The factor structure of the Spanish version of the Work-Family Culture Scale in a sample of workers from the advertising sector

Marina Beléndez Vázquez, Marta Martín Llaguno and Alejandra Hernández Ruiz
Universidad de Alicante

Abstract

Background: The Work-Family Culture Scale (WFCS) was designed to assess employee perceptions of the extent to which their organizations facilitate a work-family balance. The WFCS comprises three dimensions: Organizational time demands, Managerial support and Negative career consequences. Method: The primary purpose of the present study was to analyze the factor structure and reliability of the Spanish version of the Work-Family Culture Scale in a sample of 795 employees (447 females and 348 males) working for twenty-three firms in the Spanish advertising sector. Results: Both EFA and CFA using split-half data sets yielded an 11-item three-factor model (Managerial support, Career consequences and Organizational time demands) that fits the data very well. The findings for structural equation modeling were as follows: χ²(41) = 63.85; CFI = .99; GFI = .97; and RMSEA = .038. Conclusions: Internal consistency for the WFCS factors proved adequate. The results of the analysis indicate that this three-factor model confirms previous exploratory analyses of the original scale.

Keywords: work-family culture, exploratory factor analysis, confirmatory factor analysis, advertising sector.

The balance between work and family life has become an established and significant research topic, as is reflected both in the sheer number of papers that address the issue and the wide range of perspectives from which the issue is analyzed (Bianchi, Casper, & Berkowitz, 2005; Kossek & Lambert, 2005; Pitt-Catsouphes, Kossek, & Sweet, 2006). Studies carried out in relation to the effects of work-life reconciliation policies enacted as a result of legislative changes over the last ten years and the implementation of certain reconciliation methods available; rather, an organizational culture in which their use is fostered is also required (Anderson, Coffey, & Byerly, 2002; Thompson, Beauvais, & Lyness, 1999). Hence, it would appear that a healthy balance cannot be struck simply by making certain reconciliation methods available; rather, an organizational culture in which their use is fostered is also required (Anderson, Coffey, & Byerly, 2002; Thompson, Beauvais, & Lyness, 1999).

Work-family culture may be defined as a set of “shared assumptions, beliefs and values regarding the extent to which an organization supports and values the integration of employees’ work and family lives” (Thompson et al., 1999; p. 394).

Organizational culture regarding work-life balance has been linked with a number of different organizational outcomes (Andreason & Thompson, 2008). A supportive work-family culture has been correlated with lower levels of work-life conflict (Allen, 2001; Mesmer-Magnus & Viswesvaran, 2006), less work-related stress (Mauno, Kinnunen, & Pykkö, 2005), and lower turnover rates (O’Neill, Harrison, Cleveland, Almeida, Stawski, & Crouter, 2009). At the same time, a correlation has also been found between a supportive culture and an increase in work satisfaction (Sahibzada, Hammer, Neal, & Kuang, 2005) and organizational commitment (Allen, 2001).

Received: June 26, 2012 • Accepted: November 29, 2012
Corresponding author: Marina Beléndez Vázquez
Facultad de Ciencias Económicas y Empresariales
Universidad de Alicante
03080 Alicante (Spain)
e-mail: marina.belendez@ua.es

Resumen

Estructura factorial de la versión española de la Work-Family Culture Scale en una muestra de trabajadores del sector publicitario.

Antecedentes: la Work-Family Culture Scale (WFCS) fue desarrollada para evaluar las percepciones de los empleados acerca del grado en que sus organizaciones facilitan el equilibrio entre las responsabilidades laborales y familiares de sus trabajadores. La WFCS evaluía tres componentes: demandas o expectativas organizacionales de tiempo, apoyo de la supervisión o dirección y consecuencias negativas para la carrera.

Método: el objetivo del presente estudio fue analizar la estructura factorial y la fiabilidad de la versión española de la WFCS en una muestra de 795 trabajadores (447 mujeres y 348 varones) pertenecientes a 23 empresas del sector publicitario español.

