Journal of Work and Organizational Psychology 31 (2015) 147–154

Journal of Work and Organizational Psychology

www.elsevier.es/rpto

Work-family conflict, self-efficacy, and emotional exhaustion: A test of longitudinal effects

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ARTICLE INFO

Article history:
Received 9 December 2014
Accepted 1 June 2015
Available online 1 October 2015

Keywords:
Work-family conflict
Professional self-efficacy
Emotional exhaustion
Longitudinal study
Army

ABSTRACT

Based upon the revised Job Demands and Resources Model (2008) we aim first, to test the relations between work-family conflict and emotional exhaustion across time and second, to determine the role of professional self-efficacy in this relation. A longitudinal study was conducted in two times, with a year of interval in a Spanish Army sample ($n = 242$). To test the causal relations between work-family and emotional exhaustion three models are tested: normal causal, reversed causal, and causal reciprocal. To test the role of professional self-efficacy in the relation between work-family conflict and emotional exhaustion four alternative models are tested: independence, antecedent, mediation, and independence plus antecedent models. Structural Equation Modeling results confirm the simultaneous reciprocal effects model as it fits the data better than the normal causal or the reverse causal models. This result suggests a spiral process, where work-family conflict predicts emotional exhaustion and at the same time emotional exhaustion increases work-family conflict. Likewise, this article contributes to clarifying the role of self-efficacy in the complex relationship between work-family conflict and emotional exhaustion.

Conflicto familia-trabajo, autoeficacia y cansancio emocional: un análisis de los efectos longitudinales

Palabras clave:
Conflicto trabajo-familia
Autoeficacia profesional
Agotamiento emocional
Estudio longitudinal
Militares

RESUMEN

A partir del modelo revisado Demandas-Recursos Laborales (2008) este artículo pone a prueba dos objetivos: primero, analizar la relación entre el conflicto trabajo-familia y el agotamiento emocional a través del tiempo y, segundo, identificar el papel de la autoeficacia profesional en esta relación. Se trata de un estudio longitudinal con dos recogidas de datos separados por un año en una muestra de militares españoles ($n = 242$). Se ponen a prueba tres modelos sobre la relación longitudinal entre el conflicto trabajo-familia y el cansancio emocional: el modelo causal normal, el modelo causal reverso y el modelo causal recíproco. A su vez, para probar el papel de la eficacia profesional en la relación entre el conflicto trabajo-familia y el cansancio emocional se analizan cuatro modelos alternativos: modelo de independencia, modelo antecedente, modelo de mediación y modelo de independencia más antecedente. Aplicando modelos de ecuaciones estructurales los resultados confirman la hipótesis de que el modelo causal recíproco ajusta mejor que los modelos causal normal o reverso para dar cuenta de las relaciones entre el conflicto trabajo-familia y el agotamiento emocional a través del tiempo. Estos resultados sugieren un proceso de desarrollo en espiral de forma que el conflicto trabajo-familia predice el agotamiento emocional y, a su vez, el agotamiento emocional aumenta la percepción del conflicto trabajo-familia. Asimismo, el artículo contribuye a esclarecer el papel de la autoeficacia en la relación entre el estrés y el agotamiento emocional.

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http://dx.doi.org/10.1016/j.rpto.2015.06.004

Nowadays, in modern societies, work and family are the most important facets in both women and men's lives, and conflictive demands arising from them have turned out to be one of the five emerging psycho-social risks in today's occupational world (European Agency on Health and Safety at Work, 2010). Work-family conflict (WFC) has been defined as a form of inter-role conflict in which both work and family pressures are mutually incompatible domains in some aspects (Greenhaus & Beutell, 1985). Analyses confirm the negative relationship between work-family conflict and various indicators of stress and occupational health (Amstad, Meier, Fasel, Elfering, & Semmer, 2011) and burnout (Lambert, Hogan, & Altheimer, 2010).

Burnout development process has provoked a great deal of interest in researchers and professionals over the last 20 years (Diestel & Schmidt, 2010). Emotional exhaustion and cynicism, the key elements of burnout are considered a response to permanent work stress. The study of burnout is important because it is negatively associated with several organizational outputs such as job satisfaction, organizational commitment, propensity to quit (Alarcon, 2011; Lee, Lim, Yang, & Lee, 2011), and mental health (Linnerooth, Mrdjenovich, & Moore, 2011; Morgan et al., 2011).

