

IMPLICATIONS FOR RECRUITMENT AND PROMOTION ACTIVITIES IN THE REGIONAL CONTEXT OF DIVERSE ENLISTMENT IN MILITARY STUDIES

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Abstract. The aim of this study is to assess the significance of regional variations in recruitment for military studies and to determine whether geographical factors constitute a key consideration in planning recruitment, promotional, informational, and educational activities. The study was conducted using the largest academic military institution in Poland as a case study, based on data on recruitment results for the years 2021–2025. The purpose was to identify how information on the origin of admitted candidates can support decision-making about targeting promotional campaigns, identifying regions with high recruitment potential, and diagnosing areas requiring intensified informational activities aimed at young people making educational and career decisions. The study used administrative data on the number of people admitted to military studies, cross-referenced with demographic data of people aged 18–24 years. The analysis used annual trends, the share of voivodeships in national recruitment, regional concentration indices, a comparison of 2025 with the 2021–2024 average, and the segmentation of provinces according to recruitment scale and growth trends. The results indicate that between 2022 and 2024, recruitment was heavily concentrated in the Mazowieckie Voivodeship, but 2025 brought a marked reduction in this concentration. Crucially, when accounting for the population aged 18–24, the highest admission rates were recorded in the Warmińsko-Mazurskie, Świętokrzyskie, Lubelskie, Mazowieckie, and Kujawsko-Pomorskie Voivodeships. This demonstrates that absolute terms lead to an incomplete assessment of regional potential. The article focuses on presenting a novel research methodology and demonstrating that regional data serves as a practical tool for market segmentation in student recruitment. The proposed method helps identify key target areas for promotional activities and facilitates the design of tailored initiatives for candidates entering military service. Consequently, this approach holds significant value for recruitment management, pedagogical reflection on educational pathways, youth career guidance, and training personnel for institutions responsible for national security.

Keywords: military recruitment, military studies, regional segmentation, security pedagogy, recruitment marketing, educational choices.

1. INTRODUCTION

Recruitment for military higher education is inherently multidimensional, encompassing educational, institutional, and strategic dimensions. It simultaneously intersects with the academic trajectories of prospective candidates and dictates the personnel supply within the Armed Forces' training ecosystem. Consequently, an empirical evaluation of this process necessitates examining not merely aggregate admission volumes, but also the geographical distribution of applicants. Voivodeships exhibit substantial disparities in demographic structures, the density of military installations, the

intensity of promotional campaigns, institutional competition within the higher education sector, and regional awareness regarding military career paths. Granular, regional data are instrumental for recruitment management, facilitating the identification of high-potential territories, zones requiring intensified promotional interventions, and regions where a systematic assessment of socio-institutional barriers is warranted. However, absolute admission numbers are insufficient as a primary metric of institutional effectiveness. Because demographically larger voivodeships inherently possess a broader candidate pool, a rigorous interpretation of recruitment outcomes requires normalizing the data against population metrics, specifically targeting the cohort within the normative age range for higher education admission. The literature on the choice of degree course emphasises that applicants' decisions are influenced by a variety of factors and are not determined solely by the formal availability of educational programmes. Individual factors, such as educational aspirations, ideas about future careers, and the influence of family and the social environment, are significant, as are institutional factors, namely the prestige of the university, its reputation, the quality of its admission communication, the availability of information, and the anticipated career benefits after graduation. The most recent literature reviews on recruitment and the decision to choose a degree programme indicate that universities are increasingly treating recruitment as a data-driven management process, in which marketing, communication with applicants and the segmentation of target groups are becoming elements of strategic university management (Yan et al., 2024).

A separate strand of research emphasises the role of space and geographical accessibility in educational choices. In studies on higher education, the location of the institution, distance from home, transport links, the nature of the region and local opportunities for social and professional development are identified as factors that may influence both the choice of degree programme and institution, as well as subsequent educational outcomes (Brownie, 2025, Lou, 2024). The importance of spatial conditions is particularly significant for universities with a specific educational profile, whose offerings are not uniformly available throughout the country. In this context, geographic analysis can be a tool for identifying regions with a strong university footprint, less-penetrated regions, and areas with untapped recruitment potential.

In the case of military studies, the recruitment issue requires additional consideration within the institutional and national security context. Military universities do not only serve an educational function but also participate in preparing personnel for the defence system. Therefore, the stability and effectiveness of recruitment are of strategic importance (Peziot & Borucka, 2025). Research on the decisions of candidates applying to military universities indicates that the choice of such an educational path is related to the perception of the officer profession, the prestige of the service, the organizational culture of the army, social status and the attractiveness of the educational offer (Petrović, 2025). However, existing analyses have focused primarily on individual motivations, the quality of education, the institutional role of military universities, or general factors that influence the choice of study. However, the regional structure of the enrolment of military studies and its importance in planning promotional activities are less well understood. A research gap, therefore, is the lack of analyses demonstrating whether and to what extent spatial variation in the number of individuals admitted to military studies can be used as a practical tool for segmenting the recruitment market and managing information and promotional campaigns.

2. RESEARCH METHODS

The empirical focus of this study centers on Poland's largest military technical university, an institution responsible for educating officers for the Polish Armed Forces and personnel for the wider national security system. The choice of such a study site is justified both by the scale of the recruitment process and the strategic importance of military universities in preparing future officer corps. This is also important in an international context, as the method proposed in this article can be used to analyse

recruitment in other countries, regardless of the specific characteristics of their military education systems. The study based on administrative data, demographic indicators and regional concentration analysis allows comparisons of recruitment effectiveness between regions, identifying areas underserved by promotional activities, and supporting management decisions regarding the planning of recruitment campaigns in institutions responsible for military education. The objective of this article is twofold: not only to quantify the dynamics of regional military enrolment in Poland and formulate evidence-based recruitment strategies, but also to propose a robust research methodology that remains applicable to higher education institutions operating under different national frameworks. From a pedagogical perspective, this method can support a better understanding of the spatial determinants of youth educational choices, career orientation, and the processes of recruiting candidates for training in professions and services of particular social importance. This is particularly important in the context of the armed conflict in Ukraine and the growing importance of military security observed in many countries, as effective training and recruiting candidates for military service is becoming a prerequisite for building a state's resilience and defense capabilities. Consequently, the orientation of this study is simultaneously exploratory and applied. It concurrently provides a rigorous characterization of shifts in the spatial architecture of recruitment while offering empirical support for strategic decision-making regarding the allocation of promotional resources, the optimization of recruitment targeting, and the formulation of high-impact informational and educational campaigns tailored to prospective candidates.

The analysis utilised administrative data on the number of individuals admitted to military studies at the Military University of Technology by voivodeship between 2021 and 2025. The data set had a panel structure, the unit of observation being the voivodeship in a given year. It included 16 voivodeships observed over five consecutive years, yielding a total of 80 observations.

