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Edyta Marzec
Academy of Zamość
e-mail: edyta.marzec@akademiazamojska.edu.pl
https://orcid.org/0009-0007-3705-8010

Marzena Omelewska-Kowalczyk
Academy of Zamość
e-mail: marzena.omelewska@akademiazamojska.edu.pl
https://orcid.org/0009-0007-9919-5707

Jadwiga Klukow
Academy of Zamość
e-mail: jadwiga.klukow@akademiazamojska.edu.pl
https://orcid.org/0000-0003-1243-9531

Evaluating the Work Life Areas and Job Satisfaction of Employees Working in the Health Care System of Southeastern Poland[1]

Ocena obszarów życia zawodowego i satysfakcji z pracy pracowników systemu ochrony zdrowia południowo-wschodniej Polski

Summary

Background
Assessing employee satisfaction and analyzing the work environment are crucial to increasing productivity and improving healthcare delivery. Given the multitude of aspects related to areas of work life, it is important to identify those that have a differential relationship with job satisfaction. The purpose of this study was to examine how the various areas of work life for health system employees – workload, control, rewards, community, sense of justice, and values – correlate with their perceived job satisfaction.

Material and methods
The study group consisted of 162 healthcare system employees. Subjective assessment of work areas was made using the Areas of Worklife Survey questionnaire, and the Job Satisfaction Survey was used to measure job satisfaction.

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Results
There was a significant correlation between work-life area scores and job satisfaction ($p < .001$). Gender was a significant differentiating factor in the results that related to workload, control of work behavior, satisfaction with rewards, and values. Among the studied occupational groups, the highest autonomy ($p < .001$), highest reward satisfaction ($p < .001$), better-rated workplace social relations and highest compliance ($p = .03$), and best-rated values ($p \leq .03$) were most frequently observed among physicians. On the sense of justice scale, some of the highest values were obtained among electroradiologists/radiologists and physicians ($p \leq .02$). The highest values on the job satisfaction scale were observed among physicians (31.83) and electroradiologists/radiologists (29.0) ($p < .001$).

Conclusion
All areas of work life are significant predictors of job satisfaction.

Keywords: areas of work life; workplace; job satisfaction; medical profession; medical professional

Streszczenie

Wstęp
Ocena zadowolenia pracowników i analiza środowiska pracy mają kluczowe znaczenie dla zwiększenia wydajności i poprawy świadczenia usług medycznych. Biorąc pod uwagę mnogość aspektów związanych z obszarami życia zawodowego, istotne jest, aby zidentyfikować te mające w różnym stopniu związek z satysfakcją z wykonywanej pracy. Celem pracy było zbadanie, w jaki sposób różne obszary życia zawodowego pracowników systemu ochrony zdrowia: obciążenie pracą, kontrola, nagrody, społeczność, poczucie sprawiedliwości i wartości, korelują z ich postrzeganą satysfakcją z pracy.

Materiał i metody
Grupa badana liczyła 162 pracowników systemu ochrony zdrowia. Subiektywnej oceny obszarów pracy dokonano z zastosowaniem Kwestionariusza Obszary Życia Zawodowego (*The Areas of Worklife Survey*), a do badania zadowolenia z pracy użyto Skali Satysfakcji z Pracy (SSP).

Wyniki
Wykazano istotną korelację między oceną obszaru życia zawodowego a satysfakcją z pracy ($p < 0{,}001$). Płeć była istotnym czynnikiem różnicującym wyniki, które dotyczyły obciążenia pracą, kontroli zachowań w pracy, satysfakcji z nagród i wartości. Spośród badanych grup zawodowych najczęściej wśród lekarzy obserwowano największą autonomię ($p < 0{,}001$), największą satysfakcję z nagród ($p < 0{,}001$), lepiej oceniane relacje społeczne w miejscu pracy i największą zgodność ($p = 0{,}03$) oraz najlepiej oceniane wartości ($p \leq 0{,}03$). Na skali poczucia sprawiedliwości jedne z większych wartości uzyskano wśród elektroradiologów/radiologów i lekarzy ($p \leq 0{,}02$). Największe wartości na skali satysfakcji z pracy obserwowano wśród lekarzy (31,83) i elektroradiologów/radiologów (29,0) ($p < 0{,}001$).

Wnioski
Wszystkie obszary życia zawodowego są istotnymi predyktorami satysfakcji z pracy.

Słowa kluczowe: obszary życia zawodowego; miejsce pracy; satysfakcja z pracy; zawód medyczny; pracownik medyczny

Introduction

The basic form of human activity is work, which allows for the satisfaction of various needs, including biological, social, economic, and psychological demands.[2] In the healthcare sector, job satisfaction plays a key role beyond mere staff satisfaction, affecting overall well-being, fostering positive attitudes, and shaping attitudes toward work.[3] Job satisfaction contributes significantly to the delivery of quality healthcare services and serves as a key factor in reducing both physical and mental health problems among healthcare professionals.[4] The work environment is important to the quality of patient care and is the subject of increasing research attention.[5] Robert Hoppock was the first to introduce the concept of job satisfaction.[6] Since then, many researchers have recognized that satisfied employees are a key component of an organization's success.[7] While the importance of job satisfaction is widely recognized, additional and continuous surveys of satisfaction levels are necessary, as the conditions in which employees find themselves are constantly changing.[8] For example, at work, the set of psychophysical demands to which an employee is subjected may be increasing.[9] Psychophysical factors that excessively affect employees cause various types of symptoms, including sadness, anxiety, anger, or feeling of devaluation, behavioral changes with deterioration of work quality, ineffective work results, and interpersonal conflicts.[10] The situation in the healthcare sector is challenging, given the extended working hours and increased stress levels, all of which have a significant impact employee well-being.[11] The degree of job satisfaction is, in fact, the overall level of

2 E. Lisowska, *Zawodowe uwarunkowania zadowolenia z pracy wśród nauczycieli*, "Forum Pedagogiczne," 7 (2017), nr 1, pp. 227-244, https://doi.org/10.21697/fp.2017.1.16.