Resultados: los análisis factoriales exploratorio y confirmatorio resultaron en un modelo de tres factores que se ajustaba a los datos χ²(41) = 63.85; CFI = .99; GFI = .97; y RMSEA = .038. Conclusiones: la consistencia interna de los factores fue adecuada. Los resultados indican que la versión española de la WFCS posee una estructura similar a la escala original.

Palabras clave: cultura de conciliación trabajo-familia, análisis factorial exploratorio, análisis factorial confirmatorio, sector publicitario.
The consensus among most scholars is that the work-family culture construct is multi-dimensional. The pioneering study in the field (Thompson et al., 1999) defined three key components: (1) career consequences: the perception of possible negative effects associated with the use of work-family benefits, the belief that investing time and effort in one’s personal life may have a negative impact on one’s career development and promotion prospects; (2) organizational time demands: the expectation that time limits or restrictions may disrupt the balance between work and family life – that is, the rules concerning the time employees are expected to devote to work and the expectation that workers should prioritize work over their families because long hours spent at work are read as an indicator of employee commitment, participation and efficiency (Bailyn, 1993); and (3) supervisory or managerial support: beliefs concerning management sensitivity and empathy as regards finding a balance between work and family life; thus, managers and supervisors may play a vital role in the efficacy and efficiency of reconciliation practices insofar as they encourage (or discourage) their employees to avail of such measures.

One possible result of this threefold characterization of work-family culture is the differential impact each dimension may have on organizational outcomes (Andreassi & Thompson, 2008). In this regard, the organizational time demands factor has been found to have a bearing on work satisfaction and organizational commitment, while managerial support is a significant predictor of work-family conflict (Greenhaus, Ziegert, & Allen, 2012).

Progress in research regarding work-family culture has been enabled by the definition of specific assessment tools. The preeminent measure in use is the Work-Family Culture Scale (WFCS) by Thompson et al. (1999) which comprises 20 items devised to assess employee perceptions concerning the extent to which the organizations in which they are employed facilitate a work-life balance. An analysis of the dimensionality of the scale disclosed three factors: organizational time demands, which covers four items (e.g. “Employees are expected to work more than 50 hours a week”); negative career consequences, which comprises five items (e.g. “Employees who use flextime are less likely to advance their careers”); and managerial support, which encompasses eleven items (e.g. “Managers in this organization are quite accommodating of family-related needs”). The latter factor has been criticized on the grounds that a number of the items it contains relate to organizational support in general, rather than the support provided by managers and/or supervisors in particular. Hence, it may make more sense to assess this dimension using only those items that make specific reference to management or supervisory roles (Allen, 2001; Mauno, Kinnunen, & Piitulainen, 2005).

Since it was first outlined, the Work-Family Culture Scale has been used in many research papers published in the US (Behson, 2002; Major, Fletcher, Davis, & Germano, 2007) and European countries, such as Finland (Mauno, Kinnunen, & Pyykkö, 2005) and Spain (Poelmans & Chinchilla, 2001). Nevertheless, relatively few studies of its psychometric properties and factor structure have yet appeared. Mauno (2010) recently proposed a bifactor model: the first factor relates to managerial support, and the second is referred to as work-family barriers and covers the items encompassed by the two other factors described above (organizational time demands and negative career consequences).

Although the Spanish version of the WFCS scale has been used in a number of research studies, a thorough analysis of its psychometric properties remains to be done. This study with a sample of workers in the Spanish advertising industry has been carried out to meet this research need. Advertising work may be very stressful; deadlines must be met, often outside standard set work schedules; and, at the same time, advertising workers must also respond to the claims and demands of clients. The findings of the 2006 IFREI (IESE Family-Responsible Employer Index), a pioneering initiative in Spain designed to identify family-responsive businesses, show that advertising is one of the most ‘contaminative’ industries as regards the endeavor to strike a balance between work and family/personal life (Chinchilla, León, Canela, Ariño, & Quiroga, 2006). Thus, finding such a balance poses a significant challenge for many workers in this sector. Difficulties of this sort may also account for the underrepresentation of women in management positions and in creative advertising roles (Martín-Llaguno, 2007; Martín-Llaguno, 2008). Hence, the Spanish version of the WFCS may be tested and validated in relation to the responses given by advertising workers.

