






ORIGINAL RESEARCH

Personal resources and their relationship to job crafting and burnout: a challenge for male nurses as a minority group

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Abstract

The heavy workload and pressure to which nurses are subjected leads to an increase in stress-related problems, such as burnout. Personal resources, such as job crafting, proactive personality, self-efficacy and regulatory focus are fundamental in palliating negative effects in the work environment and reducing quitting by male nurses. The objective of this study was to analyze individual differences, with attention to proactive personality, regulatory approach and general self-efficacy in job crafting, and to determine the predictive power of these variables for burnout in nurses. The sample was made up of 643 nurses. After correlation and descriptive analyses, multiple linear regression models were computed to find out the possible predictor role of the individual variables on burnout. The results showed that job crafting, proactive personality, general self-efficacy and the promotion regulatory focus were associated with a decrease in burnout in nurses. Similarly, the predictive models for each of the factors in burnout in all cases included the increase in structural resources dimension of job crafting as the variable with the most weight. Furthermore, self-efficacy, increase in job crafting social resources and proactive personality were mediators in this relationship for personal impact, social climate and job dissatisfaction factors of burnout. These findings are significant for improving performance of nurses and increasing their retention, which could be especially significant among male nurses.

Keywords

Job crafting; Burnout; Proactive personality; Self-efficacy; Regulatory approach; Nursing

1. Introduction

Nurses are recognized by the World Health Organization (WHO) as the essential pillar of a strong, secure healthcare system [1]. Spain has the third smallest number of nurses in all the European countries. In fact, Spain is one of the countries with the lowest nurse/patient ratio in the Organization for Economic Cooperation and Development (OECD) [2]. The average ratio of nurses in OECD countries is 8.8 per 1000 patients, while in Spain this ratio is only 5.7 nurses according to international statistics [3]. So, there is an urgent need for planning and improving human resources and working conditions in the Spanish healthcare system [4]. As shown in the global strategic lines for developing men and women's skills, healthcare system improvement starts by hiring, educating and training in nursing skills [5]. Some more specific strategies are hiring more male nurses [6], strengthening retention of employees and encouraging an increase in the number of male nurses [7], since only one

out of ten nurses in Europe are men [8]. This shortage of professionals impacts on the workers employed, increasing their workload and the pressure perceived by nurses [9, 10], which leads to an increase in stress-related problems [11, 12]. Therefore, retention of nurses goes through knowing the factors that palliate the labor problems in this sector. More so, considering that for male nurses in training, the commitment to the profession is the least important value of the job [13]. Some studies have shown that male turnover rates are higher and retention times shorter than for women [14, 15]. This could be related to the nursing profession being perceived as "women's work", where male nurses often feel gender prejudice and face limitations in their professional practice but also from their social communities beyond work [16]. Thus, gender culture in care increases stress and burnout in male nurses and has repercussions on turnover [17]. Kim & Lee [18] mentioned that there is more job stress among male nurses because of sexual discrimination. A relationship between gender discrimination and emotional exhaustion [17]

and low identification with the profession among male nurses have also been shown. In fact, Chen *et al.* [19] found that due to gender stereotypes many male professionals hide their profession from new friends and refuse to work in areas of nursing especially linked to women, such as gynecology or obstetrics.

1.1 Burnout in nurses

Long-term exposure to job stress above the individual's capacity for coping with it can lead to burnout [20]. The burnout syndrome is more likely to appear when workers perceive lack of fairness, absence of reciprocity and imbalance between effort and reward [21]. Nurses are usually faced with high levels of this syndrome, associated with heavy workloads, ineffective interpersonal relations, conflicts between family life and job, and high stress [22–25].

In recent years, the number of nurses who suffer from this syndrome has been increasing [26]. This result is a cause for concern due to the negative consequences to the individual and patients, families and healthcare organization as a whole [27].

This phenomenon can lead to the appearance of physical and psychological health problems among healthcare workers, in addition to being a key risk factor for burnout in nurses [28] and intention of quitting their job [29, 30].

In care work, the presence of burnout has been related to a decrease in patient safety [23, 31]. On an organizational level, it leads to high costs associated with the impact of nursing turnover, increase in physical and psychological disorders, and less quality and errors in patient care [32].

1.2 Importance of job crafting in nursing work

Although job stress can come about in very diverse situations, it is usually aggravated when the professionals have limited control over their work [33]. According to the World Health Organization [4], in Spain, over 70% of nurses are somewhat or moderately dissatisfied with their autonomy and opportunities their job offers.

This is partly because to date, the optimization of jobs has been done by the administration based on resources and demand [34]. However, the new economic trends based on the service sector have shown the need to include the professionals as active creators of their job [35], and that this improves the wellbeing and job performance of workers [36–38]. Job Crafting is the process in which workers actively influence their jobs [39]. It specifically refers to physical changes the works can make in their jobs. Physical changes have to do with the way tasks are performed, their scope or their number. And cognitive changes refer to how they perceive the work [40]. Thus, when job crafting is discussed, behavior is directed at increasing professional skills and development (which has been called increasing the job's structural resources), increasing interaction with fellow workers and supervisors (which means increasing the job's social resources), increasing proactivity in developing new and interesting job demands (that is, a growing demand for challenging work) and those which are directed at reducing stressful job demands (diminishing work demands) [41].

Active modification of the job by the employees themselves promotes positive results. For example, nurses who have autonomy for controlling their employment situation, the rate of work and scheduling their tasks perceive their work as a significant experience [42]. Thus, intervention for creating a positive work environment based on significant recognition and active participation by nurses, has shown beneficial effects in reducing burnout [43]. The study by Gordon *et al.* [37] showed how the presence of job crafting among nurses increased wellbeing and work significance. These authors observed a decrease in burnout and an increase in engagement and performance among nurses that had received training in job crafting and a posteriori implementation of the jobs designed.