3 T.O. Ayodele et al., *The Nexus Between Demographic Correlates, Career and Organizational Commitment: The Case of Real Estate Employees in Nigeria*, "Journal of Facilities Management," 18 (2020), no. 5, pp. 521-545, https://doi.org/10.1108/JFM-07-2020-0047.

4 Ibidem.

5 S.M. Maassen et al., *Defining a Positive Work Environment for Hospital Healthcare Professionals: A Delphi Study*, "PLOS ONE," 16 (2021), no. 2, e0247530, https://doi.org/10.1371/journal.pone.0247530.

6 R. Hoppock, *Job Satisfaction*, New York 1935.

7 D. Karaferis, V. Aletras, D. Niakas, *Determining Dimensions of Job Satisfaction in Healthcare Using Factor Analysis*, "BMC Psychology," 10 (2022), article number 240, https://doi.org/10.1186/s40359-022-00941-2; D.R. Swamy et al., *Quality of Work Life: Scale Development and Validation*, "International Journal of Caring Sciences," 8 (2015), issue 2, pp. 281-300.

8 D. Karaferis, V. Aletras, D. Niakas, *Determining Dimensions of Job Satisfaction in Healthcare Using Factor Analysis*.

9 E. Guz, *Wpływ obciążeń psychofizycznych na pracę Pielęgniarki anestezjologicznej*, "Long-Term Care Nursing," 6 (2021), nr 4, pp. 33-46, https://doi.org/10.19251/pwod/2021.4(3).

10 Ibidem.

11 G. Hoxha et al., *Sustainable Healthcare Quality and Job Satisfaction through Organizational Culture: Approaches and Outcomes*, "Sustainability," 16 (2024), no. 9, 3603, https://doi.org/10.3390/su16093603.

satisfaction with many different dimensions of work and influences employee behavior, which, in turn, is related to the proper functioning of the organization.[12] The psychosocial work environment includes those factors that affect individuals and affect the health of employees, encompassing both individual factors and the work environment.[13] These include work-related demands – for example, work organization; interpersonal relationships, such as leadership and co-workers; sense of community, feedback and support; and individual health and personal factors, such as coping ability and family support.[14] Work environment also refers to the so-called organizational features that facilitate or restrict work.[15] Employee satisfaction also affects patient satisfaction.[16]

Due to the importance of job satisfaction, a wide range of instruments have been developed over the past decades to quantify and conceptualize it. These instruments have been developed to capture the entirety of various aspects of job satisfaction, whether personal, social, environmental, organizational, or related to the nature of the job itself. A valuable and widely used measure of job satisfaction is the Job Satisfaction Survey (JSS) Scale, which was originally developed by P.E. Spector.[17] The Areas of Worklife Survey questionnaire was used to assess the areas of work.[18]

Given the constant changes taking place in the work environment, the purposes of the presented study were to: (I) determine the level of job satisfaction of medical personnel; (II) assess various areas of work life in the work environment; (III) analyze the relationship between various areas of work life and job satisfaction.

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12 T. Singh et al., *Job Satisfaction Among Health Care Providers: A Cross-Sectional Study in Public Health Facilities of Punjab, India*, "Journal of Family Medicine and Primary Care," 8 (2019), no. 10, pp. 3268-3275, https://doi.org/10.4103/jfmpc.jfmpc_600_19.

13 K. Tomaszewska, B. Majchrowicz, M. Delong, *Impact of SARS-CoV-2 Pandemic on Psychosocial Burden and Job Satisfaction of Long-Term Care Nurses in Poland*, "International Journal of Environmental Research and Public Health," 19 (2022), no. 6, 3555, https://doi.org/10.3390/ijerph19063555.

14 J. Donley, *The Impact of Work Environment on Job Satisfaction*, "Nurse Leader," 19 (2021), no. 6, pp. 585-589, https://doi.org/10.1016/j.mnl.2021.08.009; K. Tomaszewska et al., *Psychosocial Burden and Quality of Life of Surveyed Nurses during the SARS-CoV-2 Pandemic*, "International Journal of Environmental Research and Public Health," 20 (2023), no. 2, 994, https://doi.org/10.3390/ijerph20020994.

15 X. Zhu et al., *Rationing of Nursing Care and Its Relationship with Nurse Staffing and Patient Outcomes: The Mediation Effect Tested by Structural Equation Modeling*, "International Journal of Environmental Research and Public Health," 16 (2019), no. 10, 1672, https://doi.org/10.3390/ijerph16101672.

16 I. Janicijevic et al., *Healthcare Workers Satisfaction and Patient Satisfaction – Where Is the Linkage?*, "Hippokratia," 17 (2013), no. 2, pp. 157-162.

17 P.E. Spector, *Measurement of Human Service Staff Satisfaction: Development of the Job Satisfaction Survey*, "American Journal of Community Psychology," 13 (1985), no. 6, pp. 693-713, https://doi.org/10.1007/BF00929796.

