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AN EXPLORATORY STUDY OF  
MANAGERIAL STRESS IN SPAIN

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*RESEARCH PAPER No 399 BIS*  
*October, 1999*

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## **AN EXPLORATORY STUDY OF MANAGERIAL STRESS IN SPAIN**

### **Summary**

An exploratory, quantitative study among 115 Spanish managers shows that Spanish managers report more mental strain than most managers in other parts of the world who participated in a similar study. Explanations are: long working hours, high work stress, and work-family conflict. Coping, health habits, personality and work environment differentiate healthy from unhealthy managers.

### **Abstract**

The purpose of this exploratory study is to chart the existing Spanish literature on managerial stress, and to report some first tentative results in this field in Spain. The study is based on a literature study and a quantitative study using a sample of 115 Spanish managers. The results are based on data collected for the Collaborative International Study on Managerial Stress (CISMS).

The review of the literature on work stress in Spain reveals that, to date, most studies on work stress have used health professionals as respondents, and that there is a general lack of research on managerial stress in Spain. Cross-cultural studies on work stress show that there is a clear need for nation-specific research.

We compared the results we obtained from our Spanish sample with those obtained in other countries that took part in the CISMS-study. We found that Spanish managers report higher levels of mental strain than their colleagues in other countries. An explanation can be found in longer working hours and higher work stress, which in turn cause work-family conflict. An important implication is that mental strain has a significant influence on managers' performance. Cluster analysis suggests that coping and health habits can make a difference, although personality and work environment are also important in differentiating healthy from unhealthy managers.

## AN EXPLORATORY STUDY OF MANAGERIAL STRESS IN SPAIN

### 1. Introduction

Stress management and managerial stress are relatively new topics in Spain. Although the Spanish Government has incorporated the European Directive that provides a framework for health and safety in the workplace (89/391/EEC) into national legislation (Law of 8/11/1995 on the Prevention of Work-Related Risks—“*Prevención de Riesgos Laborales*”), few specific initiatives focusing on stress management have been taken since.

Our extensive literature search of the electronic databases in the fields of psychology (PSYCHLIT) and management (ABI/INFORM) brought to light a series of articles on stress in Spain, mostly in the clinical domain. In these studies, stress is seen mainly in relation to medical or biochemical indicators of mental disorder and ill-health, such as salivary cortisol, depression, suicide, schizophrenia and alexithymia. Another line of research is concerned with Post Traumatic Stress Disorder (PTSD). We also found a number of studies that explore the use of stress management techniques to deal (cope) with a wide range of unpleasant clinical conditions such as Crohn’s disease, cancer, hypertension, or the implantation of an intrauterine device. Yet another line of research is aimed at adapting or validating stress-related questionnaires. In the literature review that follows we will not consider the “clinical” research on stress, nor the questionnaire validation studies. Instead, we will concentrate on cross-cultural studies of work stress.

Specific research into work stress in Spain is limited, and there is a general lack of studies of managerial stress and organizational stress management. Most Spanish studies on work stress are concerned with healthcare professionals or related topics such as stress, burn-out, or job satisfaction among teachers and healthcare professionals (Mira, Vitaller, Aranaz, Buil & Herrero, 1993; Navas-Luque, 1988; Orozco & García, 1993; Reig-Ferrer & Caruana-Vano, 1990; Rodríguez-Marin, Mira, Aranaz & Vitaller, 1992; Zurriaga, Bravo-Sánchez, González-Navarro & Rodríguez-Molina, 1994). We found some other studies on stress that concentrate on the suppressant effect of social support on the relationship between stressful life events and depression (Herrero & Musitu, 1998), and tactics of organizational socialization and role stress during the first work experience (Palali, Osca & Ripoll, 1995).

The only study of stress in Spanish managers that we found is by Merino & Forteza (1993), who looked at the differential effects of role conflict and role ambiguity in middle managers (1). They conclude that middle managers are much more affected by role conflict

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(1) These authors refer in their bibliography to two unpublished doctoral theses, both at the Universidad Católica de Madrid. We did not receive these works in time for this article:

- Ares, A. (1991). *El rol del mando intermedio y el estrés laboral*.
- Merino, M.D. (1992). *El conflicto de rol en mandos intermedios*.

than by role ambiguity. However, the study is more concerned with the construct validity of the measures than with the specific types of stress Spanish managers experience. To learn more about this topic, we need to concentrate on cross-cultural studies of work stress.

The few comparative data on work stress that have been collected in Spain were collected within the framework of broader international studies focused on cross-cultural comparisons of organizational stress and coping (Bhagat, O'Driscoll, Babakus, Frey, Chokkar, Ninokumar, Pate, Ryder, Fernandez *et al.* 1994), role stress (Peterson *et al.*, 1995; Van de Vliert & Van Yperen, 1996; Peterson & Smith, 1997), and stress and relaxation (Anonymous, 1995).