In the first stage, descriptive and comparative analysis was used. For each year, the total number of admissions nationwide, each voivodeship's share in the national intake, and a ranking of voivodeships by number of admissions were calculated. The share of a voivodeship in the national intake was determined by dividing the number of admissions from a given voivodeship by the total number of admissions in a given year. The year-on-year change dynamics, including absolute change and percentage change, was then calculated. Additionally, the results of 2025 were compared with the average of 2021 to 2024, treated as the base period.

In the second stage, the demographic potential of the voivodeships was considered. The number of admissions was compared to the total population and the number of people aged 18 to 24 years. Two indicators were calculated: the number of admissions per 100,000 inhabitants and the number of admissions per 100,000 people aged 18–24. The second indicator was treated as a measure of relative demographic penetration, as it relates admission results to the population that most closely matches the typical age of university applicants.

In the third stage, regional concentration measures were used. The share of the largest voivodeship in national recruitment was calculated, designated as Top 1, as well as the combined share of the three and five largest voivodeships, designated as Top 3 and Top 5, respectively. These indicators allowed us to determine what part of the recruitment was concentrated in a narrow group of regions. Additionally, the Herfindahl-Hirschman index was used, calculated as the sum of the squares of the voivodeships' shares in the national recruitment. A higher value of the HHI index indicates a greater regional concentration (Bickenbach & Bode, 2008). The Gini coefficient was also used, which measures the uneven distribution of the number of admissions between voivodeships. A value closer to 0 indicates a more even distribution, while a value closer to 1 indicates greater unevenness (Cowell, 2011, Yitzhaki & Schechtman, 2013).

In the application part, the segmentation of the voivodeships was used (Wedel & Kamakura, 2000). Segmentation was based on the recruitment scale and its dynamics relative to the base period, and the interpretation of the segments was supplemented by the admission rate per 100,000 people aged 18–24. Based on this, voivodeships with high recruitment potential, emerging markets, regions requiring

sustained promotional activity, and areas requiring a more in-depth barrier assessment were identified. The interpretation of the segments was supplemented by the number of admissions per 100,000 people aged 18–24.

A quasi-Poisson model was also used for the numerator data (Cameron & Trivedi, 2013, Ver Hoef, & Boveng, 2007) in which the dependent variable was the number of admissions from a given voivodeship in a given year. The population aged 18–24 years was included as an offset, allowing for differences in the size of the potential candidate pool. The explanatory variables were year and location. The model was auxiliary and exploratory in nature; therefore, its results were not interpreted causally but rather were treated as a supplement to the descriptive analysis and regional concentration.

3. RESULTS AND DISCUSSION

3.1. Recruitment scale in 2021–2025

The analysis shows that the total number of people admitted to military studies increased from 778 in 2021 to 1,197 in 2025 (Fig. 1).

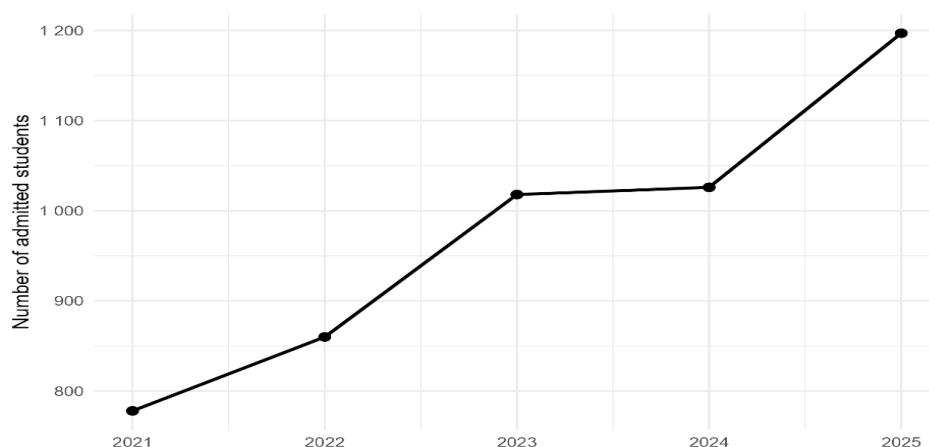


Fig. 1. Total enrollment in military studies, 2021–2025

Source: own elaboration

This represents an increase of 419 individuals, or approximately 54%, compared to the initial level. The largest annual increases were recorded in 2023 and 2025. In 2024, the number of admissions stabilized at a level similar to the previous year, before increasing by another 171 individuals, or 16.7%, in 2025. Details are presented in Table 1.

Tab. 1

Total number of admissions by year of admission

Year	Number admitted	Year-on-year change	Year-on-year growth rate
2021	778	-	-
2022	860	82	10.5%
2023	1 018	158	18.4%
2024	1 026	8	0.8%
2025	1 197	171	16.7%

Source: own elaboration

3.2. Regional concentration and change of recruitment model

The most important finding of the study concerns the significant variability in the regional concentration of recruitment in the analysed period (Table 2). In 2021, the largest voivodeship accounted

for 20.7% of the national recruitment and was the Mazowieckie Voivodeship. The three largest voivodeships, Mazowieckie, Lubelskie, and Łódzkie, accounted for a combined 41.0% of the recruitment, while the five largest voivodeships, Mazowieckie, Lubelskie, Łódzkie, Kujawsko-Pomorskie, and Warmińsko-Mazurskie, accounted for 55.4% of all admissions. This means that in the first year of analysis, the regional distribution of recruitment was relatively less concentrated than in subsequent years. In 2022–2024, there was a significant increase in spatial concentration. In each of these years, the Mazowieckie Voivodeship was the dominant voivodeship, with its share in the national recruitment exceeding 50%. In 2022, the Mazowieckie Voivodeship accounted for 51.2% of admissions, while the three largest voivodeships-Mazowieckie, Lubelskie, and Łódzkie-accounted for 63.3% of enrollment. The five largest voivodeships in 2022 included the Mazowieckie, Lubelskie, Łódzkie, Małopolskie, and Warmińsko-Mazurskie Voivodeships, with a combined share of 71.5%. In 2023, the Mazowieckie Voivodeship's share increased to 52.3%, while the three largest voivodeships-Mazowieckie, Łódzkie, and Lubelskie – accounted for 66.5% of enrollment. The Top 5 group then included the Mazowieckie, Łódzkie, Lubelskie, Kujawsko-Pomorskie, and Warmińsko-Mazurskie Voivodeships, accounting for 76.7% of enrollment. In 2024, this concentration reached its highest level. The Mazowieckie Voivodeship accounted for 56.9% of the total enrollment, the three largest voivodeships (Mazowieckie, Lubelskie, and Łódzkie) for 68.3%, and the five largest voivodeships (Mazowieckie, Lubelskie, Łódzkie, Kujawsko-Pomorskie, and Warmińsko-Mazurskie) for 76.5%. In 2025, this pattern was clearly reversed. The Mazowieckie Voivodeship remained the region with the largest number of admissions, but its share dropped to 24.8%. At the same time, the three largest voivodeships (Mazowieckie, Lubelskie, and Warmińsko-Mazurskie) accounted for a combined 43.3% of the enrollment, and the five largest voivodeships (Mazowieckie, Lubelskie, Warmińsko-Mazurskie, Kujawsko-Pomorskie, and Łódzkie) accounted for 60.3% of all admissions. This means that, despite the increase in the total number of admissions to 1,197, the regional structure of recruitment has become more dispersed. In practice, this represents a shift from a model of strong dominance by a single voivodeship towards a more balanced participation of a larger number of regions. This trend is confirmed by synthetic measures of concentration (Table 2). The HHI index increased from 0.095 in 2021 to 0.340 in 2024, indicating increasing regional concentration. However, in 2025, its value fell to 0.109, approaching the level observed at the beginning of the period under review. A similar pattern is presented by the Gini coefficient, which increased from 0.354 in 2021 to 0.625 in 2024, and then decreased to 0.387 in 2025. The decline in both indices in the final year of the analysis confirms that the change was not solely related to the weakening of the dominance of the Mazowieckie Voivodeship, but rather to the entire spatial structure of recruitment.

