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Factors Determining Migration Decisions of Nursing Students from Eastern Poland²

Abstract

The article contributes to research on international migration of healthcare professionals. The principal objective of the article is to identify and evaluate the factors which affect the decisions taken by young nursing students to emigrate from Poland.

In the article original data from authors' survey are used. It involved 207 students from universities in two relatively poor regions in eastern Poland: Lubelskie and Warmian-Masurian Voivodships.

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The literature analysis and the survey results conducted among nursing students show that low wages, poor working conditions, and low professional prestige are the factors motivating them to leave the country. Migration networks play an important role in the migration process as well. Young people increasingly often prefer virtual networks to look for a job. It seems that this type of contact will play an increasingly important role.

The remuneration level should be increased and the working conditions improved in order to stop the emigration of nurses.

Key words: nurses, healthcare, international migration, human capital, youth

Introduction

Migration is among the major socio-economic problems faced by Poland. The intensification of the migration process following Poland's accession to the European Union in 2004 is inextricably associated with the principle of free movement of people, services, and capital within the European Union (Art. 56 of the Treaty on European Union (TEU) and Art. 26 item 2 and 63 of the consolidated version of the Treaty on the Functioning of the European Union). The extent of Polish economic emigration has been raising concerns among scientists for years (Kaczmarczyk, 2005a, 2008; Jończy, 2006).

In 2017, as many as 2.5 million Poles stayed abroad for over 3 months, and approximately 80% of the emigrants left the country for longer than 12 months. The majority of them were persons aged 25–35 years (GUS, 2018a). This is a disadvantageous phenomenon, especially because it involves the emigration of highly qualified young people (Kaczmarczyk, 2005b, 2006; Mihi-Ramírez et al., 2015), including medical staff (doctors and nurses in particular).

The migration phenomenon of nurses represents a social problem that is associated with the aging of the Polish population (the average lifespan of women is 82 years and that of men is 74 years) (GUS, 2018), as well as with the expected increase in demand for the work of nurses (contribution of persons in the post-productive age will increase to 37% by 2050) (GUS, 2016a). Poland has the lowest number of nurses per 1000 inhabitants in Europe. In 2016, it reached 5.24 compared to 17.5 in Switzerland, 13.1 in Germany, 7.9 in the UK, and 9.4 on average in the OECD countries (RNRPiP, 2017). In addition, the nurses themselves are aging as well (RNRPiP, 2017). These data show that young, educated people are essential for the Polish labour market. Unfortunately, students who study nursing decide to migrate, in the same way as representatives of other professions. For this reason, the domestic labour market faces the problem of a nursing shortage. This can threaten the operation of the healthcare system. Therefore, it seems important to identify the factors that affect migration decisions taken by young people who have just entered the labour market. This will help indicate potential options for keeping nurses in the country.

The subject of the research, presented in this article includes international migrations, and more specifically, the emigration of young nurses entering the profession. This is

a specific group of people among whom there is no unemployment. They are desired employees in the domestic and foreign labour markets. It is important to keep them in Poland for the sake of the proper functioning of the healthcare system. Therefore, the main goal of this survey was to identify the most important factors underlying the decision to leave the country for economic concerns. A survey method was used in the research to achieve the main purpose of the study. An anonymous survey covered a group of 207 respondents, including students of the nursing major, from selected universities in Eastern Poland, i.e. the University of Warmia and Mazury in Olsztyn and the Medical University in Lublin.

Theoretical underpinnings

The demographic aging of the Polish population, including the aging of medical staff, is also being exacerbated by staff shortages and poses a serious challenge to the functioning of the healthcare system in Poland. The increasing percentage of the older generation in the population is associated with more frequent than average incidences of disease, which requires greater involvement of the healthcare system. This problem is additionally aggravated by migration processes involving nursing graduates.

Another alarming phenomenon observed in the last few years is the so-called brain-drain (Kaczmarczyk, 2005b; Makulec, 2013), meaning the emigration of young, well-educated people who could also be employed in the labour market in Poland. They emigrate because they can perform the same job, but for better pay. This applies particularly to such occupational groups as: doctors, nurses (Leśniowska, 2005, 2008), engineers, IT specialists, and scientists (Mihi-Ramírez et al., 2015). Emigrations of representatives of these professions contribute to increasing shortages of human capital resources in Poland. In the case of emigration of qualified staff whose education was costly, the state incurs losses. The reasons for emigration include not only low pay, but better working conditions or the existence of migrant networks (relatives and acquaintances in the country of emigration) (Wyrozębska & Wyrozębski, 2014; Smoleń & Kędra, 2018).

The migration of nurses is monitored, to some extent, by the Chief Council of Nurses and Midwives (RNRPiP, 2017), which in its reports publishes data on, among other things, the number of issued certificates of professional qualifications for recognition in the EU Member States. This type of certificate is needed by nurses to be employed in the EU. However, the number of issued certificates is not tantamount to the number of persons leaving the country to work abroad. Despite applying for and getting the certificate, a portion of nurses do not decide to leave. In turn, there is a group of nurses who leave the country to work as care-providers for the elderly (and not as nurses), while taking an employment leave in Poland.