1.3 Individual variables and their relationship with job crafting and burnout

Personal resources are fundamental in palliating the negative effects, such as burnout, that the job can generate, and promote work engagement and job crafting in healthcare professionals [10, 44]. Professionals with a proactive personality are more likely to create their own jobs, that is, show more job crafting [45, 46]. Proactive personality is a tendency to make intentional positive changes in one's setting [47]. In the work environment, this involves predisposition of an employee to identify opportunities, solve problems and take the initiative in promoting changes and improvements [48]. Proactive people tend to actively mold their work environment, promoting their own development and improving their professional adaptability [49]. Thus, this type of personality acts as a promotor of prosperity in the work environment, which in turn leads to improved professional adaptability [50]. Along this line, proactive personality has been shown to mediate in the relationship between presence of conflicts in the family and the job and developing burnout [51]. Furthermore, this type of personality reduces emotional exhaustion and promotes creativity, engagement, effective decision-making, significance of work and feelings of personal achievement and pertaining to the organization [52–54].

Another individual variable that has been associated with job crafting is self-efficacy [55]. Thus, nurses with more faith in their capacity for problem-solving show more creativity in their work and can optimistically overcome the barriers to performing their tasks [56]. General self-efficacy refers to the perception that individuals have about their own performance in a variety of situations [57], affecting the way in which they think, are motivated and act [58]. For example, people with less perceived self-efficacy tend to imitate leaders [59]. Self-efficacy is related to beliefs about the extent to which one controls one's progress [60]. So it affects the choices people make with respect to the tasks, goals and functions they perform [61]. Among nurses with little work experience, perceived self-efficacy is a predictor of satisfaction and job performance [62]. In addition, it is related to dedication to oneself [63] and engagement with the profession [64]. This variable has also been shown to be closely related to turnover in nursing, increasing retention of these workers in their job and patient satisfaction [65]. In this regard, self-efficacy has been found to be a protector variable against developing burnout

[66, 67]. Specifically, self-efficacy acts as a mediator in the relationship between the work overload to which nurses are subjected and level of burnout [68, 69].

The regulatory focus is another variable related to job performance. According to Higgins' theory, to reach their goals, individuals perform certain actions based on two self-regulatory systems: promotion or prevention [70]. Focus on promotion encourages workers to obtain positive results, while focus on prevention pays more attention to avoiding possible negative results [71]. When the focus is on promotion, employees are concerned with positive results. That is, they focus on ideals, achievements and aspirations. People with a prevention focus are mainly concerned with the presence or not of negative results. That is, they concentrate on their duties, obligations, potential failures and threats [72]. Thus, even when people have similar goals, the way they are reached may be very different [73]. The regulatory focus is even involved in the way information is interpreted. So employees with a promotion focus are more sensitive to positive feedback on their successes, while those with a prevention focus concentrate preferentially on negative feedback showing their errors [74]. Both regulatory focuses can coexist to different extents in the professional [70]. In jobs where stress is high, such as in nursing, the promotion focus increases job performance, as the circumstances are perceived as challenges, while workers with a prevention focus usually perceive job stress as an obstacle that limits effective strategies and job satisfaction [75]. Those with a strong promotion regulatory focus are conscientious focus on the performance of their tasks, while professionals oriented toward avoiding errors show more anxiety [76]. Similarly, the promotion focus has a robust association with job crafting [46] and predicts job performance [77].

1.4 This study

The new focus of occupational psychology emphasizes the need to increase the effort to study how certain positive variables can be used to protect employees from job risk [40]. Added to this is the need to investigate the understanding of how job crafting can generate opportunities in different groups of employees [41]. Current studies on employee behavior show they can have a leading active role in redesigning their jobs [78]. According to the job demands-resources model (JD-R) [79, 80] employees are exposed to a series of demands and resources in their jobs. Demands are understood to be physical, psychological or social aspects of the job that require employees to make a sustained effort, with consequences to their health and wellbeing, while resources are those aspects that assist the employee in struggling with demands and buffering their effects [81]. From this perspective, job crafting is a series of cognitive and/or behavioral modifications based on job demands and resources [82]. In addition, other positive variables, such as the promotion regulatory focus, Proactive personality and self-efficacy would act as favorable resources for facing job demands, palliating such negative effects as burnout on employee wellbeing.

Based on the job demands-resources model, the research questions guiding this study were posed as follows: What differences in proactive personality, regulatory focus and self-

efficacy are related to job crafting in nursing? Is there a relationship between job crafting and burnout? And if so, how do self-efficacy, proactive personality and regulatory focus affect the relationship between these two positive variables?

Thus, inquiry into these variables could be a key opportunity for retaining nurses, especially men. In view of the above, the objective of this study was to analyze individual differences, with attention to proactive personality, regulatory focus and general self-efficacy in job crafting, and also analyze the predictive value of the variables and their relationships with burnout, in nurses. The purpose was therefore to find new evidence of the impact of the positive individual variables mentioned above on the psychological wellbeing of nurses.

2. Methods

2.1 Participants

The original sample consisted of 672 nurses who were working in Spanish hospitals at the time of the study and who gave their voluntary consent to participate. Of these, 29 were eliminated because incongruencies or random answers had been detected. The study sample was therefore made up of a total of 643 nurses. G*Power ver.3.1.9.4 (Universitat Kiel, Kiel, Germany) for Windows was used to estimate the sample size required [83]. The default program parameters were retained: level $\alpha = 0.05$, expected power of 0.95 and medium effect size ($d = 0.50$). With these parameters, the program estimated a minimum required sample size of $N = 176$. Furthermore, given the accepted levels of error and the expected effect size, the minimum size required for each gender group was $n = 88$. The statistical power ($1 - \beta = 0.95$) surpassed the minimum levels required (80%).