Tab. 2

Regional Concentration Indicators of Recruitment

Year	Admissions	Top 1	Top 3	Top 5	HHI	Gini
2021	778	20.7%	41.0%	55.4%	0.095	0.354
2022	860	51.2%	63.3%	71.5%	0.282	0.574
2023	1018	52.3%	66.5%	76.7%	0.294	0.616
2024	1026	56.9%	68.3%	76.5%	0.34	0.625
2025	1197	24.8%	43.3%	60.3%	0.109	0.387

Source: own elaboration

The results presented in Table 2 allow us to distinguish two distinct stages of the period under review. The first, spanning 2022–2024, was characterized by high regional concentration and the dominance of the Mazowieckie Voivodeship, supported by the relatively high positions of the Lubelskie, Łódzkie, Kujawsko-Pomorskie, and Warmińsko-Mazurskie Voivodeships. The second stage, visible in 2025, indicates a diffusion of recruitment, i.e., the increasing importance of a larger number of regions,

particularly the Lubelskie, Warmińsko-Mazurskie, Kujawsko-Pomorskie, and Łódzkie Voivodeships. From an application perspective, this implies the need to simultaneously maintain activities in the Mazowieckie Voivodeship and strengthen promotional activity in regions that began generating significantly higher numbers of applicants in 2025.

Figure 2, in turn, presents the changes in the share of the largest voivodeships in national recruitment between 2021 and 2025. A sharp increase in concentration is visible after 2021, continuing into 2024, and a significant decline in 2025. The largest changes concern the Top 1 category, which in all years was composed of the Mazowieckie Voivodeship. The Top 3 and Top 5 lines show a similar, though more gradual, pattern of change. In 2025, the composition of the Top 3 group changed compared to previous years, as the Warmińsko-Mazurskie Voivodeship joined the Mazowieckie and Lubelskie Voivodeships. This means that the decline in concentration in 2025 was not solely the result of the leader's reduced share but was also associated with the increasing importance of other regions.

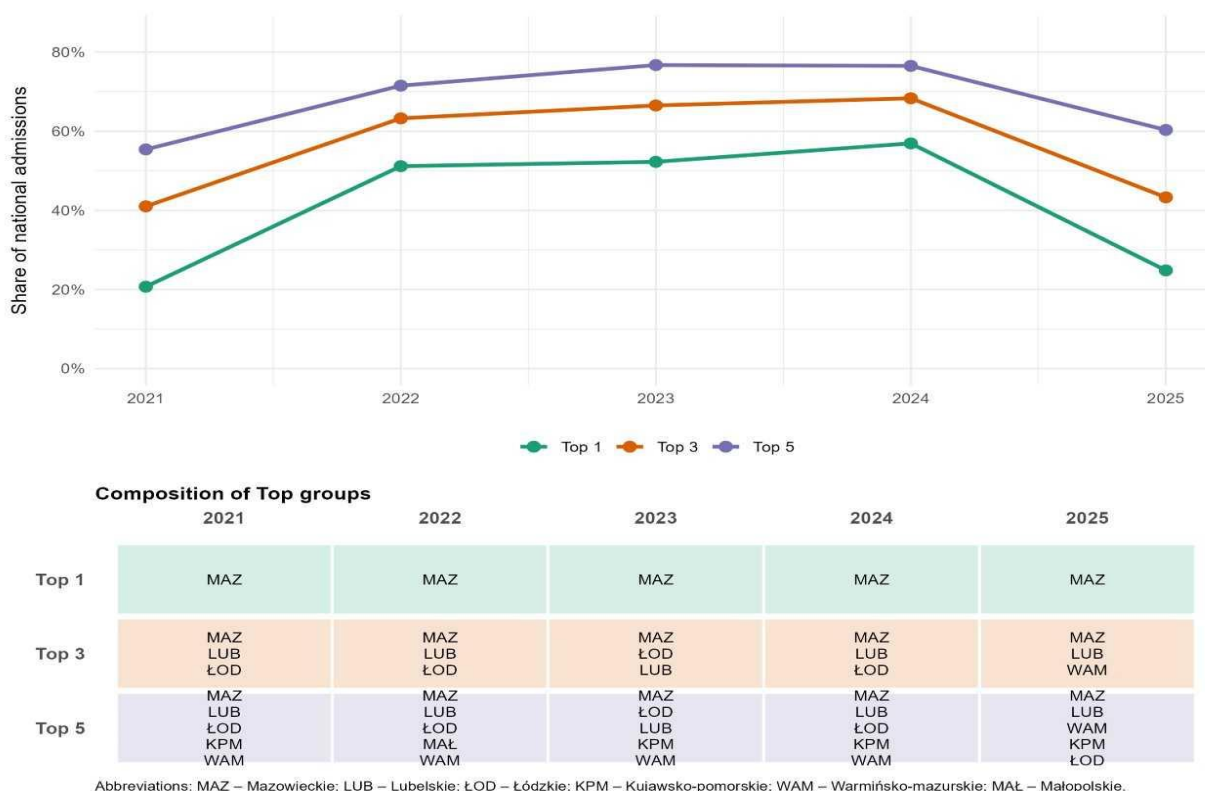


Fig. 2. Concentration of military studies enrollment by the largest voivodeships in 2021–2025

Source: own elaboration

The empirical findings confirm a high spatial concentration in the enrolment pattern during the 2022–2024 period, followed by a notable diffusion across a broader spectrum of voivodeships in 2025. This decentralization trend does not negate the strategic significance of the Mazowieckie Voivodeship, which consistently remains the primary source of recruitment; rather, it indicates that its relative dominance has moderated compared to the three-year baseline.

