

Professional Success and Gender in Family Medicine: Design of Scales and Examination of Gender Differences in Subjective and Objective Success Among Family Physicians

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Abstract

Two components of professional success have been defined: objective career success (OCS) and subjective career success (SCS). Despite the increasing number of women practicing medicine, gender inequalities persist. The objectives of this descriptive, cross-sectional, and multicenter study were (a) to construct and validate OCS and SCS scales, (b) to

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determine the relationships between OCS and SCS and between each scale and professional/family characteristics, and (c) to compare these associations between male and female family physicians (FPs). The study sample comprised 250 female and 250 male FPs from urban health centers in Andalusia (Spain). Data were gathered over 6 months on gender, age, care load, professional/family variables, and family–work balance, using a self-administered questionnaire. OSC and SCS scales were examined by using exploratory factorial analysis and Cronbach's α , and scores were compared by gender-stratified bivariate and multiple regression analyses. Intraclass correlation coefficients were calculated using a multilevel analysis. The response rate was 73.6%. We identified three OCS factors and two SCS factors. Lower scores were obtained by female *versus* male FPs in the OCS dimensions, but there were no gender differences in either SCS dimension.

Keywords

primary care physicians, gender, objective career success, subjective career success, scale

Introduction

Career success is defined as the sum of employment-related work and psychological results (Seibert, Kraimer, & Linden, 2001) and is a key variable in professional life (Arthur, Khapova, & Wilderom, 2005; Kirchmeyer, 1998; Ng, Eby, Sorensen, & Feldman, 2005). Success itself is a social and dynamic construction that develops in a historical and cultural context and is influenced by gender socialization (Dries, Pepermans, & Carlier, 2008).

Two components of career success have been proposed, objective career success (OCS) and subjective career success (SCS). OCS is related to professional benchmarks that are externally defined (Arthur et al., 2005; Dries et al., 2008; Ng et al., 2005), such as research indicators, medical school faculty posts, training activities, teaching, working group participation, and possession of a PhD, among others. In contrast, SCS refers to the evaluation by individuals of their own achievements and is based on reference criteria, standards, and personal aspirations (Arthur et al., 2005; Dries et al., 2008; Heslin, 2005; Ng et al., 2005).

There is consensus on the need to study both dimensions of success (Arthur et al., 2005; Heslin, 2005). Two theories have been postulated on the relationship between OCS and SCS (Arthur et al., 2005): the duality theory, which considers OCS and SCS to be distinct concepts to be separately

investigated, and the interdependence theory, which regards them as two aspects of success in constant interrelationship over time.

Gender inequalities persist in medicine in many countries, despite the increasing numbers of female physicians (Elston, 2009) who achieve lower OCS scores in comparison to their male counterparts (Elston, 2009; Levitt, Candib, Lent, & Howard, 2008), even after adjusting for family and work variables (Delgado, Saletti-Cuesta, López Fernandez, Luna, & Mateo, 2011).

According to the literature, the meaning of success appears to differ between males and females. For men, SCS is related to the attainment of professional goals that involve personal standing and social acknowledgment, for example, through income level and promotion (Seibert et al., 2001). For women, goals are conceived as personal challenges to be satisfied, and their perception of SCS is more autonomous and less dependent on external recognition (Dyke & Murphy, 2006; Markus, 1990).

Both the perception of success and its determinants are correlated with gender norms that prescribe responsibilities and emotions in the private domain to women and those in the public domain to men. One of the main career obstacles faced by women is their responsibility for most of the domestic work (Heath, 2004), and a recent American review underlined the importance of the family–work relationship and its influence on decisions about their personal and professional life to women (Verlander, 2004).

It could be thought that family characteristics play a greater role in the OCS and SCS of female versus male family physicians (FPs) and that professional characteristics play a greater role in the OCS and SCS of male versus female FPs. Professional success is a complex and important dimension of professional life and warrants an integrated approach as proposed in this study. To this end, we simultaneously studied the relationships between objective and subjective success in both genders, analyzing the role played by a wide set of family and professional characteristics.