The participants were aged 22 to 58 with a mean age of 31.60 (SD = 6.76). Of the total sample, 86.2% ($n = 554$) were women and 13.8% ($n = 89$) men, with a mean age of 31.66 (SD = 6.88) and 31.24 years (SD = 6.86), respectively. Their marital status was 60.8% ($n = 391$) single, followed by 36.7% married ($n = 236$), and the remaining 2.5% ($n = 16$) were separated/divorced. They worked a mean of 35.97 hours a week, with shifts that were mainly rotating in 70.5% of cases ($n = 390$). The effect size estimated based on the sensitivity analysis by sample gender distribution was $d = 0.37$, which means that any difference in the comparison of the two groups would have to be above this value to be considered significant.

2.2 Instruments

Proactive personality was evaluated with the Proactive personality Scale (PPS) [47]. The Spanish translation was used for this study. The instrument is made up of 10 items (e.g., "I am always looking for better ways to do things") with answer choices on a seven-point Likert-type scale (from 1 = never to 7 = always). A higher score (found from the sum of the 10 items), indicates a personality with a tendency to proactive behavior. The reliability in the study by Bateman *et al.* [47] was $\alpha = 0.87$. The Cronbach's alpha found for the scale in this study was $\alpha = 0.93$.

Regulatory focus was evaluated with the Spanish translation of the Regulatory Focus Scale (RFS) [84]. This instrument,

made up of 10 items, reports orientation toward promotion or prevention, following the Regulatory Focus Theory proposed by Higgins [70]. Each orientation is in turn divided into two scales, openness to new things (ONT; *e.g.*, “I generally solve problems creatively”) and autonomy (A; *e.g.*, “I prefer to work without instructions from others”), in orientation toward promotion; and orientation toward prevention includes the orientation toward expectations from others (OEO; *e.g.*, “It is important to me that my achievements are recognized and valued by other people”) and sense of obligation (SO; *e.g.*, “For me, it is very important to carry out the obligations placed on me”) subscales. The answers are rated on a seven-point Likert-type scale (from “definitely false” to “definitely true”). The scores on each subscale are found from the sum of its items. The validation study showed adequate psychometric data. The Cronbach’s alpha for the scale in this study was $\alpha = 0.81$ for openness to new things, $\alpha = 0.70$ for autonomy, $\alpha = 0.83$ for orientation toward expectations from others, and $\alpha = 0.78$ for sense of obligation.

The Spanish version [85] of the General Self-efficacy Scale [86] was used to find out participant beliefs concerning their ability to handle different daily situations adequately. The instrument consists of 10 items (*e.g.*, “Because of my qualities and resources, I can overcome unforeseen situations”) and the answer format follows a four-point Likert-type scale (1 = wrong and 4 = right). A total score is found from the sum of the instrument’s items such that a higher score is indicative of higher self-efficacy. Internal consistency in the original study was $\alpha = 0.87$, and in this study reliability was $\alpha = 0.92$.

For evaluation of Job Crafting behavior, the Spanish version [41] of the Job Crafting Scale (JCS) [87] was used. This instrument, validated with Spanish workers consists of 21 items with answers coded on a seven-point Likert-type scale (from 1 “never” to 7 “always”). These items are grouped around four factors: increase in structural resources of the job (five items; *e.g.*, “(I make sure that I use my capacities to the fullest”), decrease in work demands (six items; *e.g.*, “I try to ensure that my work is emotionally less intense”), increase in social demands of the job (5 items; *e.g.*, “I ask colleagues for advice”), and growing demand for challenging work (five items; *e.g.*, “If there are new developments, I am one of the first to learn about them and try them out”) The score on each scale is found from the sum of its items, so a higher score is indicative of more job crafting on the particular scale. The internal consistency was adequate in the original validation of the instrument. The authors [41] found a reliability of $\alpha = 0.70$ on the Increasing structural job resources factor, $\alpha = 0.77$ on Decreasing hindering job demands, $\alpha = .78$ for Increasing social job resources, and $\alpha = 0.76$ on Increasing challenging job demands. The Cronbach’s alpha for each of the factors in this study was $\alpha = 0.94$, $\alpha = 0.89$, $\alpha = 0.82$ and $\alpha = 0.82$, respectively.

Burnout was evaluated using the Brief Burnout Questionnaire [88], specifically, the Spanish validation for healthcare workers (Brief Burnout Questionnaire Revised for Nursing Personnel CBB-R) [89]. The scale consists of four factors evaluated by 15 items answered on a five-point Likert-type scale, where the scores on each scale are found from the sum of its items. The Job Dissatisfaction scale refers to the balance

between job expectations and reality in four items (*e.g.*, “The job I do is far from what I would like”). The Social climate factor is made up of three items related to the relationship of the employee with coworkers and superiors (*e.g.*, “Coworkers support each other on the job”). The third factor, Personal Impact, has four items and refers to the direct consequences of exhaustion on the employee (*e.g.*, “When I am at work I am in a bad mood.”) Finally, the Motivational Abandonment factor has four items related to absence of stimulation for job growth (*e.g.*, “My interest in my professional development is very low right now”) The reliability data on the study by Pérez-Fuentes *et al.* [74] was $\alpha = 0.69$ for Job Dissatisfaction; $\alpha = 0.66$ on the Social climate factor; $\alpha = 0.80$ on Personal Impact; and $\alpha = 0.52$ on the Motivational Abandonment, and in this study, it was $\alpha = 0.73$; $\alpha = 0.65$; $\alpha = 0.84$; and $\alpha = 0.67$, respectively.

2.3 Procedure

This cross-sectional descriptive study employed snowball sampling in social networks and texting. Data were collected from care professionals who were volunteer participants. A CAWI (Computer Aided Web Interviewing) survey was used for data collection. The purpose and relevant information on the study (data confidentiality and anonymity of answers, possibility of dropping out of the study at any time without detriment). The time estimated for the survey was 10 to 15 minutes. To go on to the survey, the participants had to give their consent to participate by marking a box designated for the purpose. Control questions were included for detecting random answers.

