Research Square

Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

Title: The Experience of International Medical Students in Russia: An Analysis of Academic, Social, and Administrative Integration

Swapnil D. Parve

drswapnilparve@gmail.com

Kazan State Medical University

Ildar R. Iskandarov

Kazan State Medical University

Elena S. Koshpaeva

Kazan State Medical University

Laysan M. Mukharyamova

Kazan State Medical University

Article

Keywords:

Posted Date: November 20th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-8941556/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License.
Read Full License

Additional Declarations: No competing interests reported.

Title: The Experience of International Medical Students in Russia: An Analysis of Academic, Social, and Administrative Integration

Abstract:

Background: The internationalization of medical education has established the Russian Federation as a premier non-English-dominant destination. Successful student retention depends on a complex integration process that remains underexplored in non-Western contexts. Anchored in Tinto's institutional integration model and Berry's acculturation theory, this study analyzed the three-dimensional integration—academic, socio-cultural, and administrative-legal—of international medical students in Russia. This study aimed to compare the academic, socio-cultural, and administrative integration, overall satisfaction, and post-graduation intentions of international undergraduate medical students in Russia's capital cities (Moscow/St. Petersburg) versus regional universities. **Methods:** A nationwide cross-sectional online survey was conducted in early 2025. The final sample comprised 8,547 international medical students from 37 cities. Data were analyzed using descriptive statistics and multivariate multinomial logistic regression to identify predictors of the intention to remain in Russia post-graduation. **Results:** Two distinct integration models emerged. Students at regional universities reported a more supportive academic environment and higher satisfaction with infrastructure but lower Russian language proficiency, as English was often the medium of instruction (61.2%). Students in metropolitan hubs (Moscow/St. Petersburg), predominantly in Russian-medium programs (67.2%), exhibited higher language proficiency and stronger social integration but faced greater academic and administrative challenges. Overall satisfaction was high (83.1%), but intention to stay in Russia post-graduation was significantly higher among students in metropolitan hubs (59.7% vs. 49.9%, $p<0.001$). Multivariate analysis identified the medium of instruction and low Russian proficiency as the strongest predictors of the intent to leave. **Conclusions:** Linguistic integration through host-country language immersion is strongly associated with long-term retention, outweighing immediate academic comfort. To transform education investment into sustained human capital, policymakers must reconcile the

"regional model" of academic support with the "capital (metropolitan) model" of linguistic immersion, prioritizing structured language acquisition and systemic administrative reform.

Keywords: International medical students, student integration, academic integration, social integration, administrative integration, post-graduate intentions

Introduction:

The increasing number of individuals pursuing medical education abroad has significantly impacted the evolution of contemporary higher education (Marginson 2022). This international trend not only contributes to the formation of a globally competent health workforce but also promotes essential cross-cultural understanding and collaboration among future healthcare professionals (Wijnen-Meijer 2023; Wu et al. 2025). This, in turn, facilitates enhanced knowledge exchange, broadens clinical experience, and supports the establishment of networks capable of addressing global health challenges more effectively (Wu et al. 2025). For host countries, attracting international medical students enhances institutional diversity, fosters international collaboration, and serves as a form of soft power (Hou et al. 2022; Gauttam et al. 2024; Latif et al. 2025). Students benefit from access to quality education and unique career opportunities abroad (Li et al. 2023). The success of this exchange, however, depends on the students' successful integration into the academic, social, and administrative fabric of the host country, factors that directly influence their academic performance, well-being, and long-term career decisions (Miguez-Pinto et al. 2025).

The Russian Federation has emerged as a major, non-English-dominant destination for international medical education. Attracting international students to Russian universities is a key priority for the state. The total number of foreign students enrolled in bachelor's, specialist, and master's programs increased from 329,651 in 2020 to 395,140 in 2024, with national development targets aiming to raise this figure by 500,000 by 2030 (President of the Russian Federation 2024; Government of the Russian Federation 2025). Approximately 30% of these international students choose medical specialties, drawing thousands annually, primarily from Asia, the Middle East, and Africa (Yudkevich 2025). In this study, integration is conceptualized as a multidimensional process comprising three interdependent domains: (1)

Academic integration, involving the alignment of student goals and abilities with the institution's intellectual climate; (2) Socio-cultural integration, defined by the development of local social networks and adaptation to host-country norms; and (3) Administrative-legal integration, a critical yet under-theorized dimension in non-Western contexts involving the navigation of state-mandated migration, registration, and health insurance protocols. Addressing these challenges is essential for successful academic and social integration, which in turn supports students' overall well-being and academic achievement (Khokhlova et al. 2022; Al-Haddad et al. 2025).

While extensive research exists on international student adaptation, existing scholarship largely centers on Western, Anglophone contexts. To bridge this gap, the present study anchors its analysis in two foundational frameworks: Tinto's institutional integration model and Berry's acculturation theory. Tinto emphasizes that student persistence depends on the "fit" between the individual and the institution's academic and social systems (Tinto 1994). However, in the Russian context–a major non-English-dominant destination–institutional fit is mediated by broader societal pressures. Here, Berry's acculturation framework becomes essential, as it accounts for the psychological and cultural transitions students undergo. Specifically, Berry's focus on "integration" versus "marginalization" allows for a critical examination of how perceived discrimination and language barriers act as stressors (J.W. Berry et al. 1987; John W. Berry 1997). By synthesizing these models, this study proposes an expanded view of integration that includes administrative-legal dimension. This is particularly critical in the Russian Federation, where rigid state-mandated migration and registration protocols create unique structural hurdles that significantly weigh on a student's sense of belonging and their ultimate intent to remain in the country.

Crucially, it remains underexplored whether these integration experiences are uniform across the Federation or if they are modulated by the urban and institutional context of the host city. While major metropolitan hubs like Moscow and St. Petersburg are characterized by high international visibility and complex administrative demands, regional universities offer a distinct socio-economic and linguistic landscape that may foster different integration patterns. This study aims to bridge these gaps by providing a comparative analysis of integration experiences of international medical students across the Russian Federation. To this end we set the following objectives: (1) to compare perceptions of the academic environment and learning hurdles between students in capital cities/metropolitan hubs (Moscow/St. Petersburg) and regional universities; (2) to assess differences in socio-cultural adaptation and living conditions; (3) to evaluate awareness of migration regulations and use of administrative services; and (4) to analyze overall satisfaction, post-graduation intentions, identifying key predictors, including perceived discrimination, medium of instruction and language proficiency, that influence the decision to remain in Russia after completing studies.

Materials and Methods:

Study Design and Participants

This nationwide cross-sectional study was conducted via an online survey distributed to medical higher education institutions located in 66 cities nationwide. Participants from 37 cities ultimately responded, ensuring a geographically diverse representation of experiences beyond a single institution or region.

The inclusion criteria were:

1. Current status as an international student (i.e., not holding Russian citizenship at the time of the survey).

2. Enrollment in an undergraduate (specialist) medical program.

Exclusion criteria included:

1. Enrollment in post-graduate programs (internship, residency, etc.).
2. Acquisition of Russian citizenship during the survey period.
3. Incomplete or inconsistent survey responses.