We believe it to be of general interest to improve our knowledge of professional success, incorporating aspects related to gender construction that are common to different social settings and those that are particular to each, that is, in our case, to the medical profession and, more specifically, to FPs in Spain.

The objectives of this study were (a) to construct and validate OCS and SCS scales, (b) to determine the relationships between OCS and SCS, (c) to compare OCS and SCS between female and male FPs, and (d) to determine the relationships of OCS and SCS dimensions with professional and family characteristics in female and male FPs.

Method

The study design was descriptive, cross-sectional, and multicenter.

Participants

The study population included female and male FPs working in health centers (HCs) in the eight provincial capitals of Andalusia (Spain). Inclusion criteria were having the same patient list for at least 1 year and utilization of the primary care computerized clinical record system in order to improve the homogeneity of the study population. We obtained sample by stages, first randomly selecting 88 HCs and then randomly selecting a number of physicians from each center according to its size (four FPs each from 8 HCs, five FPs each from 12 HCs, and six FPs each from 68 HCs). In both stages, participants were selected from existing lists, generating a sample of 250 female and 250 male FPs ($\alpha = 5\%$, 90% power to detect 15% difference between male and female physicians).

Variables and Measurement Instruments

Study variables were *gender*; *age*; *professional variables* including post-graduate family medicine specialty (FMS), number of health care professionals in the HC, accreditation as FMS tutor for residents, and accreditation of the HC for the FMS program; *care load* (during November 2007) including age-adjusted patient list size and mean number of patients/day attended at the office; *family variables*, considering the family situation, categorized as living alone with/without children or as living with a partner with/without children or in any other domestic situation, and family responsibilities, measured as hours/day devoted to housework from Monday to Friday, hours/day devoted to housework on Saturdays and Sundays, the presence or not at home of individuals requiring special care (under 15-year-olds, over 65-year-olds, and/or people with disability), and the person with greatest responsibility for housework (self, partner, and other situations); and *family-work relationship* using a scale with two dimensions: "Support Overload-Family Support Deficit" and "Family-Work Conflict" (Delgado et al., 2011).

Our research team designed an SCS evaluation scale with 22 questions corresponding to the five dimensions described in the literature as most relevant to the gender study of achievement. Twenty items were prepared by our group and two were taken from Kirchmeyer (1998). The questions were

then examined by a group of experts. The dimensions were *Career satisfaction*, the perception of having attained professional goals (Ng et al., 2005); *Expected results* associated with success, which can be extrinsic or intrinsic according to the degree of their dependence on the acknowledgment of peers, superiors, and patients or on internal gratification and/or the balance between family and work; *Causal attributions*, factors to which success is attributed, which can be internal or external (Valian, 1998); *Self-efficacy*, understood as an individual's evaluation of his or her own capacities (Valian, 1998); and *Social capital*, that is, perceived social support at work (Nabi, 2000; Seibert et al., 2001). We used a 7-point Likert-type response scale ranging from *strongly disagree* (1 point) to *strongly agree* (7 points).

OCS was measured according to the performance or not of 24 professional activities at/during the following time points/periods: (a) *time of data collection*: HC management position, tutorship of family medicine residents, university teaching position, and possession of PhD; (b) *previous year*: recycling courses and training activities undergone, HC clinical sessions given, participation as teacher in training activities, and membership of scientific societies; (c) *previous 5 years*: positions as principal or collaborating investigator, authorship of original articles and other types of publication in scientific journals, authorship of books or book chapters, authorship or coauthorship of scientific papers presented at congresses, participation as speaker at congresses, and membership of scientific or organizing committees of congresses; and (d) *entire professional life to date*: membership of governing bodies of scientific societies and medical associations and participation in scientific societies and national or regional health authority working groups. All of these variables were dichotomous (yes/no).

Data were obtained between December 2007 and May 2008 from self-administered postal questionnaires and from District Health Offices. The definitive questionnaire was prepared after conducting a pilot test with 14 FPs.

