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Research Article

Workaholism and work-family interaction among emergency and critical care nurses

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ABSTRACT

Objectives: Investigating the prevalence of workaholism as well as the relationship between work-family interaction among emergency and critical care nurses.
Research methodology/design: A quantitative cross-sectional study.
Setting: A total of 219 nurses took part in the Dutch Work Addiction Scale (DUWAS-10) and the Survey Work-Home Interaction Nijmegen (SWING), which included socio–demographic and occupational question. Data was gathered in Spain between June and September 2019.
Results: Workaholism was found to be prevalent in 28.3% of the participants. In all four categories, workaholism was statistically connected to work-home interaction, with workaholics having higher means than non-workaholics. Perceived work stress was related to workaholism (p =.036). In the Work Excessively dimension, female nurses had significantly higher mean scores (M = 2.26) than their male counterparts (M = 1,88).
In addition, in the Negative Work-Home Interaction (M = 2.04), the global mean scores were higher than in the Negative Home-Work Interaction (M = 1.34), indicating conflict and a negative impact of work on the family.
Conclusion: The findings of this study demonstrated the necessity of taking into account demands and resources from both the work and home domains since it has been shown that both have an impact on one other. Furthermore, given the vital responsibilities that emergency and critical care nurses play in the health care system, our findings suggest that occupational health treatments should be used to identify those working profiles that are particularly at risk.

Implications for clinical practice

- Given the critical role that nurses play in the healthcare system, the findings of this study have substantial implications for occupational health and management departments in detecting those working profiles that are particularly at risk.
- Nurses should feel motivated to lead changes in the workplace by modeling healthy habits, restructure schedules and improve time management.
- Nursing professionals living with higher workaholism levels could be encouraged to find support in community groups, or even on clinical therapy or counseling to help uncover the underlying issues related to work addiction.

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Introduction

Workaholism has piqued the interest of researchers in recent years, despite the fact that it is not a novel phenomenon (Sussman, 2018). It was first introduced in 1971 by Oates as "the compulsion or the uncontrollable need to work incessantly". In his work, *Confessions of a Workaholic, the term is defined* as a permanent, excessive, and uncontrollable need for work that disrupts one's health, happiness, and personal relationships. Shimazu and Schaufeli (2009) describe a work addict as someone who is motivated by a strong internal drive that cannot be resisted rather than being driven by external factors. According to the literature, there are three common aspects of workaholism (Aguilera-Luque, 2017):

- An impulse to work by an individual's inner drive, not related to external factors such as economic need, job demands, etc.
- Working more than what is reasonable for an organization's expectations, oblivious to the potential negative impacts on physical and psychosocial well-being.
- Persistent and frequent thoughts about work, even when the person is outside of their work place.

This last aspect of workaholics shows that it may lead to a work-related obsession. Del Líbano et al. (2010) agreed with those assumptions and defined the addiction to work as "*a negative psychological state characterized by excessive working due to an internal drive that cannot be resisted*".

Workaholism has been linked to long-term negative repercussions such as increased exhaustion from lengthy working hours, increased stress, burnout (Schaufeli et al., 2009a, 2009b), and challenging working environments, As a result, the quality of work and creativity, as well as interprofessional relationships with colleagues and subordinates, may be affected, eventually hurting the organization's goals (Aguilera-Luque, 2017).

Additionally, Workaholism is reported to be associated with sleeping problems and cardiovascular diseases (Salanova et al., 2016), anxiety before sleep (Spagnoli et al., 2018) and insomnia (Andreassen et al., 2011, Andreassen et al., 2018a, 2018b, 2018c). In a Japanese study on nurses, it has been related to higher risks for impaired awakening, insufficient sleep and workplace sleepiness (Kubota et al., 2010). Similar issues were highlighted in a recent Iranian study in which nurses experienced sleeping problems, i.e., difficulty when starting sleep and extreme daytime sleeping at work; in combination with depression (Ariapooran, 2019).

Workaholism has also been found to be a strong predictor of negative work-related incidents, which may be explained by a number of reasons, including high levels of physical and mental strain, longer working time than non-workaholics, and presenteeism (Andreassen et al., 2018a, 2018b, 2018c).

Moreover, according to (Mazzetti et al., 2016), workaholism has a negative impact on organisations since the performances are less effective than expected. Workaholism not only causes issues in the workplace, but it also has an impact on the personal sphere, affecting, for example, family balance (Robinson, 2000, Bakker et al., 2008).