The purpose of this paper is to conduct an exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA) of the Spanish version of the Work-Family Culture Scale (Thompson et al., 1999) based on a sample of workers from the advertising industry in Spain.

Method

Participants

This paper is part of a broader research project whose purpose is to explore the expectations and obstacles to a work-life balance experienced by employees in the advertising sector, as well as to assess the reconciliation policies enacted by companies in the industry. Thus, the study sample comprises workers from a range of advertising agencies. These agencies were contacted via the Spanish Association of Advertising Agencies (AEAP: Asociación Española de Agencias de Publicidad), which is made up of 36 firms accounting for 70% of advertising investment in the Spanish market. Twenty-three of the companies (located in Madrid and Barcelona) agreed to take part in the project – that is, 64% of the total membership of AEAP. In the end, 819 questionnaires were collected for the 2,646 workers employed by the participant firms.

Instruments

Questionnaire on sociodemographic and professional data. Respondents were required to fill in a questionnaire which included questions designed to elicit sociodemographic (age, marital status, etc.) and professional data (work status, type of contract, company size, etc.).

The Spanish version of the Work-Family Culture Scale (WFCS). The Spanish version of the Work-Family Culture Scale (Thompson et al., 1999) comprising 16 items set out by Poelmans and Chinchilla (2001) was used. Since 1999, the latter research group has pursued an enabling line of research as regards work-life reconciliation policies and organizational culture in Spanish companies based on the application of the IFREI (IESE Family-Responsible Employer Index) (Chinchilla & Poelmans, 2002). The Spanish version comprises 15 items from the original scale and includes one further item related to the organizational time demands dimension (“This company has a ‘workaholic’ culture – that is, working late is seen in positive terms”). In line with the recommendations made by Allen (2001) and Mauno et al. (2005), four items concerning organizational support in general...
were excluded from consideration so as to focus exclusively on managerial and/or supervisory support in particular. Hence, the final scale was composed of a total of 12 items. The items were scored on a seven-point scales, from 1 (totally disagree) to 7 (totally agree); respondents could also select the option “not applicable”.

Procedure

The first step in data collection was to ask the Spanish Association of Advertising Agencies (AEAP: Asociación Española de Agencias de Publicidad) for the contact details of management staff in its member companies, so as to invite them to participate in the research project. The firms that expressed an interest in participating appointed a company representative to coordinate the study (usually the head of human resources or the personnel department). Thereafter, meetings were held with these company delegates to outline the objectives of the research project and to entrust them with the task of distributing the questionnaires among all the workers at their advertising agency. The company representatives set up a centralized, anonymous questionnaire collection point, where employees handed in the completed questionnaire forms in sealed and stamped envelopes addressed to the research project leaders.

Data analysis

So as to examine the factor structure underlying the Spanish version of the Work-Family Culture Scale (WFCS), an exploratory factor analysis (EFA) with oblimin rotation and a confirmatory factor analysis (CFA) were conducted. The total sample of participants was divided at random into two groups: the first group was used for the purposes of EFA, and the second, for CFA. The following criteria were established to set the number of factors to be extracted in the exploratory factor analysis: eigenvalues greater than 1, comparison of the percentages of variance linked to each eigenvalue, and analysis of the decremental pattern in the scree plot. To retain an item within a factor, a factor load equal to or greater than .45 within a single factor was required. The following goodness-of-fit indices were used to assess the level of fit between the model and the subsample of CFA data: root mean square error of approximation (RMSEA), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI) and comparative fit index (CFI). In general, values greater than .90 for the GFI, AGFI and CFI indices, and less than .05 for the RMSEA index indicate a good fit to the model (Brown, 2006; Kline, 2005).