In the analysis of reasons for migration, worthy of attention is the neoclassical theory of *push and pull factors*, which focuses on factors which pull and push for migration (Lee, 1966). A decision to migrate is taken when the push factors dominate in the country of origin, or the decision to migrate may be made due to pull factors, which dominate in the

destination country (Organiściak-Krzykowska, 2013, 2017). The push and pull factors for migration include (Auleytner & Głabicka, 2001):

- economic factors, e.g. a low pay pushes one out of the country, whereas a high pay pulls one to a new country,
- socio-political issues, e.g. discrimination of national minorities, is a push factor, whereas a friendly attitude to foreigners and national minorities is a pull factor,
- legal factors, e.g. liberal passport regulations are the pushing force, and no visa obligations attract one to another country,
- demographic factors, e.g. a surplus of young people of working age is a pushing force, and a shortage of young people of working age attracts them to another country.
- historical factors, e.g. a large number of immigrant centres encourages people of the same nationality to migrate and facilitates their assimilation in the new environment (a pull factor).

There might be a number of reasons behind emigration. They can be associated, for example, with forces of nature or with human activities, such as: war, political transformations or socio-economic transformations. They can also arise from an individual's efforts to improve their financial and living status, including: earnings, living conditions, education or work conditions (Kaczmarczyk, 2008; Organiściak-Krzykowska, 2013). All of these factors will be analysed in this manuscript.

The literature concerning the theory and phenomenon of migration, both domestic and foreign, is very rich. Moreover, the issue of migration among young people is often addressed in the literature, especially when it concerns the migration of young educated persons (the so-called brain drain) (Brome, 2007; Tverdostup & Masso, 2015; Feraru, 2012). Usually, their migration is associated with economic problems of the state, such as a high youth unemployment rate (Cerdeira et al., 2016) or the occurrence of an economic crisis (Cairns, 2017). In Poland, studies of the emigration of young people for economic reasons usually cover voivodships or regions (Jończy, 2006; Piecuch & Piecuch, 2014). Usually, these studies address the motives behind emigration decisions made by students (Kowalewska et al., 2018; Szyszka, 2016; Witzak-Roszkowska & Okła, 2015), but some surveys are also available that concern professional plans and migration destinations of nursing major students from individual higher medical schools, like the Warsaw Medical University (Wyrozębska & Wyrozębski, 2014) or the State Medical Higher Vocational School in Opole (Smoleń & Kędra, 2018).

The Polish scientific literature offers sparse works on the emigration of nurses (Wyrozębska & Wyrozębski, 2014). There is no information concerning the scale of this phenomenon, because data concerning the migration of this occupational group has not been collected regularly (Kautsch, 2013).

The problem of emigration among nurses and its impact on the healthcare system has especially been emphasized after 2004 (Kaczmarczyk, 2006; Leśniowska, 2005, 2008). According to a report prepared by the RNRPiP (RNRPiP, 2017), the number of issued certificates which enable nurses to be employed in the UE reached 19,953 (in the years 2004–2016). This figure points to a great interest in practicing the profession abroad.

The forecasts for the years 2016–2030, presented in this report, are not optimistic. They assume an increase in the number of registered nurses with retirement entitlements, an increase in the average age of working nurses, no simple substitutions, and a decrease in the rate of employed nurses per 1000 inhabitants.

The issue of emigration among the middle medical personnel is important, considering that it is a global phenomenon (Majda et al., 2018). This is evidenced by the fact that the popularity of this topic has been increased in recent years worldwide (Favell, 2008). There are several hundred works, published in English (and other languages), describing local and global problems that make a significant contribution to the field of research on the migration of nurses. They demonstrate it to be a global phenomenon concerning nurses leaving from underdeveloped countries such as India, the Philippines, Mexico, Uganda, Nepal, or Lebanon to highly developed countries with a higher standard of living such as the USA, Canada, Norway, Great Britain, or Germany. Very often, their migrations are considered in the light of the push and pull factor theory. The most important of the economic factors is the amount of wages. Nurses migrate to countries where they will be offered higher salaries and better working conditions (e.g. Alameddinea et al., 2019; Prince, 2019).

Research methodology

The main objective of the study was to identify and evaluate the factors affecting the migration decisions taken by nursing students in Eastern Poland. This area was selected for the study because the Voivodships of Eastern Poland are the area from where the largest numbers of emigrants originate (*Sytuacja demograficzna Polski. Raport 2017–2018*, 2018). These are the regions with a lower average gross salary, a higher unemployment rate, and a lower standard of living compared to the other voivodships. These are typical factors encouraging people to leave a country (having a push character). The amount of salary seems to be a decisive factor in making migration decisions. It was assumed that the financial factors are the main motive for making a decision to leave the country for economic reasons. This study also attempts to identify other *push and pull* factors as being important to respondents. It was expected that migration networks existing in the destination country would be equally important for the respondents. The study was also expected to confirm or reject this assumption. No similar studies have been carried out so far in this region.