Although the conflict between work and family demands has traditionally been linked to research on gender differences (Noor & Zainuddin, 2011), over the last few years its importance has also been shown in other collectives (e.g., professional soldiers) (Vinokur, Pierce, & Lewandowski-Romps, 2009). The military profession has several job stressors that specifically affect it, and also shares some others with the rest of occupations. Among the various stress sources, the ones derived from the relation between family life and work play a prominent role for this occupational group. Traditionally, research shows five main working conditions linked with military life that exert some impact on family life (i.e., risk of injury or death, geographic mobility, separations, residence in foreign countries, and normative pressures). Some recent studies show the relevance of the relationship between work and family. These studies report an increase in job demands and, consequently, in work stress, e.g., more operations and missions in which professional soldiers participate and demographic changes including larger numbers of married and dual-career couples and more family demands. According to Gee (2007), the professional military way of life is becoming more complex, especially considering that in the majority of military couples both members are engaged in their own profession and neither is willing to give up working. Research also suggests that separation due to military service affects family relationships and the mental well-being of military personnel (Martins & Lopes, 2012) and their families (Manon, 2014; Saltzman et al., 2011). More specifically, 52% of the British military professionals surveyed reported dissatisfaction with the impact of their job on their family life. Dolan and Ender (2008) suggested the *paradox of the family*, since family is not only a source of support, but also a source of stress in the American Army. More concretely, these authors consider the family as a group of significant people for providing support and happiness but also stress and tension, especially in young unmarried soldiers. In their longitudinal study, Bridger, Brasher, Dew, and Kilminster (2008), found a significant relationship between work-family conflict and psychological tension. In another longitudinal research conducted on 257 police officers, Hall, Dollard, Tuckey, and Winefield (2010) back up the hypothesis that job demands increase conflict both in labor and family contexts causing an increment in emotional exhaustion. They explain these effects based on the Theory of Conservation of Resources (Hobfoll, 2002), as high levels of work demands consume personal resources as well as increase exhaustion levels. In fact, several researchers consider this theory as the best model in order to explain burnout and some studies have also demonstrated its application to work-family interaction (Langballe, Melbye, Siw, Aasland, & Falkum, 2011).

According to COR Theory (Hobfoll, 2002), emotional exhaustion is the first sign in the process of burnout development (Alarcon, 2011; González-Romá et al., 1998). Over the last years a lot of longitudinal studies have been carried out on burnout but few of them have linked it with work and family demands. Innstrand, Langballe, and Falkum (2011) found that conflict between family life and work was one of the stressors related to burnout two years after the first data gathering, whereas another study in a sample of civil servants Lizano and Barak (2012) found that job stress and work-family conflict are associated with emotional exhaustion development.

The present paper aims to shed some light on the relation between work-family conflict, emotional exhaustion, and professional efficacy over time in a sample of Spanish soldiers.

Directionality and Reciprocity between Work-family Conflict and Emotional Exhaustion Overtime

According to Zapf, Dormann, and Frese (1996) longitudinal studies represent a breakthrough since they allow casualty and directionality analysis to be made among variables, something that is not possible in cross-sectional studies, which are more frequent in psychological research. Across time it might be possible that a reciprocal influence between two variables generate spiral relationships between them. For instance, with regard to the relationship between work-family conflict and emotional exhaustion, Hall et al. (2010) supported the hypothesis that emotional exhaustion increases the perception of work-family conflict, namely *reverse causality* and quote various studies in this direction. Thompson, Kirk, and Brown (2005) pointed out that occupational stress influences family environment from the emotional exhaustion in their members so that the most exhausted ones also experience more obstacles to fit work and family together. Mikkelsen and Burke (2004), in a study with 766 police agents also found a reverse relationship, so that exhaustion and cynicism arose as powerful predictors of work-family conflict. Furthermore, Innstrand, Langballe, Espnes, Falkum, and Aasland (2008) in a survey of 2,235 people from eight different professions reported results in line with the bi-directionality of the relationship between stress derived from work-family relations and emotional exhaustion. Nevertheless, more research is needed with regard to reverse causality. COR Theory (Hobfoll, 2002), suggests that a reverse causal effect is possible between higher levels of burnout, so that burnout employees could perceive their jobs as increasingly stressful (Melamed, Armon, Shirom, & Shapira, 2011). In a longitudinal study with 257 police officers, Hall et al. (2010) using structural equations found some support to the simultaneous reciprocal effects as the most complete model that fits best, in contrast with the normal causal model and the reverse causality model. Carlson, Ferguson, Hunter, and Witten (2012), in their study on abusive supervision of 328 workers, conclude that relationships between work-family conflict and burnout are reciprocal and point out at a loss spiral, as COR theory postulates.

