzo, Hous, and Lirtzman (1970) to assess role conflict (8 items, e.g., *"I receive incompatible demands from two people or more*) . Then, we used the scale of Jackson, Wall, Martin, and Davis (1993) for lack of autonomy (5 items, e.g., *"I can decide which tasks I will do each day"*). After that, we employed the FOCUS scale (1999) to assess lack of social support. Finally, we used a Likert-type scale for lack of social support (3 items, e.g., *"In this organization, people show interest and support for their colleagues' personal problems"*) with answers ranging from 0 (never/nobody) to 6 (always/everybody).

We measured job burnout with the two 'core of burnout' dimensions: exhaustion (5 items, e.g., *"I am emotionally exhausted by my work*) and cynicism (4 items, e.g., *"I lost interest in my work since I began this job"*) (Salanova, Schaufeli, Llorens, Peiró, & Grau, 2000) with the Spanish version of the MBI-GS. All the items scored on a 7-point frequency scale ranging from 0 (never/nothing) to 6 (always/everyday).

We measured work engagement with the subscales of the Spanish version (Salanova et al., 2000) of the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002). The three dimensions of engagement used were: vigor (6 items, e.g., *"At my work, I feel bursting with energy"),* dedication (5 items, e.g., *"For me, my work is challenging"*) and absorption (6 items, e.g., *"Time flies when I'm working"*) on a frequency 7-point scale ranging from 0 (never/nothing) to 6 (always/ everyday).

Data Analyses

During the first stage, we computed descriptive analyses, internal consistencies (Cronbach's alpha) and intercorrelations among the variables using the SPSS statistical program.

Secondly, to test the hypotheses of the study, we used the Structural Equation Modeling (SEM) method as implemented by the AMOS program (Arbuckle, 1997) to test three competitive models:

(a) the proposed model (M1) assumes that professional self-efficacy predicts burnout and engagement through hindrance and challenge demands in such a way that the greater self-efficacy is, the more challenge demands and the less hindrance demands are; (b) two alternative models: alternative Model 2 (M2) considers that professional self-efficacy plays a mediator role between demands (challenge and hindrance), and engagement and burnout. Finally, alternative Model 3 (M3) considers that professional self-efficacy is the result of the influence that challenge and hindrance demands have on burnout and engagement.

We used several fit indices of these models, such as the Chi-square test (χ^2), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Root Mean Square Error of Approximation (RMSEA), Normed Fit Index (NFI), Incremental Fit Index (IFI), Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI) and the Akaike Information Criterion (AIC).

The χ^2 test verified the difference between the covariance matrix observed and the covariance matrix predicted by the specified model. So, non-significant values indicate that the hypothetical model fits the data. Nonetheless, this index is sensitive to sample size and there is more likelihood of its rejection in small-sized samples. Therefore, one recommendation is the use of other fit indices (Bentler, 1990; Bollen & Long 1993). The RMSEA is acceptable when its value is below .08, but not above .10 (Browne & Cudeck, 1989). When the rest of the indices considered (GFI, AGFI, NFI, IFI, NNFI and CFI) present values over .90, they are indicators of a good data fit (Hoyle, 1995). Finally, we recommend the use of AIC (Akaike, 1987) to verify competitive models where the model with the lowest AIC index offers the best fit.

RESULTS

Descriptive Analyses

Table 1 presents the descriptive analyses, such as means and standard deviations, and the intercorrelations matrix between the different study variables. As seen, the alpha coefficients in all the scales exceed the criterion of .70 as recommended by Nunnally and Bernstein (1994).

We observed a positive correlation between the hindrance demands and burnout dimensions, and also among professional self-efficacy, challenge demands and engagement. Moreover, we also noted a negative relationship among professional self-efficacy, hindrance demands and burnout in secondary school teachers (see Table 1).