The globalization of the economy and the emergence of multinational organizations have stimulated cross-cultural studies of employee attitudes, well-being and behavior. Occupational stress is one of the topics that have been dealt with. A first study (Bhagat, O'Driscoll, Babakus, Frey, Chokkar, Ninokumar, Pate, Ryder, Fernandez *et al.*, 1994) examines coping styles, decision latitude, organizational stress and psychological strain in 7 countries in order to compare the relative efficacy of problem-focused versus emotion-focused coping styles and decision latitude on organizational stress–psychological strain relationships. Data were gathered from managers and staff members of financial service and high-tech organizations in 7 countries: US, India, West Germany, Spain, New Zealand, Australia, and South Africa. It was found that organizational stress was consistently positively correlated—beyond a significance level of 0.01—with experience of strain in all of the seven countries. The magnitude of the correlations was fairly high, ranging from 0.41 (New Zealand) to 0.68 (South Africa). Problem-focused coping had significant independent effects in five countries (US, India, Germany, Spain and Australia). Emotion-focused coping had neither an independent effect nor a moderating effect in any of the seven countries. Finally, decision latitude had an independent effect in all of the seven countries studied. Once again, however, no moderating effect was observed.

Cooper (1984) studied executive stress in ten countries. He found that executives working in countries characterized by rapid economic, technological and social change tended to report more mental health problems and job dissatisfaction than their colleagues in developed countries.

Kirkcaldy (1993) studied job stress and satisfaction among international police officers in Denmark, Finland, Germany, Ireland, the Netherlands, Spain, England-UK and USA. Scores of 30 police officers on the Occupational Stress Indicator differed from British norms on organizational structure and climate, home and work interface, and relations with others. The officers showed internal control and individual influence. The most important coping styles seemed to be time management and home support. Kirkcaldy & Cooper (1994) compared senior police officers from Berlin and Northern Ireland. German officers reported higher stress levels but used more varied coping strategies than Irish officers.

Peterson and colleagues found that role stress varies substantially more by country than by demographic and organizational factors (Peterson *et al.*, 1995). This is a clear sign that research findings resulting from predominantly Anglo-Saxon studies cannot simply be generalised to other countries such as Spain, and that nation-specific studies are needed. Peterson and his colleagues found that, overall, managers from high-power-distance countries such as the Latin-American and Far Eastern countries report greater role overload than managers from low-power-distance countries such as the Anglo, Germanic and Scandinavian countries. But the opposite is found for role ambiguity. It is a trade-off: reducing ambiguity through hierarchy and rules can come at the cost of overload. Spain seems to be situated

somewhere between the two groups, with intermediate but above-average scores on both role ambiguity and role overload. On role conflict Spain scores lower than average.

Later, other researchers criticized the Peterson *et al.* study, showing that the relationship between power distance and role overload might be an artefact of the relation between role overload and ambient temperature ( $r = 0.55$ ,  $p < 0.01$ ) (Van de Vliert & Van Yperen, 1996). This relationship can be explained by two possible theories: the heat-affect-overload theory, which claims that heat leads to the disruption of the thermoregulatory system, which in turn leads to negative affect and finally to experiences of role overload; and the climate-culture-overload theory, which consists of the association of cold climate, positive goal interdependence, cooperative behavior and social support, and thus reduced work overload. Taking into account Spain's average ambient temperature of 19° C., which is slightly under the average of 21° C., this indeed offers an explanation of Spain's moderate score on role overload (2.98), which is slightly above the average (2.78).

In a recent paper, however, Peterson & Smith (1997) reject Van de Vliert & Van Yperen's objections with a new analysis of their dataset, which in the meantime has been extended with data from more countries, showing clearly that the relationship between power distance and role overload remains after controlling for ambient temperature, whereas the relationship between ambient temperature and role overload drops to nonsignificant levels when controlled for power distance. Another argument is that most respondents of the study work in climatized environments.