The Role of Self-efficacy in the Relationship between Work-family Conflict and Emotional Exhaustion

The Demands and Resources Model (JD-R) by Bakker and Demerouti (2008) is one of the most relevant explanatory models of the stress influence on work and occupational health. Current meta-analytical studies show the relevance of the reformulated JD-R model to predict burnout (Crawford, Le Pine, & Rich, 2010; Lizano & Barak, 2012; Nahrgang, Morgeson, & Hofmann, 2010). The JD-R model consider various individual as well as

organizational variables as resources, and self-efficacy is one of the most analyzed.

From the Social Cognition Theory, self-efficacy is defined as an individual's belief in his/her own skills to organize and execute the required course of action so that the aims can be accomplished (Bandura, 1997). On the other hand, professional self-efficacy (Cherniss, 1993), one of the self-efficacy facets, is defined as an individual's belief in his/her own capability to perform his/her work roles properly.

Direct relationships between self-efficacy and burnout have been confirmed in several meta-analyses (Aloe, Amo, & Sanan, 2014), but self-efficacy seems to play a more complex role in the stress process than has been assumed so far. In recent literature, empirical evidence has been found for several possible self-efficacy roles: (a) as an indirect predictor of strain via stress as mediator (Wang, Hall, & Rahimi, 2015), (b) as a mediator between stress and strain (Yu, Wang, Zhai, Dai, & Yang, 2014), and (c) as a moderator of the stress and strain relationship (buffering effect; Schwarzer & Hallum, 2008).

In the military context, the buffering effect of *self-efficacy* has been confirmed with regard to several demands and various health outcomes (Stetz, Stetz, & Bliese, 2006) and performance (Brusso, Orvis, Bauer, & Tekleab, 2012). Specifically, Stetz et al. (2006) showed the importance of *self-efficacy* when high levels of stress are combined with a low level of support from the supervisor. In an earlier paper, Jex and Bliese (1999) found that both *self-efficacy* and collective-efficacy buffered the relationship between several stressors and the health in the expected direction.

In this paper we focus on the analysis of the roles of self-efficacy in the causation paths of work-family conflict and burnout. This approach is in line with the contribution of Michel, Michelson, Pichler, and Cullen (2010), who analyzed similar questions concerning the role of social support, in an attempt to shed some light on the relationships between self-efficacy, work-family conflict, and emotional exhaustion, testing four different models: independence, mediation, antecedent, and independence plus antecedent models. The testing of these models will complement the analysis of the directionality of longitudinal relationships between demands, resources, and outcomes (normal causal model, reversed causal model, and reciprocal causal models).

To test the directionality models presented above the following hypotheses are formulated:

Hypothesis 1a (*H*1a): Work-family conflict at Time 1 will positively predict emotional exhaustion at Time 1 and Time 2 (normal causal model).

Hypothesis 1b (*H*1b): Professional self-efficacy at Time 1 will negatively predict emotional exhaustion at Time 1 and Time 2 (normal causal model).

Hypothesis 2a (*H*2a): Emotional exhaustion at T1 will positively predict work-family conflict at T2 (reversed causal model).

Hypothesis 2b (*H*2b): Emotional Exhaustion at T1 will negatively predict professional self-efficacy at T2 (reversed causal model).

Hypothesis 3 (*H*3): The causal reciprocal model integrating the relationships hypothesised in the normal causal model and the reversed causal model will present a significantly better fit than the ones presented by each of the models independently.

Moreover, to test the role of professional self-efficacy in the cross-sectional and longitudinal relationships between work-family conflict and emotional exhaustion, four alternative models depicted in Figure 1 will be tested. No specific hypothesis is formulated for these analyses given their exploratory characteristics: independence model, mediation model, antecedent model, and independence plus antecedent model.

Method

Design

Data gathering was carried out over two periods of time one year apart, ensuring that the seasonal influence remained stable (Zapf et al., 1996). These data gatherings were carried out through a voluntary questionnaire filled out by the soldiers during working hours. In order to ensure the anonymity and at the same time to conduct the longitudinal study, soldiers were identified by a password known only by them.

Participants

The sample consisted of 242 subjects. Average age is 23.47 years (*SD* = 3.68), 84.7% being men. With regard to their civil status, 20.6% are married or live as couples and 76% are single at T1. With regard to their educational level 24% have achieved primary studies, 72.3% secondary school or vocational training, and 1.2% a university degree. Regarding their military rank, 64.4% are soldiers and 35.5% sergeants.

Data was collected in Cerro Muriano (Córdoba, 84.3%), Gerona (9.1%), and in the Parachute Brigade of Madrid (6.6%). After getting the official authorization to conduct this research, questionnaires were administered by the research team, who visited each military facility to directly obtain cooperation and gather the data. Once informed, all the subjects explicitly consented to take part in this research.