The survey was conducted with students of state universities: Medical Universities and Universities with nursing majors (first and second degree studies), which received accreditation from the Polish Accreditation Commission. On this basis, it was assumed that the level of education acquired at these universities should be comparable. This criterion was met by five universities where 851 students studied in total (Table 1).

Table 1. The number of nursing students who meet certain criteria in 5 selected voivodships

Specification	Total
Lubelskie Voivodeship: Medical University of Lublin	242
Podkarpackie Voivodeship: University of Rzeszów	202
Podlaskie Voivodeship: Medical University of Białystok	122
Świętokrzyskie Voivodeship: Jan Kochanowski University (JKU) in Kielce	179
Warmian-Masurian Voivodeship: University of Warmia and Mazury in Olsztyn	106
Total	851

Source: own study based on GUS (GUS, 2016b).

This paper presents the results obtained on the basis of primary data collected from two voivodships: Warmian-Masurian and Lubelskie. The analysed voivodships are the regions with the lowest and the highest number of nursing students at universities that meet the adopted criteria. Research conditions were met by two universities from this area: the University of Warmia and Mazury in Olsztyn and the Medical University in Lublin. At the same time, they turned out to be, respectively, the youngest and the oldest educational centres for nurses in Eastern Poland. It should be noted that this survey is part of a wider study addressing the discussed issues, the scope of which covers all voivodships listed in Table 1.

The following formula was used to determine the minimum sample size:

$$n = \frac{p(1-p)}{\frac{d^2}{z^2} + \frac{p(1-p)}{N}}$$

where: n — minimum sample size,

p — percentage of the phenomenon in the general population,

d — maximal estimated error,

z — critical value in the standardised normal distribution read-out at the significance level of 0.05,

N — population size.

The minimum sample size (n) determined in total for the Lubelskie and Warmian-Masurian Voivodeships was:

$$n = \frac{p(1-p)}{\frac{d^2}{z^2} + \frac{p(1-p)}{N}} = \frac{0.5(1-0.5)}{\frac{0.05^2}{1.96^2} + \frac{0.5(1-0.5)}{348}} = 182$$

where: p — percentage of the phenomenon in the general population, $p = 0.5$,

d — maximum estimated error (the value of this error adopted in the study was 5%),
 z — critical value calculated in the standardized normal distribution, read out at a significance level of 0.05 ($z = 1.96$),
 N — population size reaching 348 students.

The survey was conducted in 2018 in the form of an auditorium questionnaire and was anonymous. All students of the nursing major (first and second degree studies) from the two universities (one in the Lubelskie Voivodeship, the other in the Warmian-Masurian Voivodeship) were included into the survey. Most MA students were undergraduate students from selected universities. In total, 207 correctly completed questionnaires were collected, which constituted almost 60% of the surveyed population and was higher than the minimum sample size (182).

During the survey, the respondents were asked, among other things, to:

- evaluate their inclination to migrate (How do you assess your inclination to migrate to another country, as a change of the place of residence or the place of work);
- declare their willingness or unwillingness to leave the country after graduation (Are you interested in leaving to another country after graduation?). Possible answers: yes, I want to work abroad; rather yes, if I do not find a job in Poland; rather no, but I do not exclude the possibility of leaving in the future; and definitely no, I do not want to work abroad;
- identify factors encouraging them to leave the country and determine which of them are most important.

The effect of selected reasons for migration on the attractiveness of emigration was assessed using the Likert scale, according to the following rule: 1 — an unimportant factor, 2 — a factor of little importance, 3 — a factor of medium importance, 4 — an important factor, and 5 — a very important factor. However, in order to better illustrate the results (graphs) and to make data presentation clearer, factors 1 and 2 were grouped as being of little importance, 3 — as one of medium importance, and 4 and 5 as important ones.

Statistica and IBM SPSS Statistics Viewer software was used in the quantitative analysis. A Spearman's rank correlation was employed to determine the degree of correlation of the variables (pull and push factors) and respondents' inclination to migrate. In addition, the estimation of the logistic regression model was proposed with the highest likelihood method to check the strength of correlations between the inclination to migrate declared by the surveyed student and making the decision about leaving the country after graduation.

Findings

A total of 207 students participated in the survey. The respondents were 92% women and 8% men. This was due to the strong feminization of the nursing profession. Moreover, 10% of the respondents were married, 7% had children, 45% lived in the countryside, and 55% lived in a city.

A specific trait of the nursing studies is that the students combine education with work. Almost 62% of the respondents worked as nurses and studied at the same time (127 out of the 207 surveyed). An equally high number of the students (60% — 122 out of the 207 surveyed) had migration experience.

