

# Motivations for Choosing a Medical Specialty: Insights from Pará Students

## Motivações na Escolha da Especialidade Médica: A Experiência de Estudantes Paraenses

### Motivaciones en la Elección de Especialidad Médica: Perspectivas de Estudiantes Paraenses

João Lucas Lalor Tavares<sup>1</sup>, Leonardo Bastos Santos<sup>2</sup>, Ruan Pablo da Silva Gomes<sup>3</sup>, Flávio Lobo Altieri<sup>4</sup>, Marcus Paulo Oliveira Lopes<sup>5</sup>, Ana Cristina Vidigal Soeiro<sup>6</sup>

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# REVISA

1. Universidade do Estado do Pará. Belém, Pará, Brasil. <https://orcid.org/0009-0003-9167-1917>

2. Universidade do Estado do Pará. Belém, Pará, Brasil. <https://orcid.org/0009-0003-3861-9167>

3. Universidade do Estado do Pará. Belém, Pará, Brasil. <https://orcid.org/0009-0003-3977-7757>

4. Universidade do Estado do Pará. Belém, Pará, Brasil. <https://orcid.org/0009-0006-3497-4008>

5. Universidade do Estado do Pará. Belém, Pará, Brasil. <https://orcid.org/0009-0009-4905-6316>

6. Universidade do Estado do Pará. Belém, Pará, Brasil. <https://orcid.org/0000-0002-1669-3839>

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#### RESUMO

**Objetivo:** No Brasil, 66% dos médicos possuem título de especialista, concentrados majoritariamente em 13 especialidades. Entender os fatores que influenciam essa escolha é fundamental para reduzir desigualdades na distribuição de especialistas pelo país. **Objetivo:** Identificar os fatores motivacionais, intrínsecos e extrínsecos, que influenciam a escolha da especialidade médica. **Método:** Estudo observacional, transversal e quantitativo, com estudantes de medicina de uma universidade da Região Norte. Os dados foram coletados por questionário online. **Resultados:** A amostra incluiu 243 estudantes, em sua maioria homens, solteiros, com média de 22 anos. As especialidades mais escolhidas foram Cirurgia Geral, Cardiologia e Neurocirurgia, com 68,7% preferindo áreas clínicas. Os principais fatores de influência foram satisfação pessoal, afinidade com a área e autonomia profissional. **Conclusão:** A escolha da especialidade foi guiada por fatores pessoais e profissionais, com destaque para satisfação, afinidade, retorno financeiro e qualidade de vida. Homens priorizaram aspectos financeiros, enquanto mulheres valorizaram o equilíbrio entre vida pessoal e profissional.

**Descritores:** Comportamento de Escolha; Escolha Profissional; Especialidade Médica.

#### ABSTRACT

**Objective:** In Brazil, 66% of physicians hold a medical specialty title, with the majority concentrated in only 13 specialties. Understanding the factors that influence this choice is essential to reduce inequalities in the distribution of specialists across the country. **Objective:** To identify intrinsic and extrinsic motivational factors that influence the choice of medical specialty. **Method:** Observational, cross-sectional, and quantitative study conducted with medical students from a university in the Northern Region of Brazil. Data were collected through an online questionnaire. **Results:** The sample included 243 medical students, mostly male, single, with a mean age of 22 years. The most frequently chosen specialties were General Surgery, Cardiology, and Neurosurgery, with 68.7% expressing a preference for clinical fields. The main influencing factors were personal satisfaction, affinity with the area, and professional autonomy. **Conclusion:** Specialty choice was guided by personal and professional factors, notably satisfaction, affinity, financial return, and quality of life. Men prioritized financial aspects, while women valued work-life balance.