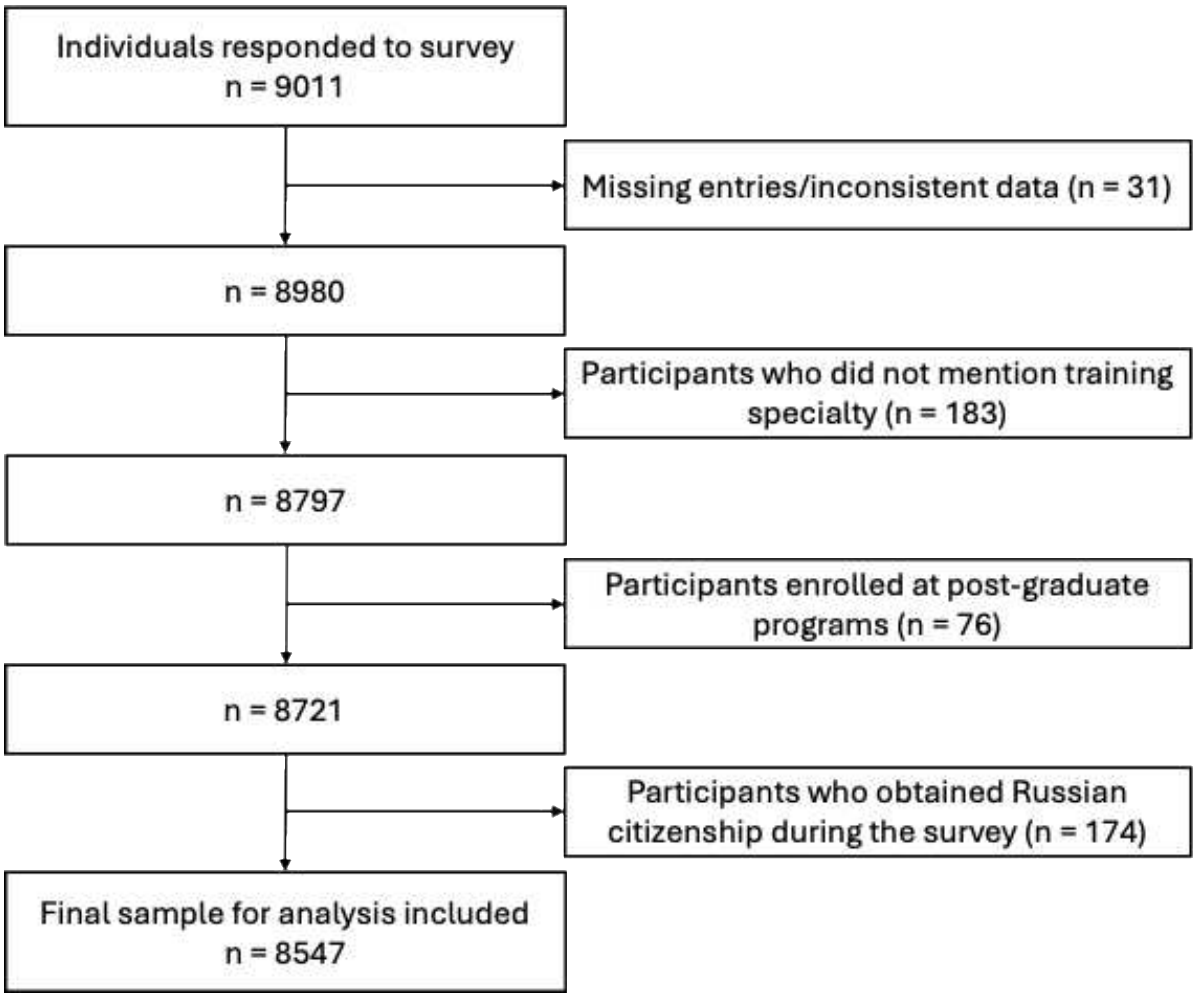


Figure 1. Manuscript exclusion criteria flow chart.

The participant selection flow is detailed in Figure 1. Initially, 9,011 individuals responded to the survey. After the removal of 31 entries due to missing or inconsistent data, 8,980 participants remained. Subsequently, 183 participants who did not specify their training

specialty and 76 enrolled in post-graduate programs were excluded. Finally, 174 participants who obtained Russian citizenship during the survey period were removed to maintain the focus on the international student cohort. A descriptive evaluation of this excluded subgroup (n = 174) revealed that they were predominantly enrolled in metropolitan hubs (71.3%), studied in Russian-medium programs (89.1%), and possessed proficient (C1/C2) Russian language skills (82.4%), illustrating that citizenship acquisition is strongly linked with advanced linguistic and regional immersion. The final sample for analysis included 8,547 undergraduate international medical students.

Sample Size

The sample size was calculated a priori using the formula for estimating a single population proportion. Assuming a 95% confidence level (Z=1.96), a margin of error of 5% (d=0.05), and a conservative expected proportion of 50% (p=0.5), a minimum of 385 participants was required. The final analyzed sample of 8,547 participants far exceeds this requirement, providing robust statistical power for detailed subgroup analyses and high precision for prevalence estimates.

Data Collection

Data were collected from January to February 2025 through a self-administered, 69-item bilingual (English and Russian) questionnaire. Since existing standardized international student barometers do not account for the unique intersection of Russian medical education requirements and federal migration policies, a bespoke survey instrument was developed for this exploratory study. This approach was necessary to capture the specific administrative-legal and linguistic nuances inherent to the Russian context. To ensure methodological transparency, the questionnaire underwent face validity assessment by an expert panel comprising specialists

in medical education and sociology to ensure the relevance and clarity of the items. Because the questionnaire comprised discrete categorical metrics and single-item administrative indicators rather than continuous multi-item latent constructs, standard internal consistency metrics (e.g., Cronbach's alpha) were not applicable. The English version of the full questionnaire is provided as supplementary material (Supplementary File S1). The survey was distributed electronically via Google Forms and encompassed key domains, including demographic characteristics, academic experience, medium of instruction, language proficiency, social integration, living conditions, experiences of discrimination and awareness of administrative and migration regulations.

Data Analysis

Statistical processing was performed using StatTech v. 4.10.3 (Stattech LLC, Russia). Quantitative variables were assessed for normality using the Kolmogorov-Smirnov test. For data that did not conform to a normal distribution, quantitative measures were represented by the median (Me) and the interquartile range (Q1-Q3). Categorical data were described using absolute values and percentages. Comparison of percentages in 2x2 contingency tables was performed using the Pearson's chi-square test (when expected frequencies were greater than 10) or Fisher's exact test (when expected frequencies were less than 10). A multivariate multinomial logistic regression was conducted to identify independent predictors of students' intent to remain in Russia, utilizing "Yes" as the reference category. This single-model approach allowed for the simultaneous estimation of adjusted odds ratios (aOR) with 95% confidence intervals (CI) for both "No" and "Not decided yet" responses while controlling for demographic, academic, and psychosocial variables. Model fit was assessed using the Nagelkerke R^2. Differences were considered statistically significant at $p < 0.05$.

Results:

Students from 86 countries participated in the survey. Continent-wise breakdown is presented in Figure 2.

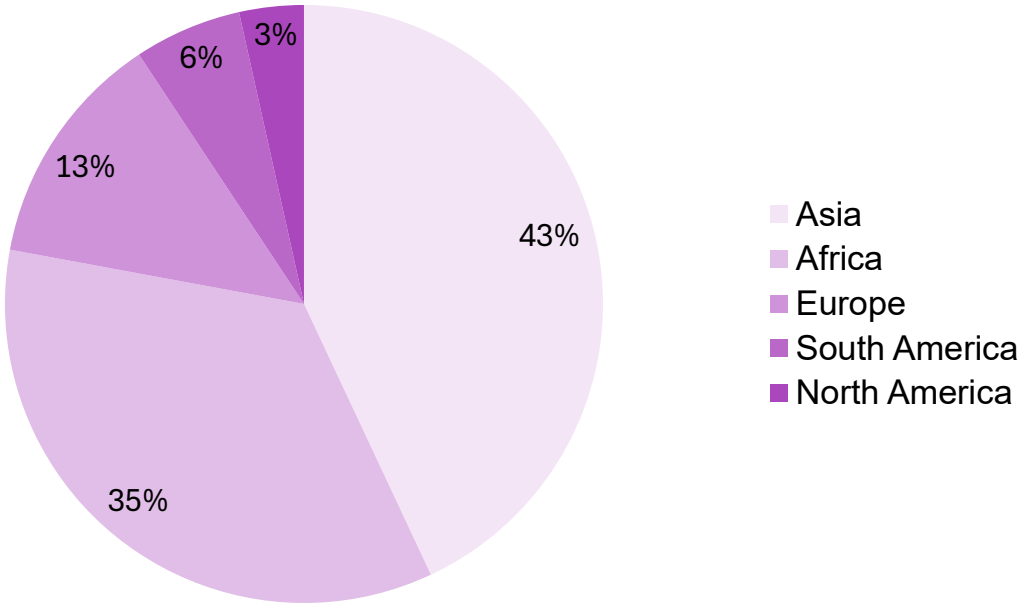


Figure 2. Distribution of participants by continent.

The median age was 21 years (IQR: 20-23). Of the respondents, 44.7 % (n = 3,819) were female and 55.3 % (n = 4,728) were male. A significant majority (n = 6855, 80.2%) were enrolled at universities located outside the capital cities of Moscow and St. Petersburg. A comparative analysis revealed substantial and statistically significant differences in the demographic, academic, and linguistic characteristics of international medical students between the two university groups (Table 1). The sex distribution was comparable, with no significant difference observed. However, the distribution across branches of study differed markedly. General Medicine was the predominant specialty in both cohorts but constituted a significantly larger proportion at regional universities (79.2%) compared to those in Moscow/St. Petersburg (62.5%). Conversely, the capital universities reported a higher frequency of students in Pediatrics (8.3% vs. 2.8%), Dentistry (16.5% vs. 14.2%), and particularly Pharmacy (12.0%

vs. 3.5%). Significant disparities were also evident in academic progression and the linguistic environment. The medium of instruction varied sharply: English was the preferred language of instruction at regional institutions (61.2%), whereas Russian was the main medium in Moscow/St. Petersburg (67.2%). This was closely associated with pronounced differences in Russian language proficiency. The majority of students at regional universities were classified as basic users (A1/A2). In contrast, students in the capital exhibited higher proficiency levels, with the largest group being independent users (B1/B2) and a substantial proportion achieving proficient status (C1/C2).