Instruments

In order to test stress from the conflict between work and family, a sub-scale of the Occupational Stress Indicator (OSI) by Cooper, Sloan, and Williams (1988), translated into Spanish by our research team, was applied. Originally the subscale consisted of eleven items, but one item was removed because of its low contribution to the scale reliability. Answers are rated in a Likert scale ranging from 1 (*non pressure source*) to 6 (*high pressure source*). Reliability alpha was .78 at T1 and .70 at T2.

The Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1996) is the instrument most frequently applied to burnout measurement. Emotional exhaustion was measured by MBI-GS, translated into Spanish by Gil-Monte (2002). It is made up of five items (e.g., "Because of my work, I feel emotionally exhausted"). Answers were registered in a Likert type scale ranging from 0 (*never/no time*) to 6 (*always/everyday*). Reliability alpha was .86 at T1 and .85 at T2.

Professional self-efficacy was measured by the Professional Efficacy sub-scale of the Spanish version (Gil-Monte, 2002) of the MBI-GS (Maslach et al., 1996). This construct is part of Bandura's (1997) Social Cognitive Theory. This construct is related with efficacy belief and considered a self-efficacy measure in work settings. This construct was included because it is similar to a personality variable such as self-efficacy or professional efficacy (Purvanova & Muros, 2010; Schaufeli & Salanova, 2007). The scale consists of six items (e.g., "I think I'm good at my work") and answers were recorded in a Likert scale ranging from 0 (*never/no time*) to 7 (*always/everyday*). Reliability alpha was .71 at T1 and .76 at T2.

Data Analyses

In order to test the formulated hypotheses, several analyses were carried out applying Structural Equation Modeling (SEM) with several path analyses on the observable variables by means of an AMOS 21 programme (Arbuckle, 1997). Path Analysis presents a theoretical model with a full set of equations, which contrasts

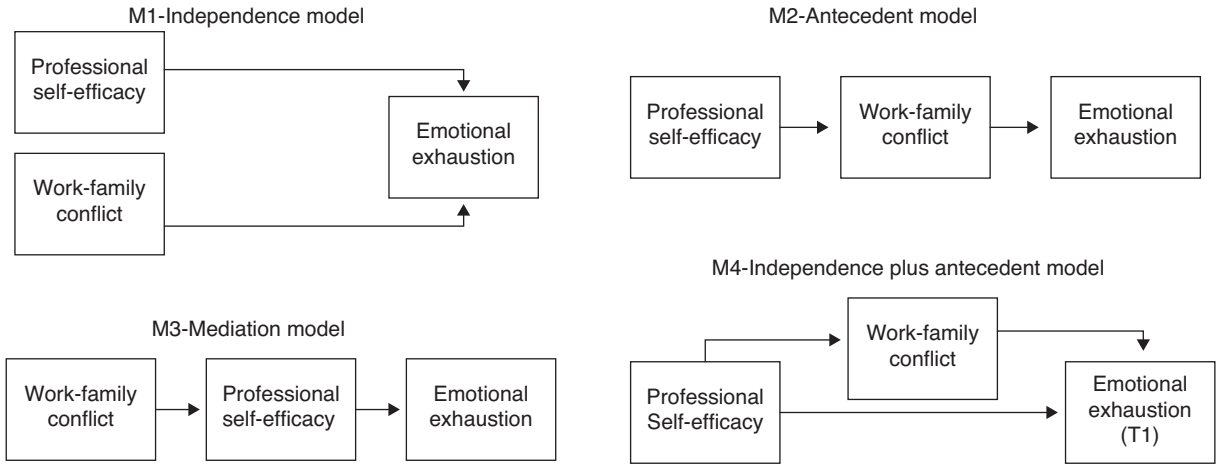

Figure 1. The roles of self-efficacy in the relationship between work family conflict and emotional exhaustion.
Note. These models in our study will be tested paying attention to the cross-sectional as well as longitudinal relationships and testing the causal reciprocal relationships.

possible relationships between observable variables. Generally speaking, the observable variables are non-error measures, except for longitudinal studies such as the present one (Lévy Manguin & Varela, 2006). Specifically, four models were contrasted. Taking the stable model of synchronous relationships between variables as reference, three additional models were studied: the normal causal model (WFC → emotional exhaustion & professional self-efficacy → emotional exhaustion), the reverse causal model (WFC ← emotional exhaustion & professional self-efficacy ← emotional exhaustion), and the reciprocal causal model (WFC ↔ emotional exhaustion ↔ professional self-efficacy):

- *Stable Model* (M0). This model tests temporal stability and synchronous correlations. Temporal stability was defined as self-correlations between the variables at T1 and T2.
- *Causal Model* (M1). This includes the relationships over time from WFC at T1 to emotional exhaustion and self-efficacy at T2 as well as from self-efficacy at T1 to emotional exhaustion at T2.
- *Reverse Model* (M2). This is similar to M1 but including the structural effects over time from emotional exhaustion at T1 to WFC at T2 as well as self-efficacy at T2, without the causal relations of M1.
- *Reciprocal Model* (M3). This model tests the reciprocal relationships between WFC, self-efficacy, and emotional exhaustion, including each and every relationship from the previous models.