An important thing in the survey was to determine the nursing students' inclination to migrate. An inclination to migrate is a subjective self-evaluation of the respondent's will to emigrate to another country. Of the 207 respondents, over 64% described their inclination to migrate as high and medium (26% and 39%, respectively), and 36% described it as low.

To determine significant differences between the inclination to migrate in the selected voivodeships, a table was prepared which presented indicators of the inclination to migrate in the selected voivodeships (Table 2), where percentages (p_1 , p_2) were computed as the ratio of questionnaire answers obtained (whether the inclination is high, medium or low) to the number of nursing students at the individual university representing a given voivodeship. A null hypothesis was advanced as $H_0: p_1 = p_2$, meaning that the ratio of answers in the voivodeships examined are similar and comparable with each other, relative to the alternative hypothesis that the appropriate percentages in the voivodeships examined differ from each other, $H_0: p_1 \neq p_2$.

Table 2. Structural indicator of the inclination to migrate in the voivodeships studied

Statistical measure and statistical test	high inclination to migrate	medium inclination to migrate	low inclination to migrate
Structural indicator in the Lubelskie Voivodeship (p_1)	0.245	0.352	0.403
Structural indicator in the Warmian-Masurian Voivodeship (p_2)	0.267	0.422	0.422
The value of test statistics	-0.301	-0.859	-0.229
The p value	0.763	0.390	0.819

Source: own calculation, based on the survey using Statistica software.

Table 2 presents the percentages of the inclination to migrate (high, medium, low) in the surveyed samples of respondents from the Lubelskie and Warmian-Masurian Voivodeships as well as statistics verifying the significance of the equality of these percentages. The results presented do not allow for a rejection of the null hypothesis concerning the equality of the proportions analysed, which enables a comparison of the answers given by the respondents from both voivodeships.

It turns out (Fig. 1) that students from the Warmian-Masurian Voivodship proved to be more willing to emigrate than their colleagues from the Lubelskie Voivodship. The proportion of students from the University of Warmia and Mazury who described their inclination to migrate as high or medium was higher by 9 pp than for those from the Lublin University (69% vs 60%). These students will decide to leave the country sooner.

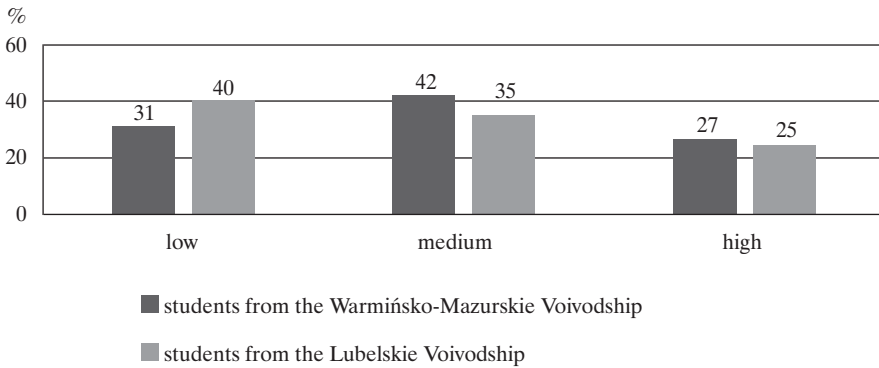


Fig. 1. Inclination of nursing students from the voivodships studied to migrate

Source: own work based on the survey.

When asked about their inclination to emigrate after graduation, almost 26% of the respondents confirmed they would like to work abroad (12% unconditionally and ca. 14% if they do not find a job in Poland). As many as 46% of the students declared they would rather not leave the country, but did not exclude emigrating in the future, whereas 24% of the respondents definitely did not want to work abroad. Only 4% of the respondents remained undecided. The high percentage (46%) of those unwilling to emigrate but did not exclude emigrating in the future may indicate that they are waiting to make a decision after graduation or they want to see if working in Poland after graduation will provide a decent standard of living. Conducting the chi-square independence test allowed a confirmation of the assumption that there is a correlation between the declaration to emigrate after graduation and the inclination to migrate (i.e., the difference between the willingness to take action or only imagining being a migrant). The respective results are presented in Table 3.

Table 3. Results of Pearson's chi-square independence test

Statistics	The value of test statistics	The p value
Pearson's chi-square	195.720	0.000
Phi-Yule coefficient	0.984	0.000
V-Cramer coefficient	0.492	0.000
Pearson contingency coefficient	0.401	0.000

Source: own work, based on the survey using Statistica software.

To determine a correlation between the inclination to migrate and the declaration of emigration after graduation, an estimation of the logistic regression model was proposed with the maximum likelihood method. Estimates of a respective function are presented in Table 4.