2.4 Data analysis

First, to explore the relationships of the variables, correlation analyses were performed and descriptive statistics were calculated. A two-stage cluster analysis was done for burnout which enabled cases to be classified by mean scores on each of the burnout dimensions. For the comparative analysis of the clusters to detect whether there were significant differences with regard to the rest of the variables in the study, a student’s *t*-test was done using the Cohen’s *d* to estimate the effect size.

Then stepwise multiple linear regression models were estimated. For each of the models, the burnout dimensions were entered as the dependent variables. The predictor variables were those where statistically significant differences were found after the comparative analysis: Proactive personality, regulatory focus (openness to new things, autonomy, and sense of obligation), Self-efficacy, and Job Crafting (increasing structural job resources, increasing social job resources, and increasing challenging job demands). Data processing and analysis was done using the SPSS statistical package version 23.0 (IBM Corp, Armonk, NY, USA) for Windows.

Finally, a simple mediation analysis was performed, taking the burnout dimensions as dependent variables. In each case, the possible mediators entered were those involved in the equation resulting from each of the linear regression models computed. The PROCESS macro for SPSS [90] with bootstrapping using 5000 bootstraps was applied to process the mediation models.

TABLE 1. Proactive personality, regulatory focus, Self-efficacy, and Job Crafting. Correlations and descriptive statistics.

	PP	ONT	A	OEO	SO	SE	IStJR	DHJD	ISoJR	IchJD
PP	-									
ONT	0.69***	-								
A	0.45***	0.42***	-							
OEO	0.24***	0.33***	0.29***	-						
SO	0.60***	0.57***	0.51***	0.38***	-					
SE	0.66***	0.51***	0.33***	0.11***	0.50***	-				
IStJR	0.65***	0.56***	0.45***	0.23***	0.68***	0.59***	-			
DHJD	0.31***	0.30***	0.20***	0.34***	0.13**	0.25***	0.26***	-		
ISoJR	0.29***	0.32***	0.17***	0.43***	0.20***	0.20***	0.24***	0.51***	-	
IchJD	0.57***	0.59***	0.33***	0.28***	0.43***	0.46***	0.56***	0.36***	0.46***	-
M	82.47	4.81	4.76	4.43	5.55	31.47	4.71	3.91	3.83	4.58
SD	14.21	1.03	0.94	1.36	0.96	4.91	0.81	1.34	1.26	1.16

Note. PP, Proactive personality; ONT, Openness to new things; A, Autonomy; OEO, Orientation to the expectations of others; SO, Sense of obligation; SE, Self-efficacy; IStJR, increasing structural job resources; DHJD, decreasing hindering job demands; ISoJR, increasing social job resources; IchJD, increasing challenging job demands. ** $p < 0.01$; *** $p < 0.001$. M = mean; SD = Standard Deviation.

3. Results

3.1 Proactive personality, regulatory focus and self-efficacy and their relationship with job crafting: correlations and descriptive analyses

As observed in Table 1, proactive personality correlated positively with all the regulatory focus components, both in promotion and prevention. Furthermore, proactive personality was related positively to self-efficacy. The Job Crafting dimensions were positively correlated in all cases with proactive personality: Increasing structural job resources, decreasing hindering job demands, increasing social job resources, and increasing challenging job demands.

Self-efficacy showed positive correlations with four elements of the regulatory focus, and also with the dimensions of Job Crafting. Finally, the relationships established between the components of regulatory focus and Job Crafting were positive and significant in all cases.

Moreover, the mean scores for each of the variables were tested and a comparative analysis by gender was done. In general, there were no statistically significant differences between men and women in most of the variables involved in the analysis, observing similar mean scores for both sexes. A few differences were found in some of the dimensions of the regulatory focus (sense of obligation: $t = -4.44$, $p < 0.001$; $M♂$ 5.13 < $M♀$ 5.61), Job Crafting (increase structural job resources: $t = -4.77$, $p < 0.001$; $M♂$ 4.33 < $M♀$ 4.77) and

burnout (job dissatisfaction: $t = 3.94$, $p < 0.001$; $M♂$ 2.39 > $M♀$ 2.10 and motivational abandonment: $t = 3.35$, $p < 0.001$; $M♂$ 2.57 > $M♀$ 2.33).

3.2 Burnout profiles: differences in individual variables and in Job crafting

First, the mean scores for the study sample in the Burnout dimensions were: personal impact ($M = 2.11$), job dissatisfaction ($M = 2.14$), motivational abandonment ($M = 2.37$), and Social climate ($M = 3.93$). A two-stage cluster analysis performed to classify the cases by scores on the burnout dimensions (Fig. 1) found two groups or clusters.

The first cluster (C1), made up of 21.5% of the cases ($n = 138$), was characterized by scoring above the overall mean in the personal impact, job dissatisfaction, and motivational abandonment dimensions, and lower than the sample mean score in Social climate.

The second cluster (C2), with 78.5% of the cases ($n = 505$), was defined by scores below the sample mean in personal impact, job dissatisfaction, and motivational abandonment; and a score higher than the mean in Social climate.

Table 2 shows the mean scores on the individual variables and the Job Crafting components when the burnout profiles found based on the cluster analysis were compared. As observed, Cluster 2 has significantly higher scores than Cluster 1 in Proactive personality, openness to new things, autonomy, sense of obligation, Self-efficacy, increasing structural

TABLE 2. Proactive personality, regulatory focus, Self-efficacy and Job Crafting. Descriptive statistics and *t*-test by burnout profile.