Table 1. Demographic characteristics of the cohort based on study location

Academic integration: strengths and hurdles

The survey revealed generally positive perceptions of the academic environment among international medical students, though with significant challenges and notable disparities based on university location (Table 2). High proportions of respondents reported favorable conditions regarding respect from instructors, comfort in classroom participation, and understanding of assessments. However, substantial minorities cited difficulties with assignment deadlines, access to physical academic literature, and language barriers within the curriculum. A consistent and statistically significant pattern emerged in the stratified analysis: students at regional universities reported a more positive experience across multiple domains compared to their peers in Moscow and St. Petersburg. This included significantly higher ratings for instructor respect, classroom comfort, timely feedback, and satisfaction with physical infrastructure (classroom equipment and sanitary conditions). Students in the capital cities, conversely, more frequently reported negative outcomes in these same areas, along with a higher frequency of “unsatisfactory” ratings for administrative support. Notable exceptions

where no significant geographic difference existed included perceptions of overall education quality, curriculum relevance, and access to electronic library resources.

Table 2. International students' perceptions of the academic and learning environment based on study location

Socio-cultural adaptation: A deep dive

The results regarding socio-cultural adaptation depict a nuanced scenario where practical adjustment is achieved successfully, yet there are notable difficulties with social integration and concerns about living conditions. (Table 3). While the vast majority of students across both groups reported feeling safe, comfortable navigating the city, and connected to home, stratification by location revealed significant and divergent adaptation profiles.

Table 3. Survey responses covering socio-cultural adaptation, living conditions, integration, community comfort, and support services

Students at regional universities reported significantly better outcomes in practical and institutional integration, including a greater ability to resolve household issues and participate in university social events (both $p<0.001$). Conversely, students in Moscow and St. Petersburg demonstrated a stronger social integration profile, being significantly more likely to have Russian friends, know where to seek psychological support, and express no specific dormitory preference (all $p<0.001$). Perceptions of core environmental factors, such as safety, living conditions, campus meals, and experience of discrimination did not differ significantly between the groups.

Administrative procedures and legal awareness

International students' financial and administrative adaptation, along with their awareness of migration legislation, was generally high but marked by a distinct information gap and differing reliance on external services (Table 4). No significant difference was found between groups regarding financial transactions, understanding of general migration rules, or perceived clarity of registration procedures. However, stratification revealed a significant disparity in specific, actionable knowledge and behavior.

Table 4. International students' responses on financial adaptation, administrative processes, and Russian migration law awareness

Students at universities in Moscow and St. Petersburg demonstrated significantly stronger awareness of critical, time-sensitive migration requirements. They were more likely to know the deadlines for residence registration (87.9% vs. 81.8%, $p<0.001$), the required documents for legal stay (89.7% vs. 87.6%, $p=0.049$), and the procedures following document loss or theft (62.7% vs. 58.0%, $p<0.001$). They also reported a higher understanding of the consequences of violating migration laws (82.7% vs. 78.8%, $p=0.001$).

Conversely, students at regional universities were significantly more reliant on intermediary services for visa processing (53.9% vs. 36.5%, $p<0.001$). No significant location-based differences were found in students' knowledge of where to seek help for document problems or their perceived sufficiency of information on rights and responsibilities.

Overall satisfaction, post-graduation intentions, and student suggestions

International students reported high overall satisfaction with their study experience in Russia, but post-graduation intentions and primary suggestions for improvement differed significantly

by location (Table 5). The vast majority of students in both groups were satisfied with their overall experience (83.1% total), with no significant difference between students in Moscow/St. Petersburg and regional universities.

Table 5. Overall satisfaction, post-graduation intentions, and suggestions for improvement from international students

However, a highly significant disparity emerged in post-graduation plans ($p<0.001$). Students studying in Moscow and St. Petersburg were significantly more likely to express a desire to stay in Russia after completing their studies (59.7%) compared to their peers at regional universities (49.9%).

A comparative analysis based on the medium of instruction revealed significant disparities in overall satisfaction and post-graduation intentions. While a majority of students in both groups reported satisfaction with their overall experience in Russia, the proportion was significantly higher among those studying in the Russian language medium (85.5%; 3018/3533) compared to those in foreign-language medium programs (81.5%; 4075/4999) ($p<0.001$). Correspondingly, dissatisfaction ("No") was more prevalent among foreign-language medium students (14.7% vs. 11.8%). A more pronounced and statistically significant divergence was observed in long-term plans. The intention to remain in Russia after graduation was markedly stronger among students enrolled in Russian-medium programs. Specifically, two-thirds (66.2%; 2337/3533) of Russian-medium students expressed a desire to stay, compared to less than half (41.8%; 2090/4999) of foreign-language medium students ($p<0.001$). Conversely, nearly half (48.7%) of the students enrolled in programs with foreign-language as a medium of instruction, did not intend to stay, a rate nearly double that of their Russian-medium peers

(26.2%). These findings underscore a strong association between linguistic integration through the medium of instruction and both current satisfaction and future commitment to the host country.

To further investigate the factors associated with the intention to remain in Russia and to quantify their independent effects, a multivariate multinomial logistic regression analysis was conducted. This analysis modeled the odds of responding “No” or “Not decided yet” (versus the reference category “Yes”) regarding the desire to stay after graduation, while simultaneously controlling for demographic, academic, linguistic, and psychosocial variables identified in the study (Table 6).

Table 6. Multinomial logistic regression analysis of predictors for the desire to stay in Russia after graduation

The model was statistically significant (Nagelkerke $R^2 = 0.115$, $p<0.001$) and identified the language of instruction as the strongest independent predictor of migration intent. Compared to students in Russian-medium programs, those studying with a foreign language as a medium of instruction had 2.25 times higher adjusted odds of stating they did not wish to stay (aOR = 2.25, 95% CI: 2.00–2.54, $p<0.001$). Furthermore, Russian language proficiency showed a clear dose-response relationship with the desire to remain; students at the basic level (A1/A2) were significantly more likely to reject staying compared to proficient (C1/C2) users (aOR = 2.20, 95% CI: 1.84–2.6, $p<0.001$).

Psychosocial factors also emerged as significant contributors to post-graduation intentions.

Perceived safety and social connection acted as protective factors: students who felt safe had 47% lower odds of intending to leave (aOR = 0.53, 95% CI: 0.32–0.88, p=0.015), while those who did not experience loneliness were 37% less likely to express a desire to leave (aOR = 0.63, 95% CI: 0.45–0.86, p=0.004). Notably, the influence of university location was attenuated in the multivariate model, with regional status showing only borderline significance (aOR = 1.13, 95% CI: 1.00–1.29, p=0.053) when controlling for language and safety.

A striking pattern emerged regarding decisiveness. Across multiple domains—discrimination, loneliness, and safety—the results suggest that experiential clarity is a prerequisite for long-term planning. Students who could provide a definitive assessment of their environment, whether positive or negative, were significantly less likely to be "undecided" compared to those who were "unsure" of their experiences.

For instance, both those who reported no discrimination (aOR = 0.30, 95% CI: 0.19–0.48, p<0.001) and those who definitively reported experiencing discrimination (aOR = 0.26, 95% CI: 0.16–0.42, p<0.001) were far more likely to have made a firm decision about their future than those who were ambivalent about their experiences of discrimination. This suggests that "indecision" regarding migration is closely linked to an unsettled or ambiguous perception of the host country's social and administrative climate.

The regression analysis clearly identifies language barriers as the primary obstacle to long-term retention, while also highlighting the importance of emotional and psychological integration—particularly feelings of safety and belonging. The consistent pattern across psychosocial variables further underscores that experiential clarity, regardless of valence, plays a crucial role in shaping students' certainty about their future in Russia.

In the multinomial regression model, the reference groups for psychosocial variables ("unsure" categories for discrimination [n=141], loneliness [n=256], and safety [n=86]) contain relatively small sample sizes. While the directional trend regarding experiential clarity is statistically significant, the point estimates and odds ratios for these specific sub-groups should be interpreted with caution due to wider confidence intervals.