In the literature, workaholism has been widely considered to be caused by individual, personality traits, intrinsic factors (Andreassen et al., 2018a, 2018b, 2018c) and personal characteristics such as self-efficacy (Burke et al., 2006, Del Líbano et al., 2012). External and environmental factors were also taken into consideration in further studies (Mazzetti et al., 2014), demonstrating that in an organizational context, workaholism can be fostered by an overwork climate. A recent study (Molino et al., 2019) looked at the possibility of an external factor, notably negative leadership, as a cause of workaholism. A link was discovered between dysfunctional leadership and workaholic tendencies, emphasizing the negative impact that unsustainable working conditions may have on employees' life and well-being. Therefore, workaholism clearly has detrimental consequences on an individual, interpersonal, and organizational level.

Torp et al., 2018, indicated lack of data about workaholism prevalence, describing a variation from 5% to 25% from other studies. In Norway, workaholism prevalence was estimated 8% of the working population (Andreassen et al., 2014).

Certain sectors as agriculture, construction, communication, consultancy and commercial trade have more workaholism prevalence, as well as management positions (Andreassen et al., 2012).

In a recent study among Polish nurses showed a workaholism prevalence of 6%, indicating that 40% of participants had a high risk of developing workaholism (Kunecka and Hundert, 2019).

Work and family are two important aspects of adult life. Greenhaus and Beutell (1985) characterized the conflict or interference between the two components as "a form of inter-role conflict in which role constraints from the job and family domains are mutually incompatible in certain respects."

The World Health Organization (WHO) identified work-family balance as a specific area of a worker wellbeing that has a variety of implications on employees' health, organizational health, families, and society (WHO, 2010).

The relationship between work and family is not unidirectional. The notion has been defined as bidirectional since work may interfere with family and family can interfere with work (Adams et al., 1996).

Work-family conflict has been reported as a result of family workaholism (Clark et al., 2016). Depression, burnout, stress, and physical health problems are related to work-family conflict as well as having effects on job performance and satisfaction (Allen et al., 2000).

Work-family interaction has been described in literature as a predictor of burnout among nurses. Negative work-home balance was linked to greater levels of emotional exhaustion at work. Higher levels of positive work-home balance, on the other hand, indicated less emotional weariness (Queiros et al., 2013).

Family to work conflict was found to negatively influence job performance, meaning that higher levels of family-work conflict among nurses declined their job performance or productivity (Wang and Tsai, 2014). Similarly, some authors recognize work-family conflict as a mediator of the relationship between job satisfaction and turnover intention, and so it should be considered and addressed by organisations (Chen et al., 2015).

Herein, we aim to investigate the prevalence of workaholism and determine the relationship with work-family interaction among emergency and critical care nurses.

Methods

We employed a cross-sectional descriptive, quantitative, and correlational design. This study included nursing professionals, including registered nurses and health care support workers working in the emergency department (n = 123), intensive care unit (n = 124) and cardiac critical care (n = 60), as well as other critical care settings.

Inclusion criteria were as follows: (a) all the nursing staff of emergency and critical care units were present at work at the moment of the study; (b) voluntarily agreed to participate in the study and could make an informed decision. Nurses were excluded if they did not complete at least 80% of the questionnaire.

Data collection

Data were collected from June 2019 to September 2019. The study was explained to all potential participants before the distribution of the questionnaires. Data collection was carried out *in situ* in the clinical areas described above, where the nursing staff worked while on duty. After obtaining informed consent and receiving a cover letter, all participants completed the questionnaire in the presence of the researcher.

Instruments

Work-related questions and socio-demographic characterization: The researcher developed a set of variables based on a literature review and previous research in order to meet the study's objectives: work unit, gender, age, marital status, having children, education level, type of contract, shift pattern, and working experience. In addition, various occupational characteristics were gathered, including perceived work stress and having interests or leisure activities outside of work.

Workaholism: Del Líbano et al. (2010) used an adapted version of the Dutch Work Addiction Scale (DUWAS-10) to measure workaholism in the Spanish population. The DUWAS-10 is a 10-item scale with two subscales evaluating Working Excessively (WE) and Working Compulsively (WC), each with five items. The values of the items ranged from 1 ("almost never") to 4 ("almost always"). People were considered addicted to work when the scores were greater to percentile 75 in the combination of WC + WE. The scores in the dimensions Work Compulsively and Work Excessively must be higher than 2,2 and 2,8 which were calculated by the mean of the scores obtained in each dimension (WC and WE).

