Professional Quality of Life and Job Satisfaction of School Nursing in Spain

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Article

Professional Quality of Life and Job Satisfaction of School Nursing in Spain

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Abstract: Background: School nursing plays a crucial role in promoting the health and well-being of students in educational settings. Previous research has highlighted its protective effect across various health domains, including substance use, mental health, violence, and sexual health. Despite its importance, the job satisfaction of school nurses and the factors influencing it have been insufficiently addressed in scientific research, underscoring the need to better understand their challenges and barriers. Therefore, the objective of this research is to evaluate the perceived job satisfaction and professional quality of life of school nurses at a national level in Spain. **Methods:** A descriptive cross-sectional study was conducted using the Font-Roja Job Satisfaction Questionnaire and the CPV-35 Professional Quality of Life Questionnaire. The sample included 553 school nurses from different geographical regions in Spain, selected through school nursing groups and associations. Data were collected from November 2023 to February 2024. **Results:** The majority of the nurses were women (68%), with a median age of around 40 years and predominantly less than 5 years of work experience (56%). Significant differences were observed in job satisfaction and professional quality of life depending on the employing entity (healthcare and educational settings). Factors such as workload, institutional support, and work experience influenced the perception of job satisfaction. **Conclusions:** We affirm that this study, being one of the first of its kind at a national level in Spain, highlights the need to develop effective strategies to improve the job satisfaction and professional quality of life of school nurses. School nurses in Spain present a moderately high level of job satisfaction, although there are significant differences in factors such as status and job monotony depending on the sector of employment (Healthcare, Education, Others). Nurses in educational contexts report lower levels of job satisfaction, influenced by the nature of the work, interpersonal relationships, opportunities for professional development, and institutional support. Additionally, work experience impacts satisfaction, being more positive for nurses with greater experience. We also affirm that the professional quality of life of school nurses is homogeneous, with an average score of 6.000 on the CPV-35. Although professional competence is uniformly perceived, work pressure is a common concern. Working more than 37.5 hours per week is associated with higher professional quality of life, although also with lower job satisfaction. Only half of the schools have a school nurse, highlighting the need for policies that ensure equity in service provision. There is also a recognized need for health training for teachers, which could improve support for nurses and student health. Active interaction with the educational community reinforces the integral role of school nurses and emphasizes the importance of the socioeconomic context in interventions and resource allocation.

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1. Introduction

School nursing plays a crucial role in promoting the health and well-being of students in educational settings [1,2] It has been shown to have a protective effect on substance use, mental health, violence, and sexual health [3]. School nurses provide immediate care, promote healthy lifestyles, and detect health problems and chronic conditions, thereby fostering a safer and healthier school environment overall [4–6].

These findings suggest that school nurses not only play a vital role in addressing and preventing health risks during childhood and adolescence but also in identifying concerning symptoms, providing first aid, and offering guidance, which benefits students and creates a school culture that prioritizes health and well-being [7–10].

However, the job satisfaction of school nurses and the factors influencing it have been under-researched. Understanding the challenges they face, such as workload, resource availability, and administrative support, is crucial for improving their working conditions and the quality of health services.

Job satisfaction is linked to motivation, commitment, and the quality of care [11]. Addressing factors influencing job satisfaction, such as workload and administrative support, ensures effective performance. High job satisfaction not only benefits nurses personally but also improves student care and creates a healthier school environment [12].

Job satisfaction depends on various factors and emerges when individuals compare actual job outcomes with their desires, expectations, and perceived entitlements [13]. Understanding factors contributing to job satisfaction is crucial in healthcare organizations, helping retain nursing staff and improve patient/user care.

Evidence shows that job satisfaction is determined by factors such as a supportive work environment, healthy interpersonal relationships, personal development opportunities, adequate remuneration, autonomy, responsibility, personal achievement, positive organizational culture, and effective support and leadership. Job dissatisfaction arises from excessive workloads, lack of recognition and administrative support, inadequate compensation, limited professional growth, and poor working conditions [14].

Similar factors influencing job satisfaction have been identified in both rural and urban contexts [15]. The importance of patient assistance and teamwork has been shown to significantly influence professional satisfaction [2]. Conversely, dissatisfaction arises from lack of recognition and rewards, heavy workload, staff shortages, inadequate medical supplies and equipment, unclear job responsibilities and managerial support, and lack of autonomy [11,16,17].

Nursing job satisfaction impacts nurses' well-being and the quality of care provided. Studies have highlighted the importance of job satisfaction in relation to care quality. Factors such as workload, organizational support, and opportunities for professional development influence job satisfaction [18].

Understanding school nurses' job satisfaction and its determinants is essential for improving working conditions and ensuring high-quality care for students.

Furthermore, school nurses' quality of life is a crucial determinant that directly influences their job satisfaction and, consequently, the quality of care they provide [19,20]. This concept encompasses nurses' comprehensive well-being, including physical, emotional, and social aspects [21]. Maintaining an optimal balance between work responsibilities and personal life, ensuring access to mental health resources, and fostering a healthy work environment are critical to promoting good quality of life among these professionals [22].

Factors such as workload overload, insufficient administrative support, and lack of professional recognition can significantly compromise nurses' quality of life, leading to burnout, job dissatisfaction, and, in extreme cases, professional disengagement [11,20,23].

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The literature consistently highlights the correlation between job satisfaction and the quality of care provided. Elements such as workload, organizational support, and opportunities for professional development are critical determinants of job satisfaction [24]. Understanding these factors is crucial for improving working conditions and ensuring optimal care for students within the context of school nursing.