	Burnout								
	C1			C2			<i>t</i>	<i>p</i>	<i>d</i>
	N	Mean	SD	N	Mean	SD			
PP	138	74.59	17.53	505	84.62	12.33	-6.30	0.000	0.61
ONT	138	4.33	1.22	505	4.94	0.93	-5.46	0.000	0.53
A	138	4.47	1.22	505	4.84	0.84	-3.32	0.001	0.32
OEO	138	4.42	1.43	505	4.44	1.34	-0.15	0.874	-
SO	138	5.04	1.33	505	5.68	0.78	-5.38	0.000	0.52
SE	138	29.17	6.25	505	32.10	4.27	-5.17	0.000	0.50
IStJR	138	4.06	1.10	505	4.89	0.60	-8.42	0.000	0.81
DHJD	138	3.76	1.22	505	3.95	1.36	-1.53	0.125	-
ISoJR	138	3.60	1.23	505	3.89	1.26	-2.35	0.019	0.23
ICHJD	138	3.98	1.25	505	4.74	1.07	-7.16	0.000	0.69

Note. PP, Proactive personality; ONT, Openness to new things; A, Autonomy; OEO, Orientation to the expectations of others; SO, Sense of obligation; SE, Self-efficacy; IStJR, increasing structural job resources; DHJD, decreasing hindering job demands; ISoJR, increasing social job resources; IChJD, increasing challenging job demands. C1 = Cluster 1; C2 = Cluster 2. M = mean; SD = Standard Deviation.

job resources, increasing social job resources, and increasing challenging job demands.

3.3 Multiple linear regression models for burnout

In the Personal impact dimension, two models resulted, the second of which explained 16.6% of the variance ($R^2 = 0.16$). The validity of the model, as determined by the Durbin-Watson *D*, was 2.06. According to the standardized coefficients, increasing structural job resources had the most explanatory value.

In Job dissatisfaction, as observed in the table, two models were found. In the second, the explained variance was 19.7% ($R^2 = 0.19$) and the *D* = 1.91, confirming the model's validity. In this case, increasing structural job resources was the strongest predictor in the equation.

For Motivational Abandonment, the regression analysis revealed a single model, where the Increasing structural job resources variable was the only one which entered the equation, with an explained variance of 15.7% ($R^2 = 0.15$). The Durbin-Watson *D* = 1.99.

Finally, for the Social climate dimension of Burnout, two models were found in the regression analysis, where the second of them showed an explanatory value of 18.9% ($R^2 = 0.18$) and with *D* = 1.97, confirming the model's validity (Table 3).

3.4 Mediation models

Based on these results, we saw a need to evaluate whether, in those cases where more than one variable was included in the equation, the factors with the least predictive value were acting as mediators in the effect of the IStJR dimension of Job Crafting on the Burnout components. To find out, we computed simple mediation models, in which the mediators were the factors involved in the corresponding equation in each case.

Fig. 2 shows the simple mediation model for personal impact. The first regression analysis estimated the effect of the IStJR dimension with Self-efficacy as the result variable (M), and was found to be significant $B = 3.54$, $p < 0.001$). The following regression analysis, taking Personal impact as the result variable (Y), estimated the effect of the independent variable $B = -0.29$, $p < 0.001$ and the mediator $B = -0.03$, $p < 0.05$, which were statistically significant in both cases.

The total effect of the model was significant $B = -0.34$, $p < 0.001$. Finally, the analysis of indirect effects using bootstrapping found a significant effect $B = -0.04$, $SE = 0.02$, 95% CI (Confidence Interval) (-0.099, 0.000).

In Fig. 3, the mediation model proposed for Job Dissatisfaction showed a significant relationship between the IStJR dimension of Job Crafting (X) and Proactive personality (M): $B = 11.39$, $p < 0.001$. The estimate of the direct effect $X \rightarrow Y$ demonstrated the existence of significance in the relationship $B = -0.29$, $p < 0.001$. In addition, the estimation of the $M \rightarrow Y$