Table 4. Results of the logistic model estimates

Effect	binomial distribution., F: LOGIT Modelled probability Y = making a decision about leaving (yes)							
	Level	column	odds ratio	GU upper 95.0%	GU lower 95.0%	p		
the constant term		1						
x5 – willingness to migrate	high	2	9.86	5.30	18.31	0.00		
	binomial distribution., F: LOGIT Modelled probability Y = making a decision about leaving (yes)							
	Level	Column	Rating	standard error	Statistics Wald	GU upper 95.0%	GU lower 95.0%	p
the constant term		1	-1.31	0.16	69.0	-1.62	1.00-1.00	0.00
x5 – willingness to migrate	high	2	1.15	0.16	.4152.41	0.830.83	1.451.45	0.00
Scale			.0100	00.00		.00	.0100	

Source: own work, based on the survey using Statistica software.

$$P(Y = 1 | X) = \frac{e^{-1.31 + 1.15x}}{1 + e^{-1.31 + .115x}}$$

The declared inclination to migrate is a statistically significant factor, which increases the probability that a person will be among those who will emigrate for economic reasons after graduation. The odds ratio of 9.86 means that the respondents who assessed their inclination to migrate as high, have a 9.86 times higher chance of making a decision to leave the country after graduation to search for work abroad than the respondents who assessed their inclination to migrate as low.

In the subsequent part of the study, we examined the relationship between the pull and push factors and the inclination to migrate (Table 5 and 6). It should be emphasized that all of the pull and push factors (variables) were on the rank scale, which is why a decision was taken to use the Spearman’s rank correlation coefficient.

Table 5. Spearman’s rank correlation coefficient (pull factors)

factors		higher salaries	high currency exchange rate	better work prospects	the importance of promotion opportunities	existence of migrant networks	social security	gaining professional experience	family reunification	inclination to migrate to another country
higher salaries	correlation coefficient	1.000								
	statistical significance									
high currency exchange rate	correlation coefficient	0.331	1.000							
	statistical significance	0.000								
better work prospects	correlation coefficient	0.442	0.304	1.000						
	statistical significance	0.000	0.000							
the importance of promotion opportunities	correlation coefficient	0.304	0.160	0.585	1.000					
	statistical significance	0.000	0.052	0.000						

Table 5. Cont.

factors		higher salaries	high currency exchange rate	better work prospects	the importance of promotion opportunities	existence of migrant networks	social security	gaining professional experience	family reunification	inclination to migrate to another country
existence of migrant networks	correlation coefficient	0.071	0.229	0.135	0.136	1.000				
	statistical significance	0.389	0.005	0.100	0.096					
social security	correlation coefficient	0.299	0.279	0.413	0.327	0.397	1.000			
	statistical significance	0.000	0.001	0.000	0.000	0.000				
gaining professional experience	correlation coefficient	0.186	0.239	0.371	0.327	0.193	0.336	1.000		
	statistical significance	0.022	0.003	0.000	0.000	0.018	0.000			
family reunification	correlation coefficient	0.039	0.271	0.137	0.191	0.553	0.280	0.171	1.000	
	statistical significance	0.636	0.001	0.097	0.019	0.000	0.001	0.037		
inclination to migrate to another country	correlation coefficient	0.264	0.080	0.275	0.161	-0.044	0.100	0.227	0.027	1.000
	statistical significance	0.001	0.331	0.001	0.049	0.589	0.224	0.005	0.742	

Source: own work, based on the survey using Statistica software.

In the case of the pull factors (Table 5), the inclination to migrate was statistically dependent on: higher salaries, better employment prospects, and gaining professional experience. These factors are important to educated and ambitious persons, who wish to fulfil themselves professionally and, at the same time, not worry about their financial status. They fit perfectly into the brain drain concept concerning the nursing staff. Moreover, the respondents who declared that better work prospects were important to them very often also declared that better promotional opportunities were a significant factor in the decision to emigrate. In addition, the respondents who valued better employment

prospects very often declared the importance of both the salary factor (high salaries) and the social security factor.

Table 6. Spearman's rank correlation coefficient (push factors)

factors		low salary in Poland	a high unemployment rate in the region	worse prospects for employment in the country	worse prospects for promotion	poor social benefits	poor prospects for the future	deteriorating living conditions	persecution at the place of origin	inclination to migrate to another country
low salary in Poland	correlation coefficient	1.000								
	statistical significance									
a high unemployment rate in the region	correlation coefficient	0.252	1.000							
	statistical significance	0.002								
worse prospects for employment in the country	correlation coefficient	0.287	0.488	1.000						
	statistical significance	0.000	0.000							
worse prospects for promotion	correlation coefficient	0.342	0.293	0.547	1.000					
	statistical significance	0.000	0.000	0.000						
poor social benefits	correlation coefficient	0.443	0.332	0.391	0.460	1.000				
	statistical significance	0.000	0.000	0.000	0.000					
poor prospects for the future	correlation coefficient	0.440	0.178	0.345	0.465	0.544	1.000			
	statistical significance	0.000	0.029	0.000	0.000	0.000				

Table 6. Cont.

factors		low salary in Poland	a high unemployment rate in the region	worse prospects for employment in the country	worse prospects for promotion	poor social benefits	poor prospects for the future	deteriorating living conditions	persecution at the place of origin	inclination to migrate to another country
deteriorating living conditions	correlation coefficient	0.375	0.279	0.354	0.405	0.630	0.641	1.000		
	statistical significance	0.000	0.001	0.000	0.000	0.000	0.000			
persecution at the place of origin	correlation coefficient	-0.064	0.306	0.139	0.091	0.174	-0.024	0.200	1.000	
	statistical significance	0.435	0.000	0.090	0.269	0.033	0.768	0.014		
inclination to migrate to another country	correlation coefficient	0.341	0.106	0.110	0.148	0.281	0.279	0.254	-0.033	1.000
	statistical significance	0.000	0.198	0.181	0.071	0.000	0.001	0.002	0.685	

Source: own work, based on the survey using SPSS software.