Despite the crucial role of school nursing in promoting students' health and well-being, the job satisfaction of school nurses and the factors influencing it have been inadequately explored in scientific research, particularly in the Spanish context. School and healthcare environments are constantly evolving, underscoring the need for ongoing research in this field. This research is justified by the lack of comprehensive studies on job satisfaction and quality of life among school nurses in Spain, as well as the need to understand factors contributing to their satisfaction or dissatisfaction. The findings of this study will provide valuable insights to inform policies and practices aimed at improving working conditions for these professionals and, consequently, enhancing the quality of care in school settings.

Objective: This study aimed to evaluate perceived job satisfaction and professional quality of life among school nurses in Spain. Specific objectives were to measure levels of job satisfaction and professional quality of life and to determine how different aspects of the work environment, including work experience and institutional support, may influence these outcomes.

2. **Materials and Methods**

2.1. Study Design

A cross-sectional descriptive study with a quantitative approach was conducted in Spain from November 2023 to February 2024. This design was chosen to provide an overview of the conditions and perceptions of school nurses at a specific time period, allowing data collection that can be compared in future longitudinal studies. The quantitative cross-sectional design was selected for its efficiency in collecting data from a large sample in a short period, enabling the identification of patterns and associations without the need for prolonged follow-up.

2.2. Study Population

The study population was based on the number of school nurses according to the latest report from the National School Nursing Observatory of the General Nursing Council of Spain [25,26]. School nurses from various geographical regions and educational environments were selected, contacted through school nursing groups and associations across Spain.

2.3. Inclusion Criteria

Inclusion criteria included nurses working in school settings with at least one year of professional experience. This includes Nurses working directly in non-university educational centers (primary, secondary, and/or special education). Nurses working in community settings, municipalities, or private companies providing school nursing services.

Sample Size Determination

A statistical power calculation was performed to ensure that the sample size was sufficient to detect significant differences in the variables of interest. With a confidence level of 95% and a margin of error of 5%, the appropriate sample size was determined to be 328 nursing professionals. To account for a potential sample loss of 10%, the target was set to achieve a minimum sample of 361 participants.

Participants and Study Population

A total of 553 school nurses working in school health nationwide participated in the study. Informed consent was obtained from each participant in accordance with the Helsinki Declaration

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and the Belmont Report, ensuring voluntary participation, anonymity, and data confidentiality. The project was approved by the professional ethics committee of the University of Vic-UCC with code 303/2023.

Ethical Procedures

All participants were informed about the study's objectives and procedures, as well as their right to withdraw from the study at any time without consequences. Informed consent was obtained before participation, ensuring that all nurses understood that their participation was voluntary, anonymous, and confidential. It was emphasized that the data collected would be used solely for research purposes. Additionally, participants were assured that they could withdraw from the study at any time without any negative consequences.

Instruments

Font-Roja Job Satisfaction Questionnaire [27]

This questionnaire measures job satisfaction across various dimensions, including working conditions, interpersonal relationships, professional development, and self-perception of work. It uses a Likert scale from 1 to 5, where 1 indicates "strongly disagree" and 5 indicates "strongly agree". A high score indicates greater job satisfaction among the evaluated employees. The validity and reliability of the questionnaire have been demonstrated in previous studies, with a Cronbach's alpha coefficient exceeding 0.80.

CPV-35 Professional Quality of Life Questionnaire [11]

Specifically designed for healthcare workers, the CPV-35 assesses professional quality of life using a Likert scale from 1 to 7. It evaluates psychological well-being, social support at work, satisfaction with the work environment, and work-life balance. Key dimensions such as supervisor support, workload, salary satisfaction, recognition, interpersonal relationships, autonomy, and professional development opportunities are addressed. A high score indicates a better perception of professional quality of life. This questionnaire has also been validated with a Cronbach's alpha coefficient exceeding 0.85.

Both questionnaires are validated tools that provide a comprehensive view of job satisfaction and professional quality of life in the healthcare field [28,29].

Data Collection Procedure

Questionnaire Design

In addition to the Font Roja and CPV-35 questionnaires, demographic and occupational questions were included, such as age, gender, years of work experience, and number of weekly hours dedicated to work at the center.

Administration, data were collected exclusively from school nurses. Surveys were distributed electronically to facilitate participation. Nurses were contacted via email through school nursing groups and associations, providing a link to the online questionnaire. Confidentiality and anonymity of responses were ensured.

Quality control procedures were implemented, including questionnaire validation before distribution and review of collected data to identify and manage missing or inconsistent data.

Data collection took place between November 2023 and February 2024.

Statistical Analysis

Sample characteristics were described using absolute and relative frequencies for categorical variables, and median and interquartile range (IQR) for numerical variables. Items and scores from the FR and CPV-35 questionnaires were described using both median [IQR] and mean and standard deviation (SD). Characteristics and scores were compared according to the contracting entity and years of experience using the chi-square test for categorical variables, Kruskal-Wallis test for variables

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described using Median [IQR], and ANOVA for those described using Mean (SD). Box plots were used to represent the distribution of scores in different FR factors according to the contracting entity.

Multivariate regression models were adjusted to explain total scores from the FR and CPV-35 questionnaires based on sex, age, experience, employment status, contracting entity, relationship with other institutions, own records, and weekly working hours. A model was adjusted for each of the total scores explained by all explanatory variables at once. From these two models, a stepwise backwards variable selection process based on Akaike Information Criteria was conducted to arrive at a reduced model, with only those explanatory variables providing the best likelihood balance.