**Descriptors:** Choice Behavior; Career Choice; Medical Specialty.

#### RESUMEN

**Objetivo:** En Brasil, el 66% de los médicos posee un título de especialista, concentrado en su mayoría en solo 13 especialidades. Comprender los factores que influyen en esta elección es fundamental para reducir las desigualdades en la distribución de especialistas en el país. **Objetivo:** Identificar los factores motivacionales, tanto intrínsecos como extrínsecos, que influyen en la elección de la especialidad médica. **Método:** Estudio observacional, transversal y cuantitativo, realizado con estudiantes de medicina de una universidad de la región Norte de Brasil. Los datos se recolectaron mediante un cuestionario en línea. **Resultados:** La muestra incluyó 243 estudiantes de medicina, en su mayoría hombres, solteros y con una edad media de 22 años. Las especialidades más elegidas fueron Cirugía General, Cardiología y Neurocirugía, con un 68,7% de los estudiantes mostrando preferencia por áreas clínicas. Los principales factores de influencia fueron la satisfacción personal, la afinidad con el área y la autonomía profesional. **Conclusión:** La elección de la especialidad estuvo guiada por factores personales y profesionales, destacándose la satisfacción, afinidad, retorno financiero y calidad de vida. Los hombres priorizaron aspectos económicos, mientras que las mujeres valoraron el equilibrio entre la vida personal y profesional.

**Descritores:** Comportamiento de elección; Elección profesional; Especialidad médica

ORIGINAL

## Introduction

Approximately 2/3 of all Brazilian doctors hold at least one specialist title in the 55 specialties recognized by the agreement signed between the Federal Council of Medicine (CFM), the Brazilian Medical Association (AMB), and the National Commission of Medical Residency (CNRM). Among all the specialties, 13 account for approximately 70% of the existing registrations, which creates a disparity in the supply and occupation of positions.<sup>1,2</sup>

The choice of medical specialty is influenced by several factors<sup>3</sup>, which can be divided into two major classes: intrinsic motivational factors and extrinsic motivational factors, both of which determine different profiles and areas of professional activity<sup>4, 5</sup>. Motivation is defined as a state of individualized and unobservable effort, in which behavior is directed towards achieving objectives<sup>6</sup>. Although it has a subjective character, motivation aims at satisfying various needs and is expressed through actions, including career choice<sup>7</sup>.

Choosing a medical specialty represents a crucial moment in the life of a medical student and an expected stage in the process of consolidating their professional trajectory<sup>8</sup>. However, identifying the motivational factors that influence this phase of professional life is still a complex and little discussed issue, which makes discussion on the topic difficult<sup>5</sup>.

Considering the importance of this topic to the field of medical education, it is believed that understanding the motivational factors that influence students in this choice can be very useful for planning measures to address the unequal distribution of professionals in certain specialties in Brazil, especially with regard to medical demands in the healthcare system<sup>9</sup>.

## Objectives

The present study aimed to identify the motivational factors, both intrinsic and extrinsic, that influence the choice of medical specialty among medical students at a public university in the Northern Region of Brazil.

## Method

This study was carried out in compliance with Resolution No. 466/12 of the Brazilian National Health Council, which governs research involving human participants in Brazil, and received ethics committee approval under CAAE n<sup>o</sup>. 77052724.2.0000.5174, approval n<sup>o</sup>. 6.670.607.

This is an observational, descriptive, and cross-sectional study, targeting medical students at the University of the State of Pará, located in the metropolitan region of Belém/PA. Data collection was carried out between March and June 2024, including students of both sexes, over 18 years of age, regularly enrolled, and who agreed to participate freely and voluntarily by signing the Informed Consent Form (ICF).

Initially, an invitation to participate was made, through a general description of the methodology and objectives of the study. The invitation was

sent to the institutional email addresses of the students, which were provided by the Medical Course Coordination. At that time, a link was provided to access the informed consent form and the research protocol, which included a questionnaire developed by the researchers to address the research objectives.