The results provided in Table 6 indicate that the inclination to migrate was statistically dependent on the push factors, i.e.: low salaries, poor prospects for the future, poor safety, and deteriorating living conditions. Very often, the respondents who declared poor prospects for the future also indicated other push factors as being important to them, i.e.: low salaries in Poland, poorer social benefits, and worse prospects for promotion in Poland.

Answers to the question “What pull-factors for migration are important to you and how strong are they?” indicated the main pull factors to be (Fig. 2): higher salaries (96%), better work prospects (86%), gaining professional experience (81%), and better prospects for promotion (76%). These factors were followed by: currency exchange rate (63%), family reunification (54%), and existence of migrant networks (41%).

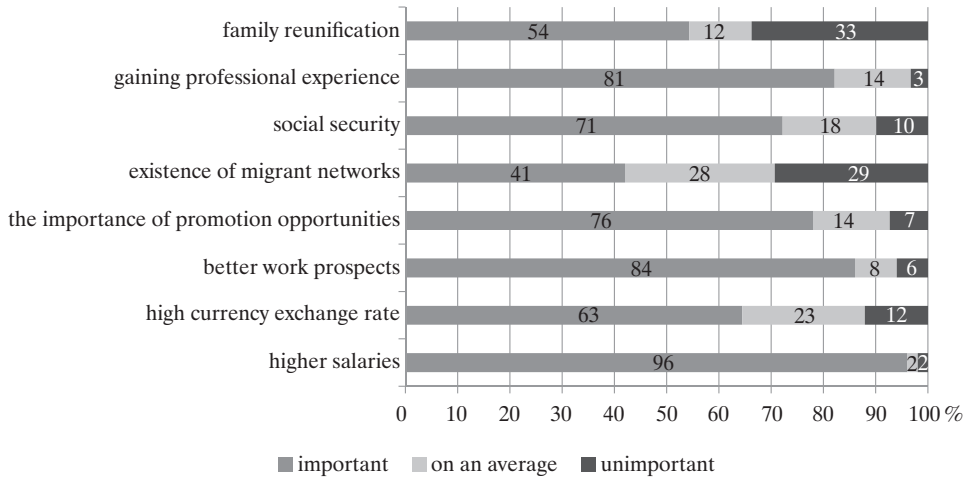


Fig. 2. Pull factors of nursing students surveyed

Source: own work.

Answers to the question “What push-factors for migration are important to you and how strong are they?” indicated that the main push factors were those of an economic nature. The respondents indicated low salaries as the key factor discouraging them to stay in Poland (it was declared by as much as 91% of the surveyed students) (Fig. 3).

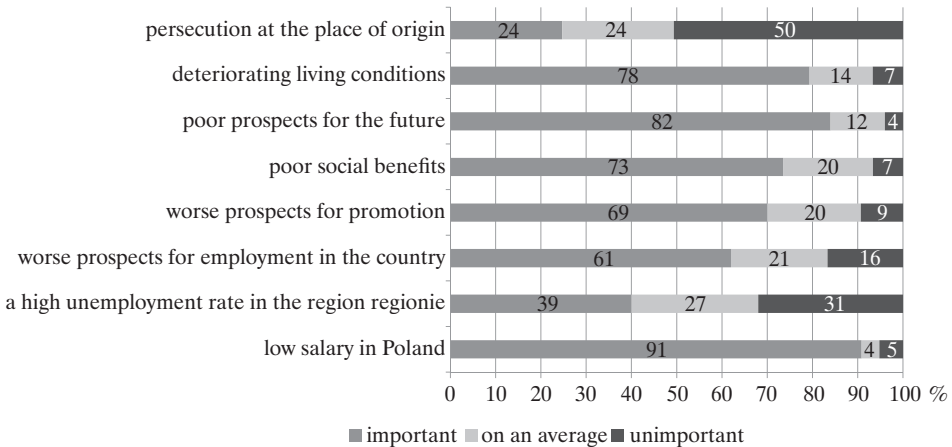


Fig. 3. Push factors for nursing students

Source: own work.