Statistical Analysis

After descriptive analysis of the whole sample and by gender, exploratory factorial analysis was used for validation of the OCS and SCS, with extraction of principal components and varimax rotation, including items with self-scores > 1 , evaluating the sampling adequacy with the Kaiser–Meyer–Olkin index and Bartlett's sphericity test (KMO). The reliability of factors was analyzed by using Cronbach's α , extracting each item. When the definitive PCS and SCS scales were obtained, the relationship between them was analyzed with Pearson's correlation coefficient. The variables of

interest were compared between male and female FPs by using Student's *t*-test and chi-square test. Finally, the relationships of OCS and SCS dimensions with professional and family characteristics were analyzed in female and male FPs by stepwise multiple regression analysis, with an entry probability value of 15% and exit value of 20%. Models included the variables that showed statistical significance; for this reason, the care load variables were excluded. Associations at the limit of significance with $p < .10$ were reported, and a collinearity diagnosis was performed to control for possible relationship effects between dependent variables. The proportion of variance associated with the HC was estimated by calculating the intraclass correlation coefficient (ICC), using a multilevel analysis with a mixed model and considering the significant variables in the multiple regression analysis as fixed effects and the HC as random effect in all cases.

Results

Responses were received from 368 FPs (73.6%) with a mean age of 50.2 ± 4.8 years, representing 182 (71.7%) of the females and 186 (75.6%) of the males ($p = .316$); 314 (85.3%) of responders were in a stable couple, 38 (10.3%) were single, and 16 (3.4%) were in other situations. Responses were received from 101 (78.9%) of the 128 physicians who were tutors and from 267 (71.8%) of the 372 who were not ($p = .114$). Exclusion of nonresponders reduced the power of the sample to 60.3%.

OCS and SCS Scales

Factorial analysis of the OSC (Barlett's test $p < .005$, KMO = 0.840) identified three factors: *Merits of the Professional System*, comprising seven activities related to research and scientific society, with factorial loads ranging between 0.448 and 0.734 and Cronbach's α value of .769; *Institutional Merits*, comprising five activities mainly linked to the health organization, with factorial loads ranging between 0.432 and 0.744 and Cronbach's α of .616; and *Academic Merits*, comprising four activities in university and research settings with factorial loads ranging between 0.471 and 0.701 and Cronbach's α of .511

Factorial analysis of the OSC (Barlett Test $p < .005$, KMO = 0.831) identified two factors: *Satisfaction*, comprising four questions on satisfaction, three on results (two external and one internal), one on external attributions, and one on social capital, with factorial loads ranging between 0.435 and 0.796 and Cronbach's α of .837; and *Self-efficacy*, comprising

three questions on self-efficacy, one on results (internal), and one on causal attribution (internal), with factorial loads ranging between 0.534 and 0.695 and Cronbach's α of .648.

Female physicians were younger, more frequently possessed the FMS, were less frequently HC managers, devoted more hours to housework, were more likely to live alone, with or without children, and were 2-fold more likely to be solely responsible for housework in comparison to the males. There were no gender differences in the patient list size ($p = .645$) or in patients attended per day ($p = .861$). Finally, the female physicians obtained lower scores for the three OCS dimensions ($p < .005$; $p = .002$; $p = .009$), but there was no significant gender difference in SCS dimension scores ($p = .815$; $p = .766$).

All correlations between OCS and SCS factors were positive and significant for both female and male FPs, although the coefficients between OCS and SCS dimensions were always lower for the females.

The professional and care load variables were more closely related to the OCS than to the SCS (Table 1). Family variables and dimensions of the *Family-Work Relationships* showed little difference between the genders. *Family-Work conflict* was associated with a lower perception of *Self-efficacy*. The category "my partner" of the variable "who does the housework" was inversely associated with SCS and directly associated with OCS for the female FPs but was not associated with either for the males. The ICC was lower for the male than for the female FPs in all dimensions with the exception of *Satisfaction* (Table 1).

Discussion

The response rate obtained, 73.6% of participants ($n = 368$ FPs), was highly acceptable for a self-administered questionnaire. Moreover, there were no differences in response rate between males and females or between those who were and were not tutors, indicating a lack of selection bias. We obtained two scales with good psychometric characteristics for the measurement of OSC and SCS in family medicine. Our findings indicate that the characteristics of the family impact on the subjective success of both female and male FPs and that professional characteristics are associated with objective success by both female and male FPs.