The questionnaire was adapted based on two other instruments used in two previous studies, namely: "Determinant factors for choosing a medical specialty in Brazil," produced by Martins et al<sup>10</sup>, and "*Medical Specialty Choice and Related Factors of Brazilian Medical Students and Recent Doctors*", authored by Correia Lima de Souza et al<sup>11</sup>. The questions contained in these instruments were previously analyzed and adapted for the present study, and each can be answered with a score from 0 (zero) to 4 (four) points. In addition, the categories of interest were subdivided into three sections: sociodemographic data, experiences in academic life, and choice of medical specialty.

Through calculations of percentages and absolute values, the data were processed and studied statistically. Microsoft Office Excel 2016 and Microsoft Word 2016 software were used for both data storage and analysis. The analysis of the variables was performed using the chi-square test through Bioestat 5.0 software with a 95% confidence interval.

## Results

A total of 243 students participated in the research, 147 (60.5%) of whom were students in the 1st cycle (basic), 74 (30.4%) in the 2nd cycle (clinical) and 22 (9.1%) in the 3rd cycle (internship). In the sample, 151 (62.1%) declared themselves to be male, and 92 (37.9%) declared themselves to be female. The age distribution was 122 (50.2%) students between 18-20 years old, 81 (33.3%) between 21-24 years old and 40 (16.5%) between 25-61 years old, with the average age being 22. Furthermore, the majority of participants reported being single (96.7%) and not having parents who were doctors (93.4%).

Regarding origin, 173 (71.1%), 51 (21.0%), and 19 (7.8%) were from Belém, the interior of Pará, and other locations, respectively. The "other locations" category includes all those outside the territorial limits of the State of Pará. Regarding monthly family income, 69 (21.4%) reported earning more than 10 minimum wages; 57 (23.2%), between 7 and 9 minimum wages; 72 (29.3%), between 4 and 6 minimum wages; 41 (16.7%), between 1 and 3 minimum wages; and 6 (2.4%) below 1 minimum wage. The majority of participants reported having attended the private education system (53.9%) (Table I).

**Table I** - Sample characteristics (n = 243)

<b>Sex</b>	
Female	92 (37,9%)
Male	151 (62,1%)
<b>Cycle</b>	
1° Cycle	147 (60,5%)
2° Cycle	74 (30,4%)
3° Cycle	22 (9,1%)
<b>Marital status</b>	
Single	235 (96,7%)

Married	8 (3,3%)
<b>Household income</b>	
Below 1 minimum wage	6 (2,5%)
1 to 3 minimum wages	42 (17,3%)
4 to 6 minimum wages	70 (28,8%)
7 to 9 minimum wages	56 (23,0%)
More than 10 minimum wages	69 (28,4%)
<b>Medical relatives</b>	
Yes, father only	9 (3,7%)
Yes, mother only	1 (0,4%)
Both	6 (2,5%)
No	227 (93,4%)
<b>Other relatives</b>	
Yes	88 (36,2%)
No	155 (63,8%)
<b>Age Range</b>	
18-20	122 (50,2%)
21-24	81 (33,3%)
25-61	40 (16,5%)
<b>Origin</b>	
Capital (Belém)	173 (71,1%)
Interior of Pará	51 (21,0%)
Other locations	19 (7,8%)
<b>Educational system of origin</b>	
Public	112 (46,1%)
Private	131 (53,9%)

**Source:** Adapted by the authors, 2025.

Regarding the participants' preferred specialties, the most chosen was General Surgery (11.5%), reported by 28 students, followed by Cardiology (9.8%), Neurosurgery (8.2%), Gynecology and Obstetrics (7.4%), Neurology (6.9%), Orthopedics (5.7%), Psychiatry (4.9%), Pediatrics (3.8%), Plastic Surgery (3.8%), Cardiovascular Surgery (3.8%), Anesthesiology (3.2%), Dermatology (3.2%), Endocrinology (3.2%), Family and Community Medicine (2.4%), Ophthalmology (2.4%), Oncology (2.4%), Internal Medicine (2%) and others (15.4%) respectively.

Although two surgical specialties were among the top 3 choices, clinical specialties were cited by 167 (68.7%) students and surgical specialties by 76 (31.3%) students. Clinical specialties were the most chosen, with 91 (60.3%) and 65 (69%) choices among male and female students, respectively.