Poorer prospects for the future (declared by 82% of the respondents), deteriorating living conditions (78%), or poor social security (73%) also turned out to be important factors encouraging the students to leave Poland (push factors). Interestingly, persecution

at the place of origin (25%) and high unemployment rate in the region (39%) appeared to be of least importance to the surveyed students, which is mainly due to the fact that unemployment practically does not occur in this occupational group.

To determine significant differences in the evaluation of the *pull* and *push* factors between the voivodeships studied, a table was developed with structural indicators determining the percentage of indications of these factors in the sample surveyed. The sample proportion (p_1, p_2) was computed as the ratio of questionnaire answers collected (when the factor was important to the respondent) to the number of nursing students in a given university representing a given voivodeship. The results of structural analysis are presented in Table 7.

Table 7. Structural indicators of pull and push factors in the voivodeships studied

factors important to respondents	Pull factors							
	higher salaries	high currency exchange rate	better work prospects	the importance of promotion opportunities	existence of migrant networks	social security	gaining professional experience	family reunification
Structural indicator in the Lublin Voivodeship (p_1)	0.967	0.641	0.898	0.797	0.458	0.748	0.807	0.546
Structural indicator in the Masurian-Warmian Voivodeship (p_2)	0.938	0.656	0.719	0.719	0.281	0.625	0.875	0.531
The value of test statistics	0.753	-0.157	2.586	0.945	1.807	1.379	-0.892	-0.861
The value p	0.451	0.875	0.009	0.345	0.071	0.168	0.373	0.389
factors important to respondents	Push factors							
	low salary in Poland	high unemployment rate in the region	worse prospects for employment in the country	worse prospects for promotion	poor social benefits	poor prospects for the future	deteriorating living conditions	persecution at the place of origin
Structural indicator in the Lublin Voivodeship (p_1)	0.909	0.449	0.661	0.729	0.731	0.839	0.788	0.271
Structural indicator in the Masurian-Warmian Voivodeship (p_2)	0.906	0.219	0.469	0.594	0.75	0.844	0.813	0.156
The value of test statistics	0.052	0.356	1.985	0.478	0.216	-0.068	-0.31	1.339
The value p	0.958	0.018	0.047	0.139	0.829	0.945	0.757	0.181

Source: own calculation, based on the survey using Statistica software.

Table 7 presents the results of the determination of the percentage of importance of particular factors in the surveyed samples from the Lubelskie and Warmian-Masurian Voivodeships, together with statistics verifying the significance of equality of these percentages. Values of the likelihood of exceeding the test statistics point to a significant difference in structural indicators between the voivodeships studied for the following factors: better work prospects, high unemployment rate in my region, and worse prospects for employment in the country. Significantly higher values of indicators were noted for these variables in the case of respondents from the Lubelskie Voivodeship. Considering the fact that the structure of answers varied in both voivodeships, these three factors were eliminated from the comparative analysis. In the case of the other factors, no significant differences were noted in the analysed proportions.

Answers collected from the survey questionnaire allowed a comparison of the *pull* and *push* factors between the voivodeships (Fig. 4). In the case of the *pull* factors, the students from the Lubelskie Voivodeship declared the three most important pull-factors for migration to be: higher salaries (97%), gaining professional experience (81%), and better prospects for promotion (80%). Students from the Warmian-Masurian Voivodeship declared the same factors but in different proportions: higher salaries (94%), gaining professional experience (88%), and better prospects for promotion (72%).

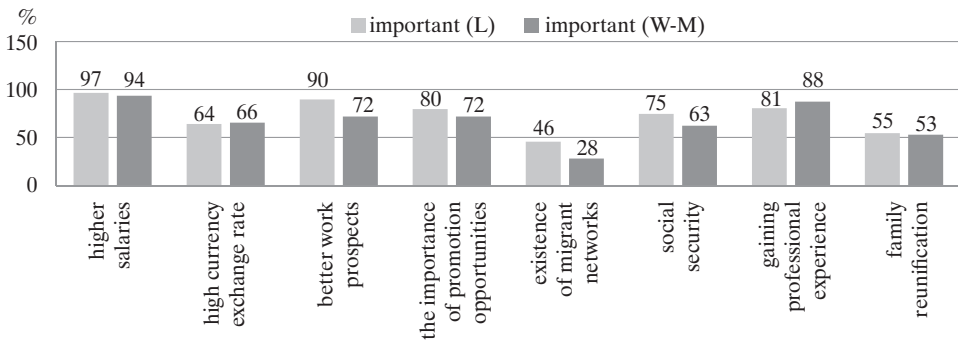


Fig. 4. Factors encouraging emigration according to the voivodeships studied

Source: own work.

In addition, survey results demonstrate that high salaries in the destination country were important to students from both voivodeships. Relatively high differences between answers can be observed in the factor 'existence of migrant networks', which was almost two times more important to the students from the Lubelskie Voivodeship than from the Warmian-Masurian Voivodeship.

The analysis of the *push* factors among the nursing students from both voivodeships shows that low salaries tend to be the most important push factor in both groups of respondents (Fig. 5).