Table 1. Descriptive statistics for all the study variables (N=460)

	M	SD	α	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Professional self-efficacy	3.99	.85	.93									
2. Mental overload	4.05	1.02	.85	.91*								
3. Role conflict	2.45	1.18	.83	-.15**	.30***							
4. Lack of social support	3.28	1.01	.85	-.21***	-.04	.23***						
5. Lack of autonomy	2.70	1.09	.92	-.26***	-.06	.18***	.19***					
6. Vigor	4.18	.96	.85	.43***	.09*	-.13**	-.14**	-.16**				
7. Dedication	3.91	1.16	.90	.45***	.14**	-.15**	-.20***	-.17***	66***			
8. Absorption	3.56	1.04	.80	30***	18***	.02	-.12*	-.15*	.56***	62***		
9. Exhaustion	1.70	1.20	.86	-.37***	.25***	.7***	.17***	.15**	-.39***	-.32***	-.15**	
10. Cynicism	2.03	1.05	.83	-.43***	-.07	.30***	.19***	-.11*	-.39***	-.57***	-.32***	.51***

Note: *p<.05; **p<.01; *** p<.001.

Structural Equations Models

The model of the direct relationships between the variables (M1) did not fit the data well in such a way that the modification indices suggested the inclusion of a correlation between the errors of cynicism and dedication (the correlation between these errors systematically appeared in other studies; see Salanova, Schaufeli, Llorens, Peiró, & Grau, 2000; Salanova, Bresó, & Schaufeli,2005; Schaufeli & Bakker, 2004). Besides, the fit indices also showed the convenience of including a correlation between the errors of the challenge and hindrance demands. Thus the reviewed model ($M1_r$),

which included these correlations between errors, significantly improved in relation to M1 [$\Delta \chi^2(2) = 50.83$, $p < .001$].

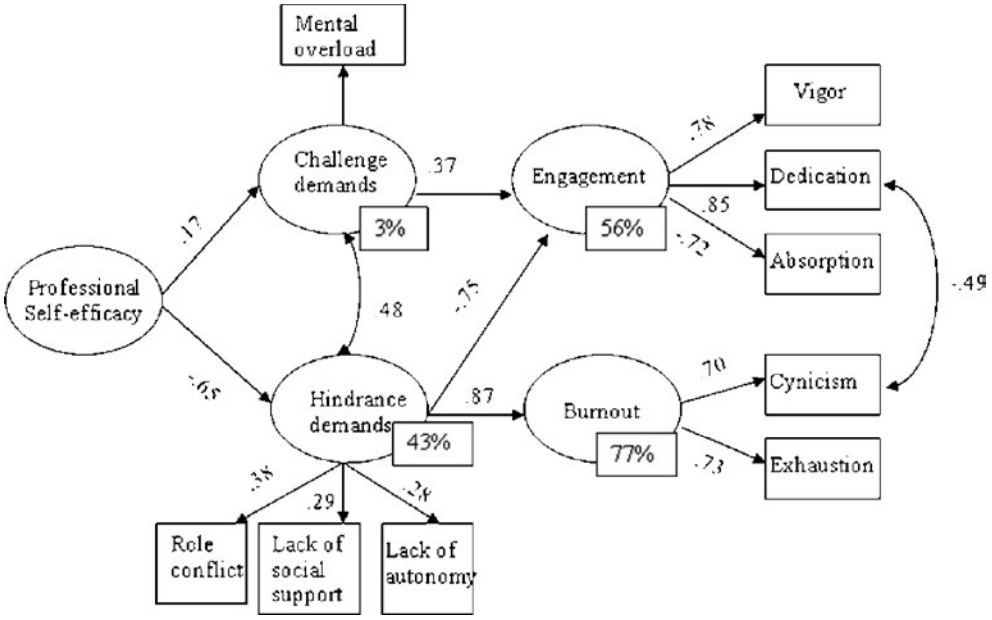
Then we tested two alternative models. The results show that the first alternative model (M2), which proposed that professional self-efficacy mediates the relationship between job demands (challenge and hindrance) and psychosocial well-being (burnout and engagement), offered a significantly worse fit than the reviewed model ($M1_r$) [$\Delta\chi^2(3) = 51.93$, $p < .001$]. The test of the second alternative model (M3), which proposed that professional self-efficacy is a result of the relationship between job demands (challenge and hindrance) and psychosocial well-being (burnout and engagement), offered a better data fit than M1 [$\Delta\chi^2(1) = 78.74$, $p < .001$], $M1_r$ [$\Delta\chi^2(1) = 27.91$, $p < .001$] and M2 [$\Delta\chi^2(2) = 79.84$, $p < .001$]. Finally, Table 3 depicts the model (M4) which best fitted the data in secondary school teachers. M4, which includes $M1_r$ without the direct relationship between challenge demands and burnout, showed the best fit compared to M1 [$\Delta\chi^2(0) = 76.99$, $p < .001$], $M1_r$ [$\Delta\chi^2(2) = 26.16$, $p < .001$] and M2 [$\Delta\chi^2(1) = 78.09$, $p < .001$], although we saw no significant differences in fit compared with M3 [$\Delta\chi^2(1) = 1.75$, *n.s.*) (see Table 2 and Figure 1).