A survey commissioned by ARISE and conducted by Harris Research looked at levels of stress among nearly 5,300 office workers in 16 countries and investigated what people do to unwind, both in and out of the office (*Anonymous*, 1995). It revealed that work is the most important cause of stress in many countries around the world (54% of the respondents reported work as a current cause of stress), ahead of money worries (29%), family and domestic relationships (20%), or personal/family ill-health or bereavement (20%). Almost one in five respondents admitted to having taken time off work because of stress. Almost half of the respondents (46%) said that their level of stress at work had increased during the previous two years. In this study, Spain takes a remarkable position, with maximum or minimum scores on a lot of variables. It has the lowest percentage of office workers who say work is a current cause of stress in their lives (38% vs. average of 55%) and admit to having taken time off because of stress (5% vs. average of 18%). On the other hand, it has one of the highest percentages (37% vs. average of 34%) of respondents who claim that, given a choice, they would not pick the same career again. Also interesting was the fact that the Spanish respondents seemed to have a completely different way of coping with stress at work. They scored lowest on seeking social support (61% vs. average 82%), varying jobs during the day (38% vs. average of 60%), going for a walk during lunch time (29% vs. average of 45%), going to the gym or playing sport (21% vs. average of 26%), and having soft drinks, chocolate, ice cream or other snacks. In contrast, Spain was among the countries with the highest percentage of respondents (only Greece scored higher) reporting smoking cigarettes as a way to relax (35% vs. average of 28%).

These few studies all lead to the same conclusion: It is important to have country-specific data, contrasted with data from other countries and cultures, in order to draw any conclusions from research. It is very dangerous to build further on theories and models that are based primarily on data collected in the US or UK, which is often the case in organizational behavior literature and, more specifically, stress literature, which is dominated by Anglo-Saxon research.

## 2. Managerial stress in Spain

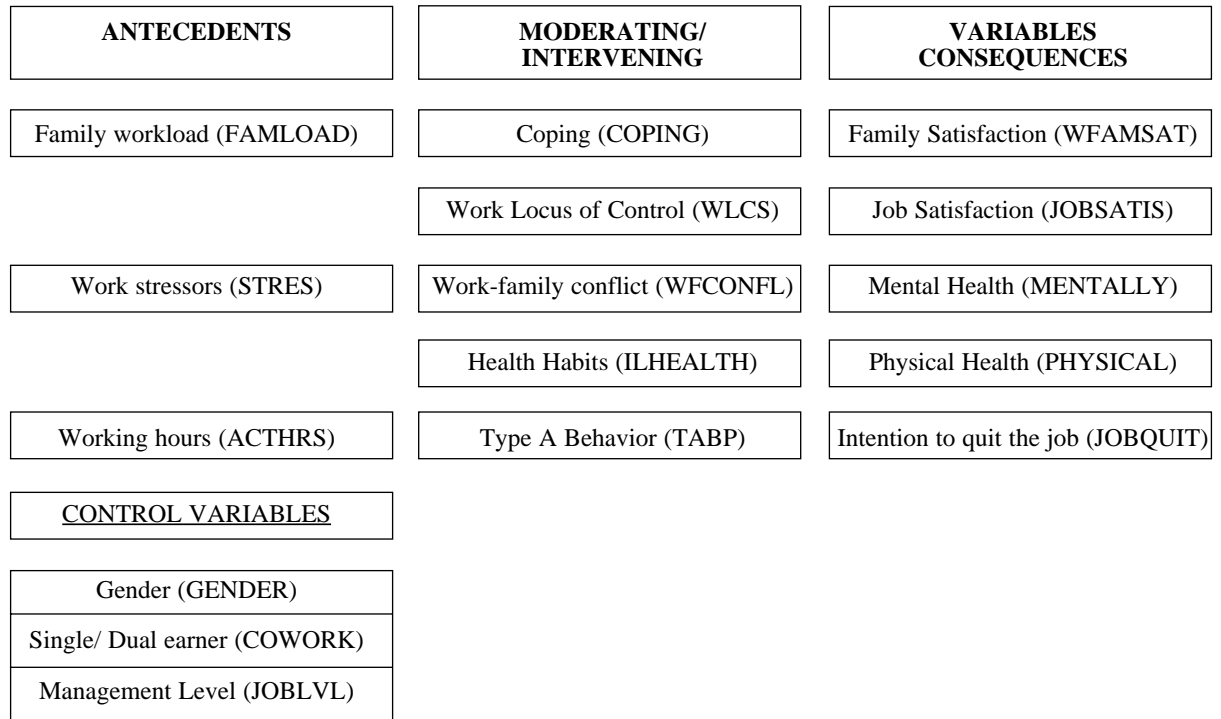
The Collaborative International Study on Managerial Stress (CISMS) was the direct stimulus to start research on managerial stress in Spain, which—to our knowledge—was completely non-existent prior to this study. The purpose of CISMS is to make a cross-cultural study of managerial stress and to suggest future research strategies and workplace interventions to enhance manager well-being in cultures at different stages of economic development (Sparks & Cooper, 1998). Data were collected from 22 nations. Comparative analyses investigate cultural differences in sources of work pressure, job satisfaction, work locus of control, coping skills, and mental and physical health. These differences are interpreted against the background of economic development and changes taking place in the nations concerned.