The association between CPV-35 factors and FR total score was studied using a spline regression model to capture possible non-linear associations. The p-value obtained from the Likelihood Ratio Test was calculated by comparing with the model excluding each CPV-35 factor to assess the significance of different non-linear associations. Results were presented by plotting splines of each CPV-35 factor on the total FR score in the scatter plot of both scores, along with the mentioned p-value. Similarly, the association between FR factors and the total CPV-35 score was studied.

3. Results

The study population consisted of 553 school nurses, of whom 63.3% were employed by Education, 12.1% by Health, and the remaining 24.6% by other entities. **Table 1** shows that the majority of the sample were females (97.5%), with no significant differences observed among the employing entities (p = 0.474). The mean age of the participants was similar across entities, approximately 40 years old, with no statistically significant differences (p = 0.824). Regarding work experience, the mean was 4 years, with no significant differences found among the employing entities (p = 0.402). The majority had less than 5 years of work experience (91.9%), although there was a trend in the distribution of experience, it was not statistically significant (p = 0.087).

Table 1. Characteristics of participants according to employing entity.

	Global (n=553) n (%)	**Healt (n=67) n (%)**	**Educationn (n=350) n (%)**	**Others (n=136) n (%)**	**p-valor**
Géndер (n=553)					0.474
Male	13 (2.4%)	3 (4.5%)	9 (2.6%)	1 (0.7%)	
Female	539 (97.5%)	64 (95.5%)	340 (97.1%)	135 (99.3%)	
Non-binary	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	
Age (n=553)	40.0 [33.0; 46.0]	40.0 [34.0; 45.0]	41.0 [33.3; 45.2]	40.0 [33.0; 46.0]	0.824
Experience (years) (n=553)	4.0 [2.0; 7.0]	4.0 [2.0; 7.5]	4.0 [2.0; 6.0]	4.0 [3.0; 8.0]	0.402
Experience (years, categorized) (n=553)					0.087
<5 years	508 (91.9%)	63 (94.0%)	322 (92.0%)	123 (90.4%)	
5 a 10 years	30 (5.4%)	1 (1.5%)	20 (5.7%)	9 (6.6%)	
10 a 15 years	7 (1.3%)	0 (0.0%)	4 (1.1%)	3 (2.2%)	
15 a 20 years	6 (1.1%)	3 (4.5%)	3 (0.9%)	0 (0.0%)	
> 20 years	2 (0.4%)	0 (0.0%)	1 (0.3%)	1 (0.7%)	
Employed Status (n 553)					**<0.001**
Discontinuous	266 (48.1%)	17 (25.4%)	204 (58.3%)	45 (33.1%)	
Permanet	125 (22.6%)	17 (25.4%)	28 (8.0%)	80 (58.8%)	
Temporaly	130 (23.5%)	33 (49.3%)	97 (27.7%)	0 (0.0%)	

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Non_permanent/eventual	32 (5.8%)	0 (0.0%)	21 (6.0%)	11 (8.1%)	
Hiring authority (n 553)					**<0.001**
City Council	7 (1.3%)	0 (0.0%)	0 (0.0%)	7 (5.1%)	
Education Department	145 (26.2%)	0 (0.0%)	145 (41.4%)	0 (0.0%)	
Health Department	60 (10.8%)	60 (89.6%)	0 (0.0%)	0 (0.0%)	
Educaction	205 (37.1%)	0 (0.0%)	205 (58.6%)	0 (0.0%)	
School Nursing Company	31 (5.6%)	0 (0.0%)	0 (0.0%)	31 (22.8%)	
others	35 (6.3%)	0 (0.0%)	0 (0.0%)	35 (25.7%)	
Own educational center	63 (11.4%)	0 (0.0%)	0 (0.0%)	63 (46.3%)	
Health	7 (1.3%)	7 (10.4%)	0 (0.0%)	0 (0.0%)	
Relationship with other institutions (n=124)					**0.023**
Primary Care	73 (58.9%)	11 (78.6%)	47 (58.0%)	15 (51.7%)	
City Council	11 (8.9%)	0 (0.0%)	11 (13.6%)	0 (0.0%)	
Others	38 (30.6%)	2 (14.3%)	22 (27.2%)	14 (48.3%)	
Social Services	2 (1.6%)	1 (7.1%)	1 (1.2%)	0 (0.0%)	
Weekly hours (n=227)	37.5 [35.0; 37.5]	37.5 [30.0; 37.5]	37.5 [35.0; 37.5]	37.0 [33.8; 38.5]	0.362

Employment status varied significantly among the employing entities ($p < 0.001$). In the Health sector, 25.4% were permanent employees, while in Education only 8.0% were, and in other entities, 58.8%. Temporary staff were more common in Health (49.3%) and nearly nonexistent in other entities.

Significant differences were observed in the hiring authority according to the employing entity ($p < 0.001$). In Health, 89.6% were employed by the Ministry of Health, in Education 41.4% by the Ministry of Education, and in other entities, 46.3% were employed by their own educational institution.

The collaboration with other institutions varied significantly ($p = 0.023$). In Health, 78.6% collaborated with Primary Care, while in Education it was 58.0%, and in other entities, 51.7%. Additionally, 48.3% of other entities had relationships with various institutions. Weekly working hours were similar across entities, around 37.5 hours, with no significant differences ($p = 0.362$).

In **Table 2**, it is revealed that the number of students in schools varies significantly across contracting entities (p=0.037). The majority of schools (59.8%) have between 501 and 1500 students, and this distribution shows no statistically significant differences among the contracting entities, which include sectors such as Health, Education, and other institutions. These entities represent different educational and health management contexts, reflecting the diversity of schools where school nurses work. However, schools with more than 1500 students are more common in the "Others" category (22.1%).