Table 2. Structural Equation Modeling (SEM) in Secondary School Teachers (N=460)

	χ^2	df	p	GFI	AGFI	RMSEA	NFI	CFI	AIC	$\Delta\chi^2$	Δdf
Secondary School Teachers											
M1	235.17	38	.000	.91	.85	.10	.86	.88	291.16		
M1r	184.34	36	.000	.93	.88	.09	.89	.91	244.34	M1r-M1=50.83***	2
M2	236.27	39	.000	.92	.86	.10	.86	.88	290.27	M2-M1=1.1 M2-M1r=51.93***	1 3
M3	156.43	37	.000	.93	.90	.08	.90	.93	214.43	M3-M1=78.74*** M3-M1r=27.91*** M3-M2=79.84***	1 1 2
M4	158.18	38	.000	.94	.90	.08	.91	.93	214.18	M4-M1=76.99*** M4-M1r=26.16*** M4-M2=78.09*** M4-M3=1.75	0 2 1 1

Note: $\chi 2$ = Chi-square; df = degrees of freedom; GFI = Goodness-of-Fit Index; AGFI = Adjusted Goodness–of-Fit Index; RMSEA= Root Mean Square Error of Approximation; NFI= Normed Fit Index; CFI = Comparative Fit Index; AIC = Akaike Information Criterion; $\Delta\chi 2$ = chi-square difference; $\Delta\chi 2$ is significant at *** p<.001.

Figure 1. Theoretical model of professional self-efficacy, challenge and hindrance demands, burnout and engagement.



Note: Only the significant coefficients are depicted. All the coefficients are significant at *** p < .001.

DISCUSSION

The main objective of this research was to analyse the role of professional self-efficacy as a predictor variable of the perception of challenge and hindrance demands, and its repercussion on burnout and engagement in a sample of secondary school teachers (n = 460). This model is an extended version of the Dual Self-Efficacy Model as it indicates a differentiation between the challenge and hindrance-related demands on the psychosocial well-being of workers.

SEM analyses confirmed the extended version of the Dual Self-Efficacy Model and showed a good fit in a sample of secondary school teachers, thus confirming Hypothesis 1 which considered that professional self-efficacy would relate negatively with burnout through hindrance demands in such a way that hindrance demands would mediate the relationship between professional self-efficacy and burnout. In accordance with previous research (Podsakoff et al., 2007), workers can perceive the stressors which may delimit their personal accomplishments and development (i.e., hindrance demands). They perceive such stressors because of low professional self-efficacy. So, these low levels of professional self-efficacy would lead to a drop in levels of energy and in persistence to face demands (i.e., exhaustion), and also to a lack of identification with one's work (i.e., cynicism), just as previous research confirmed (e.g., Llorens et al., 2005; Martínez, Grau, Llorens, Cifre, & Gracia-Renedo, 2005).

Conversely, Hypothesis 2 confirmed the motivational process and considered that professional self-efficacy would relate positively to engagement through challenge demands in such a way that these demands would mediate the relationship between professional self-efficacy and engagement. In accordance with previous research (Podsakoff et al., 2007), workers can perceive stressors which potentially enhance their personal growth and development (i.e., challenge demands) which, in turn, trigger motivational processes. Workers with high levels of professional self-efficacy perceive these stressors. So, high levels of professional self-efficacy would lead to an increase of the levels of energy and activation (i.e., vigor), enthusiasm, pride and inspiration at work (i.e., dedication), and to an elevated state of concentration (i.e., absorption) aimed at fulfilling objectives (Salanova, Martínez, & Llorens, 2005a).