In addition to this, and in order to clarify the role of self-efficacy in the relationship between WFC and emotional exhaustion, four alternative models were compared (Figure 1):

- *Independence Model* (M1). In this model, self-efficacy is conceptualized as an independence antecedent of emotional exhaustion. Self-efficacy acts directly as an antecedent of emotional exhaustion, but is not related to WFC. Consequently, both environmental stressors and self-efficacy could have a major effect on emotional exhaustion. Most of the literature on work-family conflict supports this model.
- *Antecedent Model* (M2). This model conceptualizes self-efficacy as an antecedent of WFC, and also predicts emotional exhaustion. Self-efficacy has a direct effect on stress and an indirect effect on emotional exhaustion through stress dimensions. Accordingly, the premise behind this model suggests that individuals who have a stronger sense of self-efficacy will perceive lower levels of WFC and, subsequently, lower levels of emotional exhaustion.
- *Mediation Model* (M3). Self-efficacy is conceptualized as a mediating variable in the relationship between WFC and emotional exhaustion. Thus, self-efficacy acts as an intervening variable between the causal mechanisms of WFC stressors and emotional exhaustion. When stressors are perceived, self-efficacy is applied in order to reduce the effect of stress levels on emotional exhaustion.
- *Antecedent-Independence Mix-Model* (M4). This model combines the antecedent effects of self-efficacy on WFC with the independence effects (direct) on emotional exhaustion.

For each path analysis the Maximum-Likelihood Estimation (MLE) method was carried out.

The chi-square test assesses the magnitude of the discrepancy between the sample and the fitted covariance matrices (a significant test points to a poor fit). However, in bigger samples, a small discrepancy could result in rejecting the model. Consequently, model fit was also assessed using the root-mean square error of approximation (RMSEA), the comparative fit index (CFI) and the normed fit index (NFI) (see Bollen & Long, 1993). RMSEA values over .10 are usually interpreted as a sign of an unacceptable model fit whereas values below .08 indicate an acceptable model fit, and values below .05 indicate a closer model fit. Both CFI and NFI are bound between 0 and 1 and values between .90 and .95 indicate an acceptable model fit, with values over .95 indicating a close model fit. Expected cross validation index (ECVI) was used to compare alternative models using one sample. The lower the value of ECVI, the more stable the model (Browne & Cudeck, 1989).

Since a series of nested models were tested, chi-square difference test (likelihood ratio) ($\Delta\chi^2$) was used to compare the fit for two nested models (Bentler & Bonett, 1980). However, once again, the performance of the chi-square difference test was also affected by the sample size so that the goodness-of-fit indexes were also estimated to assess model fits. Following the recommendations of Chen (2007) and Cheung and Rensvold (2002), the change in the value of CFI was also estimated (i.e., ΔCFI). A value of ΔCFI smaller than or equal to .01 indicates that the null hypothesis of measurement invariance should not be rejected.

Results

Table 1 provides the means, standard deviations, correlations, and internal consistency (Cronbach's alpha) for all variables. As can be seen, reliability coefficients are above .70, similar to the ones

Table 1
Means, standard deviations, correlations and reliabilities at T1 and T2.

	Mean	*SD*	Alpha	1	2	3	4	5
Time 1								
1. WFC	3.56	0.87	.78	-				
2. Self-efficacy	4.46	1.06	.71	−.14*	-			
3. Exhaustion	2.70	1.41	.86	.37**	−.31**	-		
Time 2								
4. WFC	3.45	0.81	.70	.46**	−.15*	.29**	-	
5. Self-efficacy	4.35	1.12	.76	.03	.48**	−.15*	−.13*	-
6. Exhaustion	2.45	1.31	.85	.25**	−.07	.44**	.39**	−.21**

Note. Scale: 1-6 for WFC and 0-6 for self-efficacy and emotional exhaustion.
*$p < .05$, **$p < .01$, ***$p < .001$.

obtained in other meta-analytical studies (Aguayo, Vargas, de la Fuente, & Lozano, 2011; Wheeler, Vassar, Worley, & Barnes, 2011).