The evaluation of motivational factors revealed that the main determinants for choosing a medical specialty among students were predominantly intrinsic in nature. Among the factors with an average score higher than 3.0, the following stood out: feeling of personal/professional satisfaction (3.8), affinity with the specialty (3.7), potential for autonomy (3.4), preference for the type of work environment (3.3), and preference related to the type of doctor-patient relationship (3.3).

Among the extrinsic factors, those with an average above 3.0 also demonstrated relevance, although with less weight compared to the intrinsic factors. Financial return from working in the specialty (3.2), the possibility of

balancing personal and family life (3.2), and impact on quality of life (3.1) were among the most valued.

Stratified analysis by sex revealed statistically significant differences in four factors. Men attributed greater importance to financial return (average of 3.3 versus 3.1 in women;  $p = 0.014$ ). Conversely, women showed greater concern about the time required to complete their medical residency (average of 2.3 versus 1.9 in men;  $p = 0.002$ ).

Furthermore, women placed greater value on the sense of social commitment associated with the chosen specialty (3.2 versus 2.9;  $p = 0.005$ ) and prior experience with the specialty during undergraduate studies (2.4 versus 2.2;  $p = 0.037$ ).

The analysis of motivational factors according to the students' origin revealed that, regardless of geographic origin (capital, interior of the state or other locations), certain factors were consistently valued by all groups, presenting an average score above 3.0. These include: the possibility of balancing personal and family life, preference for the type of doctor-patient relationship, preference for the type of work scenario, affinity with the specialty, feeling of personal/professional satisfaction, financial return and potential for autonomy. Despite these similarities, no statistically significant differences were observed between the groups ( $p > 0.05$ ).

Likewise, the analysis according to monthly family income demonstrated that the same factors mentioned above also obtained an average above 3.0 in different income strata. Personal/professional satisfaction, affinity with the specialty and the potential for autonomy remained among the most valued factors, regardless of income bracket. As in the previous analysis, there were no statistically significant differences between the income groups ( $p > 0.05$ ).

## Discussion

This research demonstrated that the choice of medical specialty among students at a public university in Pará is primarily guided by intrinsic motivational factors, such as personal/professional satisfaction (3.8), affinity with the specialty (3.7), and potential for autonomy (3.4). These findings corroborate previous studies that point to personal identification with medical practice as a central element in professional decision-making<sup>12,13</sup>.

This research demonstrated that the choice of medical specialty among students at a public university in Pará is primarily guided by intrinsic motivational factors, such as personal/professional satisfaction (3.8), affinity with the specialty (3.7), and potential for autonomy (3.4). These findings corroborate previous studies that point to personal identification with medical practice as a central element in professional decision-making<sup>6,7</sup>.

The analysis by sex revealed statistically significant differences in four factors. Men valued financial return more ( $p = 0.014$ ), confirming the trend described in the literature of prioritizing status and economic prospects<sup>14,15</sup>. Women, on the other hand, attributed greater importance to length of residency ( $p = 0.002$ ), a sense of social commitment ( $p = 0.005$ ), and prior experience in the specialty ( $p = 0.037$ ). These data reinforce evidence that women tend to seek

specialties that favor a balance between professional and personal life, in addition to placing more value on the social impact of medical practice<sup>16-18</sup>.

On the other hand, no significant differences were found associated with geographic origin or family income, indicating that such factors do not significantly interfere with students' motivations – a result consistent with studies that minimize the influence of socioeconomic variables on professional choice<sup>11,19</sup>.

## Conclusion

This study revealed that the choice of medical specialty among students at a public university in Pará is predominantly influenced by intrinsic factors, such as personal satisfaction, affinity with the field, and professional autonomy. Extrinsic factors, such as financial return, quality of life, and the possibility of balancing work and personal life, were also considered relevant, but with less impact on the decision-making process.