Major study strengths were the measurement and comparison of OCS and SCS between the genders, with adjustments for family and work characteristics and for the effect of the HC. Our study contributes to knowledge on professional success in medicine, a poorly explored field in Spain and elsewhere.

Table 1. Multiple regression analysis of objective and subjective career success factors by gender of physician, and Interclass Correlation Coefficient for effect of health center in 368 family practitioners in Spain.

Variables	Subjective Career Success				Objective Career Success						
	Satisfaction		Self-Efficacy		Merits of the Professional System		Institutional Merits		Academic Merits		
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	
Age (mean ± SD)	49.1 ± 4.34	51.3 ± 4.9***									
Patient list (mean ± SD)	2055 ± 224.8	2041 ± 304.1 ns									
N Professionals in health center (mean ± SD)	28.4 ± 9.1	36.4 ± 9.3 ns		0.194***							
Patients/day (mean ± SD)	36.5 ± 8.6	36.4 ± 9.3 ns	0.148**								
Hours dedicated to housework Monday–Friday (mean ± SD)	2.9 ± 3.1	1.1 ± 1.02***		0.135*							
FMS training (%)											
No	55.8	66.7 }***									
Yes	44.2	33.3 }					0	0	0	0	
FMS tutorship (%)											
No	71.98	73.12 } ns									
Yes	28.02	26.88 }					0	0	0	0	
FMS-accredited health center (%)											
No	52.2	55.9 } ns									
Yes	47.8	44.1 }									
Special care home (%)											
No	57.7	57.5 } ns									
Yes	42.3	42.5 }									
Domestic tasks are mainly performed by: (%)											
Respondent	64.9	33.5 }***	0	0	0	0	0	0	0	0	
Partner	12.6	56.1 }***	-0.162**	-0.239***	0.203**	0.203**	0.203**	0.203**	0.203**	0.203**	
Other	22.4	10.4 }	-0.129**	0.098	-0.047	-0.047	-0.047	-0.047	-0.047	-0.047	
											0
											0.194***

(continued)

Table 1. (continued)

Variables	Subjective Career Success				Objective Career Success					
	Satisfaction		Self-Efficacy		Merits of the Professional System		Institutional Merits		Academic Merits	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Overload and family support deficit (mean ± SD)	19.8 ± 8.2	14.5 ± 5.6***	-0.206***							
Work-family conflict (mean ± SD)	18 ± 5.6	16.7 ± 5.6**	-0.395***	-0.296***						
Satisfaction (mean ± SD)	37.2 ± 7.9	37 ± 8.4 ns								
Self-efficacy (mean ± SD)	26.6 ± 3.9	26.7 ± 3.9 ns								
Merits of the professional system (mean ± SD)	1.04 ± 1.7	1.7 ± 1.9***	0.201***	0.272***	0.163**	0.323***	0.137**	0.404***	0.232***	0.228***
Institutional merits (mean ± SD)	1.5 ± 1.2	1.9 ± 1.5***	0.291***	0.132**	0.197**	0.139**	0.214***	0.289***	0.289***	0.228***
Academic merits (mean ± SD)	0.4 ± 0.8	0.6 ± 0.9***	0.246***		0.344***					
Intraclass correlation coefficient health center			.05	.12	.11	<.001	.16	<.001	.07	.01

Note. FMS = family medicine specialty. Values in the table: β coefficient values: ns = not significant. *.05 < p < .10. **.01 < p < .05. ***p ≤ .01.

The factorial structure of the 24 OCS variables yielded three empirical factors with a high coherence, grouping FP career merits into three differentiated areas of their work life: professional system merits (scientific society, congresses, publications, etc.); institutional merits, linked to the health organization and its functions; and academic merits, related to university posts and research achievements.

Only two empirical dimensions were extracted in the SCS scale. The first, designated *Satisfaction*, is linked to questions of satisfaction with the results of professional success. The second dimension of the SCS scale, designated *Self-efficacy*, combines evaluation of the FP's own efforts with perception of self-efficacy in teaching, research, and clinical work.