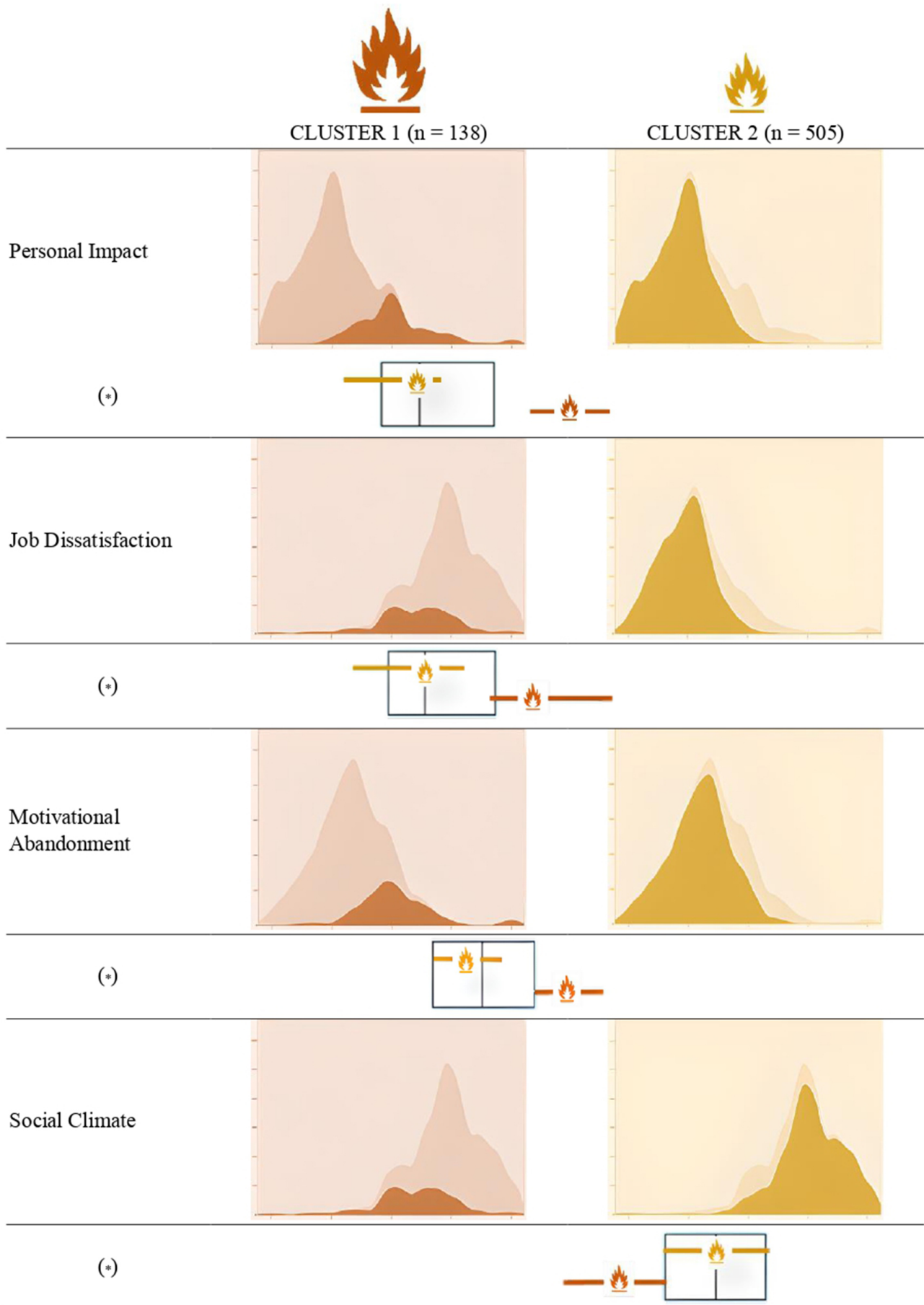


FIGURE 1. Cluster composition. Note. Factors in order of importance of input. (*) Cluster comparisons.

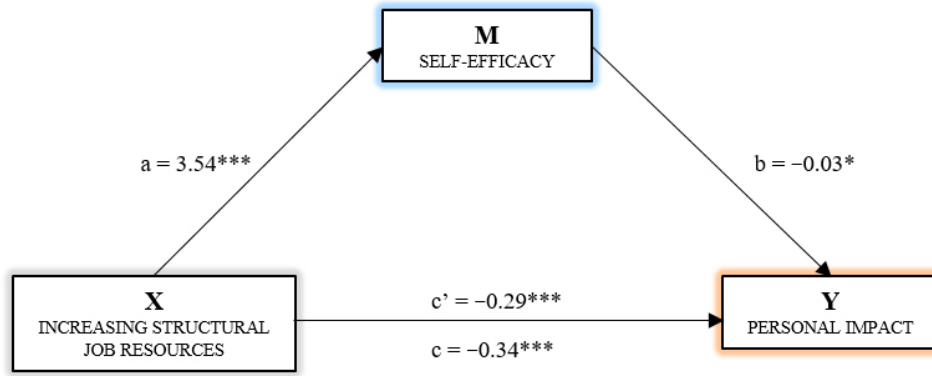


FIGURE 2. A simple mediation model of Self-efficacy on the relationship between the IStJR dimension of Job Crafting and Personal impact of burnout.

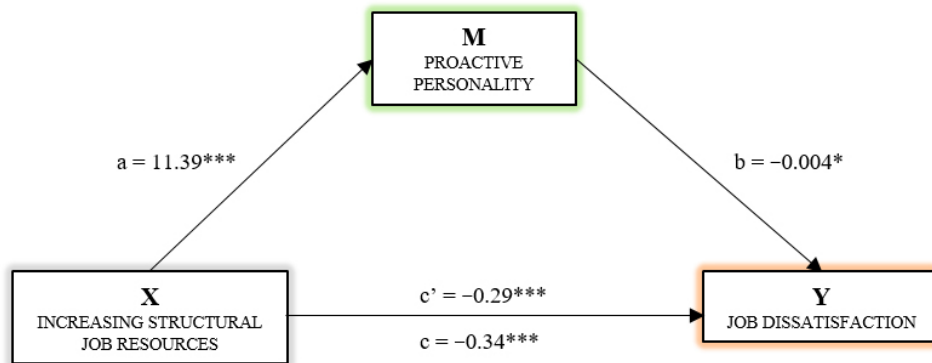


FIGURE 3. Simple mediation model of Proactive personality on the relationship between the IStJR dimension of Job Crafting and Job dissatisfaction of Burnout.

effect was also significant $B = -0.004$, $p < 0.05$, although with a small magnitude. With the analysis of indirect effect ($X \rightarrow M \rightarrow Y$), using bootstrapping, no significant values were found $B = -0.04$, $SE = 0.02$, 95% CI $(-0.102, 0.002)$.

Finally, Fig. 4 shows the simple mediation model for Social climate, as another of the dimensions of burnout. In the first regression analysis, the result variable was the ISOJR dimension of Job Crafting (M), and the effect of the IStJR dimension was estimated, finding it to be significant $B = 0.37$, $p < 0.001$. With the following regression analysis, taking Social climate as the result variable (Y), the effects of the independent variable $B = -0.30$, $p < 0.001$ and the mediator $B = 0.04$, $p < 0.05$ were estimated, with a total effect of the model of $B = 0.32$, $p < 0.001$. Finally, based on the indirect effect analysis, in this case, the effect was significant $B = 0.01$, $SE = 0.007$, 95% CI $(0.002, 0.032)$.

4. Discussion

The shortage of human resources in nursing is a worldwide challenge, and men can perform a crucial role in alleviating it [91]. According to data from the WHO, only 10% of the worldwide nursing workforce is male [7]. Our health systems therefore have to be reformed for more equal treatment of gender as soon as possible [92]. In this context, as outlined by the Job Demands-Resources Model [79, 80], job crafting has been identified as a powerful resource for retaining employees

[82]. This study focused on whether there are differences in this variable with regard to individual factors such as proactive personality, self-efficacy and the regulatory focus, and its effects on burnout.