Work-family interaction: For measuring work and family interaction, the validated version of the SWING (Survey Work-Home Interaction Nijmegem) for the Spanish population was employed (Jiménez et al., 2009). It consists of 4 subscales and a total of 22 items, all of which are scored on a four-point Likert scale ranging from 0 ("Never") to 3 ("Always"), allowing for a score for each subscale, with high scores indicating high levels of positive and negative interaction between work and family.

The Negative Work-Home Interaction subscale has 8 items that measure the negative impact of work on family (for example, "How often does your work take up time that you would have wanted to spend with your spouse/family/friends?"). This subscale consists of 4 items and assesses the negative influence of family on work (e.g. "How often do you find it difficult to focus on your work because you are preoccupied with household issues?").

On the other hand, the subscale of Positive Work-Home Interaction is formed by 5 items that assess the positive influence of work in the family (e.g. "How often are you able to interact better with your spouse/family/friends as a result of the things you have learned at work?") and, lastly, the subscale of Positive Home-Work Interaction consists of 5 items assessing the positive influence of the family on work (e.g. "How often do you manage your time at work more efficiently because at home you have to do that as well?").

Ethical considerations

Permission to conduct this study was obtained from the ethical committee "*Comité de Ética de la Investigación de Medicamentos del Principado de Asturias"*; project number: 196/19. The study procedures were carried out in accordance with the Spanish regulations *"Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales* (BOE-A-2018-16673)".

For protection of privacy measures and maintenance of confidentiality, questionnaires did not include names or other ways of personal identification of the participants.

Data analysis

The analyses were performed using the Statistical Package for Social Sciences (SPSS Inc., Chicago, IL, USA) version 25.

Descriptive statistics including means, standard deviations, percentages, and frequencies, were used to provide an overview of demographic characteristics and to describe the sample.

Descriptive statistical analysis was conducted using frequencies in order to evaluate categorical variables, whereas means and standard deviations were used to evaluate continuous variables. For each socio-demographic and work-related variable, an independent sample *t*-test ANOVA was conducted to compare the mean scores obtained by the WE and WC dimensions. The Pearson correlation analysis was employed to explore the relationship between workaholism and work-family relations.

A *p*-value of ≤ 0.05 was considered statistically significant.

Validity, reliability and rigour (of the scales)

The reliability analysis revealed that both the workaholism subscales of the adapted version of the DUWAS-10 have sufficient internal consistency, ranging from 0.78 to 0.79 for Working Excessively and Working Compulsively in the Spanish population (Del Líbano et al., 2010).

The SWING adapted version for the Spanish population presented satisfactory psychometric properties. The confiability was adequate, with a good internal consistency of Cronbach's Alfa between 0.77 and 0.89, making it an appropriate instrument to measure work-home interaction (Jiménez et al., 2009).

Results

An overview of the participation rate is provided in Fig. 1.

Ninety nurses (41.1%) worked in the emergency department, 48 (21.9%) worked in the cardiac intensive care unit, and 81 (37%) worked in the general intensive care unit. the majority of participants (90.9%) were female, with a median age of 40.9 (SD 10,6).

Most respondents were married or in a relationship (60.7%) and 52.1% had children. Only 21.9% of the respondents held a master's degree, and only 24,2% had a permanent position. The majority of professionals (83.6%) worked rotating shifts, which included nights. In

Table 1
Characteristics of the sample (N = 219).

Variable	N	%	M	SD
Professional Category				
Registered Nurse	153	69.9		
Health Care Assistant	66	30.1		
Age			40.9	10.6 (24–65)
Sex				
Female	199	90.9		
Male	20	9.1		
Work Unit				
General Critical Care	81	37		
Cardiac Critical Care	48	21.9		
Emergency Department	90	41.1		
Marital Status				
Not in couple	86	39.3		
In couple	133	60.7		
Children				
No	114	52.1		
Yes	105	47.9		
Academic Level				
Undergraduate	66	30.1		
Graduated	91	41.6		
Master/Specialization/ PhD	62	28.3		
Type of Contract				
Permanent	53	24.2		
Long Term	70	32		
Temporary	96	43.8		
Shift Pattern				
Rotational Shifts	183	83.6		
Day Shifts	36	16.4		
Total Professional experience (years)			14.72	8.97 (1–42)
Unit Working Experience (years)			7.69	7.37 (1–39)
Perceived Work Stress				
No	32	14.6		
Yes	187	85.4		
Having hobbies/ leisure activities				
No	40	18.3		
Yes	179	81.7		

Table 2
Scores of DUWAS-10[a] and SWING[b] by subscales.