Cronbach’s alpha coefficient was determined to establish internal consistency within the subscales. Intercorrelations between subscales on the questionnaire were calculated using the Pearson correlation coefficients. Finally, the differences between scores on the subscales due to sociodemographic and professional variables were explored using a T-test for independent samples and/or analysis of variance, as applicable. The data analysis was carried out using SPSS 19.0 (SPSS Inc., Chicago, IL) and Lisrel 8.80 (Scientific Software International, Lincolnwood, IL).

Results

Sample characteristics

Twenty-four of the 819 questionnaires submitted were deemed invalid because values were missing for most of the items on the scale; so the final sample comprised 795 participants. The average age of respondents was 34.19 (SD= 7.90) and 56.1% were female. In terms of professional status, the sample included employees (48.3%), middle-management (46.8%) and management staff (4.9%). A summary of the sociodemographic and professional characteristics of the sample is presented in Table 1. Respondents stated that they worked an average of 45.8 hours per week, which amounts to an average working day of 9.8 hours.

Item analysis

The frequency distribution of each item was examined. One item presented a high rate of the response option “not applicable” (> 40%) and was excluded from further analysis. For remaining 11 items, there were few “not applicable” responses and they were recoded as missing values. Missing values were replaced with the series mean. Tests of normality were conducted with reference to the values of skewness and kurtosis of the observed variables. Although the items not exhibit normal multivariate kurtosis, according to Hair, Anderson, Tatham, & Black (1998), large sample sizes tend to moderate departures from normality.

Exploratory factor analysis

The first subset of data (n= 403) was used for the purposes of EFA. The analysis of the principal components based on the 11 items in the scale (KMO= 0.81) yielded a structure of three factors with eigenvalues greater than 1. Thus, a further oblimin rotation was carried out, giving rise to a final structure of three factors: “managerial support” (4 items), “career consequences” (4 items) and “organizational time demands” (3 items) that accounted for 57.28% of variance (see Table 2).

Confirmatory factor analysis

The data for the second subsample (n= 392) was used for the purposes of confirmatory factor analysis, to confirm the threefold factor structure disclosed by the exploratory analysis of the first subsample. The estimation method was maximum likelihood. The confirmatory analysis showed that the three-factor model was a good fit for the date (see Figure 1). The final model proved to be an adequate fit for the data: $\chi^2(41)= 63.85, p= .013; \text{CFI}= .99; \text{GFI}= .97; \text{AGFI}= .95 \text{and RMSEA}= .038$. A further confirmatory analysis was carried out to explore the possibility of a bifactor model based on a managerial support factor and a second, “barriers” factor, encompassing the “career consequences” and “organizational

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample characteristics in percentages</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>&lt; 30 years</td>
</tr>
<tr>
<td>30 - 40 years</td>
</tr>
<tr>
<td>40 - 50 years</td>
</tr>
<tr>
<td>&gt; 50 years</td>
</tr>
<tr>
<td>Parental status</td>
</tr>
<tr>
<td>Children</td>
</tr>
<tr>
<td>No children</td>
</tr>
<tr>
<td>Company size</td>
</tr>
<tr>
<td>&gt; 100 employees</td>
</tr>
<tr>
<td>50 - 100 employees</td>
</tr>
<tr>
<td>&lt; 50 employees</td>
</tr>
</tbody>
</table>
time demands” factors as previously defined. The goodness-of-fit results for this model showed a lower level of fit than was the case for the three-factor structure: $\chi^2(43) = 104.05, p<.001; \text{CFI} = .97, \text{GFI} = .95, \text{AGFI} = .93 \text{ and RMSEA} = .060$.

### Reliability

Cronbach’s alpha coefficient for both subsamples was used to establish the internal consistency of each factor. The internal consistency for “managerial support” was .73, for “career consequences”, it was .65, and for “organizational time demands”, it was .69.