3.3. Growth Voivodeships in 2025

In 2025, the largest number of accepted students was still in the Mazowieckie Voivodeship (297), but its advantage over the other regions was significantly smaller than in 2022–2024. The following voivodeships were occupied by the Lubelskie Voivodeship (117 students), the Warmińsko-Mazurskie Voivodeship (104 students), and the Kujawsko-Pomorskie Voivodeship and the Łódzkie Voivodeship, which each achieved the same result of 102 students. This means that the 2025 enrolment structure was more balanced regionally than in the previous period, when the Mazowieckie Voivodeship had a much

stronger advantage. The ten voivodeships with the highest numbers of students accepted in 2025 are presented in Table 3.

Tab. 3

The ten voivodeships with the largest number of students accepted to military studies in 2025

Voivodeship	Students accepted 2025	Percent in a country	Admitted per 100,000 inhabitants 18–24
Mazowieckie	297	24.8%	82.2
Lubelskie	117	9.8%	85.11
Warmińsko-Mazurskie	104	8.7%	114.17
Kujawsko-Pomorskie	102	8.5%	77.72
Łódzkie	102	8.5%	68.17
Świętokrzyskie	67	5.6%	89.13
Wielkopolskie	67	5.6%	28.3
Podlaskie	52	4.3%	71.08
Śląskie	50	4.2%	19.07
Podkarpackie	48	4.0%	33.81

Source: own elaboration

Year-on-year analysis of the dynamics shows that the national increase in 2025 was achieved despite a 287-person decline in the number of admissions in the Mazowieckie Voivodeship compared to 2024. The largest positive changes were recorded in the Warmińsko-Mazurskie Voivodeship (+66), Kujawsko-Pomorskie Voivodeship (+56), Lubelskie Voivodeship (+56), Łódzkie Voivodeship (+46), and Świętokrzyskie Voivodeship (+43). A congruent empirical pattern emerges when benchmarking the 2025 data against the 2021–2024 baseline average. The Warmińsko-Mazurskie Voivodeship, Kujawsko-Pomorskie Voivodeship, Lubelskie Voivodeship, Świętokrzyskie Voivodeship, and Łódzkie Voivodeship stand out in this respect. These results indicate that the decline in the Mazowieckie Voivodeship's importance was offset by an increase in the number of admissions in several other regions.

Table 4 contrasts the volume of candidates admitted to military higher education in 2025 against the historical baseline average from the 2021–2024 period. This comparative analysis delineates the voivodeships exhibiting the most pronounced positive deviations alongside the Mazowieckie Voivodeship, which emerged as the sole regional outlier to record a recruitment yield below its multi-year baseline. The largest increase occurred in the Warmińsko-Mazurskie Voivodeship, where the number of students accepted in 2025 was 60.5 higher than the average from 2021–2024. Further significant positive differences were recorded in the Kujawsko-Pomorskie, Lubelskie, Świętokrzyskie, and Łódzkie Voivodeships. A different situation was observed in the Mazowieckie Voivodeship, where the number of students accepted was 132.3 lower than the average from the baseline period. These results confirm that in 2025, the enrollment structure shifted from a model strongly focused on the Mazowieckie Voivodeship towards a greater importance of several other regions.

Tab. 4

Voivodeships with the largest increase in the number of admissions in 2025 compared to the average for 2021–2024 and the Mazowieckie Voivodeship

Voivodeship	Admission 2025	Average in 2021–2024	Change vs average	Dynamics vs Average
Warmińsko-Mazurskie	104	43.5	60.5	139.1%
Kujawsko-Pomorskie	102	48.5	53.5	110.3%

Voivodeship	Admission 2025	Average in 2021–2024	Change vs average	Dynamics vs Average
Lubelskie	117	68.2	48.75	71.4%
Świętokrzyskie	67	26.8	40.25	150.5%
Łódzkie	102	62.8	39.25	62.5%
Wielkopolskie	67	35.8	31.25	87.4%
Podlaskie	52	27.2	24.75	90.8%
Dolnośląskie	28	10.5	17.5	166.7%
Mazowieckie	297	429.2	-132.25	-30.8%

Figure 3 shows the change in the number of people admitted to military studies in 2025 compared to the average enrollment level in the years 2021–2024.