18 C. Maslach, M.P. *Leiter, Early Predictors of Job Burnout and Engagement*, "Journal of Applied Psychology," 93 (2008), no. 3, pp. 498-512, https://doi.org/10.1037/0021-9010.93.3.498.

1. Material and methods

The study included a group of 162 healthcare system employees. The general characteristics of the study group are shown in Table 1 (on next page). The survey was anonymous and voluntary.

1.1. Design of the study

This study involved a of healthcare system employees in southeastern Poland. The survey questionnaires were available online. The survey was conducted between November and December 2024.

1.2. Research tools

Respondents assessed areas of work life and job satisfaction. The first aspect was assessed using the Areas of Worklife Survey developed by Christina Maslach and Michael P. Leiter[19] in the Polish adaptation by Jan F. Terelak and Anna Izwantowska.[20] The Areas of Worklife Survey is a tool designed for the subjective evaluation of the work environment by employees. It allows for analysis of the work environment and the employees' functioning within it. In addition, the questionnaire makes it possible to assess the incompatibility between the requirements of the organization and the needs, aspirations, and capabilities of employees. The questionnaire consists of 29 statements, which are grouped into six scales:

(I) The Workload Scale assesses whether an employee can meet all the demands placed on them within the allotted time and at a certain level in terms of quality of performance (Cronbach's α = .86; 95% confidence interval, CI .83-.88);

(II) The Control (Work Behavior Control) Scale, known as autonomy, measures the ability to make independent decisions and choices on the job (Cronbach's α = .82; 95% CI .79-.85);

(III) The Reward (Reward Satisfaction) Scale, or perceived organizational support, asseses employee's belief about their employer's concern for their well-being. It refers to an assessment of an employees' satisfaction with the rewards they receive for their work. These can include material rewards, promotion opportunities, and social rewards such as recognition and respect from, for example, superiors and co-workers (Cronbach's α = .81; 95% CI .77-.87);

19 Ibidem.

20 J.F. Terelak, A. Izwantowska, *Adaptacja Kwestionariusza Obszary Życia Zawodowego (Areas of Worklife Survey) Christiny Maslach i Michaela Leitera*, "Studia Psychologica UKSW," 9 (2009), pp. 223-232.

Table 1. General characteristics of the study group

Feature	Study group N=162 (100%)
Gender	
• male	55 (34%)
• female	107 (66%)
Age (years), mean (SD)	37.50 (4.14)
Length of service (years), mean (SD)	2.54 (3.53)
Practiced profession	
• nurse/midwife	74 (45.67%)
• electroradiologist/radiologist	12 (7.40%)
• laboratory diagnostician/medical analyst	15 (9.26%)
• physiotherapist	17 (10.49%)
• physician	12 (7.40%)
• paramedic	32 (19.75%)
Age (years) by profession, mean (SD)	
• nurse/midwife	37.51 (11.67)
• electroradiologist/radiologist	34.00 (9.32)
• laboratory diagnostician/medical analyst	41.73 (8.28)
• physiotherapist	45.94 (7.28)
• physician	51.42 (11.59)
• paramedic	41.28 (8.61)
Length of service (years) by profession, mean (SD)	
• nurse/midwife	12.59 (13.74)
• electroradiologist/radiologist	8.83 (9.39)
• laboratory diagnostician/medical analyst	15.60 (7.52)
• physiotherapist	18.94 (10.76)
• physician	26.75 (13.31)
• paramedic	14.00 (8.90)
Place of work	
• hospital	77 (47.53%)
• emergency department	25 (15.43%)
• sanatorium/spa	11 (6.79%)
• patient clinic	29 (17.90%)
• long-term care	13 (8.02%)
• hospice	7 (4.32%)
Place of work regarding the profession	
• hospital laboratory diagnostician/medical analyst	6 (3.70%)
• hospital electroradiologist/radiologist	3 (1.85%)
• hospital physiotherapist	3 (1.85%)
• hospital physician	3 (1.85%)

(*continues on next page*)

Table 1. (*continued*)

Feature	Study group N=162 (100%)	
Place of work regarding the profession (*continued*)		
• hospital nurse/midwife	55	(33.95%)
• hospital paramedic	7	(4.32%)
• emergency department paramedic	23	(14.19%)
• emergency department nurse/midwife	2	(1.23%)
• sanatorium/spa electroradiologist/radiologist	2	(1.23%)
• sanatorium/spa physiotherapist	4	(2.47%)
• sanatorium/spa physician	2	(1.23%)
• sanatorium/spa nurse/midwife	2	(1.23%)
• patient clinic electroradiologist/radiologist	6	(3.70%)
• patient clinic physiotherapist	2	(1.23%)
• patient clinic physician	3	(1.85%)
• patient clinic nurse/midwife	10	(6.17%)
• patient clinic paramedic	1	(0.61%)
• patient clinic laboratory diagnostician/medical analyst	7	(4.32%)
• long-term care electroradiologist/radiologist	1	(0.61%)
• long-term care physiotherapist	7	(4.32%)
• long-term care nurse/midwife	4	(2.47%)
• long-term care paramedic	1	(0.61%)
• hospice physiotherapist	1	(0.61%)
• hospice physician	4	(2.47%)
• hospice nurse/midwife	1	(0.61%)
• hospice laboratory diagnostician/medical analyst	1	(0.61%)

SD – standard deviation

(IV) The Community (Coworker Support) Scale, or work social support, refers to social relationships in the workplace (mutual support, cooperation, and display of positive feelings) (Cronbach's α = .88; 95% CI .86-.90);

(V) The Fairness Scale (Sense of Justice scale) refers to an employees' sense of whether they are being treated fairly and addresses aspects of work such as clear rules, distribution of wealth, and promotional opportunities (Cronbach's α = .81; 95% CI .78-.84);

(VI) The Values Scale, or person-organization congruence of values valued by employees and the organization, provides an estimate of whether there is a conflict of values within the organization itself or between an employees' values and those professed by the organization (Cronbach's α = .82; 95% CI .79-.85).