### Constrasting WFCS scores in relation to sex, age, company size and professional category

Table 3 presents the means and standard deviations in the subscales of the WFCS. The highest score was registered in professional category

The perception of organizational time demands decreases with age: those under 30 years of age see greater organizational time demands than those over 50, $F(3, 791) = 5.78, p<.001$. In contrast, the scores for the managerial support dimension were higher among older workers, $F(3, 791) = 6.67, p<.000$. With regard to the effect of company size, employees of smaller advertising agencies

### Table 2

<table>
<thead>
<tr>
<th>Summary of items</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1. Se espera que los empleados que lleven trabajo a casa por la noche o durante los fines de semana.</td>
<td>.83</td>
<td>.05</td>
<td>.16</td>
</tr>
<tr>
<td>T2. Esta empresa tiene una cultura de “adictos al trabajo”, lo que quiere decir que trabajar hasta tarde se percibe como positivo.</td>
<td>.66</td>
<td>-.15</td>
<td>-.13</td>
</tr>
<tr>
<td>T3. Se espera que los empleados trabajen más de 50 horas a la semana.</td>
<td>.64</td>
<td>-.06</td>
<td>-.29</td>
</tr>
<tr>
<td>M1. Los directivos en esta organización animan a los supervisores a tener en cuenta las preocupaciones familiares de los empleados.</td>
<td>-.01</td>
<td>.81</td>
<td>.04</td>
</tr>
<tr>
<td>M2. Los directivos son comprensivos cuando los empleados tienen que poner su familia primero.</td>
<td>.06</td>
<td>.75</td>
<td>.10</td>
</tr>
<tr>
<td>M3. En esta empresa los directivos se adaptan a las necesidades familiares.</td>
<td>-.22</td>
<td>.73</td>
<td>-.04</td>
</tr>
<tr>
<td>M4. Los ejecutivos en esta organización están a favor de que los empleados cumplan con sus responsabilidades de cuidar a sus hijos.</td>
<td>.17</td>
<td>.62</td>
<td>-.07</td>
</tr>
<tr>
<td>C1. Muchos empleados se resienten cuando las mujeres en esta organización toman permisos largos para cuidar a hijos.</td>
<td>-.22</td>
<td>.03</td>
<td>-.83</td>
</tr>
<tr>
<td>C2. Rechazar una promoción por razones familiares podría poner en peligro el progreso de la carrera.</td>
<td>.04</td>
<td>-.07</td>
<td>-.67</td>
</tr>
<tr>
<td>C3. En esta organización, los empleados que participan en políticas dirigidas a empleados con familia están considerados menos dedicados a su carrera.</td>
<td>.27</td>
<td>-.04</td>
<td>-.55</td>
</tr>
<tr>
<td>C4. En esta organización, los empleados que utilizan un horario flexible tienen menos oportunidad de progresar en sus carreras que los empleados que no lo utilizan.</td>
<td>.35</td>
<td>.03</td>
<td>-.50</td>
</tr>
</tbody>
</table>

**Figure 1.** Final model of the CFA of the Spanish version of the WF Culture Scale with the standardized factor loadings between latent variables, managerial support, organizational time demands and career consequences and the observed items.
perceived higher levels of managerial support for work-life reconciliation strategies than employees of larger organizations, \(F(3, 791) = 9.22, p<.001\). Finally, management personnel tend to perceive lower organizational time demands, \(F(2, 792) = 13.92, p<.001\), and higher levels of managerial support, \(F(2, 792) = 24.69, p<.001\), as compared with middle-management workers and other employees.