A study carried out by the Harris Research Centre in 16 countries (1994) shows that work and family are among the top 3 causes of stress. Half of the interviewees report that stress has increased over the past few years. Indeed, over the past two decades important changes in western society, such as globalisation and the intensification of competition, have increased work pressure, job stress and uncertainty. Spain has not escaped this growing economic pressure. At the same time, there has been a significant shift in the labour force, with a steady growth in the number of working women. The entry of women into higher education, increasing equality of employment opportunities and the tendency for professional women to marry professional men has resulted in there now being more dual-earner families than traditional one-earner families (Rapoport & Rapoport, 1980). This too is highly relevant in Spain. The fact that working hours are typically from “nine till eight”, with a long lunch break between two and four, means that combining work and family is even more difficult for Spanish families. If, on top of that, both man and woman pursue a career in their respective jobs (dual-career families), which is most common in “managerial families” (families with at least one partner having managerial responsibility), the pressure of both work and family is even higher. That is why, in this first study on managerial stress in Spain, we have chosen to include work-family conflict as a possible predictor or antecedent of mental ill-health. The objective of this study is to explore, in a sample of Spanish managers, the work stress model suggested by the CISMS-study, adding work-family conflict as an additional variable, and to verify the relationship between work stressors, work-family conflict and mental health.

The model used in the CISMS-study starts from the idea that the experience of occupational stress depends on an individual’s personality (Locus of Control, Type A behavior) and his or her method of coping (social support, exercise, health behavior). We have added work-family conflict as a possible moderator variable in the stressor-strain relationship. Environmental factors can act as potential stressors. In this study we concentrate mainly on work stressors. The consequences of work stress can include job dissatisfaction, mental and physical ill-health, and the intention to quit the job.

The model is:

**Figure 1. CISMS-Model, with family workload, work-family conflict and family satisfaction as extra variables**



### 3. Method

#### 3.1. Sample and data collection

Data were collected from a convenience sample of managers attending executive education courses at IESE in the spring of 1998. In order to include managers with different levels of responsibility, we spread the questionnaire across middle management and senior management courses. Respondents filled in the questionnaire at home and then sent it back to the researchers. With 115 of the 198 questionnaires that were handed out sent back, the response percentage was 58%. In the event, we obtained managers from top (17.4%), higher (39.1%), middle (34.8%) and lower levels (6.1%) of the company. The typical (average) respondent is male, 37 years old, with a university degree. He is married, has a working wife and two children of school age. He has a general management function in a small or medium-sized company (<500), with 10 years' experience in the company. Although he is expected to work only 41 hours a week, of his own choice he works 52 hours a week. Table 1 gives an overview of the demographic characteristics of the sample.

**Table 1. Demographic characteristics of the sample**

Sample characteristic	M	S.D.	Min	Max	Categories	Frequencies
Gender					Male Female	101 or 87.8 % 14 or 12.2 %
Age	37.77	5.33	30	52		
Seniority	10.46	7.35	0.20	34		
Marital status					Married	94 or 81.7%
Partner working status					Works Doesn't work	74 or 65.5% 39 or 34.5%
Number of children	1.47	1.08	0	4		
Educational level					University or higher	70 or 60.9%
Job level					Higher management Middle management or less	65 or 56.5% 50 or 43.5%
Working status					Full time	114 or 99.1%
Number of hours the respondent is supposed to work	41.83	5.3	35	75		
Actual number of hours worked	52.83	7.89	30	80		
Is the fact that the respondent works more hours than expected his own choice?					Own choice Not own choice Both	83 or 73.5% 21 or 18.6% 9 or 8%

### 3.2. Measures

All the questions were taken from the CISMS questionnaire, except for those on organisational citizenship, work-family conflict and stress management initiatives in the company, which we added. The standard CISMS questionnaire was used worldwide and contained sections asking for factual data such as biographical information and working history, as well as subjective assessments of health habits, work satisfaction, health status, health-related behavior and interpretation, sources of mental pressure in the job, coping behavior, control over the work environment, and personal values. This questionnaire was based mainly on the OSI 2 (Occupational Stress Indicator) (Williams, 1996; Cooper, Sloan & Williams, 1988), the WLCS or Work Locus of Control Scale (Spector, 1988) and Hofstede's Value Survey Module (Hofstede, 1980, 1991). Because of poor reliability (Spector *et al.*, 1999), the Hofstede scale was omitted from the study.

#### 3.2.1. Antecedents

The focus antecedent variable in the study is undoubtedly work stress (STRES). Work stress was measured with the short version of the OSI 2 (Occupational Stress Indicator). One of the scales in the OSI 2 is a measure of work stress and distinguishes eight subscales or different work stressors. Alphas were satisfactory for 6 of the eight subscales (0.60 or higher) and good for 5 of the eight subscales (0.70 or higher).