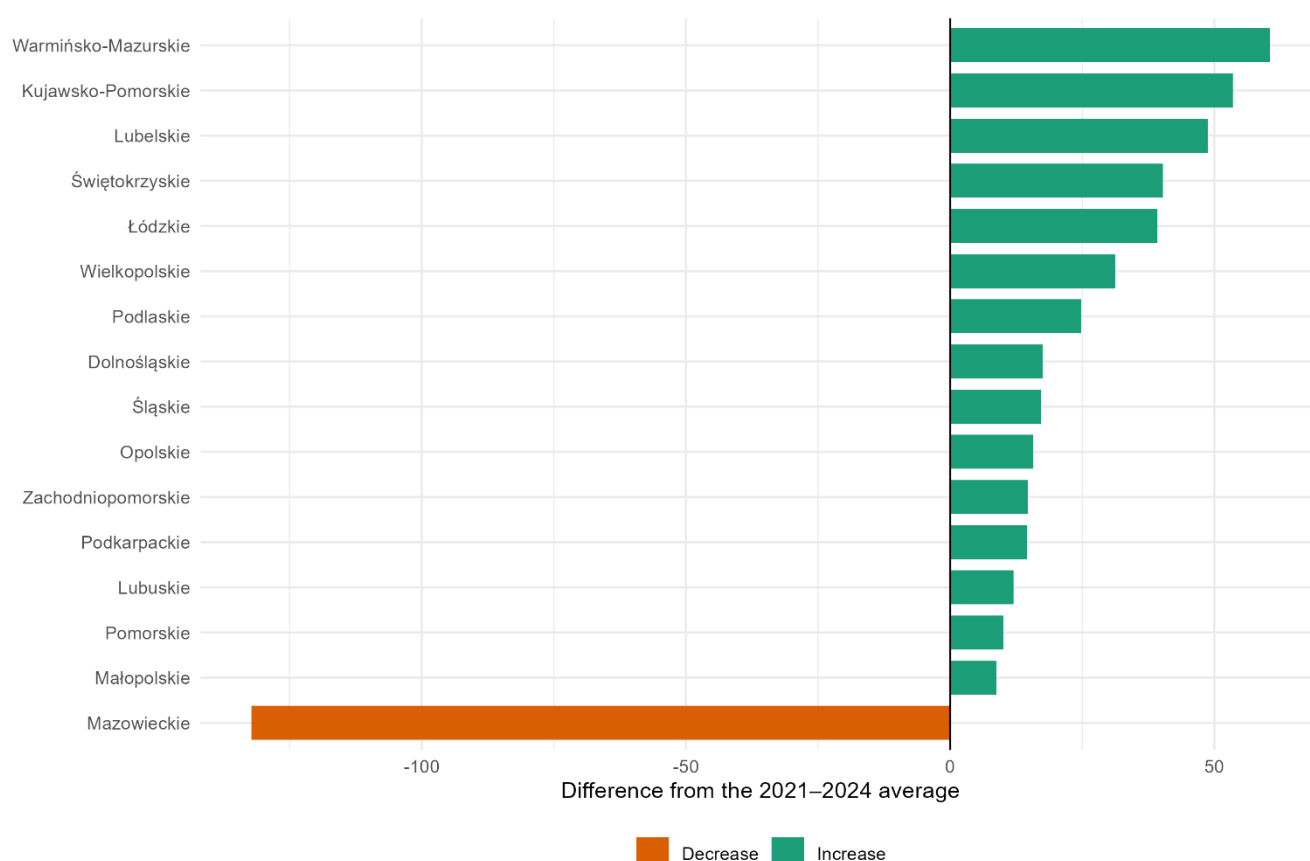


Fig. 3. Change in the number of admissions in 2025 compared to the average for 2021–2024

Source: own elaboration

The presented data reveal that a vast majority of voivodeships registered recruitment metrics exceeding the historical baseline average. The most pronounced positive deviations were concentrated in the Warmińsko-Mazurskie, Kujawsko-Pomorskie, Lubelskie, Świętokrzyskie, and Łódzkie voivodeships, indicating a significant increase in their importance in the recruitment structure in 2025. The only voivodeship where the number of admissions was lower than the average for 2021–2024 was the Mazowieckie Voivodeship. This result confirms that the decline in regional concentration observed in 2025 was primarily related to the reduced share of the current leader and the simultaneous increase in the number of admissions in many other regions.

3.4. Ranking by population size

The next phase of the evaluation involved comparing aggregate admissions with the demographic

baseline of the respective voivodeships, measured through the population size of the 18–24 age cohort (Eurostat, 2026). This relative adjustment enabled a comparative analysis of regional rankings based on absolute versus demographically weighted data. The results indicate that the hierarchical order of the voivodeships alters significantly, underscores the limitations of evaluating institutional intake solely through absolute volumes. In absolute terms, the Mazowieckie Voivodeship takes first place, while in relative terms, the Warmińsko-Mazurskie Voivodeship has the highest rate of admissions per 100,000 people aged 18–24 (114.17). Subsequent places are occupied by the Świętokrzyskie Voivodeship (89.13), Lubelskie Voivodeship (85.11), Mazowieckie Voivodeship (82.20), Kujawsko-Pomorskie Voivodeship (77.72), Podlaskie Voivodeship (71.08), and Łódzkie Voivodeship (68.17). This indicates that some of the demographically smaller voivodeships achieve a relatively higher recruitment intensity than the number of admissions alone would suggest. This indicator allows for better identification of regions where recruitment is particularly effective relative to the size of the potential candidate pool.

Tab. 5

Voivodeships ranking by admission rate per 100,000 inhabitants aged 18–24 in 2025

Rank	Voivodeships	Admitted students in 2025	Population in the compartment 18–24	Admitted per 100,000 inhabitants 18–24
1	Warmińsko-Mazurskie	104	91 095	114.17
2	Świętokrzyskie	67	75 175	89.13
3	Lubelskie	117	137 473	85.11
4	Mazowieckie	297	361 334	82.2
5	Kujawsko-Pomorskie	102	131 243	77.72
6	Podlaskie	52	73 160	71.08
7	Łódzkie	102	149 629	68.17
8	Zachodniopomorskie	44	101 208	43.47
9	Opolskie	21	55 860	37.59
10	Lubuskie	23	63 080	36.46
11	Podkarpackie	48	141 977	33.81
12	Wielkopolskie	67	236 748	28.3
13	Pomorskie	33	156 044	21.15
14	Śląskie	50	262 253	19.07
15	Małopolskie	42	229 561	18.3
16	Dolnośląskie	28	167 784	16.69

Source: own elaboration

Figure 4 presents the ranking of voivodeships according to the number of people admitted to military studies per 100,000 inhabitants aged 18–24 in 2025. It is clearly visible that, after taking into account the size of the population aged 18–24, the ranking of voivodeships differs from the system based solely on the absolute number of admissions.