Notably, when asked for suggestions to improve their experience, students themselves identified language-related improvements as key recommendations. Analysis of these suggestions (Figure 3) revealed that administrative simplification (34.8%) and increased English-speaking faculty (30.8%) were the most frequently cited needs overall, followed by more Russian language courses (18.8%). While no suggestion category showed a statistically significant difference in frequency between the two university groups ($p>0.05$ for all), a notable trend indicated that students in the capital cities placed relatively greater emphasis on administrative issues (43.8% of their suggestions vs. 33.7% regionally), whereas regional students more frequently cited the need for more English-speaking faculty (31.6% vs. 24.8%).

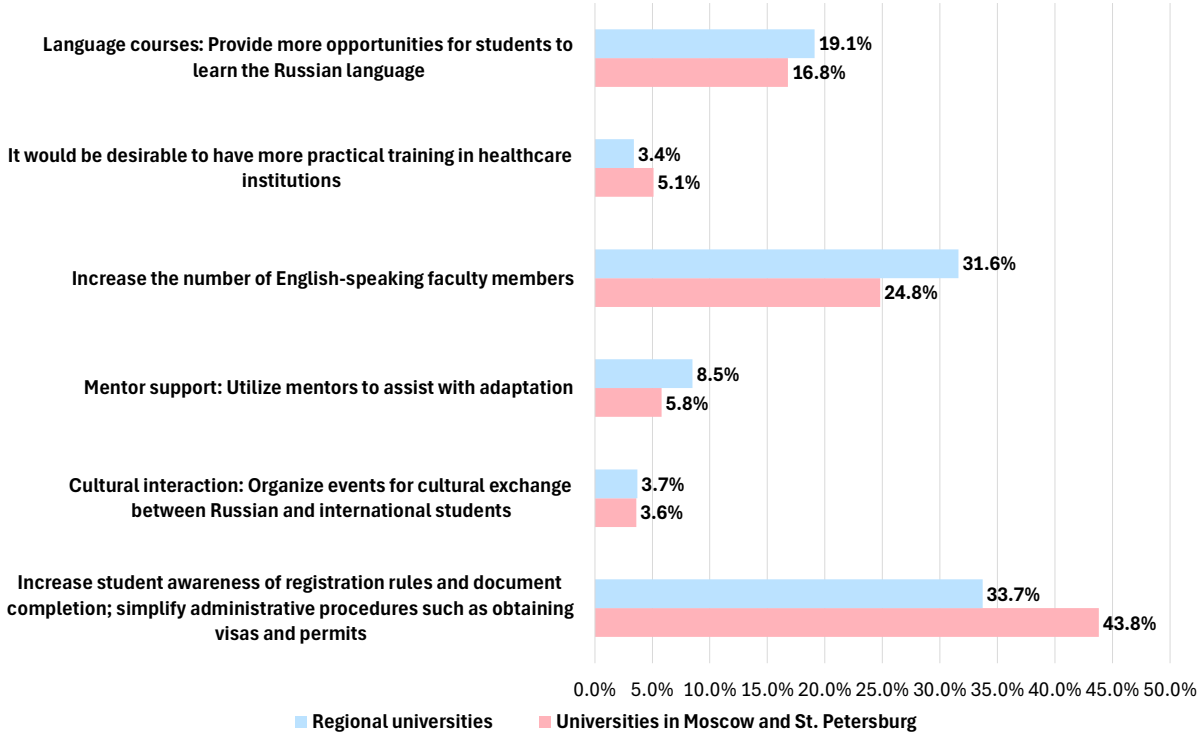


Figure 3. Student suggestions on improving stay and learning experience in Russia. Note: P-value between groups: 0.170.

Discussion:

This study presents a comparative analysis of the experiences, adaptation, and future intentions of international medical students in Russia's capital cities versus regional universities. The results reveal notable differences in academic, socio-cultural, and administrative areas, primarily associated with the language of instruction and proficiency. Students at regional universities report a more supportive academic environment, while those in Moscow and St. Petersburg experience greater linguistic and social integration, which critically influences their long-term commitment to the host country. Our analysis identifies two distinct integration pathways. The "Regional model" features an English-medium curriculum, higher satisfaction with academic support and infrastructure, and smoother practical adaptation, but lower Russian language proficiency. Conversely, the "Capital model" involves a Russian-dominant academic setting, greater challenges with administrative and academic support, yet significantly higher

language skills and stronger social integration. This duality challenges linear models of international student adaptation that assume uniform progression across all domains. Our findings align with the results of Bergovaya & Kudashov (Beregovaya and Kudashov 2019), who note that local and regional programs should be developed to support international students to effectively involve them in a new environment. While our multivariate model explained a modest portion of the total variance (Nagelkerke $R^2 = 0.115$), this is consistent with international migration literature, which recognizes that the decision to remain in a host country is a highly complex, multifactorial choice influenced by unobserved variables such as family ties, economic shifts in the home country, and individual personality traits (Carling and Schewel 2018; Mulder and Gillespie 2024).

The apparent paradox, where higher academic satisfaction in regional universities coexists with weaker long-term retention plans, can be understood through the detailed findings on socio-cultural and administrative adaptation. The higher ratings for instructor respect and classroom comfort in regional universities resonate with literature highlighting the role of institutional warmth and smaller community size in fostering academic belonging, particularly for students in less familiar settings (Kolova and Belkina 2023; Maloshonok 2023). The “Capital model” presents a distinctive iteration of the global city (metropolitan) experience. While Moscow and St. Petersburg are characterized by high international visibility, they do not follow the Anglophone-dominant integration patterns typical of Western global hubs. Instead, these cities function as “non-English-dominant metropolitan centers” where integration is driven by an immersion-by-necessity. The complexity of the urban and administrative environment in these hubs appears to accelerate the development of linguistic and navigational autonomy, as students are compelled to engage with the local social and legal fabric in the host language to function effectively. This environmental pressure may facilitate a more rapid acculturation—

as framed by Berry's theory—compared to the more shielded, English-medium environments often found in regional universities.

The fact that core perceptions of safety and discrimination did not differ between groups is noteworthy. This contrasts with some literature anticipating greater isolation or prejudice in less diverse regions but aligns with national-level studies in Russia suggesting that international students often form self-contained communities, potentially buffering them from local societal attitudes (Merenkov and Antonova 2015).

The main finding of this study is the paramount importance of language. The multivariate analysis identified instruction in a foreign language and lower self-reported Russian proficiency as the strongest independent predictors for not intending to remain in Russia after graduation. This powerfully reinforces a well-established paradigm in migration and education research, which posits host-country language proficiency as the foundational element for socio-cultural integration and long-term settlement intentions (Rostovskaya et al. 2025; Buivydienė et al. 2026). Our study provides robust empirical quantification of this relationship in the Russian context, demonstrating that students in foreign-language medium programs had over twice the adjusted odds of rejecting a future in Russia. Crucially, we extend this understanding by showing that the institutional choice of "medium of instruction" is itself a critical, policy-relevant variable that shapes this pathway, beyond merely measuring individual skill. The students' own suggestions, such as calling for more Russian language courses and more English-speaking faculty, directly acknowledge this linguistic barrier, creating a self-aware cycle where language limitations hinder the sense of belonging necessary for long-term commitment.

A critical and counter-intuitive finding of this study relates to the role of perceived discrimination and psychosocial stressors. Our multinomial model revealed that "decisiveness" about the future is linked to "clarity of experience." Students who definitively reported experiencing discrimination, as well as those who definitively reported none, were significantly less likely to be "undecided" about their future compared to those with ambiguous or unsure perceptions. This suggests that per Tinto's framework, a student's inability to clearly categorize their social fit (ambivalence) creates a state of "integration limbo" that prevents long-term planning (Tinto 1994). Furthermore, the fact that perceived safety and lack of loneliness were strong protective factors against the desire to leave confirms that while language is the primary structural barrier, psychosocial well-being is the primary emotional anchor for retention.

Our findings indicate that the notable bivariate association between university location and post-graduation plans is predominantly attributable to the linguistic environment fostered by the location. When language proficiency and the medium of instruction are considered, the independent effect of location is significantly diminished. This provides an important refinement to studies that regard "location" as a straightforward, significant demographic variable. Our analysis suggests that location primarily serves as a proxy for a specific linguistic and immersion context. The capital environment, characterized by the necessity to use Russian in both academic and daily life, functions as an immersive, albeit occasionally challenging, catalyst for linguistic integration. This immersion appears to outweigh the adverse effects of reported academic and administrative challenges, as it fosters the competence and confidence that underpin long-term residency plans. This finding aids in reconciling contradictory conclusions in previous research where geographic context demonstrated inconsistent effects on student retention.