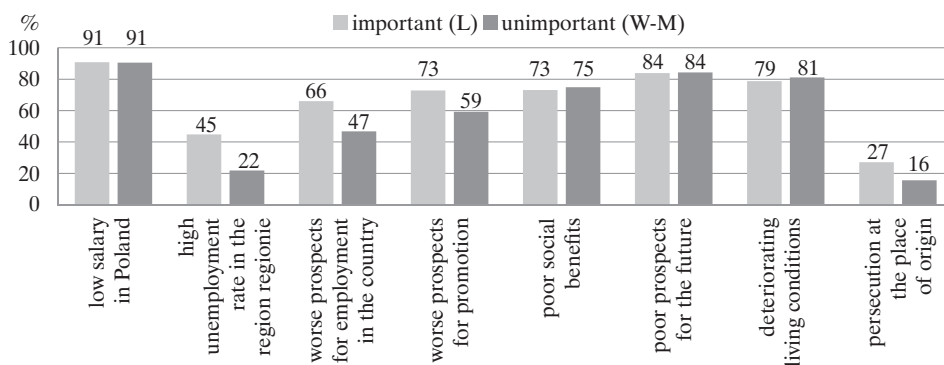


Fig. 5. Factors discouraging nursing students from staying in Poland (by voivodship surveyed)

Source: own work.

The most important push factors were the same for the respondents of both the Lubelskie and the Warmian-Masurian Voivodeships, and included: low salaries, deteriorating living conditions, and poorer prospects for promotion. The *push* factor “poor social security” was almost two times more important to the respondents from the Lubelskie Voivodeship than from the Warmian-Masurian Voivodeship.

The respondents declared the importance of the existence of migrant networks, i.e. contacts with friends/relatives who had already emigrated. They provide support and assistance in solving a variety of problems, which new emigrants face in a new country. This may include help with formalities and looking for accommodation or a job. In addition, the results of the questionnaire survey demonstrate that one third of the respondents indicated the migration networks as a significant source of searching for a job (34% of the respondents). In turn, looking for a job through the Internet was a better solution to only 4% more of the students (38% of the respondents). Another solution included: browsing the industry press (18%) and browsing advertisements at the Labour Office (9%). It is an interesting observation, as the respondents are representatives of the Millennium Generation, who are definitely more comfortable with “virtual” than “real” contacts, while the Internet can also be assumed to be a specific type of network and interpersonal connection (e.g. social networking).

Conclusions

Earning decent salaries is a common need expected by employees. If the income from work in a country does not ensure the fulfilment of life needs, then the employee will look for other sources of income (also outside of the country). It is a relatively simple choice, especially since in the highly developed countries such as Finland, Switzerland, Great

Britain, Ireland, and Germany, the salaries of nurses are much higher than in Poland. Polish literature, foreign scientific literature and our own research conducted among nursing students show that low wages, poor working conditions, and low professional prestige are the factors motivating them to leave the country.

The greatest role in making the decision about migration is ascribed by the respondents to low salaries. This means that the level of remuneration in Poland does not seem satisfactory to the respondents. The average salary of a nurse is 95% of the average salary in Poland, compared to the salary of other specialists (e.g. doctors) representing 123% of the average salary in Poland (GUS, 2016c).

Survey results indicate that better conditions of employment and better promotional opportunities abroad play an important role in deciding to emigrate (90% of the respondents mention better employment conditions, while 80% mention better promotional opportunities as a very important factor in deciding to emigrate).

Migration networks play an important role in the migration process as well (34% of the respondents use the help of such networks when looking for a job abroad). In addition, young people increasingly often prefer virtual networks (Internet — 38%) to look for a job. This is a specific network of connections, based on social networks and virtual contact (video conferencing, chats, etc.). It seems that this type of contact will play an increasingly important role in migration networks.

The obtained results of the survey indicate that economic factors are the most important to the respondents. These are the causes of migration: higher salaries and achieving a higher standard of living. In order to stop the migration of nurses, it would be necessary to increase their salaries and improve their working conditions. On the one hand, it would seem that these conclusions do not bring anything new, as this problem has often been addressed in the literature on the subject. However, they point to other important problems: the lack of an effective remedy programme, and the underfunding of health care and nursing salaries (salaries below the national average). The salaries of nurses promised after the announced payroll raises did not exceed the average salary in Poland. This level of salary is therefore not satisfactory enough to become a reason for giving up the thought of leaving the country for work. Still, despite reported staff shortages and the need for the work of nurses, hospitals do not have the financial or legal means to attract them, for example through payroll negotiations. Therefore, the only way to compete for an employee (nurse) in the health services market involves non-economic factors, such as creating a better work environment. This may, however, prove insufficient to stop the emigration of nurses, especially the young ones who enter the profession, and have no family obligations, but have the need to provide themselves with adequate living facilities (for example, a flat). Their emigration will not improve the situation in the healthcare system. It can only contribute to deterioration in the quality of healthcare, especially if their shortage will cause the closing of hospital wards.

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