OCS and SCS dimensions were significantly and positively interrelated in both female and male physicians, as reported by other authors (Kirchmeyer, 1998; Ng et al., 2005). These results appear to indicate that OCS and SCS are two sides of the same coin, as proposed by the interdependence theory, although these relationships were weaker for female physicians, confirming a difference in the significance of success between genders.

The female FPs scored lower in the three empirical dimensions of OCS but showed the same perceptions of Satisfaction and Self-efficacy as did the males. Other studies (Kirchmeyer, 1998; Nabi, 2000) reported that women had lower OCS scores but the same or higher SCS scores in comparison to men. This has been attributed to the effects of gender socialization, leading women to be satisfied with a lower level of professional success (Kirchmeyer, 1998), to have lower expectations, and to give lesser importance to their development (Nabi, 2000). Various authors have reported that women define success as a function of the quality of their social relationships and the balance between their work life and family life, whereas men define it according to material results, especially income (Dyke & Murphy, 2006; Markus, 1990; Saletti-Cuesta, Delgado, Ortiz-Gómez, & López-Fernández, 2013). Some authors (Markus, 1990; Riska, 2001) have claimed that this socialization theory is reductionist and fails to criticize the structure of organizations or existing career contents and models.

In fact, family and professional characteristics were related to OCS and SCS in both genders in our study. Interestingly, both female and male physicians reported that professional variables played a more important role than family variables in OCS dimensions and the inverse was the case for both genders in SCS dimensions.

The family workload was greater for the female FPs, who also scored higher for *Overload-Family Support Deficit* and *Family-work conflict* than did the males. It has been reported that success for females is influenced by

family factors and by the balance between family life and work life (Shollen, Bland, Finstad, & Taylor, 2009; Verlander, 2004), which have been found to exert a greater influence on the perception of success by women than by men (Dyke & Murphy, 2006; Markus, 1990). In this study, however, *Family-work conflict* was negatively associated with satisfaction by both male and female FPs, indicating that this balance is important for both genders, although the association was stronger for the females. *Overload-Family Support Deficit* was only related to self-efficacy in the males, which may imply that the gender socialization of female physicians endows them with superior internal mechanisms to confront the stresses of family life.

The professional variables were more frequently associated with OCS than with SCS in the multivariate models. As indicated by Heslin (2005), OCS depends on variables of the organization that are beyond the control of the subject. For both male and female physicians, institutional merits were positively associated with possession of the FMS, tutorship of FMS residents, and employment at an HC accredited for this specialty, and they were negatively associated with the number of patients/day.

According to the ICC values found, the role of the HC in their professional career was more important for the female FPs than for the males. Study limitations include the cross-sectional design, preventing investigation of the direction of relationships and the restriction to an urban setting. The statistical power of the study was reduced to 60%, although it retained internal validity because the main objective was to compare OCS and SCS by gender. Although the OSC indicators were self-reported, they relate to objectifiable information and the same questionnaire was used for both genders, limiting the information bias.

Longitudinal studies analyzing the professional performance of each gender and identifying barriers are required to enhance the development of female leaders and support their needs (Elston, 2009; Shollen et al., 2009). In addition, qualitative studies are warranted to address the meaning and complexity of this phenomenon for female and male physicians.

We highlight that the characteristics of the professional setting affected the OSC of both genders to a comparable degree, challenging the stereotype that professional conditions have a lesser influence on the career of female than male physicians. The female FPs perceived an equal level of subjective success, despite their lesser objective success in comparison to the males, which may be attributable to gender socialization or to an alternative attitude of women toward the hegemonic and andocentric idea of success. Our results indicate that the characteristics of the family impact the subjective success of both female and male FPs, likely reflecting the

increasing degree of involvement of men in reproductive work and the consequent change in gender relationships. These findings suggest that measures designed to promote the professional development of male and female physicians should take a broad view of the factors that determine the achievement and perception of professional success, addressing the organization of health care systems and the coresponsibility of both genders in family life, among other issues.

Acknowledgments

The authors are grateful to the participating physicians for their collaboration.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship and/or publication of this article: This research was supported by funds from the Andalusia Health Ministry, the Spanish Health Ministry, and the European Union (FEDER).