The workload subscale contains items that clearly refer to work interfering with family, which could be confused with work-family conflict (WFC), the central variable in this study. Factor analysis confirmed that these items are closely related to the items in our measure of WFC. Two workload items load on a factor that is dominated by the WFC-items. In order to avoid tautological relationships, we removed these two workload items from the subscales (1). The resulting workload subscale thus contains 4 instead of the original 6 items. The alpha coefficient of this “new” subscale is 0.66. We also included a more objective measure of workload, i.e. the actual number of hours worked (ACTHRS). To have an indication of the demands of the family, we constructed an Index of Family Demands (FAMLOAD), based on the number and age of the children and whether or not the spouse was working at home.

### 3.2.2. Consequences

Still drawing upon the OSI 2 (Occupational Stress Indicator), we have measures of self-reported *job satisfaction* (JOBSATIS), *mental health* (MENTALLY), and *physical health* (PHYSICAL). Because of its very low alpha (0.18), we omitted one of the mental health subscales—*resilience*. The alphas of the other subscales—*contentment* (0.83) and *peace of mind* (0.64)—were better. Another item that can be considered as an interesting dependent variable is the *intention to leave* the company (JOBQUIT).

Items asking about the number of days respondents were *absent* from work due to illness and the number of *doctor visits* were dropped from the analysis because of low variance.

### 3.2.3. Moderator variables

To control for possible moderator effects identified in the literature, we included measures of coping (COPING), type A behavior (TABP) (OSI 2), and locus of control (WLCS—Work Locus of Control Scale; Spector, 1988). Another possible moderator variable is the respondent’s health behavior. We constructed an Index of Ill-health (ILHEALTH), based on the respondent’s physical exercise, smoking and drinking habits.

To measure some work-family interface characteristics we constructed a short questionnaire based on a previous study (Buelens & Poelmans, 1996). The questionnaire consisted of 15 items. All questions were scored on a 5-point scale, with 1=completely disagree and 5=completely agree. Based on a factor analysis of these items, we formed scales of work-family conflict (WFCONFL, five items, alpha = 0.83) and satisfaction with family life (WFAMSAT, three items, alpha = 0.68).

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(1) The items that were removed are:

Subscale / Item no.	Item
Workload / 17	The sacrifices that my work imposes on my relationship with my partner and children ... is a source of pressure.
Workload / 25	The sacrifices that my work demands of my private and social life ... is a source of pressure.

### 3.2.4. Control variables

Respondents were asked to give their gender (GENDER), age (AGE), and educational level (EDCATN). They were also asked to indicate the working status of their partner (working or not) (COWORK). Concerning their job, they were asked to indicate their job level (JOBLVL). These variables were all treated as control variables.

## 4. Results

### 4.1. Managerial work stressors

Tables 2 and 3 list the different work stressors that are distinguished in the CISMS study, showing the means of the different countries that participated in the study (Table 2) and the relative importance of the different work stressors (Table 3).

**Table 2. Means on work stressor scales (1-6) of the different continents/countries**

	Spain	W-Europe	E-Europe	Far East	Anglosaxon	TOTAL
Workload	3.69	3.74	3.53	3.7	3.39	59.36
Relationships at work	3.89	3.73	3.87	3.79	3.39	61.82
Home-work balance	3.26	3.07	3.23	3.51	2.67	52.08
Manager role	3.41	3.08	3.35	3.34	3.07	53.48
Managerial responsibilities	3.64	3.41	3.79	3.9	3.25	59.56
Daily hassles	3.28	3.07	3.38	3.55	3.08	53.91
Recognition	3.68	3.28	3.57	3.67	3.19	57.65
Organizational climate	3.69	3.61	3.55	3.71	3.39	58.79
TOTAL	59.46	56.23	58.9	60.77	52.98	

**Table 3. Relative importance of the different work stressors in the different continents/countries**

	Spain	W-Europe	E-Europe	Far East	Anglosaxon	TOTAL
Relationships at work	1	2	1	2	1	1
Workload	2	1	5	4	1	3
Organizational climate	2	3	4	3	1	4
Recognition	4	5	3	5	5	5
Managerial responsibilities	5	4	2	1	4	2
Manager role	6	6	7	8	7	7
Daily hassles	7	7	6	6	6	6
Home-work balance	8	7	8	7	8	8
TOTAL	59.46	56.23	60.44	54.67	52.29	