Table 2. Descriptive Characteristics of Sample Centers, Globally and by Contracting Entity.

	Global (n=553) n (%)	**Healt (n=67) n (%)**	**Education (n=350) n (%)**	**Others (n=136) n (%)**	**p - value**
Number of Students in the Center (n=552)					**0.037**
≤ 500	144 (26.1%)	19 (28.8%)	91 (26.0%)	34 (25.0%)	
501 y 1500	330 (59.8%)	38 (57.6%)	220 (62.9%)	72 (52.9%)	

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>1500	78 (14.1%)	9 (13.6%)	39 (11.1%)	30 (22.1%)	
Type of Center					**<0.001**
Bachillerato	6 (1.1%)	0 (0.0%)	5 (1.4%)	1 (0.7%)	
Special Education Center	45 (8.1%)	14 (20.9%)	25 (7.1%)	6 (4.4%)	
School for Early Childhood and Primary	205 (37.1%)	20 (29.9%)	149 (42.6%)	36 (26.5%)	
School for Early Childhood, Primary, and Secondary	209 (37.8%)	20 (29.9%)	113 (32.3%)	76 (55.9%)	
School for Primary Education	32 (5.8%)	6 (9.0%)	19 (5.4%)	7 (5.1%)	
Nursery School	4 (0.7%)	1 (1.5%)	3 (0.9%)	0 (0.0%)	
Regular School with Special Education	4 (0.7%)	0 (0.0%)	2 (0.6%)	2 (1.5%)	
Secondary Education Institute	48 (8.7%)	6 (9.0%)	34 (9.7%)	8 (5.9%)	
Ownership of the Center					**0.003**
State-subsidized private school	80 (14.5%)	8 (11.9%)	42 (12.0%)	30 (22.1%)	
Private school	69 (12.5%)	5 (7.5%)	40 (11.4%)	24 (17.6%)	
Public school	404 (73.1%)	54 (80.6%)	268 (76.6%)	82 (60.3%)	
Center Characteristics					0.131
Rural	57 (10.3%)	9 (13.4%)	40 (11.4%)	8 (5.9%)	
Urban	496 (89.7%)	58 (86.6%)	310 (88.6%)	128 (94.1%)	

The type of school also shows significant differences among contracting entities (p<0.001). Schools focusing on Early Childhood and Primary Education predominate in Education (42.6%), while Schools offering Early Childhood, Primary, and Secondary Education are more common in "Others" (55.9%). The ownership of the school varies significantly among entities (p=0.003). Public schools are predominant in Education (76.6%), whereas privately funded schools are more prominent in the "Others" category (22.1%).

Regarding the characteristics of the educational institution, no significant differences were observed among the entities (p=0.131), with the majority of schools located in urban areas across all entities.

In **Table 3**, significant differences are highlighted between contracting entities in two factors. Factor 8, which assesses extrinsic status characteristics, shows a statistically significant difference (p=0.025), indicating variations in the perception of job status among different entities. Additionally, Factor 9, focused on job monotony, also reveals a significant difference (p=0.038), suggesting divergent perceptions of job monotony across different entities.

Table 3. Average Font-Roja Job Satisfaction Questionnaire Scores by Contracting Entity.

Variables	Global	Health (n=67)	Education (n=350)	Others (n=136)	p value
Factor 1: Job Satisfaction	3.85 (0.83)	3.74 (0.87)	3.85 (0.84)	3.93 (0.80)	0.302
Factor 2: Work-Related Tension	2.45 (0.51)	2.47 (0.51)	2.45 (0.51)	2.44 (0.50)	0.925

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Factor 3: Professional Competence	1.55 (0.73)	1.58 (0.65)	1.57 (0.76)	1.49 (0.69)	0.511
Factor 4: Work Pressure	2.97 (0.76)	3.13 (0.76)	2.96 (0.76)	2.95 (0.76)	0.200
Factor 5: Improvement Opportunities	3.11 (1.05)	3.30 (1.07)	3.04 (1.03)	3.19 (1.07)	0.096
Factor 6: Interpersonal Relationship with Superiors	3.20 (1.13)	3.28 (1.13)	3.21 (1.11)	3.15 (1.19)	0.748
Factor 7: Interpersonal Relationship with Colleagues	2.49 (1.12)	2.45 (1.06)	2.49 (1.13)	2.52 (1.14)	0.911
Factor 8: Extrinsic Status Characteristics	2.78 (0.89)	3.03 (0.84)	2.72 (0.93)	2.82 (0.81)	0.025
Factor 9: Job Monotony	2.74 (0.83)	2.59 (0.76)	2.81 (0.82)	2.64 (0.87)	0.038
Total, Font-Roja Score	**2.86 (0.31)**	**2.91 (0.28)**	**2.85 (0.32)**	**2.87 (0.31)**	**0.397**

On the other hand, the other factors analyzed (Factor 1: Job satisfaction, Factor 2: Work-related tension, Factor 3: Professional competence, Factor 4: Work pressure, Factor 5: Improvement opportunities, Factor 6: Interpersonal relationship with superiors, Factor 7: Interpersonal relationship with colleagues, and the total Font-Roja questionnaire score) do not show statistically significant differences between contracting entities. This indicates a uniform perception in these aspects of job satisfaction and work relationships across all evaluated entities.

In **Table 4** analyzes the scores of the Professional Quality of Life questionnaire (CVP-35) by contracting entity. Although the total score of the CVP-35 questionnaire does not show significant differences in quality of life among the contracting entities (p=0.152), significant differences are observed when individual factors are analyzed.

Table 4. Average Score of the CVP-35 Professional Quality of Life Questionnaire by Contracting Entity (Mean (SD)) (n=553).