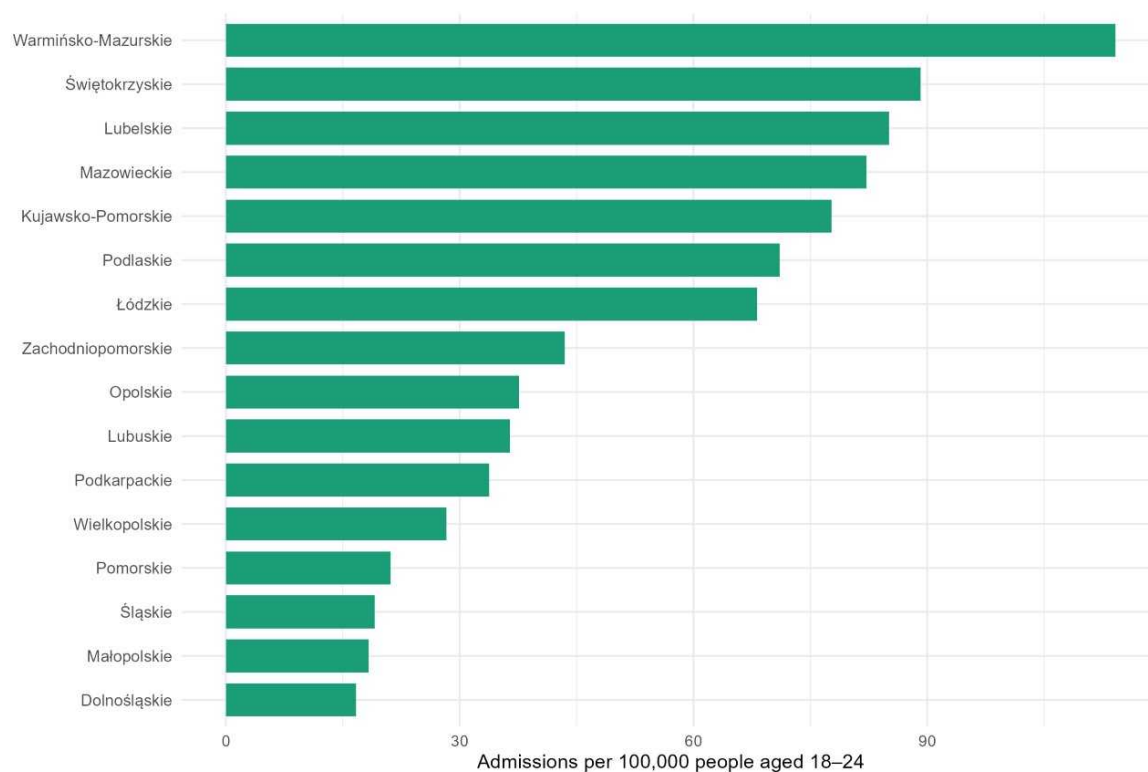


Fig. 4. Admissions per 100,000 people aged 18–24 in 2025

Source: own elaboration

The complete ranking of voivodeships by admission rate for 100,000 people aged 18–24 is supplemented by the map presented in Figure 5. Unlike the rankings focusing on the voivodeships with the highest number of admissions, the figure covers all voivodeships and allows for an assessment of the spatial distribution of admission intensity across the country. The map shows that higher rates are found primarily in northeast, eastern, and partially central Poland, while lower rates are visible primarily in southern and southwestern voivodeships. This means that, after taking into account demographic potential, the intensity of admission is not evenly distributed spatially.

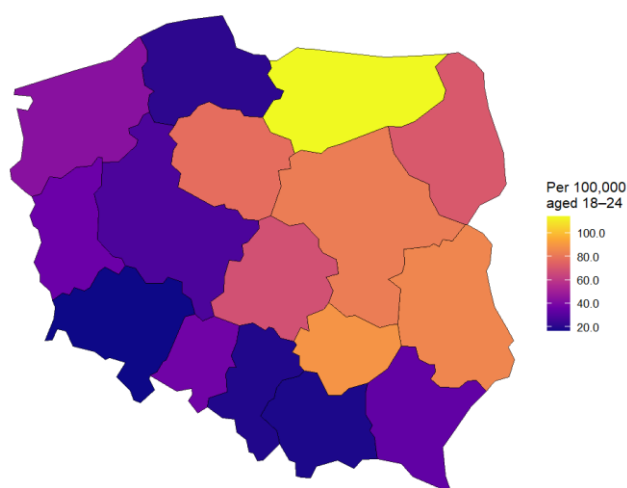


Fig. 5. Map of the admission rate for 100,000 people aged 18–24 in 2025

Source: own elaboration

3.5. Segmentation of voivodeships for recruitment and promotional activities

For the application portion of the study, the voivodeships were assigned to four segments.

Segmentation combines three criteria used in the study: the current enrollment rate in 2025, the dynamics relative to the baseline period 2021-2024, and the admission rate per 100,000 people aged 18–24. Its purpose is not to definitively identify the causes of increases or decreases in enrollment, but rather to support decisions regarding the targeting of recruitment and promotional activities. It allows for the identification of regions where current activity should be maintained, areas requiring enhanced promotional efforts, voivodeships primed for testing new channels, and regions requiring a more in-depth diagnosis of recruitment barriers. The segmentation results are presented in Table 6.

Tab. 6

Voivodeship segmentation for recruitment and promotional activities in 2025

Segment	Voivodeship	Justification	Recommendation
Strengthening priority	Warmińsko-Mazurskie, Kujawsko-Pomorskie, Świętokrzyskie, Wielkopolskie, Podlaskie	high growth dynamics; in most cases also high demographic infiltration	increase campaign intensity, maintain high visibility, strengthen field activities, and cooperation with high schools
Maintenance and optimisation	Mazowieckie, Lubelskie, Łódzkie	high scale of recruitment, but the need to control the cost of reaching and the reasons for weaker dynamics or decline	maintain presence, optimise channels, monitor the recruitment funnel and candidate conversion;
Exploring a developing area/ emerging field	Dolnośląskie, Lubuskie, Opolskie	a low absolute baseline, but a substantial growth rate relative to the base period	launching new formats, test messages, and event formats, measure the cost of candidate acquisition
Diagnosis/low efficiency	Śląskie, Podkarpackie, Zachodniopomorskie, Małopolskie, Pomorskie	lower scale and/or low demographic reach despite some numerical increases	diagnose barriers: distance, competition from other military and civilian universities, recognition of the offer and information channels

Source: own elaboration

Figure 6 presents the segmentation matrix of the voivodeship, which compares the recruitment scale in 2025 with the change dynamics compared to the average for the years 2021–2024.

The dashed lines mark interpretive thresholds, distinguishing regions with lower and higher recruitment rates and weaker and stronger growth dynamics. The size of the dots reflects the admission rate per 100,000 people aged 18–24, allowing the matrix to combine absolute, dynamic, and relative perspectives. The figure shows that voivodeships form diverse groups requiring different recruitment and promotion efforts – from maintaining and optimising activity, through strengthening activities in high-potential regions, to testing new channels and identifying barriers in less effective voivodeships.