Respondents completing the Areas of Worklife Survey were tasked with responding to each statement included in the questionnaire, where 1 meant *strongly disagree*; 2 – *rather disagree*; 3 – *it is difficult to say whether I agree or disagree*; 4 – *rather agree*;

5 – *strongly agree*. All questions in the Polish version achieved a statistically significant correlation of up to .05. Cronbach's alpha coefficient of .83 was calculated as a measure of the test's internal consistency.

The reliability coefficient for the Job Satisfaction Scale (JSS) is $\alpha = .90$ (95% CI .88-.92). The JSS consists of five statements about the sphere of work as a holistic, complex phenomenon based on personal criteria. Respondents were instructed to assign to each statement an opinion number from a 7-point scale that most closely corresponded to their opinion (1 – *strongly disagree*; 2 – *disagree*; 3 – *rather disagree*; 4 – *hard to say whether I agree or disagree*; 5 – *rather agree*; 6 – *agree*; 7 – *strongly agree*).

1.3. Statistical analysis

Frequencies, means, and standard deviations were calculated to describe demographic and clinical characteristics. Differences in variables between groups were calculated using analysis of variance (ANOVA). Nonparametric one-way analysis of variance was performed using the Kruskal-Wallis test. If a significant result was obtained with the Kruskal-Wallis test, a post hoc test was performed. Unless otherwise specified, the mean and 95% confidence interval (CI) or range were calculated. In addition, differences between the two independent groups were determined using the U Mann-Whitney test. Pearson correlation was used to assess the relationship between the data. Statistical analysis was performed using JASP 0.16.3 software.

2. Results

Several statistical analyses were conducted to answer the research questions. Correlations were examined for the studied parameters, and statistically significant, positive correlations were mostly observed between age and work experience, workload and sense of control, reward satisfaction, community affiliation, sense of fairness, value congruence, and job satisfaction, among others (Table 2).

In the next step, the analyzed parameters were compared by gender, and significant differences were observed regarding work experience, workload, sense of control, satisfaction with rewards and value congruence (Table 3). For example, the work experience of men was significantly longer compared to that of women (Table 3).

In an ANOVA analysis, a statistically significant difference was observed between age (in years) and occupation ($p < .001$). To determine exactly which groups showed a significant difference, a standard post hoc test was used. Values of $p < .05$ were found between laboratory diagnosticians/medical analysts and physiotherapists (41.73 vs. 45.94; $p = .03$); electroradiologists/radiologists vs. physicians (34.0 vs. 51.42; $p < .001$);

Table 2. Correlations between age, work experience, evaluation of work life areas and job satisfaction

	I	II	III	IV	V	VI	VII	VIII	IX
I		.86***	.02	.04	.12	−.02	.02	.13	.06
II			−.04	<−.01	.02	−.02	−.02	.13	.06
III				.50***	.49***	.21**	.41***	.47***	.47***
IV					.62***	.54***	.52***	.53***	.62***
V						.47***	.66***	.64***	.44***
VI							.59***	.46***	.54***
VII								.56***	.64***
VIII									.62***
IX									

* $p < .05$; ** $p < .01$; *** $p < .001$

I – age, II – work experience, III – workload, IV – control, V – rewards, VI – community, VII – fairness, VIII – values; IX – job satisfaction

Table 3. Comparison across gender groups by age, length of work experience, assessment of work-life areas and job satisfaction

Analyzed parameters	**Group**	***N***	**Mean**	**SD**	***p***
Age (years)	Female Male	107 55	39.14 42.56	10.92 11.23	.110
Length of work experience (years)	Female Male	107 55	13.18 17.31	12.34 12.05	.010
Workload	Female Male	107 55	16.40 19.13	5.46 6.78	.010
Control	Female Male	107 55	10.54 11.65	2.72 3.03	<.001
Reward	Female Male	107 55	13.33 14.47	3.35 3.74	<.001
Community	Female Male	107 55	17.24 18.36	4.60 3.64	.130
Fairness	Female Male	107 55	17.50 18.40	4.64 4.86	.360
Values	Female Male	107 55	17.63 20.15	3.69 3.20	<.001
Job satisfaction	Female Male	107 55	23.13 25.98	5.98 8.13	<.001

SD – standard deviation

physiotherapists vs. nurses/midwives (45.94 vs. 37.51; $p = .03$); physicians vs. nurses/midwives (51.42 vs. 37.51; $p < .001$). A statistically significant difference was observed in work experience (in years) between physicians and (I) electroradiologists/radiologists (26.75 vs. 8.83; $p < .001$); (II) nurses/midwives (26.75 vs. 12.59; $p < .001$); and (III) paramedics (26.75 vs. 14.0; $p = .02$).

In the next step, the average values obtained in the study group on the various scales of work environment assessment were analyzed (Figure 1). This was followed by an analysis of the results obtained with the Areas of Worklife Survey, taking into account the occupation of the participants.