Subscale	Range	M	SD
DUWAS-10			
Working Excessively	1–4	2.87	0.46
Working Compulsively	1–4	2.50	0.41
SWING			
Negative Work-Home Interaction	0–3	2.05	0.55
Negative Home-Work Interaction	0–3	1.34	0.42
Positive Work-Home Interaction	0–3	2.31	0.69
Positive Home-Work Interaction	0–3	2.75	0.83

[a] Dutch Work Addiction Scale (Del Líbano et al., 2010).
[b] Survey Work-Home Interaction Nijmegen (Jiménez et al., 2009).

the specific clinical domains, 59.4% of the participants had more than 10 years of professional experience, and 47.9% had 1–5 years of experience. Table 1 provides an overview of the characteristics per category.

Workaholism

According to Percentile 75, there were a total of 62 professionals who had a work addiction (28.3 percent). Overall, nurses scored 2,87 in the WE dimension and 2,5 in the WC dimension, based on the two subscales (Table 2).

Levels of work-family interaction

Nurses reported greater negative work-home interaction (M = 2,05) compared to negative home-work interaction (M = 1,34). Positive home-work interaction was slightly higher (M = 2,75) than positive work-home interaction (M = 2,31) (Table 2).

Socio-demographic and occupational variables associated with workaholism

According to the estimated mean values of Percentile 75, gender, age, marital status, having children, level of education, type of contract, working shifts, length of professional experience, and having hobbies were not significant (Table 3). The only significant variable in the model was perceived work, which was linked to greater levels of workaholism at $p < .05$.

When comparing the scores in the dimensions WE and WC with the socio-demographic and work characteristics, it was found that female

Table 4
Comparation of Work Excessively and Work Compulsively means by gender and perceived work stress.

Variables	N	Work Excessively			Work Compulsively		
		M	SD	p value	M	SD	p value
Female	199	2.26	1.82	**0.001***	1.88	0.56	0.718
Male	20	1.82	0.39		1.87	0.63	
Perceived work stress	187	2.29	0.56	**0.000***	1.90	0.57	0.194
Not perceived work stress	32	1.82	0.52		1.76	0.55	

*p based on U Mann-Whitney Test for independent samples, * $p < 0.05$.
Bold font indicates statistical significance.

Table 3
Workaholism by socio-demographic and occupational characteristics.

Variable	Category	Workaholic		Not Workaholic		Total	p
		N	%	N	%		
Work Unit	Emergency Department	29	32,22	61	67,78	90	0.307
	Cardiac Critical Care	15	31,25	33	68,75	48	
	General Critical Care	18	22,22	63	77,78	81	
Sex	Female	59	29,65	140	70,35	199	0.166
	Male	3	15	17	85	20	
Age	<30	14	31,11	31	68,89	45	0.618
	31–49	36	29,51	86	70,49	122	
	>50	12	23,08	40	76,92	52	
Marital Status	In couple	40	30,08	93	69,92	133	0.471
	Not in couple	22	25,58	64	74,42	86	
Children	No	29	25,44	85	74,56	114	0.326
	Yes	33	31,43	72	68,57	105	
Professional Category	Registered Nurse	43	28,1	110	71,9	153	0.918
	Health Care Assistant	19	28,79	47	71,21	66	
Academic Level	Undergraduate	19	28,79	47	71,21	66	0.565
	Graduated	22	24,44	68	75,56	90	
	Master/Speciality/PhD	20	32,26	42	70	62	
Type of contract	Permanent	16	30,19	37	69,81	53	0.663
	Long Term	17	24,29	53	75,71	70	
	Temporary	29	30,21	67	69,79	96	
Shift Pattern	Rotational Shift	53	28,96	130	71,04	183	0.630
	Day Shift	9	25	27	75	36	
Total Professional Experience	<1 year	1	50	1	50	2	0.334
	1–5 years	13	39,39	20	60,61	33	
	6–10 years	11	22	39	78	50	
	>10 years	37	28,24	94	71,76	131	
Unit Working Experience	<1 year	10	45,45	12	54,55	22	0.326
	1–5 years	27	25,96	77	74,04	104	
	6–10 years	5	26,32	14	73,68	19	
	>10 years	20	28,17	51	71,83	71	
Perceived Work Stress	**Yes**	**58**	**31,35**	**127**	**68,65**	**185**	**0.036**
	No	**4**	**12,9**	**27**	**87,1**	**31**	
Having Hobbies/Leisure Activities	Yes	52	29,55	124	70,45	176	0.566
	No	10	25	30	75	40	

**p* based on Chi-square tests or U Mann-Whitney.
Bold font indicates statistical significance.

nurses had a statistically significant higher mean score (M = 2,26) compared to male nurses (M = 1,88) in the WE dimension (Table 4).