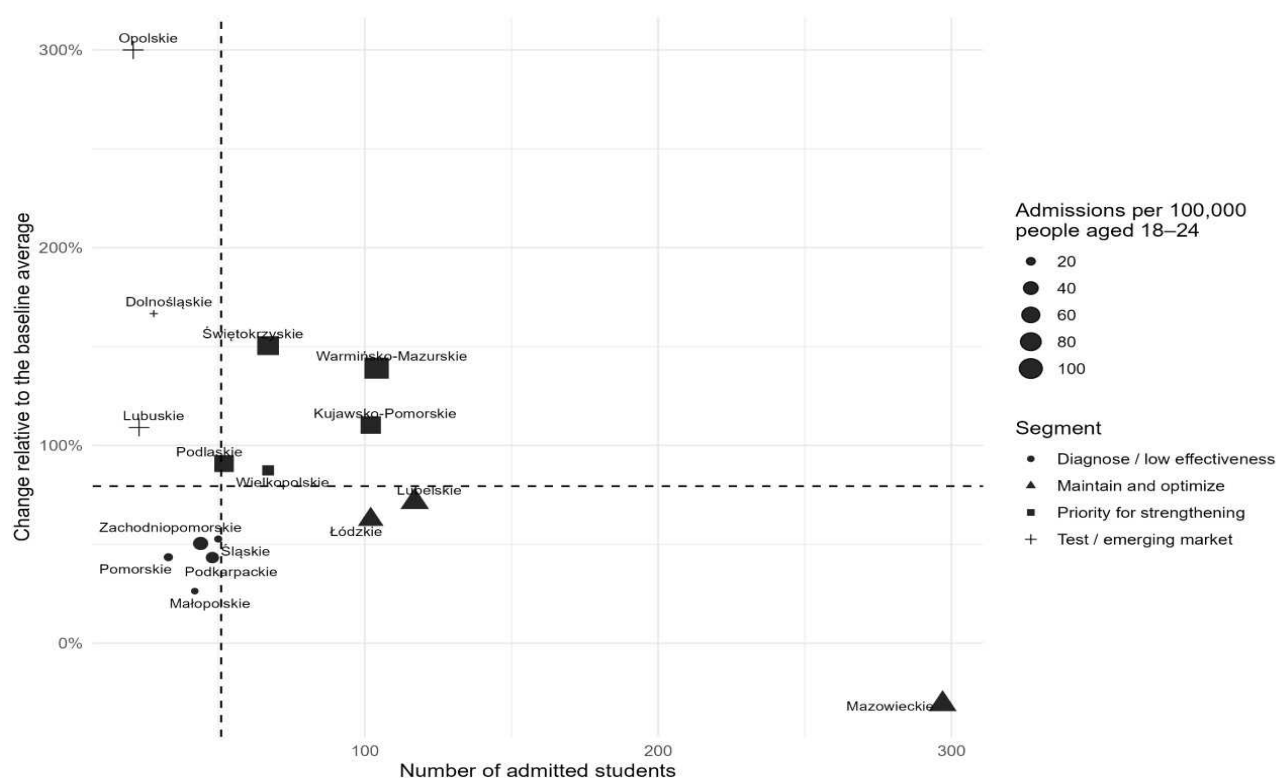


Fig. 6. Province segmentation matrix in 2025

Source: own elaboration

3.6. Results of the exploratory model

To complement the descriptive analysis and verify whether the observed increase in admissions persists after accounting for differences in the demographic potential of the voivodeships, a quasi-Poisson model was used for the numerator data. The dependent variable was the number of individuals admitted from a given voivodeship in a given year, with the population aged 18–24 included as a compensatory measure. This means that the model did not solely address the absolute number of admissions, but rather the intensity of recruitment relative to the size of the potential candidate pool. Table 7 presents selected results of the quasi-Poisson model, limited to year effects relative to the reference category of 2021. The summary includes frequency ratios, statistical significance levels, and 95% confidence intervals.

Tab. 7

Selected results of the quasi-Poisson model: year effects relative to 2021

Variable	IRR	p-value	95% CI lower	95% CI upper
year 2022	1.139	0.382	0.853	1.524
year 2023	1.38	0.0272	1.046	1.829
year 2024	1.409	0.019	1.068	1.865
year 2025	1.644	0.000626	1.258	2.16

Source: own elaboration

The model results confirm a general increase in enrollment over time. Compared to 2021, the coefficients for 2023, 2024, and 2025 are positive and statistically significant, with the coefficient for 2025 reaching the highest value. The frequency ratio for 2025 is 1.644, which means that, after taking into account demographic potential, enrollment was approximately 64.4% higher than in 2021. This result

supports the conclusion that the increase in admissions was not solely a reflection of differences in the size of the youth population. However, the model should be considered a supplementary and exploratory tool. It does not incorporate variables such as the number of applicants, promotional campaign expenditures, the frequency of recruitment events, the intensity of informational activities, or other institutional factors that may influence candidates' decision-making. Therefore, the model results should not be interpreted causally, but rather as a complement to descriptive analysis, regional concentration, and voivodeship segmentation.

The obtained results indicate a significant change in the spatial organization of military studies enrollment during the analyzed period. In 2022–2024, the enrollment model was highly concentrated, with the Mazowieckie Voivodeship holding a dominant position. In 2025, however, a significant decline in this voivodeship's share in the national enrolment was observed, accompanied by a simultaneous increase in the importance of other regions, particularly the Warmińsko-Mazurskie, Kujawsko-Pomorskie, Lubelskie, Świętokrzyskie, Łódzkie, Wielkopolskie, and Podlaskie Voivodeships. This represents a shift from a highly centralised model to a more dispersed spatial enrolment system.

It is particularly significant that in 2025, the nationwide number of students admitted increased despite a decline in the number of students admitted from the Mazowieckie Voivodeship. From a managerial perspective, this indicates that the recruitment potential beyond the current enrollment centre is real and may partially compensate for the weakening of the dominant region. This result has practical significance, as it suggests that planning recruitment and promotional activities should not be based solely on the voivodeships with the highest absolute enrolment numbers. Equally important are regions characterised by high growth dynamics and high recruitment intensity after taking into account demographic potential.

Considering that the population aged 18-24 significantly changes the interpretation of the results. While the Warmińsko-Mazurskie and Świętokrzyskie voivodeships are not among the largest voivodeships in terms of demographic potential, they achieve very high enrolment rates per 100,000 people aged 18-24. This may indicate a greater relative attractiveness of the military's offerings, better tailored recruitment communications, a stronger institutional presence of the military, or other local factors favouring the choice of military studies. However, on the basis of the available data, it is impossible to clearly determine which of these mechanisms was decisive.

Interpreting the results in terms of promotional effectiveness also requires caution. Data on admissions reflect the final outcome rather than the entire recruitment process. The increase in student intake may be attributed to a larger pool of prospective candidates, higher conversion rates, changes in enrollment limits, modifications to selection procedures, intensified outreach, or a combination of several of these institutional factors. This means that the presented analysis allows for the identification of priority regions and regions requiring diagnosis, but it does not yet allow for a clear attribution of the increase in admissions to specific promotional activities.

However, the study's results have direct application value. The Warmińsko-Mazurskie, Kujawsko-Pomorskie, Świętokrzyskie, Podlaskie, and Wielkopolskie voivodeships can be considered areas requiring enhanced recruitment and promotional efforts, as they combine high growth dynamics with visible recruitment potential. In some of them, particularly in the Warmińsko-Mazurskie and Świętokrzyskie voivodeships, admission rates are also high relative to the population aged 18-24.

The Mazowieckie, Lubelskie, and Łódzkie voivodeships, on the other hand, should remain strategic areas, although they require a different approach to managing promotional activities. In their case, it is crucial not only to maintain the visibility of the offer but also to optimise communication channels, control the cost of reaching out, and analyse changes in recruitment dynamics. The Mazowieckie Voivodeship is particularly important, as despite maintaining first place in terms of admissions, it saw a significant decline in its share of the national recruitment in 2025.

The Dolnośląskie, Lubuskie, and Opolskie voivodeships can be classified as emerging recruitment markets. Although their absolute admission volumes remain relatively low, their growth rates relative to

the baseline period are substantial. In these regions, it is justified to execute pilot interventions, including localized, budget-constrained campaigns to test alternative marketing messages, institutional participation in educational events, and strategic collaboration with secondary schools offering military-profiled or technical curricula.

A separate group comprises voivodeships that require a more in-depth analysis of recruitment barriers. This applies particularly to regions with relatively high demographic potential but low enrollment rates per 100,000 people aged 18-24. In these cases, additional data would be necessary to obtain the recognition of the military academy, distance from educational institutions, competition from other universities, the local labour market, the number of uniformed classes, and the effectiveness of existing communication channels.