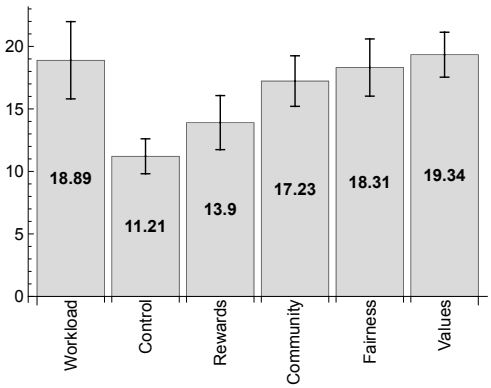

Fig. 1. Mean values (±SD) obtained on each scale of the Areas of Worklife Survey

2.1. Workload

The workload scale could be scored from 5 to 30 points. This is a tool that uses an inverse scale, meaning that the higher the score, the lower the workload. The lowest workload was observed among electroradiologists/radiologists and physicians, and the highest among nurses/midwives (Table 4). A post hoc test showed statistically significant differences in workload between electroradiologists/radiologists and physiotherapists ($p < .001$); electroradiologists/radiologists and nurses/midwives ($p < .001$); electroradiologists/radiologists and paramedics ($p = .03$); and physicians and nurses/midwives ($p = .02$). The results for laboratory diagnosticians/medical analysts in the post hoc test were not statistically significant.

2.2. Control of behavior at work

The behavioral control scale can be scored up to 5 to 15 points. Of the healthcare professionals surveyed, physicians had the highest autonomy, i.e., the ability to make independent decisions (Table 5). In the post hoc test, significant differences were observed

Table 4. Results of the workload scale

Practiced profession	*N*	Mean	SD	*p*
Laboratory diagnostician/medical analyst	15	19.67	7.55	<.001
Electrocardiologist/ radiologist	12	23.50	6.26	
Physiotherapist	17	16.12	6.29	
Physician	12	21.00	5.66	
Nurse/midwife	74	15.38	4.71	
Paramedic	32	17.69	5.89	

SD – standard deviation

Table 5. Results of the scale – control of behavior at work

Practiced profession	*N*	Mean	SD	*p*
Laboratory diagnostician/medical analyst	15	9.93	3.39	<.001
Electrocardiologist/ radiologist	12	11.58	3.75	
Physiotherapist	17	10.06	3.34	
Physician	12	13.67	1.50	
Nurse/midwife	74	10.50	2.54	
Paramedic	32	11.53	2.45	

SD – standard deviation

between physicians and laboratory diagnosticians/medical analysts ($p < .001$); physicians and physiotherapists ($p < .001$); and physicians and nurses/midwives ($p < .001$).

The results for electroradiologists/radiologists and paramedics were not significant in the post hoc test.

2.3. Satisfaction with rewards

The results of satisfaction with the rewards range from 5 to 20 points, relate to employees' evaluation of their satisfaction with the rewards they receive, and are related to the employees' belief in their employers' concern for their well-being. Among the healthcare system employees surveyed, the highest satisfaction with rewards was found among medical doctors (Table 6).

Significant differences regarding satisfaction with received rewards were observed between physicians and (I) laboratory diagnosticians/medical analysts ($p < .001$); (II) physiotherapists ($p < .001$); (III) nurses/midwives ($p < .001$); (IV) paramedics ($p < .001$). The results for electroradiologists/radiologists were not significant in the post hoc test.

Table 6. Results of the reward satisfaction scale

Practiced profession	*N*	Mean	SD	*p*
Laboratory diagnostician/medical analyst	15	12.27	3.45	<.001
Electrocardiologist/ radiologist	12	15.08	3.73	
Physiotherapist	17	13.18	3.28	
Physician	12	17.75	2.09	
Nurse/midwife	74	12.09	3.33	
Paramedic	32	13.06	3.45	

SD – standard deviation

Table 7. Results of the Community scale

Practiced profession	*N*	Mean	SD	*p*
Laboratory diagnostician/medical analyst	15	14.73	5.57	<.001
Electrocardiologist/ radiologist	12	16.33	5.37	
Physiotherapist	17	15.53	3.26	
Physician	12	19.58	3.00	
Nurse/midwife	74	17.82	4.26	
Paramedic	32	19.38	3.09	

SD – standard deviation

2.4. Social support at work

Social support at work was determined using the Community scale, with scores ranging from 5 to 25. Some of the better-rated social relationships in the workplace (mutual support, cooperation, and display of positive feelings) were observed among physicians and paramedics (Table 7).

In a post hoc test, significant differences were observed for peer support between physicians and laboratory diagnosticians/medical analysts ($p = .03$); paramedics and laboratory diagnosticians/medical analysts ($p < .001$); and physiotherapists and laboratory diagnosticians/medical analysts ($p = .03$). The results for nurses/midwives and electroradiologists/radiologists were not significant.

2.5. Fairness

The results of the Fairness scale range from 5 to 30 points. On this scale, some of the highest values were obtained among electroradiologists/radiologists and physicians (Table 8), which means that employees in these medical groups feel that they are treated fairly. Significant differences in the results of the sense of justice scale were observed between

Table 8. Results of the Fairness scale

Practiced profession	*N*	Mean	SD	*p*
Laboratory diagnostician/medical analyst	15	16.33	4.70	<.001
Electrocardiologist/ radiologist	12	20.17	6.15	
Physiotherapist	17	16.12	4.39	
Physician	12	21.92	3.53	
Nurse/midwife	74	17.41	4.39	
Paramedic	32	17.91	4.58	

SD – standard deviation

Table 9. Value scale results

Practiced profession	*N*	Mean	SD	*p*
Laboratory diagnostician/medical analyst	15	18.93	4.03	<.001
Electrocardiologist/ radiologist	12	20.08	3.80	
Physiotherapist	17	18.59	2.37	
Physician	12	22.58	2.02	
Nurse/midwife	74	17.50	3.76	
Paramedic	32	18.34	3.45	

SD – standard deviation

physicians and (I) laboratory diagnosticians/medical analysts (p = .02); (II) physiotherapists (p = .01); nurses/midwives (p = .02).