Strengths and limitations

Our study has several key strengths. It is the first of its kind to offer a comprehensive evaluation of the international medical student experience in Russia. First, its comparative design and holistic framework provide novel insights. We moved beyond a singular perspective by systematically stratifying our large, multinational cohort (n=8,547) based on a critical variable: university location in capital cities versus regional areas. This revealed a fundamental bifurcation in student pathways. Furthermore, by employing a multi-domain assessment framework, we analyzed academic, social, administrative-legal, and socio-cultural integration alongside post-graduation intentions. This rounded approach allowed us to identify complex, paradoxical patterns, such as the disconnect between academic satisfaction and long-term retention plans. Second, the methodological progression from description to multivariable analysis is a notable strength. The analysis advanced from descriptive comparisons to advanced multivariate modeling. Specifically, a multinomial logistic regression isolated the independent association of the language of instruction with the outcome while controlling for other variables. This analysis identified language of instruction, rather than location *per se*, as the strongest predictor of the desire to remain in Russia, providing quantifiable evidence for the central role of linguistic integration in long-term retention. Finally, the study's generalizability is supported by its robust methodology. The large sample size, the participation of students from various regions of Russia, and the use of appropriate statistical packages strengthen the validity and extrapolation of our findings.

We acknowledge that our study has several limitations. First, the cross-sectional design prevents causal inferences; all reported relationships represent statistical associations rather than direct causal effects. Data based on self-reporting are subject to recall and social desirability biases. While key demographic and academic variables were controlled for,

unmeasured confounders such as pre-existing cultural affinity for Russia, individual motivation, or economic factors could influence both adaptation and future intentions. Furthermore, the survey instrument was developed specifically for this study. While this prevents direct psychometric benchmarking against standardized Western tools, it was a necessary methodological choice to capture the specific administrative-legal and linguistic nuances of the Russian medical education system, such as the dual-track medium of instruction and the unique state registration protocols. Additionally, the reliance on single-item categorical indicators precluded the calculation of internal consistency metrics like Cronbach's alpha. Furthermore, in the multivariate model, the small sample sizes of certain "unsure" reference categories (e.g., n = 86) yield wider confidence intervals and require cautious interpretation. Finally, the study's focus on medical students, who follow a particularly structured and lengthy curriculum, may limit the generalizability of findings to international students in other disciplines within Russia.

Future directions

The findings of this study have significant practical and theoretical implications for the internationalization of medical education in non-Anglophone contexts. Our data suggest that a uniform strategy for international student integration is unlikely to succeed across the diverse landscape of the Russian Federation. Instead, a bifurcated approach is necessary.

Institutional-level recommendations: Universities, particularly in regional areas, should prioritize intensive, context-relevant Russian language training and structured social engagement programs to bridge the gap between academic satisfaction and linguistic isolation. Conversely, metropolitan institutions should focus on enhancing administrative transparency and academic support systems to match the high level of linguistic immersion they provide.

Systemic (National)-level recommendations: At the national level, a standardization of

administrative-legal processes is required. Streamlining migration-related protocols (such as digitizing registration, having more single window systems etc.) would reduce the systemic burden on international students and decrease the current reliance on third-party intermediaries, thereby enhancing the overall attractiveness of the Russian higher education sector.

Theoretically, this research endorses a contextual, multi-pathway model of integration. It demonstrated that in large, linguistically diverse host countries, institutional policies regarding the language of instruction can lead to parallel adaptation paths with significantly different long-term results. Future research should use longitudinal designs to monitor how these stated intentions influence actual post-graduation decisions. Furthermore, qualitative investigations into the depth of social networks formed in various urban contexts would provide a more granular understanding of "integration" beyond survey metrics. Lastly, comparative studies with other emerging non-English-speaking host countries (e.g., China, Turkey etc.) could explore whether this observed duality of "supportive academic" versus "immersive linguistic" models is a widespread phenomenon in global higher education.

Conclusions:

This study reveals that international medical students' experiences in Russia follow two distinct paths associated with institution location and medium of instruction. Regional universities often offer more supportive academic settings, while Russian-language immersion at universities in capital cities, despite bureaucratic hurdles, is associated with stronger language skills and social integration, key factors for long-term commitment. Multivariate analysis shows that foreign-language instruction and low Russian proficiency are the strongest predictors of students' intention to leave Russia after graduation, surpassing location, academic satisfaction, or demographic factors. These findings challenge simplistic measures of student

satisfaction, demonstrating that immediate academic comfort is not necessarily associated with long-term retention; instead, successful integration is a three-dimensional process encompassing academic, socio-cultural, and administrative-legal pillars. This has significant implications for Russian higher education policy and other non-English-speaking countries aiming to attract international talent. It shows that strategies focused on enhancing English academic services may aid recruitment but fail to establish lasting connections that encourage students to stay and contribute after graduation. This study emphasizes that effective international student policy must address this gap. It advocates combining regional universities' academic support with intensive Russian language learning and community involvement, while ensuring major cities' linguistically rich environments are paired with responsive administration. By addressing this linguistic-integration paradox, Russia can improve both immediate experience and long-term retention of international students, transforming educational investment into sustained human capital.

References:

Al-Haddad, Mo, Susan Jamieson, and Evi Germeni. 2025. International medical graduates' social connections: A qualitative study. *Medical Education* 59: 338–349. https://doi.org/10.1111/medu.15542.

Beregovaya, Oksana A., and Viacheslav I. Kudashov. 2019. The Problems of Linguistic and Academic Adaptation of International Students in Russia. *Integration of Education* 23: 628–640. https://doi.org/10.15507/1991-9468.097.023.201904.628-640.

Berry, John W. 1997. Immigration, Acculturation, and Adaptation. *Applied Psychology* 46: 5–34. https://doi.org/10.1111/j.1464-0597.1997.tb01087.x.

Berry, J.W., Uichol Kim, Thomas Minde, and Doris Mok. 1987. Comparative Studies of Acculturative Stress. *International Migration Review* 21: 491–511. https://doi.org/10.1177/019791838702100303.

Buivydienė, Vaida, Lina Rutkienė, and Aušra Žemienė. 2026. The Social Inclusion of International Students Through Language and Their Motivation to Learn It: The Case of VILNIUS TECH. *Sustainability* 18: 434. https://doi.org/10.3390/su18010434.

Carling, Jørgen, and Kerilyn Schewel. 2018. Revisiting aspiration and ability in international migration. *Journal of Ethnic and Migration Studies* 44: 945–963. https://doi.org/10.1080/1369183X.2017.1384146.

Gauttam, Priya, Bawa Singh, Sandeep Singh, Shankar Lal Bika, and Raghavendra P. Tiwari. 2024. Education as a soft power resource: A systematic review. *Heliyon* 10: e23736. https://doi.org/10.1016/j.heliyon.2023.e23736.

Government of the Russian Federation. 2025. Report on the implementation of state policy in the field of higher education and corresponding additional professional education for 2024.

Hou, Chunguang, Peilei Fan, Debin Du, Qinchang Gui, and Dezhong Duan. 2022. Does international student mobility foster scientific collaboration? Evidence from a network analysis. *Compare: A Journal of Comparative and International Education* 52: 327–344. https://doi.org/10.1080/03057925.2020.1765316.

Khokhlova, Larissa A., Elena A. Andreeva, Larissa G. Kiseleva, Elena V. Tikhonova, and Anastasiia S. Andreeva. 2022. Russian medical education from international students' view point: challenges and coping strategies. *Russian Journal of Education and Psychology* 13: 82–98. https://doi.org/10.12731/2658-4034-2022-13-5-82-98.

Kolova, Svetlana, and Oksana Belkina. 2023. Sociocultural support of international students as adaptation tool in intercultural environment of russian university (SUSU case study). *Bulletin of the South Ural State University series "Education. Educational sciences"* 15: 67–83. https://doi.org/10.14529/ped230306.

Latif, Yasir, Neil Harrison, Hye-Eun Chu, Ashish Malik, and Mai Nguyen. 2025. Unleashing cultural diversity knowledge for improved knowledge sharing and integration: an in-depth qualitative analysis. *Journal of Knowledge Management* 29: 1–24. https://doi.org/10.1108/JKM-08-2023-0755.