There was a significant relationship between WE and perceived work-stress (p =.000), with nurses who considered the job stressful (M = 2, 29) scoring higher on the WE dimension than nurses who did not consider work to be stressful (M = 1, 81).

The relationship between workaholism and work-family interaction

Each subscale of the SWING scale (Negative Work-Home Interaction, Negative Home-Work Interaction, Positive Work-Home Interaction, and Positive Home-Work Interaction) had higher means in participants who identified as workaholics than non-workaholics. There was statistical signification for every subscale of work-home interaction related to workaholism (Table 5).

Nurses identified as workaholics had statistically higher scores than non-workaholics on the positive subscales, with the dimension Work-Home Interaction having the highest mean.

Similarly, workaholic nurses scored better on the two positive characteristics of SWING than their non-workaholic counterparts. In this example, the Home-Work Interaction score was higher than the Work-Home Interaction score.

Discussion

Based on our results, 28.3% of nurses were workaholics. A study of Japanese nurses showed similar outcomes, with a rate of workaholism of 28.5% (Kubota et al., 2011). This high prevalence of workaholism in nursing can be justified by the vocational nature of the profession, which drives nurses into high personal involvement when dealing with highly demanding care situations. Chronic high demands have been associated in literature with the workaholism behaviour, motivating professionals to work excessively hard (Andreassen et al., 2017). Conversely, the rate of workaholism in this research is higher than in previous studies. Ariapooran (2019) found that 13.77% of Iranian nurses were workaholics. Additional explanations for this result could be cultural coping with work demands.

As for the subscales of WC and WE, our results were consistent with previous studies (Del Líbano et al., 2010). The validation of the DUWAS instrument to the Spanish population yielded similar results for these authors. However, our findings are superior to those of other studies that used the DUWAS dimensions to assess workaholism (Balducci et al., 2015; Nonnis et al., 2017).

Another goal behind this research was to explore the level of work-family interaction. The results of SWING showed that the nurses who participated had more negative work-home interaction than negative home-work interaction; and more positive home-work interaction than positive work-home interaction, which is aligned with the results obtained by Pereira et al., 2014. Another study with the same characteristics carried out in Toronto (686 hospital-based nurses) showed greater levels of work-family conflict than family-work conflict (Burke and Greenglass, 2001). Therefore, these results indicate that our nurses are experiencing conflict in both aspects of their lives.

Nonetheless, in a Taiwanese study, nurses were showed to face a higher level of work- family conflict compared to family-work conflict. Also, family-work conflict was found to negatively influence their job performance, meaning that higher levels of family-work conflict decreased job performance or productivity (Wang and Tsai, 2014).

Higher levels of work-home interaction (M = 3.41) and home-work interaction (M = 2.54) than in this study were found in the literature, which focused in the relationship between work-family conflict and burnout (Wang et al., 2012), showing that work-family conflict has effects on burnout. Their findings revealed that work-family interaction was positively related to emotional exhaustion and family-work interaction.

In the analysis of sociodemographic data, there were no variations in the prevalence of workaholism with age, education level, or other factors. Previous research has shown that professionals with various sociodemographic characteristics can be exposed to the development of workaholism, once this phenomenon is related to the individuals' compulsive tendencies (Hu et al., 2014, Mazzetti et al., 2014, Vazquez et al., 2018).

When examining the prevalence of workaholism by its two subscales in this study, it indicates that women work more excessively than men, with a p =.001. Several studies, however, have found no significant differences in overworked male and female nurses (Ariapooran, 2019). Workaholism, on the other hand, appeared to be higher among married nurses than single nurses and in emergency nurses than non-emergency nurses, despite the fact that these socio-demographic features were not statistically significant in the current study.

Overall, the findings imply that perceived work stress is a significant component in workaholism. The link between workaholism and work stress is consistent with earlier research by Aziz et al. (2018). These authors claimed that workaholism resulted in higher work hours and work stress, and that working longer hours resulted in increased stress. Hence, the current study's findings corroborate the idea that work stress is a predictor of workaholism. Other evidence, however, suggests that neither general nor occupational stress were significant mediators in the relationship between workaholics and work-family conflict (Hauk and Chodkiewicz, 2013).