The results for electroradiologists/radiologists and paramedics were not significant in the post-hoc test.

2.6. Values

On the Value scale, scores ranged from 5 to 25 points. The greatest agreement between the values esteemed by employees and the organization was observed among physicians (Table 9). Significant differences were shown between physicians and (I) physiotherapists (p = .03); (II) nurses/midwives (p < .001); (III) paramedics (p < .001).

The results for laboratory diagnosticians and electroradiologists/radiologists were not significant in the post hoc test.

2.7. Job satisfaction

Scores on the job satisfaction scale ranged from 5 to 35 points. On the job satisfaction scale, some of the highest values were obtained among electroradiologists/radiologists and physicians (Table 10). Significant differences were found between physicians

and (I) laboratory diagnosticians/medical analysts ($p < .001$); (II) nurses/midwives ($p < .001$); (III) paramedics ($p = .01$); (IV) physiotherapists ($p < .001$). In addition, significant values were observed between electroradiologists/radiologists and (I) physiotherapists ($p = .03$), (II) nurses/midwives ($p = .02$).

Table 10. Job satisfaction scale results

Practiced profession	***N***	**Mean**	**SD**	***p***
Laboratory diagnostician/medical analyst	15	21.13	6.12	<.001
Electrocardiologist/ radiologist	12	29.00	4.16	
Physiotherapist	17	21.65	7.53	
Physician	12	31.83	10.03	
Nurse/midwife	74	22.59	6.04	
Paramedic	32	24.59	5.58	

SD – standard deviation

3. Discussion

The study analyzed the areas of work life (workload, control, satisfaction with rewards, sense of fairness, and value) and job satisfaction among healthcare system employees. There was a significant correlation between the assessed parameters. Gender was a significant differentiating factor in the results, which included workload, control of work behavior, satisfaction with rewards, values, and job satisfaction. Among the professional groups studied, a significant difference was most often observed in the results obtained in the areas of work life and job satisfaction between the groups of physicians and nurses, with the highest values obtained for physicians and the lowest for nurses/midwives.

Job satisfaction is closely related to a few sociodemographic characteristics. Our research indicates that women experience greater job satisfaction than men. According to Mateusz Paliga, women maintain better relationships with coworkers and superiors and thus feel greater job satisfaction.[21] This is due to the low expectations of women operating in the labor market, putting them at a disadvantage compared to men. In the case of women, it is much easier to meet their expectations.[22] In contrast, Paweł Miąsek obtained the opposite results, in which it was men who felt more satisfaction with their jobs than women.[23] This is because the professional situation of women – among other things,

21 M. Paliga, *Satysfakcja z pracy i wydajność pracowników. Relacja (nie)oczekiwana*, Katowice 2021.

22 Ibidem.

23 P. Miąsek et al., *Różnice międzypłciowe w satysfakcji z pracy i jakości życia wśród przedstawicieli kadry zarządzającej*, "Czasopismo Psychologiczne," 21 (2015), nr 2, pp. 305-310, https://doi.org/10.14691/CPPJ.21.2.305.

their salary and chances for promotion – is worse than that of men.[24] Interesting findings were presented by authors Johanim Johari and Khulida Kirana Yahya, who differentiated job satisfaction by considering the type of work position held.[25] They showed that women in executive positions manifest less job satisfaction than men. The situation is different for managerial positions, where women show more job satisfaction than men.[26] In their study, Christine Kovner and co-authors showed that factors related to the work environment were significantly related to job satisfaction.[27] More than 40.0% of the variation in satisfaction was explained by various attitudes at work: supervisor support, work group cohesion, work variety, autonomy, organizational constraints, advancement opportunities, work-family conflict, and fairness.[28] In our study, the average score for all areas of work life in the study group was slightly above the average value, meaning that it was at a moderate level, with the highest workload declared by nurses/midwives and the lowest by electroradiologists/radiologists and physicians. Published data in the World Health Organization (WHO) report indicate that in 2020, the health system's workforce numbered 65.1 million workers worldwide,[29] including 27.9 million nurses.[30] The WHO estimated nursing shortage of about 9 million nurses by 2030.[31] In Poland, it is indicated that by that time, there will be a shortage of more than 36,000 nurses,[32] which means that the workload in the healthcare system for this professional group will steadily increase. In the authors' study, workload in each area correlates statistically significantly with all aspects of job satisfaction. All correlations are positive, so it can be concluded that higher levels of satisfaction in areas of work life are associated with higher levels of satisfaction in every aspect of work. Other researchers also consider the work environment and aspects

24 Ibidem.

25 J. Johari, K.K. Yahya, Job Characteristics, *Work Involvement, and Job Performance of Public Servants*, "European Journal of Training and Development," 40 (2016), issue 7, pp. 554-575, https://doi.org/10.1108/EJTD-07-2015-0051.

26 Ibidem.

27 C. Kovner et al., *Factors Associated With Work Satisfaction of Registered Nurses*, "Journal of Nursing Scholarship," 38 (2006), no. 1, pp. 71-79, https://doi.org/10.1111/j.1547-5069.2006.00080.x.