Correlations show significant relationships between variables in the same direction of the formulated hypotheses, WFC and emotional exhaustion at both times (T1 and T2). Correlations between professional self-efficacy and WFC and emotional exhaustion are negative at both times.

As mentioned earlier, in order to test hypotheses as well as to identify the model that best explains the directionality of the relationships between variables, two sets of four models have been compared. The goodness of fit indexes is shown in Table 2 and Table 3.

In general, four causal models showed a good fit, since both CFI and NFI yield a value close or above .95, RMSEA is lower than .08, and the ratio between chi-square and degrees of freedom is lower than 3.

Causal Model (M1) fitted better than *Stable Model* (M0), $\Delta\chi^2$ = 6.159 (1), p = .01, and ΔCFI = .020. This difference was considered significant since ΔCFI > .01. These results pointed to the importance of including cross-lagged effects from WFC at T1 to explain emotional exhaustion at T2 With regard to *Reverse Model* (M2), its adjustment was better than *Stable Model* (M0), $\Delta\chi^2$ = 3.852 (1), p = 05 and ΔCFI = .011, but worse than *Causal Model* (M1), $\Delta\chi^2$ = 2.307 (1), p = 20 y ΔCFI = .009. According to these results the model including cross-lagged effects fitted better than the model which included temporal stability and synchronic effects.

On the other hand, *Reciprocal Model* (M3), that depicts reciprocal and simultaneous relationships over time, fitted better than *Stable Model* (M0), $\Delta\chi^2$ = 10.011 (2), p = .01 and ΔCFI = .031, *Causal Model* (M1), $\Delta\chi^2$ = 3.852 (1), p = .01 and ΔCFI = .011, and *Reverse Model* (M2), $\Delta\chi^2$ = 6.159 (1), p = .01 and ΔCFI = .020. In line with these results, the model that best fitted these empirical data is the *Reciprocal Model* (M3).

With regard to the relationship between self-efficacy, work-family conflict and emotional exhaustion, four models were compared (Figure 1).

From the fit indexes assessed, only the *Independence Model* (M1) and *Independence plus Antecedent Model* (M4) showed adequate results. On the other hand, Model 4 adjusts better than M1, $\Delta\chi^2$ = 3.507 (0), p = .05 and ΔCFI = .014, M2, $\Delta\chi^2$ = 29.401 (2), p = .001, and ΔCFI = 0.105, and M3, $\Delta\chi^2$ = 42.624 (2), p = .001 and ΔCFI = .156. A double role of self-efficacy both as a preventive antecedent of work family conflict and as a strong direct reducer of emotional exhaustion was confirmed.

As a result of the comparative analyses of these two series of models, the final solution that best fits the data is the *Reciprocal Model* (M3) depicted in Figure 2.

According to the formulated hypotheses, stress caused by family-work conflict shows direct positive effects on emotional exhaustion levels both synchronous at T1 and T2 and cross-lagged (β = .16, t = 2.48, p = .013). From these results *hypothesis 1a* can be accepted. With regard to emotional exhaustion at T1, this variable shows a positive cross-lagged effect on work-family conflict at T2 (β = .12, t = 2.00, p = .04), confirming *hypothesis 2a* and the results obtained also partially support the reciprocal and simultaneous relationships between the variables WFC and emotional exhaustion as posited by *hypothesis 3*. That is, the reciprocity effects (*hypothesis 3*) are partially proved because they are not significant longitudinal causal relations of professional self-efficacy on emotional exhaustion and of emotional exhaustion in T1 on self-efficacy in T2. About

Table 2
Goodness of fit indexes (causal models).

Models	χ^2	*df*	*p*	χ^2/df	$\Delta\chi^2$	Δ*df*	*p*	NFI	CFI	ΔCFI	ECVI	RMSEA
M0 - Stable Model	15.139	6	.019	2.523				.945	.965		.237	.079
M1 - Normal Causal Model	8.980	5	.110	1.796	M0-M1 = 6.159	1	.01	.967	.985	M0-M1 = .020	.220	.057
M2 - Reverse Causal Model	11.287	5	.046	2.257	M0-M2 = 3.852	1	.05	.959	.976	M0-M2 = .011	.229	.072
					M1-M2 = 2.307	0	.20			M1-M2 = .009		
M3 - Reciprocal Causal Model	5.128	4	.274	1.282	M0-M3 = 0.011	2	.01	.981	.996	M0-M3 = .031	.212	.034
					M1-M3 = 3.852	1	.05			M1-M3 = .011		
					M2-M3 = 6.159	1	.01			M2-M3 = .020		

Table 3
Goodness of fit indexes about role of professional self-efficacy.