Variable	Global	Healthcare (n=67)	Education (n=350)	Others (n=136)	p value
Amount of work I have	7.50 (1.67)	7.16 (1.76)	7.45 (1.63)	7.79 (1.67)	0.026
Satisfaction with the type of work	7.87 (1.78)	7.82 (1.56)	7.89 (1.79)	7.86 (1.86)	0.960
Satisfaction with salary	5.94 (2.12)	6.55 (2.01)	5.93 (2.08)	5.67 (2.21)	0.020
Opportunity for promotion	2.83 (2.42)	3.33 (2.81)	2.69 (2.34)	2.95 (2.43)	0.117
Recognition of my effort	5.68 (2.51)	5.67 (2.55)	5.57 (2.52)	5.96 (2.47)	0.304
Pressure to maintain quantity of work	4.92 (2.53)	5.64 (2.32)	4.81 (2.52)	4.86 (2.62)	0.044

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Pressure to maintain quality of work	5.09 (2.55)	5.63 (2.37)	4.89 (2.53)	5.35 (2.63)	0.037
Hurry and stress due to lack of time for my work	5.55 (2.59)	5.64 (2.54)	5.32 (2.55)	6.10 (2.67)	0.011
Motivation (willingness to exert effort)	7.75 (2.05)	7.78 (1.98)	7.71 (2.04)	7.85 (2.11)	0.807
Support from my supervisors	6.61 (2.58)	6.12 (2.66)	6.53 (2.62)	7.06 (2.37)	0.032
Due to support from my colleagues, I feel I am at the limit in several aspects	4.59 (2.62)	4.63 (2.68)	4.48 (2.60)	4.85 (2.65)	0.378
Support from my family	8.54 (2.15)	8.57 (2.08)	8.60 (2.10)	8.38 (2.30)	0.574
Desire to be creative	8.07 (2.09)	8.27 (1.86)	8.05 (2.11)	8.01 (2.14)	0.695
Opportunity to be creative	6.21 (2.54)	6.36 (2.46)	6.16 (2.56)	6.26 (2.56)	0.809
Disconnecting after work	6.29 (2.72)	6.16 (2.77)	6.37 (2.70)	6.15 (2.77)	0.675
Receiving information about the results of my work	4.65 (2.81)	4.93 (2.85)	4.39 (2.74)	5.19 (2.90)	0.012
Conflicts with other people at work	3.03 (2.39)	3.10 (2.52)	2.98 (2.35)	3.12 (2.43)	0.825
Lack of time for my personal life	3.56 (2.41)	4.16 (2.54)	3.37 (2.34)	3.78 (2.48)	0.022
Physical discomfort at work	3.62 (2.59)	3.75 (2.66)	3.54 (2.50)	3.76 (2.79)	0.639
Opportunity to express what I think and need	6.35 (2.49)	6.16 (2.54)	6.39 (2.55)	6.32 (2.31)	0.785
Responsibility load	8.41 (1.82)	8.09 (2.27)	8.54 (1.64)	8.24 (2.00)	0.085
My organization tries to improve the quality of life in my position	4.51 (2.74)	4.37 (2.42)	4.40 (2.78)	4.88 (2.79)	0.196
I have autonomy or freedom of decision	6.86 (2.31)	6.84 (2.46)	6.81 (2.31)	7.01 (2.23)	0.680
Annoying interruptions	5.55 (2.71)	5.13 (2.72)	5.67 (2.66)	5.44 (2.84)	0.284
Stress (emotional effort)	6.08 (2.55)	6.06 (2.55)	5.93 (2.57)	6.46 (2.46)	0.121
Necessary training to do my job	7.89 (1.90)	7.36 (2.09)	7.91 (1.84)	8.10 (1.94)	0.032

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I am capable of doing my current job	8.71 (1.40)	8.34 (1.57)	8.73 (1.39)	8.85 (1.32)	0.051
Variety in my work	6.68 (2.34)	6.22 (2.55)	6.64 (2.28)	6.99 (2.34)	0.078
My work is important to the lives of others	8.98 (1.60)	8.67 (2.27)	9.15 (1.28)	8.68 (1.86)	0.003
It is possible that my responses are heard and applied	6.35 (2.50)	6.04 (2.57)	6.40 (2.49)	6.39 (2.52)	0.559
What I have to do is clear	6.75 (2.49)	6.99 (2.32)	6.71 (2.46)	6.75 (2.65)	0.712
I am proud of my work	8.67 (1.58)	8.39 (1.49)	8.70 (1.57)	8.74 (1.62)	0.283
My work has negative consequences for my health	3.72 (2.55)	3.93 (2.48)	3.64 (2.57)	3.82 (2.54)	0.616

Specifically, the perceived workload is higher in the "Others" sector compared to healthcare and education, with average scores of 7.79 (SD 1.67), 7.16 (SD 1.76), and 7.45 (SD 1.63) respectively (p=0.026).

Satisfaction with salary is significantly higher in the education sector compared to healthcare and other sectors, with average scores of 6.55 (SD 2.01), 5.93 (SD 2.08), and 5.67 (SD 2.21) respectively (p=0.020).

There is higher pressure to maintain both the quantity and quality of work in the healthcare sector compared to other sectors, with average scores of 5.64 (SD 2.32) and 4.81 (SD 2.52) respectively (p=0.044 and p=0.037 respectively).

Support from supervisors is significantly higher in the education sector compared to other sectors, with average scores of 6.12 (SD 2.66) and 6.53 (SD 2.62) respectively, and this difference is statistically significant (p=0.032).