The study presented also has limitations stemming from the nature of the available data. The analysis focused on the number of individuals admitted, i.e., the terminal outcome of the recruitment process. These data do not include the number of people exposed to the promotional campaign, the number of people interested in the offer, the number of submitted applications, the number of qualified individuals, or the number of withdrawals. It also does not account for financial outlays, the frequency of promotional events, and the intensity of campaigns within individual voivodeships. The second limitation is the relatively short time horizon; five years of observation facilitates the identification of the structural shift observed in 2025 but remains insufficient to fully model long-term trends. The particularly large decline in the share of the Mazowieckie Voivodeship should be verified in subsequent years to determine whether it is a permanent change in the spatial structure of recruitment or a one-off deviation.

4. CONCLUSIONS

The study confirms that regional variation in military enrollment can be a useful tool to support recruitment and promotion planning, as well as a valuable basis for reflection on the organisation of personnel training for the national security system. Voivodeship-level analysis allows not only for a description of the spatial distribution of admitted individuals but also for the identification of regions with high recruitment potential, areas requiring sustained promotional activity, emerging markets, and voivodeships requiring a more in-depth analysis of barriers to recruitment effectiveness. The primary finding of the study is the shift in the recruitment model observed in 2025. In 2022–2024, enrollment was highly concentrated in the Mazowieckie Voivodeship, whereas in 2025, recruitment expanded across a broader range of voivodeships. This does not imply that Mazowieckie, which remains the largest source of admissions, has lost its fundamental importance, but rather indicates a decline in its regional dominance alongside an increase in the relative weight of other regions. This phenomenon is of substantial importance not only from an organisational but also from an educational perspective, as it demonstrates a shift in the spatial scope of the military university's influence and the capacity to extend its educational offering more broadly to young people across different regions of the country. Furthermore, the results indicate that evaluating recruitment performance based solely on absolute values is insufficient. After adjusting for the population aged 18–24, demographically smaller regions, such as the Warmińsko-Mazurskie and Świętokrzyskie voivodeships, rank high. This implies that relative indicators facilitate a deeper understanding of the actual intensity of recruitment and can effectively complement traditional rankings based on absolute enrolment numbers. From the perspective of higher education pedagogy and security pedagogy, this approach allows for a more comprehensive understanding of the determinants of young people's educational choices, particularly regarding fields of study related to preparation for public service, civic responsibility, and integration into security structures.

From a practical perspective, the empirical findings highlight the necessity of differentiating promotional strategies based on regional characteristics. In voivodeships demonstrating high growth

dynamics, intensifying promotional interventions is advisable. In strategic regions, this entails maintaining and optimising institutional presence; in emerging markets, executing pilot projects; and in lower-performing regions, diagnosing specific barriers to recruitment effectiveness. Regional segmentation operationalised in this manner can support a more rational, data-driven design of informational, educational, and promotional activities targeted at prospective candidates. Another substantial contribution of the study is the presentation of an analytical framework that can be applied beyond the context of a single university. The proposed approach, incorporating absolute admission volumes, temporal dynamics, relative indicators, and a regional typology, is universal and adaptable to other academic centres, including military universities operating within diverse national systems. This methodology may be particularly valuable for higher education institutions whose educational offerings are specialised, strategic, or intrinsically linked to national security priorities and labour market demands.

The application conclusion drawn from the study is that regional data can be used as a practical tool to segment the recruitment market. They allow for better allocation of promotional resources, the selection of communication channels specific to regions, and the monitoring of changes in the spatial structure of recruitment. More broadly, the proposed approach can support decision-making in the areas of university educational policy, recruitment management, and planning activities aimed at attracting candidates for professions and services of particular social importance. The significance of these findings is heightened in the context of the armed conflict in Ukraine and the growing importance of military security observed in many countries. Effectively recruiting candidates for military education and preparing future personnel for the armed forces is becoming a key element in building a country's resilience and defence capabilities. Therefore, analysing military enrollment should not be treated solely as an administrative or marketing issue, but also as an educational and social problem related to shaping youth development paths, career orientation, and preparation for roles crucial to public security. Further research should expand the dataset to include information on the number of applicants, the number of qualified individuals, the number of those who did not enroll despite being accepted, campaign costs by voivodeship, the number of promotional events, the number of uniformed schools, the distance from military universities and military units, and youth labor market indicators. This would facilitate a shift from descriptive analysis toward a more comprehensive assessment of the effectiveness of recruitment and promotional efforts, while enabling a deeper understanding of the educational, social, and spatial determinants governing the choice of military studies.

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Пензюл Анна. Наслідки для діяльності з прийому та залучення кадрів у регіональному контексті різноманітності набору до військових закладів освіти. *Журнал Прикарпатського університету імені Василя Стефаника*, 13 (3) (2026), 93-109.

Метою цього дослідження є оцінка значущості регіональних відмінностей у наборі на військові навчання та визначення того, чи є географічні фактори ключовими у плануванні заходів з прийому, реклами, інформації та освіти. Дослідження проведено на прикладі найбільшого академічного військового закладу Польщі на основі даних про результати набору за 2021–2025 роки. Аналіз покликаний визначити, як інформація про походження прийнятих кандидатів може допомогти у прийнятті рішень щодо цільових рекламних кампаній, виявленні регіонів з високим потенціалом та діагностиці сфер, що потребують посиленої інформаційної діяльності, спрямованої на молодь, яка приймає рішення щодо освіти та кар'єри. У дослідженні використовувалися адміністративні дані про кількість осіб, прийнятих на навчання, зіставлені з демографічними даними людей віком 18–24 років. В аналізі застосовувалися річні тенденції, частка воєводств у національному наборі, індекси регіональної концентрації, порівняння 2025 року із середнім показником 2021–2024 років та сегментація воєводств відповідно до масштабів набору й тенденцій зростання. Результати показують, що між 2022 і 2024 роками набір був значною мірою зосереджений у Мазовецькому воєводстві, але у 2025 році спостерігалось помітне зниження цієї концентрації. Важливо, що з урахуванням населення віком 18–24 років найвищі показники вступу зафіксовані у Вармінсько-Мазурському, Свентокшиському, Люблінському, Мазовецькому та Куявсько-Поморському воєводствах. Це демонструє, що абсолютні показники призводять до неповної оцінки регіонального потенціалу. Стаття зосереджена на представленні нової методології дослідження та демонстрації того, що регіональні дані слугують практичним інструментом для сегментації ринку при наборі студентів. Запропонований метод допомагає визначити ключові цільові області для рекламної діяльності та сприяє розробці індивідуальних ініціатив для кандидатів, які вступають на військову службу. Отже, цей підхід має значну цінність для

управління набором, педагогічної рефлексії щодо освітніх шляхів, професійної орієнтації молоді та підготовки персоналу для установ, відповідальних за національну безпеку.

Ключові слова: набір на військову службу, військові студії, регіональна сегментація, педагогіка безпеки, маркетинг набору на військову службу, освітній вибір.