Based on the first results, we found significant differences between men and women in only a few of the variables analyzed. Women specifically showed a higher sense of obligation in the regulatory approach and increasing structural job resources in Job Crafting. This shows that women are more focused on improving their job skills and have a stronger sense of demand toward their professional duties. And men show more Job Dissatisfaction and Motivational Abandonment in Burnout. In other words, men have more unfavorable feelings about their work than their female counterparts. This shows the need to inquire into the personal resources that could be beneficial for alleviating negative consequences derived from professional action in nursing, like burnout.

Furthermore, we can state that the relationships between the components of the regulatory focus, general self-efficacy and proactive personality with Job crafting among nursing personal are in all cases positive and significant. Thus, the individual resources mentioned above are determinant in promoting significant change in work behavior and Job Crafting [44, 46]. According to previous studies, the presence of proactive personality is associated with proactive behavior in creating work [40]. Similarly, since the perception of self-efficacy affects how one acts and individual motivation

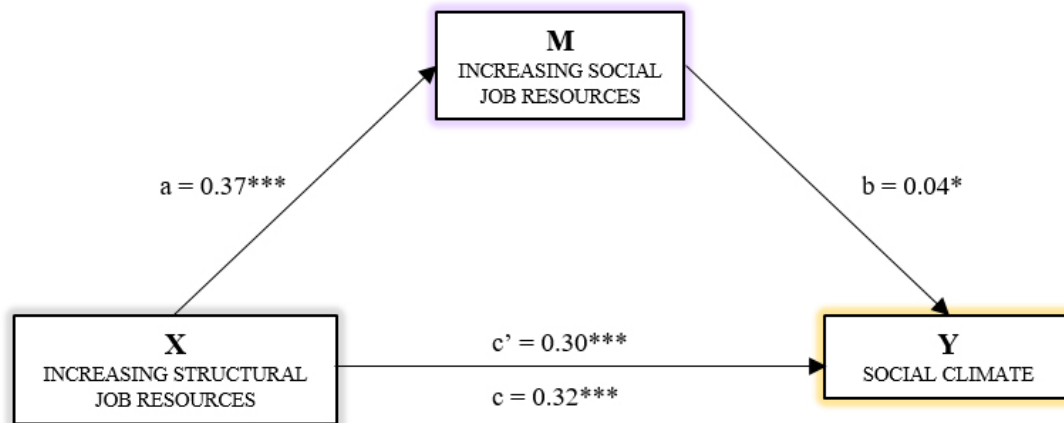


FIGURE 4. Simple mediation model for ISoJR on the relationship between the IstJR dimension of Job Crafting and Social climate of burnout.

[58], it is no wonder that those with a stronger tendency to create their own job, also show higher levels of general self-efficacy. Our results concerning the regulatory focus differ somewhat from the meta-analysis of Rudolph *et al.* [46]. These authors found a relationship between all the dimensions of Job Crafting except decrease in hindering job demands and the promotion regulatory focus. Therefore, and in response to the first research question, we showed that individual variables such as proactive personality, the regulatory focus and self-efficacy are related to job crafting. In other words, nurses whose personality focuses on solving situations, believe in their own abilities and are focused on an active search for positive results, tend to make behavioral and cognitive efforts to positively influence their jobs.

Furthermore, the second objective of this study was to analyze the predictive value of the above variables and their relationships with Burnout, among nurses. The cluster analysis showed two groups of workers. The mean scores in Proactive personality, self-efficacy, regulatory focus and Job Crafting were significantly higher for professionals in Cluster 2, except in the regulatory focus Orientation toward expectations from others factor and Job Crafting's decrease hindering job demands, where no differences were found between the groups. Thus, the professionals least affected by the burnout syndrome showed higher levels in all the individual variables mentioned above. This coincides with the literature, which suggests that Job Crafting [37, 43], proactive personality [52–54], general self-efficacy [66, 67] and the promotion regulatory focus are associated with a decrease in Burnout among workers. This suggests that nurses who tend to face demands and obstacles that appear during their professional practice and who feel capable of it are not as burnt. This fits with the postulates of the Job Demands-Resources Model (LDR; 79, 80), as these individual resources would help cope with job demands that would be seen as opportunities instead of obstacles for professional development and wellbeing.

The predictor models for each of the Burnout factors in all cases showed an increase in the Job Crafting structural resources as the variables with the most weight. This result follows the proposal by Gordon *et al.* [37], in which Job Crafting was a negative predictor of Burnout level in workers.

After computing the mediation models, it was found that self-efficacy mediated in the relationship between the Burnout personal impact factor and Job Crafting. Self-efficacy was related to beliefs about the extent to which one controls one's own future [60], which could mean more control of the negative effect of work on one's life. That is, belief in one's own abilities would improve the ability to actively influence the job and so help reduce burnout.

The model of Job Crafting's increase in structural resources and Job Dissatisfaction in Burnout established proactive personality as the mediator in this relationship. Thus, having a personality directed at actively promoting positive changes in the surroundings promotes significance of work [52] and improvement in professional adaptability [49], when changes are made and improve the work environment [48].

Finally, the burnout factor related to the relationship workers have with their coworkers and superiors at work (social climate) had as a predictor, like the rest of the dimensions, the increase in the structural resources of Job Crafting, where the mediator was the increase in social resources of job crafting. Thus, the increase in interaction with coworkers and superiors [41] acted as a mediator in the predictor effect of the increase in job skills and competencies on social climate at work. Therefore, levels of burnout in nursing caused partly by deficient relations with superiors and coworkers [24–27], are lessened by the direct effect of actively increasing job skills and by the mediating effect of the increase in interaction with other workers. This suggests that improving individual personal skills for coping successfully with work would reduce job distress caused by poor relations with other employees, especially if they promote quality relationships and job support between coworkers and supervisors in nursing.