There are various interesting conclusions that can be drawn from these tables. First, there is a clear consistency among the different countries in perceptions of which work stressors are most important. All work stressors are ranked in more or less the same order in the different continents. The only exception is managerial responsibilities, which are experienced as the most important work stressors in Eastern Europe and the Far East, and less so elsewhere. In the European and Anglo-Saxon countries, on the other hand, workload is an important stressor. This seems to suggest that there is some “universal order” of importance in the perception of what elements of the work environment cause the most pressure:

1. Relationships at work
2. Managerial responsibilities
3. Workload
4. Organizational climate
5. Recognition
6. Daily hassles
7. Manager role
8. Home-work balance

Spain more or less follows this pattern, except that Spanish managers experience organizational climate as a more important work stressor and managerial responsibilities as relatively less important work stressors than their colleagues in other countries. Second, we can conclude that managers in Far Eastern countries generally perceive more pressure coming from the work environment than managers in the other continents. Spain also scores high on the total work stressor index, higher than other West Europeans, managers working in Eastern Europe, and Anglosaxon managers.

#### ***4.2. Effects of work stress on Spanish managers***

Table 4 gives an overview of all variables, their maximum scores, means, standard deviations, Chronbach alphas and intercorrelations. We used step-wise regression analysis to explain the dependent variables with the independent variables, while systematically adding moderator and control variables.

*Family satisfaction* was best explained with a model ( $R^2 = 0.17$ ,  $F = 6.55$ ) containing work stress ( $t = 4.06$ ,  $p < 0.01$ ), health behaviors ( $t = -2.45$ ,  $p < 0.05$ ) and coping ( $t = -2.01$ ,  $p < 0.05$ ) as predicting variables. Other variables such as family workload, working hours, work locus of control, WFC and type A behavior were excluded.

The regression analysis with *job satisfaction* as dependent variable resulted in a model ( $R^2 = 0.33$ ,  $F = 12.23$ ) with WLC ( $t = -4.10$ ,  $p < 0.01$ ), working hours ( $t = 3.04$ ,  $p < 0.01$ ), and work-family conflict ( $t = -2.38$ ,  $p < 0.05$ ) as predicting variables. Job level seemed to be an important control variable ( $t = -2.43$ ,  $p < 0.05$ ). This means that work stress, health behaviors, coping, family workload, and type A behavior do not contribute in explaining job satisfaction.

The model proposed for explaining *mental health* ( $R^2 = 0.13$ ,  $F = 7.65$ ) consisted of WFC ( $T = 2.61$ ,  $p < 0.01$ ) and TABP ( $t = 2.36$ ,  $p < 0.05$ ) as predicting variables. Family workload, work stress, working hours, coping, WLC, health behaviors, and type A behavior do not seem to make any difference in explaining mental health.

**Table 4. Number of items, maximum value, means, standard deviations, alphas, and correlations among measures of family workload, work stress, working hours, coping, work locus of control (WLC), work-family conflict (WFC), health behavior, type A behavior (TABP), family satisfaction, job satisfaction, mental health, physical health, and the intention to quit one's job**

Variables	N°	Max	M	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Family workload	3	15	9.68	5.65	(-)												
2. Work stress	38	228	138	25.62	-.110	(.91)											
3. Working hours	1	-	52.83	7.89	-.058	-.063	(-)										
4. Coping	10	60	41.28	6.59	-.120	.124	-.027	(.72)									
5. WLC	16	96	44.96	7.63	.018	.190	-.053	-.223*	(.72)								
6. WFC	5	25	14.84	4.39	.114	<b>.308**</b>	.129	-.131	.222*	(.83)							
7. Health behavior	3	15	6.6	2.49	-.042	<b>.246**</b>	.000	-.191*	.018	.009	(-)						
8. TABP	6	36	23.97	3.98	-.037	.059	<b>.269**</b>	-.002	.017	.188*	.069	(.73)					
9. Family satisf.	3	15	5.24	2.13	-.088	<b>.314**</b>	-.181	-.098	.192*	.216*	-.107	.002	(.68)				
10. Job satisf.	12	72	27.56	4.6	.055	<b>-.282**</b>	<b>.224**</b>	.161	<b>-.452**</b>	<b>-.262**</b>	-.101	.011	-.182	(.89)			
11. Mental health	12	72	26.80	7.49	-.003	.143	-.022	.053	.166	<b>.292**</b>	.046	<b>-.272**</b>	.154	-.191*	(.83)		
12. Physical health	6	36	27.15	5.77	.102	<b>-.242**</b>	.062	.034	-.168	<b>-.284**</b>	-.235*	<b>-.251**</b>	-.185	<b>.248**</b>	<b>-.473**</b>	(.77)	
13. Job Quit	1	6	2.38	1.03	.135	.200*	-.017	-.030	<b>.281**</b>	.192*	.108	.068	.119	-.489**	.294**	-.204*	(-)