References

- Arthur, M., Khapova, S., & Wilderom, C. (2005). Career success in a boundaryless career world. *Journal of organizational behavior*, 26, 177–202. doi:10.1002/job.290
- Delgado, A., Saletti-Cuesta, L., López Fernandez, L. A., Luna, J. D., & Mateo, I. (2011). Gender and the professional career of primary care physicians in Andalusia (Spain). *BMC Health Services Research*, 28, 11, 51. doi:10.1186/1472-6963-11-51
- Delgado, A., Saletti-Cuesta, L., Toro-Cárdenas, S., López-Fernandez, L. A., Luna, J. D., & Mateo, I. (2011). Validación de escala para evaluar la relación familia-trabajo en médicas y médicos de familia [Validation of scale to assess the family-work relationship in female and male family physicians]. *Revista Española de Salud Pública*, 85, 159–172.
- Dries, N., Pepermans, R., & Carlier, O. (2008). Career success: Constructing a multidimensional model. *Journal of vocational behaviour*, 73, 254–267. doi:10.1016/j.jvb.2008.05.005
- Dyke, L., & Murphy, S. (2006). How we define success. A qualitative study of what matters most to women and men. *Sex Roles*, 55, 357–371. doi:10.1007/s11199-006-9091-2

- Elston, M. A. (2009). *Women and medicine: The future*. London, England: Royal College of physician.
- Heath, I. (2004). Women in medicine. *British Medical Journal*, 329, 412–413. doi: <http://dx.doi.org/10.1136/bmj.329.7463.412>
- Heslin, P. (2005). Conceptualizing and evaluating career success. *Journal of organizational behaviour*, 26, 113–136. doi:10.1002/job.270
- Kirchmeyer, C. (1998). Determinants of managerial career success: Evidence and explanation of male/female differences. *Journal of Management*, 24, 673–692. doi:10.1177/014920639802400601
- Levitt, C., Candib, L., Lent, B., & Howard, M. (2008). *Women physician and family medicine. Monograph/literature review*. Orlando, FL: Wonca Working Party on Women and Family Medicine.
- Markus, M. (1990). Mujeres, éxito y sociedad civil. Sumisión o subversión del principio de logro [Women, success and civil society. Submission or subversion of the achievement principle]. In S. Benhabib & D. Cornell (Eds.), *Teoría feminista y teoría crítica* (pp. 151–168). Valencia, Spain: Alfons El Magnanim.
- Nabi, G. (2000). Motivational attributes and organizational experiences as predictors of career-enhancing strategies. *Career Development International*, 5, 91–98. doi:10.1108/13620430010318963
- Ng, T., Eby, L., Sorensen, K., & Feldman, D. (2005). Predictors of objective and subjective career success: A meta-analysis. *Personnel Psychology*, 58, 367–408. doi:10.1111/j.1744-6570.2005.00515.x
- Riska, E. (2001). Towards gender balance: But will women physicians have an impact on medicine? *Social Science & Medicine*, 52, 179–187. doi:10.1016/S0277-9536(00)00218-5
- Saletti-Cuesta, L., Delgado, A., Ortiz-Gómez, T., & López-Fernández, L. A. (2013). Diferencias de género en la percepción del logro profesional en especialistas de medicina familiar y comunitaria. [Gender differences in the perception of professional achievement in Family Medicine, Spain]. *Revista Española de Salud Pública*, 87, 221–238.
- Seibert, S., Kraimer, M., & Linden, R. (2001). A social capital theory of career success. *Academic of Management Journal*, 44, 219–237. doi:10.2307/3069452
- Shollen, L., Bland, C., Finstad, D., & Taylor, A. (2009) Organizational climate and family life: How these factors affect the status of women faculty at one medical school. *Academic Medicine*, 84, 87–91. doi:10.1097/ACM.0b013e3181900edf
- Valian, V. (1998). *Why so slow? The advancement of women*. Cambridge, MA: MIT Press.
- Verlander, G. (2004). Female physicians: Balancing career and family. *Academic Psychiatry*, 28, 331–336. doi:10.1176/appi.ap.28.4.331