Li, Wen, Robyn M. Gillies, Chang Liu, Changhao Wu, Jiayi Chen, Xiaoning Zhang, Bin Cheng, et al. 2023. Specialty preferences of studying-abroad medical students from low- and middle-income countries. *BMC Medical Education* 23: 158. https://doi.org/10.1186/s12909-023-04123-5.

Maloshonok, N. G. 2023. Do "Top" Universities the Best in Everything? How the Status and the Size of Russian Universities Correlate to Student Engagement. *Vysshee Obrazovanie v Rossii = Higher Education in Russia* 32: 48–64. https://doi.org/10.31992/0869-3617-2023-32-12-48-64.

Marginson, Simon. 2022. Research on international and global higher education: Six different perspectives. *Oxford Review of Education* 48: 421–438. https://doi.org/10.1080/03054985.2022.2087619.

Merenkov, Anatoliy, and Natalia Antonova. 2015. Problems of social adaptation of international students in Russia. *The New Educational Review* 41: 122–132. https://doi.org/10.15804/tner.2015.41.3.10.

Miguez-Pinto, João P., Beatriz Garcia-Rosa, Mateus Maggitti-Bezerril, Clara Ramalho, Stefania L. Garcia, Hugo N. Pustilnik, Daniel Boczar, Katia M. Avena, and Bruno B. Andrade. 2025. The medical student of the future: redefining competencies in a transformative era. *Frontiers in Medicine* 12. https://doi.org/10.3389/fmed.2025.1593685.

Mulder, Clara H., and Brian Joseph Gillespie. 2024. Moving and staying in the context of the family: A review and an introduction to the Special Issue. *Population, Space and Place* 30. https://doi.org/10.1002/psp.2712.

President of the Russian Federation. 2024. Decree on the national development goals of the Russian Federation for the period up to 2030 and for the future until 2036. May 7.

Rostovskaya, T. K., V.I. Skorobogatova, A.V. Larionov, and R.M. Valiakhmetov. 2025. Migration Intention Index of International Students in Russia. *University Management: Practice and Analysis.* 29: 45–55. https://doi.org/10.15826/umpa.2025.01.004.

Tinto, Vincent. 1994. *Leaving College: Rethinking the causes and cures of student attrition*. 2nd ed. University of Chicago Press. https://doi.org/10.7208/chicago/9780226922461.001.0001.

602 Wijnen-Meijer, Marjo. 2023. Implications of internationalisation of medical education. *BMC*
603 *Medical Education* 23: 640. https://doi.org/10.1186/s12909-023-04630-5.
604 Wu, Anette, Radhika Patel, Jason Luong, Sean McWatt, Rahul Goel, Cecilia Brassett, Jane
605 Dutton, et al. 2025. The importance of multiculturalism in medical education: a global
606 comparison of perspectives from medical and health professions students at 21
607 universities. *JRSM Open* 16. https://doi.org/10.1177/20542704251322244.
608 Yudkevich, Maria. 2025. International students in Soviet and Russian universities: a
609 critical analysis of changing rationales 1950s – 2025. *Comparative Education*: 1–18.
610 https://doi.org/10.1080/03050068.2025.2515682.
611

Table 1. Demographic characteristics of the cohort based on study location

Variable	**Response**	**Total** (n=8547)	**Universities in Moscow and St. Petersburg (n=1692)**	**Regional universities (n=6855)**	**P-Value**
		n (%)	n **(%)**	n **(%)**	
Sex	Female	3819 (44.7)	785 (46.4)	3034 (44.3)	0.114
	Male	4728 (55.3)	907 (53.6)	3821 (55.7)	
Branch (specialty) of study	General Medicine	6485 (75.9)	1057 (62.5)	5428 (79.2)	**<0.001**
	Pediatrics	331 (3.9)	140 (8.3)	191 (2.8)	
	Dentistry	1256 (14.7)	280 (16.5)	976 (14.2)	
	Pharmacy	440 (5.1)	203 (12.0)	237 (3.5)	
	Other	35 (0.4)	12 (0.7)	23 (0.3)	
Year of study	Junior years / Early stages	6210 (72.7)	1019 (60.2)	5191 (75.7)	**<0.001**
	Senior years / Later stages	2337 (27.3)	673 (39.8)	1664 (24.3)	
Medium of instruction	English	4551 (53.4)	366 (21,7)	4185 (61.2)	**<0.001**
	Russian	3529 (41.4)	1133 (67.2)	2396 (35.0)	
	Other (French, Chinese, Arabic)	448 (5.2)	187 (11.2)	261 (3.8)	

Proficiency level in Russian	Level A1/A2 (Basic user)	4183 (48.9)	425 (25.1)	3758 (54.8)	**<0.001**
	Level B1/B2 (Independent user)	2991 (35.0)	770 (45.5)	2221 (32.4)	
	Level C1/C2 (Proficient user)	1373 (16.1)	497 (29.4)	876 (12.8)	

Note: n – number of participants; % – proportion of subjects presented as percent; *P*-value – difference in proportions of studied variable between universities in Moscow and St. Petersburg and regional universities based on Chi–square test. *P*-values < 0.05 are in bold.

Table 2. International students' perceptions of the academic and learning environment based on study location

Variable	**Response**	**Total (n=8547)**	**Universities in Moscow and St. Petersburg (n=1692)**	**Regional universities (n=6855)**	**P-Value**
		n (%)	n **(%)**	n **(%)**	
Do you feel that instructors treat international students with respect?	Yes	7045 (82.4)	1286 (76.0)	5759 (84.0)	**<0.001**
	Depends on instructor	568 (6.6)	160 (9.5)	408 (6.0)	
	No	934 (10.9)	246 (14.5)	688 (10.0)	
	Yes	7519 (88.0)	1460 (86.3)	6059 (88.4)	**0.017**

Do you understand the grading system and assessment criteria?	Not always	86 (1.0)	25 (1.5)	61 (0.9)	
	No	942 (11.0)	207 (12.2)	735 (10.7)	
Are you comfortable participating in discussions and asking questions during classes?	Yes	7743 90.6	1490 (88.1)	6253 (91.2)	**<0.001**
	Not always	91 (1.1)	18 (1.1)	73 (1.1)	
	No	713 (8.3)	184 (10.9)	529 (7.7)	
Do you feel you are given sufficient time to complete assignments?	Yes	7079 (82.8)	1364 (80.6)	5715 (83.4)	**0.012**
	Not always	103 (1.2)	28 (1.7)	75 (1.1)	
	No	1365 (16.0)	300 (17.7)	1065 (15.5)	
Is the required academic literature available to you?	Yes	7339 (85.9)	1419 (83.9)	5920 (86.4)	**0.019**
	Not always	115 (1.3)	22 (1.3)	93 (1.4)	
	No	1093 (12.8)	251 (14.8)	842 (12.3)	
Are electronic library resources accessible to you?	Yes	7051 (82.5)	1380 (81.6)	5671 (82.7)	0.442
	Not always	87 (1.0)	16 (0.9)	71 (1.0)	
	No	1409 (16.5)	296 (17.5)	1113 (16.2)	
Are you satisfied with the material and technical equipment of the classrooms?	Yes	7286 (85.2)	1372 (81.1)	5914 (86.3)	**<0.001**
	Not always	111 (1.3)	25 (1.5)	86 (1.3)	
	No	1150 (13.5)	295 (17.4)	855 (12.5)	
	Yes	7739 (90.5)	1438 (85.0)	6301 (91.9)	**<0.001**

Are you satisfied with the sanitary and hygienic conditions of the classrooms?	Not always	108 (1.3)	31 (1.8)	77 (1.1)	
	No	700 (8.2)	223 (13.2)	477 (7.0)	
Do you experience language difficulties in mastering the curriculum and attending lectures?	Yes	3259 (38.1)	597 (35.3)	2662 (38.8)	**0.027**
	Not always	233 (2.7)	48 (2.8)	185 (2.7)	
	No	5055 (59.1)	1047 (61.9)	4008 (58.5)	
Do you receive timely and quality feedback from instructors?	Yes	7289 (85.3)	1382 (81.7)	5907 (86.2)	**<0.001**
	Not always	201 (2.4)	56 (3.3)	145 (2.1)	
	No	1057 (12.4)	254 (15.0)	803 (11.7)	
Do you believe the curriculum meets your needs and expectations?	Yes	6678 (78.1)	1300 (76.9)	5378 (78.5)	0.348
	Not always	220 (2.6)	47 (2.8)	173 (2.5)	
	No	1649 (19.3)	345 (20.4)	1304 (19.0)	
Are you satisfied with the organization of make-up sessions for missed practical classes and unsatisfactory grades?	Yes	6537 (76.5)	1259 (74.4)	5278 (77.0)	0.065
	Not always	139 (1.6)	27 (1.6)	112 (1.6)	
	No	1871 (21.9)	406 (24.0)	1465 (21.4)	

Are you satisfied with the quality of education at the university?	Yes	7111 (83.2)	1419 (83.9)	5692 (83.0)	0.703
	Not always	226 (2.6)	44 (2.6)	182 (2.7)	
	No	1210 (14.2)	229 (13.5)	981 (14.3)	
Please rate your satisfaction with the assistance provided by curators/dean's office in resolving academic issues at the university	Excellent	2728 (31.9)	531 (31.4)	2197 (32.0)	**<0.001**
	Good	3461 (40.5)	639 (37.8)	2822 (41.2)	
	Satisfactory	1713 (20.0)	348 (20.6)	1365 (19.9)	
	Unsatisfactory	645 (7.5)	174 (10.3)	471 (6.9)	

Note: n – number of participants; % – proportion of subjects presented as percent; *P*-value - difference in proportions of studied variable between universities in Moscow and St. Petersburg and regional universities based on Chi–square test. *P*-values < 0.05 are in bold.