<b>Variables</b>	<b>N°</b>	<b>Max</b>	<b>M</b>	<b>s.d.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>
Max	Maximum value																
M	Mean																
s.d.	Standard deviation																
(-)	Chronbach alpha, (-) indicates that there is no alpha, because there is only one item, or because the variable is an index, not a scale.																
*	Pearson correlation is significant at 0.05 level (two-tailed)																
**	Pearson correlation is significant at 0.01 level (two-tailed)																

*Physical health* was best explained with a model ( $R^2 = 0.19$ ,  $F = 7.28$ ) containing WFC ( $t = -3.3$ ,  $p < 0.01$ ) and health behavior ( $t = -2.45$ ,  $p < 0.05$ ) as predicting variables. Gender seemed to be an important control variable ( $t = -2.63$ ,  $p < 0.01$ ). Family workload, work stress, working hours, coping, WLC, and type A behavior were excluded from this model.

The model proposed for explaining the *intention to quit one's job* ( $R^2 = 0.079$ ,  $F = 8.68$ ) included WLC ( $t = 2.94$ ,  $p < 0.01$ ) as the only predicting variables. All other variables were excluded from the model.

One of the mediating variables that can be treated as a dependent variable is *work-family conflict*. The model that seems best suited to explain WFC ( $R^2 = 0.30$ ,  $F = 10.58$ ) had work stress as its only predictor ( $t = 3.25$ ,  $p < 0.01$ ).

#### 4.3. Risk groups among Spanish managers

Table 5 gives the relative scores (low, intermediate, high) of five clusters we identified, using the core variables in this study. The different cells in table 5 are coloured white, light grey or dark grey to indicate favorable, less favorable and unfavorable scores. If the reader concentrates on the colours only, it is obvious at a glance that we have five very different profiles.

**Table 5. Five groups, based on a cluster-analysis, using the core variables under study**

<b>CLUSTER</b> →	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>VARIABLE</b>	<b>n = 12</b>	<b>n = 21</b>	<b>n = 22</b>	<b>n = 27</b>	<b>n = 11</b>
Working hours	Inter	Low	Low	Inter	High
Coping skills	Low	Low	High	Low	High
Family workload	Inter/low	Inter	Low	Inter	High
Bad health habits	Low	Inter	Inter/low	Inter	High
Intention to quit job	Inter/high	Inter	Inter	High	Low
Job level	Inter	Inter	Inter	High	Low
Job satisfaction	High	Low	Alto	Low	High
Mental strain	Inter	Inter	Inter	High	Low
Physical health	Inter	Inter	High	Low	High
Work stressors	Low	Inter	High	Very high	Inter
Type A/B	Type B	Inter	Inter	Type A	Type A
Family dissatisfaction	Low/Inter	High	Inter	Inter	Low
Work-family conflict	Low	Inter	Inter	High	Low
Work locus of control	Internal	External	Internal	External	Internal

#### *4.3.1. Cluster 1: The happy Type B*

This first group is generally satisfied, both at work and at home. Consequently, there is no intention to quit the job, nor work-family conflict. This could be explained by the low levels of pressure from family and work stressors, the easy-going, type B behavior pattern, and good health habits (little drinking and smoking, and regular exercise). The mental and physical strain is moderate, despite bad coping skills.

#### *4.3.2. Cluster 2: The dissatisfied struggler*

The second group is characterized by bad coping skills and an external locus of control. This is probably why this type is struggling with intermediate levels of work stress. Consequently, the managers in this group are dissatisfied both at work and at home, and have moderate levels of mental and physical strain.

#### *4.3.3. Cluster 3: The fit copier*

This group has to deal with high levels of work stress, but probably thanks to their excellent coping skills, good health habits and physical fitness, they manage their working time so as to have only moderate mental strain and work-family conflicts. Generally, they are satisfied at work.

#### *4.3.4. Cluster 4: The stressed, frustrated Type A*

This is clearly the most unhealthy (both mentally and physically) and dissatisfied group (both at work and at home). We should not be surprised that they have a clear intention

to quit the job. We do not have to look far for reasons: they combine an unfavorable personality (type A and external locus of control) with an unfavorable environment (high levels of work stress and work-family conflict). On top of that they have bad coping skills.

#### 4.3.5. Cluster 5: *The striving, satisfied workaholic*

This last group is a fascinating one. Despite intermediate (work) to high (family) workloads and bad health habits, these workaholics (long working hours and striving type A behavior) are relatively happy (at work and at home) and healthy (low mental and physical strain). This can be explained with good coping skills and internal locus of control.