Models	χ^2	*Df*	*p*	χ^2/*df*	$\Delta\chi^2$	Δ*df*	*p*	NFI	CFI	ΔCFI	ECVI	RMSEA
M1-Independence	8.63	4	.070	2.15				.96	.98		.22	.06
M2-Antecedent	34.52	6	.001	5.75	M1-M2 = 25.89	2	.001	.87	.89	M1-M2 = .09	.31	.14
M3-Mediator	47.75	6	.001	7.95	M1-M3 = 39.11	2	.001	.82	.84	M1-M3 = .14	.37	.17
					M2-M3 = 13.22	0	.001			M2-M3 = .05		
M4-Antecedent + Independence	5.12	4	.270	1.28	M1-M4 = 3.50	0	.050	.98	.99	M1-M4 = .01	.21	.03
					M2-M4 = 29.40	2	.001			M2-M4 = .10		
					M3-M4 = 42.62	2	.001			M3-M4 = .15		

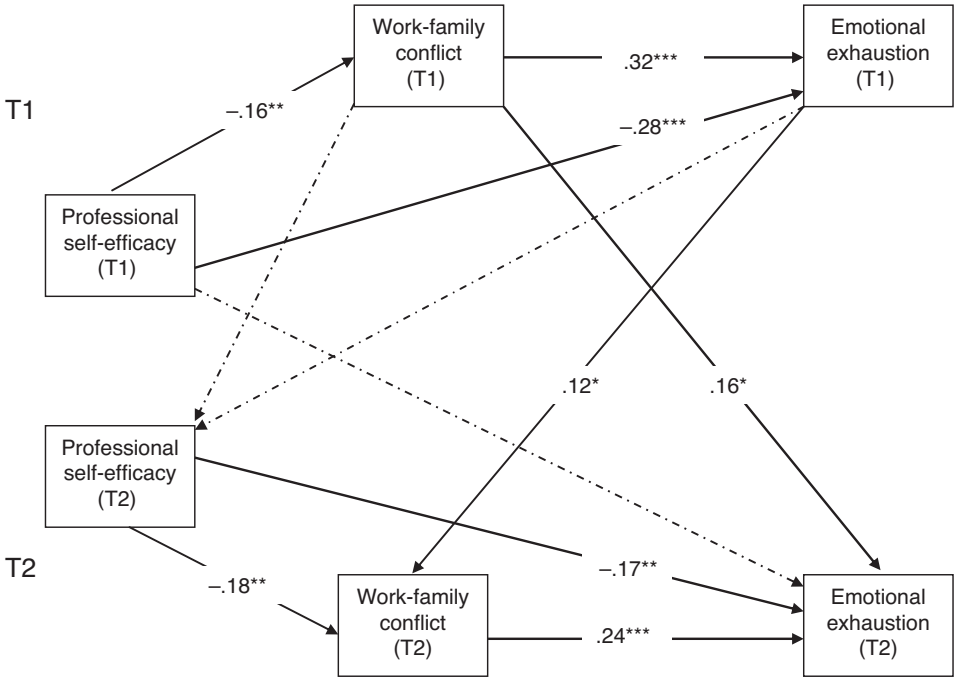

Figure 2. The final model.
*$p < .05$, **$p < .01$, ***$p < .001$.

hypotheses 1b y 2b, self-efficacy plays a double role both as a preventive antecedent of WFC at T1 ($\beta = -.16$, $t = -2.61$, $p = .009$) and at T2 ($\beta = -.18$, $t = -2.96$, $p = .003$) and as a strong direct antecedent that reduces WFC and through this variable has a negative effect on emotional exhaustion at T1 ($\beta = -.28$, $t = -5.14$, $p = .001$) and at T2 ($\beta = -.17$, $t = -3.14$, $p = .002$). However, the hypothesized direct ($\beta = -.09$, $t = 1.31$, $p = .18$) and reverse ($\beta = -.05$, $t = -.74$, $p = .45$) cross-lagged effects of self-efficacy have not been confirmed as depicted in the Model 3 (Figure 2). That is, the effects are partially proved because the longitudinal relationship of self-efficacy on emotional exhaustion and the relationship between emotional exhaustion in T1 and self-efficacy in T2 are not significant.

To sum up, the hypotheses have been partially confirmed. It supports the idea of "*spiral of gains and losses*" or reciprocal and simultaneous relationships between WFC and emotional exhaustion (WFC > emotional exhaustion > WFC). Moreover, self-efficacy plays an antecedent role on WFC and an indirect effect, through WFC, on emotional exhaustion, but its reciprocal and longitudinal effect with emotional exhaustion has not been proved.