The perception of lack of time for personal life is higher in the education sector compared to other sectors, with an average score of 4.16 (SD 2.54) (p=0.022).

In **Table 5**, the multivariate regression analysis on the total scores of the Font-Roja and CVP-35 questionnaires revealed significant associations providing relevant insights into job satisfaction and professional quality of life. The multivariate regression analysis on the total scores of the Font-Roja questionnaire indicated that age and weekly working hours have significant associations with the total score. Specifically, individuals aged between 30 and 40 years showed a decrease in the total score of the questionnaire, with a p-value of 0.045, indicating an average reduction of 0.084 points (95% CI: -0.166, -0.002). This suggests that in this age group, job satisfaction and professional quality of life may be negatively affected.

Table 5. Multivariate Regression Models on Total Scores of Font-Roja and CVP-35 Questionnaires.

		Total Font-Roja Score		**Total CVP-35 Score**		**Total CVP-35 Score**	
						Reduced Model	
		Marginal Effect (IC95%)	**p-value**	**Marginal Effect (IC95%)**	**p-value**	**Marginal Effect (IC95%)**	**p-value**
Independent Term		3.129 (2.819, 3.440)	<0.001	6.000 (5.236, 6.763)	<0.001	5.781 (5.201, 6.362)	<0.001
Gender	*Male*	-ref.-		-ref.-		-ref.-	

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	Female	-0.104 (-0.281, 0.072)	0.247	0.138 (-0.296, 0.573)	0.532	0.166 (-0.263, 0.596)	0.447
	Non-Binary	0.150 (-0.501, 0.802)	0.651	-1.616 (-3.218, -0.013)	0.048	-1.601 (-3.192, -0.010)	0.049
Age	*<=30 years*	-ref.-		-ref.-		-ref.-	
	(30, 40] years	-0.084 (-0.166, -0.002)	0.045	0.013 (-0.189, 0.215)	0.900	0.010 (-0.191, 0.211)	0.921
	(40, 50] years	-0.042 (-0.125, 0.040)	0.314	0.103 (-0.100, 0.306)	0.318	0.086 (-0.115, 0.287)	0.403
	>50 years	-0.070 (-0.179, 0.039)	0.207	-0.260 (-0.529, 0.008)	0.057	-0.217 (-0.479, 0.045)	0.104
Experience	*<5 years*	-ref.-		-ref.-			
	5 a 10 years	0.057 (-0.064, 0.178)	0.356	-0.090 (-0.387, 0.208)	0.554		
	10 a 15 years	-0.076 (-0.318, 0.165)	0.535	0.104 (-0.490, 0.698)	0.731		
	15 a 20 years	0.093 (-0.175, 0.360)	0.497	-0.249 (-0.907, 0.409)	0.458		
	> 20 years	0.083 (-0.363, 0.530)	0.714	0.391 (-0.707, 1.490)	0.485		
Employment Status	*Discontinuous*	-ref.-		-ref.-			
	Permanent	0.035 (-0.043, 0.113)	0.377	0.125 (-0.066, 0.317)	0.199		
	Interin	0.025 (-0.044, 0.094)	0.481	-0.053 (-0.224, 0.117)	0.540		
	Non-permanent/temporary	-0.032 (-0.149, 0.085)	0.590	-0.115 (-0.403, 0.173)	0.433		
Hiring Authority	*Healthcare*	-ref.-		-ref.-			
	Education	-0.045 (-0.132, 0.042)	0.309	-0.021 (-0.235, 0.193)	0.847		
	Others	-0.030 (-0.133, 0.073)	0.564	-0.002 (-0.255, 0.251)	0.990		
Relationship withother institutions	*Primary Care*	-ref.-		-ref.-		-ref.-	
	City Council	0.190 (-0.013, 0.393)	0.067	-0.801 (-1.301, -0.302)	0.002	-0.825 (-1.316, -0.333)	0.001
	Other	0.026 (-0.099, 0.151)	0.683	-0.157 (-0.465, 0.152)	0.319	-0.184 (-0.483, 0.114)	0.226
	No response	0.072 (-0.023, 0.166)	0.136	0.032 (-0.199, 0.264)	0.783	0.042 (-0.184, 0.269)	0.714

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Own Records		-0.022 (-0.206, 0.163)	0.817	-0.147 (-0.601, 0.306)	0.524		
Weekly Hours	*<=15 hours*	-ref.-		-ref.-		-ref.-	
Weekly Hours	*(15, 30] hours*	-0.102 (-0.309, 0.105)	0.333	0.453 (-0.057, 0.963)	0.082	0.537 (0.037, 1.037)	0.035
	(30, 37.5] hours	-0.146 (-0.314, 0.022)	0.089	0.234 (-0.180, 0.647)	0.268	0.268 (-0.142, 0.677)	0.199
	>37.5 hours	-0.171 (-0.359, 0.018)	0.076	0.538 (0.074, 1.003)	0.023	0.591 (0.134, 1.048)	0.011
	No response	-0.129 (-0.296, 0.039)	0.132	0.168 (-0.244, 0.580)	0.423	0.200 (-0.209, 0.608)	0.338

The reduced model is the one that achieves the best balance of likelihood by the number of variables, as a result of a stepwise backward variable selection process based on the Akaike Information Criterion (AIC). Although the p-values of the marginal effects may not present in some cases $p<0.05$, the model without that variable had a worse AIC. No reduced model is presented for Font-Roja since none of the explanatory variables provided sufficient likelihood when trying to explain the total Font-Roja score.