Table 3. Survey responses covering socio-cultural adaptation, living conditions, integration, community comfort, and support services

Variable	**Response**	**Total (n=8547)**	**Universities in Moscow and St. Petersburg (n=1692)**	**Regional universities (n=6855)**	**P-Value**
		n (%)	**n (%)**	**n (%)**	
Do you feel safe in the city where you study?	Yes	8038 (94.0)	1583 (93.6)	6455 (94.2)	0.635
	Not always	86 (1.0)	18 (1.1)	68 (1.0)	

	No	423 (4.9)	91 (5.4)	332 (4.8)	
Is it easy for you to navigate the city and use public transportation?	Yes	7968 (93.2)	1596 (94.3)	6372 (93.0)	0.101
	Not always	68 (0.8)	9 (0.5)	59 (0.9)	
	No	511 (6.0)	87 (5.1)	424 (6.2)	
How do you evaluate the living conditions in the dormitory?	Excellent	1172 (13.7)	233 (13.8)	939 (13.7)	0.508
	Good	2964 (34.7)	566 (33.5)	2398 (35.0)	
	Satisfactory	2411 (28.2)	476 (28.1)	1935 (28.2)	
	Unsatisfactory	2000 (23.4)	417 (24.6)	1583 (23.1)	
Please rate the accessibility and quality of student meals provided on campus	Excellent	1223 (14.3)	258 (15.2)	965 (14.1)	0.233
	Good	3426 (40.1)	688 (40.7)	2738 (39.9)	
	Satisfactory	2393 (28.0)	442 (26.1)	1951 (28.5)	
	Unsatisfactory	1505 (17.6)	304 (18.0)	1201 (17.5)	
Are you able to resolve household issues in a timely manner?	Yes	6541 (76.5)	1221 (72.2)	5320 (77.6)	**<0.001**
	Not always	154 (1.8)	36 (2.1)	118 (1.7)	
	No	1852 (21.7)	435 (25.7)	1417 (20.7)	

Do you feel comfortable in the local community?	Yes	7228 (84.6)	1434 (84.8)	5794 (84.5)	0.437
	Sometimes	269 (3.1)	60 (3.5)	209 (3.0)	
	No	1050 (12.3)	198 (11.7)	852 (12.4)	
Do you consider that you have friends among Russian students?	Yes	4491 (52.5)	1074 (63.5)	3417 (49.8)	**<0.001**
	Not yet	129 (1.5)	22 (1.3)	107 (1.6)	
	No	3927 (45.9)	596 (35.2)	3331 (48.6)	
With whom would you prefer to live in the dormitory?	Does not matter	3105 (36.3)	723 (42.7)	2382 (34.7)	**<0.001**
	With representatives of other cultures	625 (7.3)	81 (4.8)	544 (7.9)	
	With Russian students	2012 (23.5)	416 (24.6)	1596 (23.3)	
	With compatriots	2496 (29.2)	409 (24.2)	2087 (30.4)	
	With compatriots, but taking into account the caste system	309 (3.6)	63 (3.7)	246 (3.6)	

	existing in some countries				
Do you feel lonely in Russia?	Yes	3178 (37.2)	608 (35.9)	2570 (37.5)	**0.021**
	Sometimes	256 (3.0)	36 (2.1)	220 (3.2)	
	No	5113 (59.8)	1048 (61.9)	4065 (59.3)	
Have you ever experienced discrimination or biased treatment?	Yes	3648 (42.7)	734 (43.4)	2914 (42.5)	0.765
	Sometimes	141 (1.6)	26 (1.5)	115 (1.7)	
	No	4758 (55.7)	932 (55.1)	3826 (55.8)	
Are you able to maintain contact with family and friends in your home country?	Yes	8122 (95.0)	1597 (94.4)	6525 (95.2)	0.307
	Not always	58 (0.7)	15 (0.9)	43 (0.6)	
	No	367 (4.3)	80 (4.7)	287 (4.2)	
Are you able to cope with stress and emotional difficulties?	Yes	6657 (77.9)	1321 (78.1)	5336 (77.8)	0.613
	No	1716 (20.1)	332 (19.6)	1384 (20.2)	
	Probably no	174 (2.0)	39 (2.3)	135 (2.0)	
Do you know where to seek medical	Yes	6454 (75.5)	1281 (75.7)	5173 (75.5)	0.687
	Not always	53 (0.6)	8 (0.5)	45 (0.7)	

assistance if needed?	No	2040 (23.9)	403 (23.8)	1637 (23.9)	
Do you know where to seek psychological support?	Yes	4385 (51.3)	929 (54.9)	3456 (50.4)	**<0.001**
	No	4092 (47.9)	742 (43.9)	3350 (48.9)	
	Do not require this assistance	70 (0.8)	21 (1.2)	49 (0.7)	
How do you assess the quality of medical care/medical support under voluntary health insurance programs?	Excellent	1901 (22.2)	413 (24.4)	1488 (21.7)	**<0.001**
	Good	4046 (47.3)	757 (44.7)	3289 (48.0)	
	Satisfactory	1885 (22.1)	341 (20.2)	1544 (22.5)	
	Unsatisfactory	715 (8.4)	181 (10.7)	534 (7.8)	
Are you able to participate in cultural and social events organized by the university?	Yes	5593 (65.4)	1015 (60.0)	4578 (66.8)	**<0.001**
	Sometimes	179 (2.1)	40 (2.4)	139 (2.0)	
	No	2775 (32.5)	637 (37.6)	2138 (31.2)	
Which public organizations do you participate in?	In the activities of national communities	409 (4.8)	83 (4.9)	326 (4.8)	0.284

	In the youth scientific community	278 (3.3)	62 (3.7)	216 (3.2)	
	In the student council	532 (6.2)	114 (6.7)	418 (6.1)	
	In the sports club	1008 (11.8)	202 (11.9)	806 (11.8)	
	In student brigades	180 (2.1)	33 (2.0)	147 (2.1)	
	In the student union	1301 (15.2)	226 (13.4)	1075 (15.7)	
	Do not participate	4839 (56.6)	972 (57.4)	3867 (56.4)	

Note: n – number of participants; % – proportion of subjects presented as percent; *P*-value - difference in proportions of studied variable between universities in Moscow and St. Petersburg and regional universities based on Chi–square test. *P*-values < 0.05 are in bold.