Discussion

This is the first study to research the problem of work-family conflict among military personnel in Spain with a longitudinal approach. It analyzes the relationship between work-family conflict, professional self-efficacy, and emotional exhaustion. The lack of longitudinal studies on this topic bears out this interest.

According to our findings, soldiers that suffered high stress caused by work-family conflict have shown higher emotional exhaustion, and this effect remains one year after the first data gathering took place *(hypothesis 1a)*. This confirms the causal model (Zapf et al., 1996), widely supported by research about the relationship between work-family conflict and burnout (Bridger et al., 2008; Hall et al., 2010; Lizano & Barak, 2012).

Moreover, a reverse effect between emotional exhaustion and perceived work-family conflict has also been confirmed *(hypothesis 2a)*. That is to say, emotionally exhausted soldiers also tend to undergo more stress from work-family conflict (Hall et al., 2010; Innstrand, Langballe, Espnes, Falkum, & Aasland, 2008). However, only a few longitudinal studies on occupational stress and health have explored inverse and reciprocal causal relationships between these variables, so it was also necessary to explore the possibility of reverse causality (Melamed et al., 2011). Our results corroborate the simultaneous reciprocal relationships between work-family conflict and emotional exhaustion *(hypothesis 3)*. This finding is the most important contribution of the present work.

The influence of professional self-efficacy on emotional exhaustion, in line with the Social Cognitive Theory (Bandura, 1997), has been partially proven. This means that people who perceive themselves as more self-effective show better health and less burnout (Schaufeli & Salanova, 2007). Innstrand et al. (2011) suggest that a combination of target orientation, a strong self-efficacy feeling, and values congruency seems to have a protective effect against burnout and thus supports the hypothesis that soldiers who see themselves as the most effective show lower levels of emotional exhaustion. Likewise, an antecedent effect of self-efficacy on work-family conflict was found, underlying the double effect of self-efficacy on emotional exhaustion: one direct and another indirect through its reduction effect on work-family conflict. These findings could shed some light on the role played by self-efficacy in order to explain the relationships between work-family conflict and emotional exhaustion. Although the low amount of variance explained on the emotional exhaustion suggests the influence of other factors, our results are within acceptable limits (Innstrand et al., 2008; Mikkelsen & Burke, 2004; Zapf et al., 1996).

Nevertheless, this study has some limitations. Firstly, most people from our sample are young, mainly male and not living in couple. In order to overcome this limitation that could negatively influence the generalization of these results, further studies must be carried out with more heterogeneous samples, including higher and more disperse scores regarding to the analyzed variables.

Another limitation is that work-family conflict is analyzed as a global measure without distinguishing its bi-directionality: from work to family and from family to work, as it has been proposed by some authors (e.g., Lambert & Hogan, 2010). It would also

be interesting to design a professional self-efficacy scale adapted to measuring work-family conflict in military contexts. Other antecedents of burnout such as engagement with the profession, job involvement, or ability to control should be introduced in future studies as several meta-analyses have pointed out (Kenworthy, Fay, Frame, & Petree, 2014; Lee et al., 2011). Moreover, the level of education, the working hours, the professional status, and the gender should also be taken into consideration as control variables, because of their relationship with emotional exhaustion (Lim, Kim, Kim, & Lee, 2010). Finally, only using self-report measures could increase common variance due to the evaluation method. Future studies should use other data gathering methods.

Despite the earlier mentioned limitations, the strength of this paper lies in its longitudinal design and the results about reciprocal and simultaneous effects between work-family conflict and emotional exhaustion. Likewise, it contributes to clarifying the role of self-efficacy as a personal resource, influencing stress caused by emotional exhaustion. On the one hand, it confirms, as the majority of studies do, its important effect on emotional exhaustion, one key dimension of burnout, and, on the other, its preventive effect on stress that is related in turn to emotional exhaustion.

Among the implications of these findings from an applied perspective, the convenience of designing stress prevention programs as a way to prevent burnout development should be underlined. Firstly, stress due to work-family conflict should be considered an important stressor within military contexts, thereby conciliation programs should be developed in order to overcome its negative effects. Secondly, when stressful situations caused by work-family conflict are difficult to control, training programs focused on reducing emotional exhaustion could be an adequate strategy. These training programs could be an appropriate strategy in order to improve individual and professional self-efficacy and should be provided on a repetitive base since their effect might only be circumstantial, since self-efficacy could change over time, as pointed by this research.

Conflict of Interest

The authors of this article declare no conflict of interest.

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