Furthermore, those working more than 37.5 hours per week also showed a decrease in the total score, with a p-value of 0.076, which is close to the conventional significance threshold of 0.05. The observed reduction was 17.1% compared to those working less than 15 hours per week (95% CI: -0.359, 0.018). This negative association suggests that working many hours could be related to lower job satisfaction and professional quality of life.

It is important to note that while the p-value for weekly working hours (0.076) does not reach the traditional level of statistical significance, it is close enough to suggest a possible trend that might be significant with a larger sample size or in other contexts. In practical terms, both age and working hours seem to negatively influence the Font-Roja questionnaire scores, highlighting the need to consider these factors in managing workplace well-being.

In the analysis of the CVP-35 questionnaire, it was found that the relationship with institutions such as the City Council was negatively associated with the total score, with this association being highly significant (p=0.002). This suggests that individuals whose employment relationship is with these public institutions tend to have a more negative perception of their job satisfaction and professional quality of life.

Additionally, the "non-binary" gender category showed a significant negative association with the total CVP-35 score (p=0.048). Specifically, non-binary individuals had a decrease of 1.616 points in the total questionnaire score (95% CI: -3.218, -0.013). This finding indicates that non-binary individuals may experience lower job satisfaction and professional quality of life compared to their male and female counterparts.

These associations underscore the importance of considering institutional relationships and gender identity when evaluating job satisfaction and professional quality of life. Specifically, the policies and practices of the City Council, as well as the recognition and support of non-binary individuals, can have a significant impact on these aspects.

It was also found that individuals working between 15 and 30 hours per week showed a significant positive association with the total score in the reduced model (p=0.035), with an increase of 0.537 points compared to those working less than 15 hours per week (95% CI: 0.037, 1.037). Similarly, those working more than 37.5 hours per week showed a significant positive association (p=0.011), with an increase of 0.591 points compared to those working less than 15 hours per week (95% CI: 0.134, 1.048).

4. Discussion

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The role of school nurses in promoting health and well-being within the educational setting is crucial, yet the factors influencing their job satisfaction and professional quality of life have been understudied nationally. This study aimed to fill this gap by examining the job satisfaction and professional quality of life of 553 school nurses in Spain. The findings provide insights into the challenges and opportunities within this specialized field of nursing.

4.1. Job Satisfaction

The results of the Font-Roja questionnaire indicate that, in general, school nurses exhibit a moderately high level of job satisfaction, with an overall mean score of 3.129. The level of job satisfaction among the participants was moderate, consistent with other studies indicating medium-high levels [30]. However, significant variations are observed in some specific factors. For example, extrinsic status characteristics and job monotony show significant differences among contracting entities [31,32].

For instance, nurses contracted by "Healthcare" perceive a higher job status, which may be related to the structure and formal recognition of the healthcare system compared to the educational or private sectors. Conversely, those in the "Education" sector may experience more job monotony, potentially influenced by routine tasks and a lack of variety in the school environment.

Regarding satisfaction with the job itself (Factor 1), no significant differences were observed among the contracting entities (Healthcare, Education, Others). This suggests that individual factors may have a greater impact than the contracting entity in this aspect, indicating that school nurses find intrinsic value in their work regardless of the sector they work in [33,34]. Work-related stress (Factor 2) also showed a common experience among school nurses, regardless of the sector, which may reflect the inherently stressful nature of the school nursing profession.

School nurses feel competent in their profession similarly across different entities, as reflected in the professional competence results (Factor 3), suggesting that the training and professional skills acquired are adequate and homogeneous nationwide. The perception of professional competence is fundamental to job satisfaction. Work pressure (Factor 4) is a moderate but consistent concern among school nurses, regardless of the sector, with a mean score of 2.97. This indicates that although nurses are relatively satisfied with their jobs, they face considerable pressure. High perceived pressure can reduce job satisfaction and increase the risk of burnout; additionally, nurses who feel they have the appropriate skills and training for their job tend to be more satisfied [35].

Improvement options (Factor 5) show some significant differences among entities, with the "Others" sector displaying a more positive perception. Nurses in this sector perceive more opportunities for improvement, perhaps due to greater flexibility or less structuring compared to the Healthcare and Education sectors. This highlights the need to create and communicate development opportunities across all sectors. Interpersonal relationships with superiors (Factor 6) appear to be fairly uniform and positive among different contracting entities, suggesting that superiors in all sectors may have a similar approach to managing and supporting nursing staff. Interpersonal relationships with colleagues (Factor 7) are also similar among different contracting entities, indicating a consistent collaborative work culture across all areas.

Nurses in the Healthcare sector perceive a higher status compared to other entities, as reflected by the extrinsic status characteristics (Factor 8). This may reflect the formal recognition and structure of the healthcare system. To enhance the perception of status in other sectors, formal recognition measures and incentives could be implemented. Finally, significant differences were observed in job monotony (Factor 9), with higher job monotony in the Education sector.

4.2. Professional Quality of Life

Independent scores in terms of professional quality of life showed an overall score of 6.000, with significant variations in certain factors depending on the contracting entity. For example, the perceived workload is higher in the "Others" sector, which could be due to the diversity of tasks and responsibilities nurses face in these less regulated environments. Job satisfaction with salary is higher

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in the educational sector, possibly reflecting better salary conditions or benefits compared to other sectors.

The pressure to maintain the quantity and quality of work is significantly higher in the healthcare sector, which could be a consequence of the critical and demanding nature of the healthcare environment. Additionally, support from supervisors is higher in the educational sector, which may indicate a more collaborative and less hierarchical work environment compared to other sectors [36].