28 Ibidem.

29 M. Boniol et al., *The Global Health Workforce Stock and Distribution in 2020 and 2030: A Threat to Equity and 'Universal' Health Coverage?*, "BMJ Global Health," 7 (2022), issue 6, e009316, https://doi.org/10.1136/bmjgh-2022-009316.

30 Health Workforce (HWF), *State of the World's Nursing 2020: Investing in Education, Jobs and Leadership*, 12.08.2020, https://www.who.int/publications/i/item/9789240007017 [access: 7.12.2024].

31 World Health Organization, *Global Strategic Directions for Strengthening Nursing and Midwifery 2016-2020*, 2016, https://iris.who.int/bitstream/handle/10665/275453/9789241510455-eng.pdf [access: 7.12.2024].

32 Naczelna Rada Pielęgniarek i Położnych, *Raport Naczelnej Rady Pielęgniarek i Położnych. Pielęgniarka, Położna – zawody deficytowe w polskim systemie ochrony zdrowia*, April 2022, https://nipip.pl/wp-content/uploads/2022/06/2022-04-30_Raport_NIPiP_KRAJ_Wojewodztwa-w-2.2.pdf [access: 7.12.2024].

of work when assessing job satisfaction.[33] This is consistent with evidence that having supportive factors and positive relationships at work – including relationships with other professionals, hospital leadership, a positive leadership style, organizational support, and teamwork – can play a protective role against job burnout and contribute to greater job satisfaction, having a direct impact on emotional exhaustion and personal fulfillment.[34] Maria Helena de Almeida et al. point out that job satisfaction is one of the most important aspects of quality of work life for nursing teams.[35] The authors indicate a positive relationship between access to opportunities, resources, information, and support and job satisfaction. All dimensions of structural empowerment were positively and significantly related to job satisfaction. In contrast, the satisfaction observed among nursing staff was significantly driven by increased access to opportunities and global empowerment. In addition, the increase in quality of work life was associated with improved quality of services provided by nurses.[36] Devappa Renuka Swamy et al. found that satisfied employees are a key resource for organizations.[37] The issue of job satisfaction is very important, especially for public organizations such as healthcare system facilities, which are essential to the proper functioning of the population.[38]

In our own study, the reward aspect was rated best by physicians, while it was rated worst by nurses/midwives and laboratory diagnosticians. C.V. Colindres et al. showed that an imbalance between workload and reward is a significant predictor of job burnout.[39] The researchers highlighted a rather important issue of the remuneration system in an overburdened situation, namely, that even if nurses rate their work as satisfying and do not expect a reward in return, fair remuneration is still essential to avoid burnout.[40]

Among the areas of professional life surveyed, electroradiologists and physicians rated fairness highest, while physiotherapists, laboratory diagnosticians, and nurses/

33 N. Gillet et al., *The Effects of Work Factors on Nurses' Job Satisfaction, Quality of Care and Turnover Intentions in Oncology*, "Journal of Advanced Nursing," 74 (2018), no. 5, pp. 1208-1219, https://doi.org/doi:10.1111/jan.13524; I. Kagan, T. Hendel, B. Savitsky, *Personal Initiative and Work Environment as Predictors of Job Satisfaction Among Nurses: Cross-Sectional Study*, "BMC Nursing," 20 (2021), article number 87, https://doi.org/10.1186/s12912-021-00615-1.

34 M.F. Hellín Gil et al., *Relationship between Job Satisfaction and Workload of Nurses in Adult Inpatient Units*, "International Journal of Environmental Research and Public Health," 19 (2022), no. 18, 11701, https://doi.org/10.3390/ijerph191811701.

35 M.H. de Almeida, A. Orgambídez-Ramos, P. Batista, *Workplace Empowerment and Job Satisfaction in Portuguese Nursing Staff: An Exploratory Study*, "Central European Journal of Nursing and Midwifery," 8 (2017), no. 4, pp. 749-755, https://doi.org/10.15452/CEJNM.2017.08.0028.

36 Ibidem.

37 Swamy D.R. et al., *Quality of Work Life: Scale Development and Validation*.

38 Ibidem.

39 C.V. Colindres et al., *Effect of Effort-Reward Imbalance and Burnout on Infection Control Among Ecuadorian Nurses*, "International Nursing Review," 65 (2018), no. 2, pp. 190-199, https://doi.org/doi:10.1111/inr.12409.

40 Ibidem.

midwives rated it lowest. In a study by Huda Mohammed Bakeer et al, it was noted that a positive correlation occurred between organizational justice and the level of organizational citizenship behavior.[41] An increase in the level of organizational justice was associated with a greater willingness of employees to exhibit positive workplace behaviors, such as employee engagement and job satisfaction, and less intention to leave their jobs.[42] Organizational justice – especially distributive justice, understood as the distribution of wealth, and interactional justice regarding the quality of social relationships at work – has a significant impact on job satisfaction, which, in turn, negatively correlates with intentions to leave the profession among nurses.[43] Other authors have shown that the job satisfaction of nurses employed in hospitals is closely related to the work environment, structural reinforcement, organizational commitment, job commitment, job stress, and patient satisfaction.[44]

In our study, social support, autonomy, and values were rated highest by physicians and lowest by nurses/midwives. The lower sense of autonomy expressed by nurses can be seen in the context of the functioning organizational culture in hospitals, oscillating around hierarchicalism, which is combined with autocraticism and patriarchalism. This is manifested in the declared and realized acceptance of status differences between employees and entire professional groups. At the top of the hierarchy are most often physicians in managerial positions, managers – economists, specialist physicians, and other managers.[45] Such a cultural model is not conducive to the professional autonomy of nurses/midwives, understood as decision-making autonomy, which is largely dependent on the medical team. A study conducted in Turkey shows that the image of the nurse

41 H.M. Bakeer, R.A. Nassar, R.K.M. Sweelam, *Investigating Organisational Justice and Job Satisfaction as Perceived by Nurses, and Its Relationship to Organizational Citizenship Behaviour*, "Nursing Management (Harrow, London, England : 1994)," 28 (2021), no. 5, pp. 19-25, https://doi.org/10.7748/nm.2021.e1973.