Then, Hypothesis 3 considered that professional self-efficacy would relate negatively with burnout through challenge demands in such a way that these demands would mediate the relationship between professional self-efficacy and burnout. However, the results obtained did not confirm this hypothesis.

Finally, Hypothesis 4 considered that professional self-efficacy would relate positively to engagement through hindrance demands in such a way that hindrance demands would mediate the relationship between professional self-efficacy and engagement. The results

confirmed this hypothesis as the scondary school teachers who possessed high levels of professional self-efficacy perceived low levels of hindrance demands which strengthened their levels of engagement. This hypothesis coincides with previous research in which job demands (i.e., role conflict, lack of autonomy, and lack of social support) may produce positive effects on well-being when workers show high levels of professional efficacy (Salanova, Grau, Llorens, & Schaufeli, 2001).

By way of conclusion, this research has presented an extended version of the Dual Self-Efficacy Model based on the SCT in which we find two different processes: (1) the erosion process where low levels of professional self-efficacy trigger the perception of hindrance demands, thus enhancing burnout (Hypothesis 2), and (2) the motivational process where high levels of professional self-efficacy trigger the perception of high levels of challenge demands (Hypothesis 3) and low levels of hindrance demands (Hypothesis 4), thus enhancing engagement which, in turn, enhances motivated conduct.

Theoretical and Practical Implications

One of the most important theoretical contributions is the evidence provided for the extended version of the Dual Self-Efficacy Model (Salanova et al., 2006) which includes professional self-efficacy as an antecedent variable of the model and the differentiation of challenge and hindrance demands.

The basic contributions suggest that psychosocial well-being is the result of the two processes. Thus, the results suggest that in order to reduce or prevent burnout, and to reduce the perception of hindrance demands, levels of self-efficacy should increase. However, high levels of self-efficacy are necessary to increase or maintain the levels of engagement and to increase the perception of challenge demands.

At a practical level, we recommend organizations to increase the levels of professional self-efficacy among their workers. To achieve this aim, training should include a range of components that are consistent with theoretical keys to construct efficacy; that is, starting with the sources of self-efficacy as its forerunners (Bandura, 1997, 1999, see Martinez & Salanova, 2006).

Study Limitations

One study limitation is the fact that the data have been obtained with self-report questionnaires, so the common method variance could contaminate the results. Therefore, it would be interesting to complete these measures with more objective ones.

Another limitation of the study is that the type of research involved is of a cross-sectional type. This implies that the relationships obtained among professional self-efficacy, challenge and hindrance demands, and the burnout and engagement processes require a careful interpretation without making casual inferences. It is necessary to submit our research model to a longitudinal test with at least three waves. In other words, we need to do further research to check whether professional self-efficacy increases challenge and hindrance demands at Time 1, which would also increase burnout and engagement at Time 2, and would also increase professional self-efficacy at Time 3. This future research would check the existence of negative and positive self-efficacy spirals over time.

Future Research

As a starting point for future research, we may test other occupational samples with the theoretical model proposed in the present study (e.g., police, the medical profession, users of technology, etc.) and transcultural samples, as well as laboratory studies, by using longitudinal designs in all the studies.

However, it is convenient for future studies to include a higher number of challenge demands (e.g., quantitative overload) and hindrance demands (e.g., routine, role ambiguity) because we have only used one challenge demand (i.e., mental overload) and three hindrance demands (i.e., role conflict, lack of autonomy, and lack of social support) in this study. It would also be interesting to extend the number of personal resources at both the individual level (e.g., mental and emotional competences) and the group level (e.g., collective efficacy).

Finally, we have the possibility of testing a socio-cognitive intervention with longitudinal studies for the purpose of improving levels of professional self-efficacy and of verifying their efficacy on the short-, mid- and long–term bases.

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