4.3. Relationships with Other Institutions and Center Characteristics

Relationships with other institutions, especially collaboration with Primary Care, vary significantly among contracting entities. Nurses in the healthcare sector report greater collaboration with Primary Care, which aligns with the integration of the healthcare system. This collaboration is less frequent in the educational and other sectors, which could limit the support and resources available to school nurses in these settings.

The type and size of the center regarding the number of students also show significant differences among contracting entities. Larger educational centers and schools encompassing preschool, primary, and secondary education are more common in the "Others" sector, which can influence the workload and work dynamics of school nurses.

4.4. Work Experience, Age, and Working Hours

A detailed analysis of the factors associated with the job satisfaction and professional quality of life of school nurses offers a deep understanding of the work dynamics in this field. Our study indicated that nurses with 5 to 10 years of experience reported lower professional quality of life, possibly due to a combination of expectations and work realities generating dissatisfaction in this group. This finding is consistent with previous studies [37] showing that nurses with fewer years of experience tend to be more satisfied than those with more experience, perhaps due to a lower burden of responsibilities and more realistic work expectations.

Additionally, the employment relationship with the City Council was negatively associated with perceived satisfaction and quality of life, likely due to differences in management policies and work support. The stability and nature of employment relationships can significantly impact the well-being of nurses [38] suggesting that City Council policies may not be aligned with the needs and expectations of these professionals.

Working more than 37.5 hours a week was positively associated with the overall score in professional quality of life, which could be explained by additional income compensating for prolonged working hours, improving the overall perception of the work environment [36,39]. However, it was also observed that those working more than 37.5 hours a week showed a more pronounced negative association with job satisfaction compared to those working less than 15 hours a week. This finding highlights the importance of addressing excessive workloads and promoting a work-life balance to improve the well-being of school nurses [37].

A key finding of this study is the significant influence of age on the perception of job satisfaction. Individuals aged 30 to 40 showed a negative association with job satisfaction, suggesting that this cohort may face specific challenges in their work environment. This observation highlights the need for further research to better understand the concerns and needs of this demographic group and to develop specific interventions to improve their job satisfaction.

4.5. Practical Implications and Recommendations

This study has important practical implications and suggests various recommendations for improving the job satisfaction and professional quality of life of school nurses. First, it is essential that support policies and programs for school nurses are tailored to the specific needs of each sector. For example, in the educational sector, diversifying responsibilities and formally recognizing nurses' contributions could be considered to address job monotony and improve the perception of status.

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Moreover, strengthening collaboration between the educational and healthcare sectors could enhance the support and resources available to school nurses, thereby improving their job satisfaction and professional quality of life. The implementation of professional development programs and promotion opportunities can also contribute to improving motivation and reducing the perception of job monotony.

4.6. Future Research Directions

Future research in the field of school nursing could focus on several key areas. This includes exploring in-depth the contextual factors that influence the job satisfaction of school nurses, designing and implementing specific interventions to improve their work well-being, and examining the relationship between nurses' job satisfaction and students' perceptions of the quality of health services in school. Additionally, comparative studies between countries, longitudinal research, and analyses of how job satisfaction influences the quality of health services could provide a more comprehensive understanding and help improve school health care internationally. There is also a need for qualitative research to understand the specific experiences and needs of these health professionals.

The results of this study have important implications for practice and research in the field of school nursing. They highlight the need to implement specific interventions to address the factors influencing job satisfaction and the professional quality of life of school nurses. This can include the development of emotional support programs, the promotion of a work-life balance, and the overall improvement of working conditions. Moreover, further research is needed to better understand the complexities of job satisfaction in this context and to develop effective interventions to improve the well-being of school nurses and, ultimately, the students they serve**.**

5. Conclusions

School nurses in Spain exhibit a moderately high level of job satisfaction. However, significant differences are observed in factors such as status and job monotony, depending on the employment sector (Healthcare, Education, Others). This finding suggests that working conditions and inherent challenges within the educational environment can negatively impact the nurses' job satisfaction perception. Nurses in educational contexts tend to report lower levels of job satisfaction compared to those in the healthcare sector. Factors such as the nature of the work, interpersonal relationships, professional development opportunities, and institutional support play a crucial role in these disparities. Additionally, more experienced nurses tend to positively value aspects such as recognition for their work and a sense of competitiveness compared to their less experienced colleagues.

This study confirms that the professional quality of life for school nurses is homogeneous, with a mean score of 6.000 on the CPV-35 scale. The perception of professional competence is uniform among nurses, but work-related pressure is a common concern. Nurses with 5 to 10 years of experience report lower professional quality of life, while working more than 37.5 hours per week is associated with a higher professional quality of life, albeit with lower job satisfaction.

School nurses in Spain operate in a variety of contexts, with three main working models: exclusivity, itinerancy, and punctuality. Only half of the schools have a dedicated school nurse, highlighting the need for policy adjustments to ensure equitable service provision. The need for health training for teaching staff is also evident, which could improve support for nurses and student health. Active interaction with the educational community reinforces the integral role of school nurses and underscores the importance of the socioeconomic context in interventions and resource allocation.

It is essential to implement emotional support programs and promote work-life balance for school nurses. In the educational sector, it is crucial to diversify tasks and formally recognize the contributions of nurses. Additionally, strengthening collaboration between the educational and healthcare sectors can enhance the resources and support available to school nurses.

There is a need to explore the contextual factors that influence the job satisfaction of school nurses and to design specific interventions to improve their well-being. Longitudinal and comparative studies, as well as qualitative research, can provide a more comprehensive understanding and help improve school health care internationally.

Overall, this study, being one of the first of its kind at the national level in Spain, underscores the necessity of developing effective strategies to enhance the job satisfaction and professional quality of life of school nurses, which in turn will improve the health services provided to students.

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