Table 3

<table>
<thead>
<tr>
<th>M ± SD</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Managerial support</td>
<td>3.50 ± 1.28</td>
<td></td>
</tr>
<tr>
<td>2. Career consequences</td>
<td>4.16 ± 1.26</td>
<td>-.28**</td>
</tr>
<tr>
<td>3. Time demands</td>
<td>4.80 ± 1.50</td>
<td>-.31**</td>
</tr>
</tbody>
</table>

** Note: 1= totally disagree, 7= totally agree.
** * p<.01

Discussion

This paper explores the dimensionality of the Spanish version of the Work-Family Culture Scale by Thompson et al. (1999) by means of exploratory and confirmatory factor analyses. The results disclosed by the responses from a wide-ranging sample of workers in the Spanish advertising sector suggest that the Spanish version, like the original scale, has a threefold factor structure: managerial support, career consequences and organizational time demands. Moreover, although Cronbach’s alpha index for some of the factors is less than .7, the internal consistency for the three factors in both subsamples is adequate, especially given the fact that the subscales comprise three or four items (Kopalle & Lehmann, 1997). This threefold factor structure is slightly different to other recent proposals likewise based on confirmatory analysis techniques. Mauno (2010) argues that a bifactor model comprising a managerial support factor and a second, work-life barriers factor, which encompasses the two other factors as previously defined (organizational time demands and career consequences), may be a more suitable alternative option. However, Mauno acknowledges that both the bifactor model and the three-fold factor structure yield very similar goodness-of-fit indices— that is, either model may be acceptable provided that appropriate modifications are made to bring about better fit are implemented. Hence, as the results presented in this paper show, the threefold factor structure is a plausible model. It should be carefully noted, however, that the version used for the purposes of our work and Mauno’s version are different from one another, and that both are slightly different to the original scale. Neither Mauno’s version nor the Spanish version of the scale include the four items in the original relating to general organizational support for work-family reconciliation practices; only those questions that make explicit reference to managerial or supervisory support are retained. An additional item is also included in the Spanish version of the scale, relating to the perceived ‘workaholic’ status of corporate culture, categorized within the organizational time demands dimension.

Thus, the findings from this study based on confirmatory analysis of the dimensionality of the Spanish version of the Work-Family Culture Scale in relation to a large sample of workers confirm its validity. Not only is the size of the sample significant in this regard; its makeup is also relevant. Participants were drawn from 23 different agencies, which are companies of different sizes, thus representing a range of company-types. At the same time, the fact that the study also addresses a wide range of professional roles and departments, from administrative workers to management staff, from secretarial work to creative activity, has enabled an assessment of the perceptions of employees with very different professional experiences and forms of career development.

Nevertheless, there are some limitations to this paper. One of the limitations concerns issues beyond the specific objectives of this study and encompasses the theoretical framework in which the scale has been outlined. Most published studies of supportive organizational culture in relation to work-life balance seem to overlook the proportion of the workforce comprising single people and/or those who do not have children, but who also need to strike a healthy work-life balance (Casper & DePaulo, 2012). The term “singles-friendly culture” has been coined in recent times to denote “the shared assumptions, beliefs, and values regarding the extent to which an organization supports integration of work and non-work that is unrelated to family, and the degree to which equity is perceived in the support an organization provides for employees’ non-work roles, irrespective of family status” (Casper, Weltman, & Kwesiga, 2007: p. 480). In short, future research about an organizational culture of support for work-life balance must draw on an inclusive perspective that takes into account the range of personal and family realities that shape the diversity of workers’ lives in contemporary society.

Acknowledgements

Funding for this study was provided by Instituto de la Mujer, Ministerio de Trabajo (I+D+I 1/03). We sincerely thank professors Nuria Chinchilla and Steven Poelmans for facilitating the translated version of the scale, and Spanish Association of Advertising Agencies (AEAP, Asociación Española de Agencias de Publicidad) and the agencies who took part in this study.

References

Whitehead (Eds.), Handbook of work-family integration: Research, theories and best practices (pp. 331-351). San Diego, CA: Elsevier.
The factor structure of the Spanish version of the Work-Family Culture Scale in a sample of workers from the advertising sector