42 Ibidem.

43 H. Zahednezhad et al., *Investigating the Relationship Between Organizational Justice, Job Satisfaction, and Intention to Leave the Nursing Profession: A Cross-Sectional Study*, "Journal of Advanced Nursing," 77 (2021), no. 4, pp. 1741-1750, https://doi.org/doi:10.1111/jan.14717.

44 H.-C. Chung et al., *Nurses' Well-Being, Health-Promoting Lifestyle and Work Environment Satisfaction Correlation: A Psychometric Study for Development of Nursing Health and Job Satisfaction Model and Scale*, "International Journal of Environmental Research and Public Health," 17 (2020), no. 10, 3582, https://doi.org/10.3390/ijerph17103582; M. Elbejjani et al., *Work Environment-Related Factors and Nurses' Health Outcomes: A Cross-Sectional Study in Lebanese Hospitals*, "BMC Nursing," 19 (2020), article number 95, https://doi.org/10.1186/s12912-020-00485-z; H. Lu, Y. Zhao, A. While, *Job Satisfaction Among Hospital Nurses: A Literature Review*, "International Journal of Nursing Studies," 94 (2019), pp. 21-31, https://doi.org/10.1016/j.ijnurstu.2019.01.011; J. Niskala et al., *Interventions to Improve Nurses' Job Satisfaction: A Systematic Review and Meta-Analysis*, "Journal of Advanced Nursing," 76 (2020), issue 7, pp. 1498-1508, https://doi.org/10.1111/jan.14342.

45 Ł. Sułkowski, *Zmiana kulturowa w polskich szpitalach – wyniki badań* [Cultural Change in Polish Hospitals – Research Analysis], "Przedsiębiorczość i Zarządzanie," 14 (2013), nr 10, część I, pp. 83-96.

is perceived negatively, including through significant subordination to physicians.[46] For the most part, physicians themselves and patients view nurses as physician assistants.[47]

The opportunity for self-fulfillment and a positive work atmosphere, which is provided by good team relations with both the supervisor and co-workers, are important aspects affecting job satisfaction.[48] In addition, the benefits of a friendly work atmosphere result in a higher quality of procedures performed and a higher sense of self-efficacy.[49] The results also show that employer-supported nursing teams are satisfied with their jobs and show no willingness to leave the employer.[50] Kuswantoro Rusca Putra et al. showed that job satisfaction correlated positively with nurses' work and that four dimensions of job satisfaction – namely, supervision, contingent rewards, colleagues, nature of work, and communication dimensions – were positively correlated with nurses' work activity.[51]

There are some limitations to this study, namely: (I) the number of occupational groups surveyed should be equivalent and appropriately sized (e.g., 150 for each occupational group), which would then allow for extended statistical analyses, taking into account the place of work and k-means cluster analysis; (II) response bias, i.e., study participants may not have given accurate or truthful answers. Factors such as social desirability bias, where participants may respond in what they perceive as socially acceptable ways rather than truthfully, can distort the collected data, affecting the relevance of the study's conclusions.

In summary, all areas of work life are important predictors of job satisfaction. In addition, evaluation of the work environment should be done periodically. It is advisable to conduct activities in the form of individual counseling or workshops to improve the work environment. The authors believe that this research needs to be continued. Directions for further research should include the assessment of experienced stress, the level of

46 V. Apaydin Cirik, U. Gül, B. Aksoy, *The Image of Nursing Among Nursing and Other Healthcare Professional University Students: A Mixed-Method Study*, "Nurse Education in Practice," 59 (2022), 103293, https://doi.org/10.1016/j.nepr.2022.103293.

47 Ibidem.

48 M. Ostrowicka, B. Walewska-Zielecka, D. Olejniczak, *Czynniki motywujące i satysfakcja z pracy pielęgniarek w wybranych placówkach publicznej i prywatnej służby zdrowia*, "Zdrowie Publiczne i Zarządzanie," 11 (2013), nr 2, pp. 191-209, https://doi.org/10.4467/20842627OZ.14.017.1627.

49 A. Wójcik, K. Jakubowski, D. Bazaliński, *Fatigue and Stress Levels of Hospital Emergency Department Staff – Preliminary Reports*, "Pielęgniarstwo Chirurgiczne i Angiologiczne/Surgical and Vascular Nursing," 14 (2020), nr 4, pp. 151-157.

50 E.A. Abou Hashish, *Relationship Between Ethical Work Climate and Nurses' Perception of Organizational Support, Commitment, Job Satisfaction and Turnover Intent*, "Nursing Ethics," 24 (2017), no. 2, pp. 151-166, https://doi.org/10.1177/0969733015594667.

51 K.R. Putra, T. Andayani, E.H. Ningrum, *Job Satisfaction and Caring Behavior among Nurses in a Military Hospital: A Cross-Sectional Study*, "Journal of Public Health Research," 10 (2021), no. 2, 2212, https://doi.org/10.4081/jphr.2021.2212.

trust in the work team, analysis of support from superiors, and individual predispositions to specific tasks.

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