Another major goal of this research was to assess the relationship between workaholism and work-family interaction, which turned out to be significant. Negative work-home interaction, negative home-work interaction, positive work-home interaction, and positive home-work interaction were all greater in workaholic nurses than in non-workaholic nurses. These results are consistent with prior research findings, which suggested that workaholism is a mediator in work-family conflict (Molino et al., 2016) and that there is a strong correlation between the two phenomena (Torpet al., 2018), thus, suggesting that workaholism predicts unfavourable outcomes in the work and

Table 5
The relationship between workaholism and work-home interaction.

Dimension		Negative Work-Home Interaction	Negative Home-Work Interaction	Positive Work-Home Interaction	Positive Home-Work Interaction
Non-workaholics	Mean	1.89	1.28	2.24	2.67
	N	157	157	157	157
	SD	0.44	0.38	0.68	0.82
Workaholics	Mean	2.44	1.33	2.48	2.95
	N	62	62	62	62
	SD	0.55	0.42	0.68	0.82
p value		**0.000***	**0.001***	**0.021***	**0.027***

**p* based o on U Mann-Whitney Test for independent Samples, *p < 0.05.
Bold font indicates statistical significance.

family balance of employees.

In 2003, the SARS outbreak had considerable psychological effects on healthcare professionals, having an impact on their family aspects as a consequence of the quarantines, isolation, and extra workload (Hussein, 2004). This study questioned the government's and organizations' responsibilities to provide nurses with protection and safe working environments in outbreak situations. Choi et al. (2020) indicated nurses as key players in the COVID-19 outbreak, and due to the occupational risks of providing care during this pandemic; the authors believed that it was critical not just to ensure physical safety, but also that healthcare leaders monitor the nurses' well-being and occupational health. Recent findings identified first-line workers as a risk factor for negative mental health outcomes during the COVID-19 outbreak, addressing a concern about nurses and doctors psychological well-being Wang et al. (2020). The authors recommend that organisations pay attention to the mental health of workers exposed to this pandemic.

Recent study of the WHO (2021) estimated that around 115.500 health care workers could have died from COVID-19 worldwide. The WHO claimed that not only better protection at work (vaccination, personal protective equipment, training etc) must be provided but also psychosocial support and decent work conditions, including protection against excessive workloads.

Limitations

Data was collected from three departments (ED, ICU, CCU) of Hospital Universitario Central de Asturias (HUCA). Although the response rate was 76.98%, considered sufficient, future research with a larger sample and a variety of critical and emergency settings of different countries or larger areas of Spain is thereby recommended.

Another limitation was the cross-sectional methodology used to collect the data that may have affected the measurement quality of the dimensions underlying workaholism and family-work interaction.

Conclusions

Workaholism was found to be prevalent in 28,3% of the population. Nurses who reported feeling stressed at work worked more hours than those who did not. Simultaneously, statistical differences between workaholism and gender were identified; female nurses were shown to work more than their male counterparts. The study revealed that nurses had a negative influence of work on their families, which indicates conflict between both life spheres. In this context, this study demonstrated the necessity of simultaneously assessing demands and resources from both the work and family domains, once it was established that both have an impact on the interaction between work and family; both were negative and positive, but in different ways.

Overall, this study adds to the body of information in the field of nurse workaholism. Furthermore, the findings have significant implications for clinical occupational health and management departments. Given the essential roles that emergency and critical nurses play in the healthcare system, the findings should be used to aid in spotting those working profiles that are particularly at risk.

Workaholism was not addressed in related literature regarding emergency and critical care nurses. Regardless of the lack of correlation between workaholism and working in the emergency department or intensive care units in the current study, the clinical nature of these areas should be addressed. The high prevalence of workaholism among these groups may be explained by the fact that emergency and critical care nurses work harder than nurses in other departments for a variety of reasons, including being in high demand due to the urgent and critical nature of the patient's situation and dealing with massive amounts of emotional, physical, and cognitive stress.

Funding sources

No external funding.

Ethical statement

Permission to conduct the present study was gained from the ethical committee "*Comité de Ética de la Investigación de Medicamentos del Principado de Asturias"*; proyect number: 196/19. The study procedures were carried out in accordance with the Spanish regulations "*Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales (BOE-A-2018-16673)*".

All participants were given an informed consent form before being included in the study, stating the objectives and the voluntary character of it. The questionnaires did not include name or other ways of personal identification of the participants in order to keep protection of privacy and maintenance of confidentiality.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.iccn.2022.103240.

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