#### 4.4. *Comparison of Spanish managers with their colleagues in other countries*

Table 6 compares the means of the Spanish, West European, East European, Anglosaxon and Far Eastern samples.

Spanish managers report an encouraging level of job satisfaction. But the price they have to pay is considerable: of all the country samples, Spain has one of the lowest scores on mental health, i.e. Spain reports more mental strain than most other nations in the world. Only Bulgarian and Ukrainian managers report more mental strain. The average score on mental strain is 3.8 on a scale of 1 to 6, which indicates that Spanish managers moderately agree on having mental strain problems.

**Table 6. Average scores for the different variables, comparing Spanish, West European (Belgium, France, Sweden, UK), East European (Bulgaria, Poland, Romania, Estonia, Romania, Ukraine), Anglosaxon (USA, Canada, South Africa) and Far Eastern (China, Japan, Taiwan, Hong Kong) samples**

	Spain	W-Europe	E-Europe	Far East	Anglosaxon
<b>Antecedents</b>					
Actual no. of working hours/week	<b>52.76</b>	48.07	37.84	45.88	48.95
Work stress	143.5	136.38	142.04	<b>146.19</b>	127.37
<b>Mediators</b>					
Work locus of control	46.5	44.01	49.56	<b>52.11</b>	38.28
Coping	<b>41.56</b>	40.26	41.05	40.43	40.85
Type A behavior pattern	24.08	23.42	22.48	22.05	24.69
<b>Outcomes</b>					
Job satisfaction	46.92	47.04	47.65	43.86	<b>48.41</b>
Mental health	45.96	49.32	46.31	47.34	<b>49.85</b>
Physical health	<b>27.05</b>	26.87	25.72	24.15	26.73

## 5. Discussion

Managerial stress is an important problem in Spain. Compared with their colleagues in the rest of the world, Spanish managers report some of the highest levels of mental strain. There are several explanations for this score. First, Spain clearly has the longest working hours of all nationalities. On average, Spanish managers work 4 hours more (52 hours) than stipulated as a healthy maximum by the European Directive on working hours. This can be attributed to Spain's idiosyncratic working hours: from 9 a.m. to 8 p.m. Although this could be compensated with a long lunchbreak, it is known that few managers and entrepreneurs

actually take a long break. Research has established a relationship between excessive working hours and ill-health (for a meta-analysis, cfr. Sparks *et al.*, 1997), so this could be a first explanation. A second argument could be that there are more stressors in the Spanish working environment. This was partially confirmed by the relatively high score on work stressors in Spain. A third explanation could be that the combination of work stress and long working hours causes work-family conflict, which in turn is connected with mental ill-health. We confirmed this hypothesis in another study (Poelmans, Cardona, Chinchilla, Cooper & Spector, 1999). A fourth explanation can be found in the mediating variables. There is quite some evidence that respondents that have poor physical health (cfr. resilience), an external locus of control, bad coping skills and type A behavior generally report more mental health problems. Here, the results are less clear. Spain scores high on type A behavior, which tends to increase mental strain, but Spanish managers have an intermediate score on work locus of control (rather internal), a relatively good score on physical health, and a relatively high score on coping. These last three elements might be expected to moderate the effect of work stress on mental strain. In the case of Spanish managers, however, they do not.

This finding has an important implication. Mental strain in managers can be very harmful for the company. Typically, mental strain takes the form of concentration problems, rigid decision-making or—at the other extreme—indecisiveness and a diminished capacity for abstract and associative thinking. These mental processes are essential to managers' performance. The cluster analysis suggests an interesting avenue to deal with mental strain. We found clearly distinguishable groups, suggesting that what differentiates healthy from unhealthy managers is a combination of coping skills, good health habits, favorable personality (internal locus of control) and favorable environment (low or moderate work stress).

Considering that this is an exploratory study, its limitations lie primarily in the sample. The Spanish sample was a convenience sample that might not be representative. We can expect to find more workload and work-family conflict in managers attending general management courses, as they have to sacrifice private and family time to attend the course. The world sample is limited by the fact that different countries collected their data from very different sources. For instance, in some countries all respondents were recruited from just one or two companies; in others, all the respondents worked in different companies. This resulted in great heterogeneity in sample sizes and characteristics. Future research should check whether the same results can be obtained from more representative samples and from samples from other Iberoamerican countries. Another limitation lies in the cross-cultural comparison of results. The Hofstede scales which were included in the study to make cross-cultural comparisons turned out to be unreliable (Spector *et al.*, 1999). Work locus of control shows more promise as a basis for cross-cultural differentiation. Future studies should try to get a more in-depth insight into the factors that differentiate the experience of stress in different nations and cultures.

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