Table 4. International students' responses on financial adaptation, administrative processes, and Russian migration law awareness

Variable	**Response**	**Total (n=8547)**	**Universities in Moscow and St. Petersburg (n=1692)**	**Regional universities (n=6855)**	**P-Value**
		n (%)	**n (%)**	**n (%)**	

Do you experience difficulties when paying for goods and services in Russia?	Yes	2730 (31.9)	536 (31.7)	2194 (32.0)	0.812
	Sometimes	99 (1.2)	22 (1.3)	77 (1.1)	
	No	5718 (66.9)	1134 (67.0)	4584 (66.9)	
Do you understand all the requirements of the Russian Federation's migration legislation?	Yes	6818 (79.8)	1373 (81.1)	5445 (79.4)	0.250
	Not completely	75 (0.9)	12 (0.7)	63 (0.9)	
	No	1654 (19.4)	307 (18.1)	1347 (19.6)	
Do you consider the procedures for registration and document renewal clear and accessible?	Yes	7051 (82.5)	1406 (83.1)	5645 (82.3)	0.375
	Not completely	97 (1.1)	14 (0.8)	83 (1.2)	
	No	1399 (16.4)	272 (16.1)	1127 (16.4)	
Do you know where to seek help if you encounter problems with your documents?	Yes	6749 (79.0)	1344 (79.4)	5405 (78.8)	0.053
	Not completely	49 (0.6)	16 (0.9)	33 (0.5)	
	No	1749 (20.5)	332 (19.6)	1417 (20.7)	
Do you know the deadlines for	Yes	7092 (83.0)	1487 (87.9)	5605 (81.8)	**<0.001**

registration at your place of residence?	Not completely	25 (0.3)	4 (0.2)	21 (0.3)	
	No	1430 (16.7)	201 (11.9)	1229 (17.9)	
Do you know what to do in case of loss or theft of migration documents?	Yes	5039 (59.0)	1061 (62.7)	3978 (58.0)	
	Not completely	38 (0.4)	10 (0.6)	28 (0.4)	**<0.001**
	No	3470 (40.6)	621 (36.7)	2849 (41.6)	
Do you have sufficient information about your rights and responsibilities?	Yes	5834 (68.3)	1170 (69.1)	4664 (68.0)	
	Not completely	64 (0.7)	16 (0.9)	48 (0.7)	0.343
	No	2649 (31.0)	506 (29.9)	2143 (31.3)	
Do you know which documents are required for staying in the Russian Federation as a student?	Yes	7521 (88.0)	1518 (89.7)	6003 (87.6)	
	Not completely	42 (0.5)	8 (0.5)	34 (0.5)	**0.049**
	No	984 (11.5)	166 (9.8)	818 (11.9)	
Do you understand the possible	Yes	6803 (79.6)	1399 (82.7)	5404 (78.8)	**0.001**

consequences of violating migration legislation?	Not completely	44 (0.5)	10 (0.6)	34 (0.5)	
	No	1700 (19.9)	283 (16.7)	1417 (20.7)	
Have you used intermediary services for visa processing?	Yes	4315 (50.5)	617 (36.5)	3698 (53.9)	**<0.001**
	No	4058 (47.5)	1042 (61.6)	3016 (44.0)	
	I do not require a visa	174 (2.0)	33 (2.0)	141 (2.1)	

Note: n – number of participants; % – proportion of subjects presented as percent; *P*-value - difference in proportions of studied variable between universities in Moscow and St. Petersburg and regional universities based on Chi–square test. *P*-values < 0.05 are in bold.

Table 5. Overall satisfaction, post-graduation intentions, and suggestions for improvement from international students

Variable	**Response**	**Total (n=8547)**	**Universities in Moscow and St. Petersburg (n=1692)**	**Regional universities (n=6855)**	**P-Value**
		n (%)	**n (%)**	**n (%)**	
Are you satisfied with your overall	Yes	7105 (83.1)	1422 (84.0)	5683 (82.9)	0.529
	No	1160 (13.6)	218 (12.9)	942 (13.7)	

experience of studying in Russia?	Difficult to answer	282 (3.3)	52 (3.1)	230 (3.4)	
Have you developed a desire to stay in Russia after completing your studies?	Yes	4434 (51.9)	1010 (59.7)	3424 (49.9)	**<0.001**
	No	3371 (39.4)	523 (30.9)	2848 (41.5)	
	Not decided yet	742 (8.7)	159 (9.4)	583 (8.5)	

Note: n – number of participants; % – proportion of subjects presented as percent; *P*-value - difference in proportions of studied variable between universities in Moscow and St. Petersburg and regional universities based on Chi–square test. *P*-values < 0.05 are in bold.

Table 6. Multinomial logistic regression analysis of predictors for the desire to stay in Russia after graduation

Predictor	**Category**	**No vs Yes[1] aOR (95% CI)**	**P-value**	**Undecided vs Yes[1] aOR (95% CI)**	**P-Value**
Region	Capital (Moscow/St. Petersburg)[2]	1.00 (Reference)	-	1.00 (Reference)	-
	Other Russian universities	1.13 (1.00-1.29)	0.053	0.80 (0.65-0.98)	**0.031**

Predictor	Category	No vs Yes[1] aOR (95% CI)	P-value	Undecided vs Yes[1] aOR (95% CI)	P-Value
Language of instruction	Russian language[2]	1.00 (Reference)	-	1.00 (Reference)	-
	Foreign languages	2.25 (2.00-2.54)	**<0.001**	1.67 (1.35-2.06)	**<0.001**
Course year	Senior courses[2]	1.00 (Reference)	-	1.00 (Reference)	-
	Junior courses	0.67 (0.60-0.75)	**<0.001**	1.02 (0.83-1.25)	0.844
Russian proficiency	Proficient user (C1/C2)[2]	1.00 (Reference)	-	1.00 (Reference)	-
	Independent user (B1/B2)	1.55 (1.32-1.83)	**<0.001**	1.17 (0.90-1.53)	0.239
	Basic user (A1/A2)	2.20 (1.84-2.64)	**<0.001**	1.53 (1.14-2.07)	**0.005**
Experienced discrimination	Unsure[2] (n=141)[3]	1.00 (Reference)	—	1.00 (Reference)	—

Predictor	Category	No vs Yes[1] aOR (95% CI)	P-value	Undecided vs Yes[1] aOR (95% CI)	P-Value
	No	0.85 (0.56-1.30)	0.459	0.30 (0.19-0.48)	**<0.001**
	Yes	0.88 (0.58-1.34)	0.551	0.26 (0.16-0.42)	**<0.001**
Feels lonely in Russia	Unsure[2] (n=256)[3]	1.00 (Reference)	—	1.00 (Reference)	—
	No	0.63 (0.45-0.86)	**0.004**	0.16 (0.12-0.23)	**<0.001**
	Yes	0.73 (0.53-1.01)	0.056	0.16 (0.11-0.23)	**<0.001**
Feels safe in Russia	Unsure[2] (n=86)[3]	1.00 (Reference)	—	1.00 (Reference)	—
	No	0.75 (0.44-1.30)	0.307	0.30 (0.14-0.61)	**0.001**
	Yes	0.53 (0.32-0.88)	0.015	0.28 (0.15-0.51)	**<0.001**

Note: The model was significant (Nagelkerke R^2=0.115, $\chi^2(24) = 865.91$, $p<0.001$). [1]Reference category for outcome: "Yes" (desire to stay after graduation). [2]Reference category for predictor. [3]Small sample size; interpret with caution. Abbreviations: aOR, adjusted odds ratio; CI, confidence interval.

Declarations

Competing interests

The authors declare no competing interests.

Ethical approval

All research was performed in accordance with the principles of the Declaration of Helsinki. The requirement for formal ethical approval for this survey was waived by the Local Ethics Committee of the Kazan State Medical University, an approval body in the local area where the research was conducted. The exemption (protocol #1) was provided prior to the research commencing on January 14, 2025. The reason for this exemption is that the study was an anonymous, non-interventional educational survey. This waiver is in accordance with both: 1) Russian Federation legislations (specifically, Federal Law No. 323-FZ dated November 21, 2011, and Federal Law No. 152-FZ dated July 27, 2006), and 2) the institutional policy of the Local Ethics Committee of Kazan State Medical University.

Informed consent

Written electronic informed consent was obtained from all individual participants (international medical students) by the research team between 15/01/2025 and 28/02/2025 prior to their participation. Consent was obtained by virtue of the participants voluntarily completing the anonymous online questionnaire. As this was a non-interventional survey, participants were fully informed prior to beginning the questionnaire about why the research was being conducted, that there were no physical risks associated with participation, and how their data would be utilized for publication and other presentation purposes. All participants were assured

of the full anonymity of their data and retained the right to withdraw from the study at any point.

Data availability

The datasets generated and/or analyzed during the current study are not publicly available due to the ongoing formal registration of the database as intellectual property with state authorities in the Russian Federation. However, the datasets are available from the corresponding author on reasonable request. To support transparency and reproducibility, the English version of the full survey questionnaire is included in this published article as supplementary material (Supplementary File S1).

Funding

This study received no funding.

Author contributions

SP, ESK, and LMM contributed to the research design and implementation, analysis of the results, and writing of the manuscript. SP, IRI, ESK, and LMM collected, cleaned, and prepared the data. SP, IRI, ESK, and LMM analyzed the data. LMM conceived the original manuscript and supervised the project. SP wrote the first draft of the manuscript, IRI, ESK, and LMM, reviewed and edited the manuscript. All authors approved the final version of the manuscript.

Acknowledgements

Not applicable.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- SupplementaryFileS1.docx