5. Limitations

Among the limitations of this study, is the difficulty in comparing the results, because even though the Burnout Brief Questionnaire Revised Nursing Health Personnel (CBB-R) has shown adequate psychometric properties for this group of workers, the shortage of studies done to date based on this scale impedes comparison of findings. In addition, the area where

TABLE 3. Stepwise multiple linear regression models for the burnout dimensions.

Personal impact									
Model	R	R^2	Corrected R^2	Change statistics				Durbin Watson	
				Standard error of estimation	Change in R^2	Change in F	Sig. of change in F		
1	0.40	0.16	0.15	0.64	0.16	122.21	0.000		
2	0.40	0.16	0.16	0.64	0.00	4.55	0.033		
Model 2	Unstandardized coefficients			Standardized coefficients	t	Sig.	Collinearity		
	B	Std. error		Beta			Tol.	VIF	
(Constant)	3.93	0.17			22.32	0.000			
IStJR	-0.29	0.03		-0.34	-7.68	0.000	0.65		
SE	-0.01	0.00		-0.09	-2.13	0.033	0.65		
Job dissatisfaction									
Model	R	R^2	Corrected R^2	Change statistics				Durbin Watson	
				Standard error of estimation	Change in R^2	Change in F	Sig. of change in F		
1	0.43	0.19	0.19	0.58	0.19	152.32	0.000		
2	0.44	0.19	0.19	0.58	0.00	4.03	0.045		
Model 2	Unstandardized coefficients			Standardized coefficients	t	Sig.	Collinearity		
	B	Std. error		Beta			Tol.	VIF	
(Constant)	3.9	0.14			26.38	0.000			
IStJR	-0.29	0.03		-0.37	-8.02	0.000	0.57		
PP	-0.00	0.00		-0.09	-2.00	0.045	0.57		
Motivational abandonment									
Model	R	R^2	Corrected R^2	Change statistics				Durbin Watson	
				Standard error of estimation	Change in R^2	Change in F	Sig. of change in F		
1	0.39	0.15	0.15	0.58	0.15	119.75	0.000		

TABLE 3. Continued.

Personal impact									
Model 1	Unstandardized coefficients			Standardized coefficients	<i>t</i>	Sig.	Collinearity		
	<i>B</i>	Std. error		Beta			Tol.	VIF	
(Constant)	3.81	0.13			28.43	0.000			
IStJR	-0.30	0.02		-0.39	-10.94	0.000	1.00	1.00	
Social climate									
Model	<i>R</i>	<i>R</i> ²	Corrected <i>R</i> ²		Change statistics			Durbin Watson	
				Standard error of estimation	Change in <i>R</i> ²	Change in <i>F</i>	Sig. of change in <i>F</i>		
1	0.42	0.18	0.18	0.56	0.18	142.14	0.000		1.97
2	0.43	0.18	0.18	0.56	0.00	5.66	0.018		
Model 2	Unstandardized coefficients			Standardized coefficients	<i>t</i>	Sig.	Collinearity		
	<i>B</i>	Std. error		Beta			Tol.	VIF	
(Constant)	2.30	0.13			17.01	0.000			
IStJR	0.31	0.02		0.40	11.03	0.000	0.94	1.06	
ISoJR	0.04	0.01		0.08	2.38	0.018	0.94	1.06	

Note. *PP*, Proactive personality; *SE*, Self-efficacy; *IStJR*, increasing structural job resources; *ISoJR*, Increasing social job resources.

the nurses were working, which could be related to Job Crafting, was not taken into account. In areas of major structuring, where the ability for active Job Crafting is more limited, such as the Emergency Room, there may be less Job Crafting by employees, and the relationships with Burnout may be different. The nature of this study should also be mentioned, because as a cross-sectional study, no causal relationships between variables could be established.

6. Conclusions

Work and social changes that we have been witnessing in recent times have promoted a need to investigate the protective effects of positive individual variables against job risks. Job Crafting has been shown to be a variable promoting positive changes in the work environment that acts as a predictor of employee Burnout levels. Encourage opportunities for nurses to actively affect their jobs by job crafting, which could be a way to improve performance and increase their retention. This could be especially significant for male nurses.

This study showed the possibility of palliating the negative effects of burnout by increasing the professionals' ability to design their own job. Thus, training in Job Crafting, along with the rest of the variables analyzed for healthcare employees could decrease burnout associated with very high levels of chronic job stress.

7. Practical implications

The lack of human resources in Spanish healthcare services affects the rest of the world almost the same way, showing the need to promote better work conditions in nursing and retaining employees. This is especially important for male employees where turnover is higher and gender stereotypes in the profession can increase their emotional exhaustion and low job identification and commitment. This study showed that it is possible to improve the wellbeing of employees in nursing by promoting personal variables, such as the promotion regulatory focus, proactive personality and self-efficacy. All of them are related positively to job crafting, or in other words, the tendency to create a positive job situation for oneself. And in turn, job crafting is related to less burnout. Thus, one of the worst problems in nursing, burnout, could be reduced if these variables were promoted in training, providing nurses with skills and competencies for actively improving their jobs. This training could be implemented in two ways, in early university education, and through permanent training focused on technical and personal skills. This would lead not only to highly qualified, but also highly satisfied professionals.

AUTHOR CONTRIBUTIONS

MdCPF, MdMMJ, ÁMM, and ABBM—contributed to the conception and design of the review. JJGL and ABBM—applied the search strategy. MdCPF, MdMMJ, and ÁMM—wrote this manuscript. MdCPF and JJGL—edited this manuscript. All authors applied the selection criteria. All authors completed the assessment of the risk of bias. All authors analyzed the data and interpreted data. All

authors have read and agreed to the published version of the manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study was approved by the Bioethics Committee of the University of Almería (Ref: UALBIO2017/011).

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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