Significant differences were observed between the sexes: men attributed greater importance to financial return, while women valued more the time required to complete the residency, the social commitment of the specialty, and prior experience during undergraduate studies. No statistically significant differences were identified in relation to the geographical origin or family income of the participants.

These findings reinforce that the choice of medical specialty is a complex process, guided by multiple individual motivations. Understanding these factors can contribute to the development of strategies aimed at career guidance and more effective public policies in the distribution of medical specialists.

## References

1. Scheffer M, Guilloux AGA, Miotto BA, Almeida C, Guerra A, Cassenote A, et al. Demografia Médica no Brasil 2023. São Paulo, SP: FMUSP, AMB, 2023. 344 p. ISBN: 978-65-00-60986 8.
2. Ladha FA, Pettinato AM, Perrin AE. Medical student residency preferences and motivational factors: a longitudinal, single-institution perspective. BMC Med Educ. 2022 Mar 17;22(1). <https://doi.org/10.1186/s12909-022-03244-7>.
3. Alencar AAR, Plácido TG, Silva GC, Silva AVT, Valença MA, Valença MM, et al. Fatores preditivos na escolha da especialidade na residência médica. jmm. 2021 Dec 29;3(2):6–14. <https://doi.org/10.37085/jmmv3.n2.2021.pp.6-14>.
4. Khamees A, Awadi S, Al Sharie S, Faiyoumi BA, Alzu'bi E, Hailat L, et al. Factors affecting medical student's decision in choosing a future career specialty: A cross-sectional study. Ann Med Surg (Lond). 2022 Feb 1;74:103305. <https://doi.org/10.1016/j.amsu.2022.103305>.

5. Kuteesa J, Musiime V, Munabi IG, Mubuuke AG, Opoka R, Mukunya D, et al. Specialty career preferences among final year medical students at Makerere University College of health sciences, Uganda: a mixed methods study. *BMC Med Educ.* 2021 Apr 16;21(1). <https://doi.org/10.1186/s12909-021-02630-x>.
6. Pincus D. The structure of human motivation. *BMC Psychol.* 2023 Oct 6;11(1). <https://doi.org/10.1186/s40359-023-01346-5>.
7. Morris LS, Grehl MM, Rutter SB, Mehta M, Westwater ML. On what motivates us: A detailed review of intrinsic v. extrinsic motivation. *Psychol Med.* 2022 Jul 7;52(10):1–16. <https://doi.org/10.1017/s0033291722001611>.
8. Corsi PR, Fernandes EC, Intelizano PM, Montagnini C, Baracat FI, Sampaio C. Fatores que influenciam o aluno na escolha da especialidade médica. *Rev Bras Educ Med.* 2014 Jun 1;38(2):213 <https://doi.org/10.1590/S0100-55022014000200008>.
9. Sarikhani Y, Ghahramani S, Bayati M, Lotfi F, Bastani P. A thematic network for factors affecting the choice of specialty education by medical students: a scoping study in low-and middle-income countries. *BMC Med Educ.* 2021 Feb 10;21(1). <https://doi.org/10.1186/s12909-021-02539-5>.
10. Martins JB, Rodriguez FP, Coelho ICM, Silva EM. Fatores que Influenciam a Escolha da Especialização Médica pelos Estudantes de Medicina em uma Instituição de Ensino de Curitiba (PR). *Rev Bras Educ Med.* 2019 Jun;43(2):152–8. <https://doi.org/10.1186/s12909-021-02539-5>.
11. Souza LCL, Mendonça V, Garcia G, Brandão E, Barral-Netto M. Medical Specialty Choice and Related Factors of Brazilian Medical Students and Recent Doctors. Costa MJ, editor. *PLoS One.* 2015 Jul 24;10(7):e0133585. <https://doi.org/10.1371/journal.pone.0133585>.
12. Yang Y, Li J, Wu X, Wang J, Li W, Zhu Y, et al. Factors influencing subspecialty choice among medical students: a systematic review and meta-analysis. *BMJ Open.* 2019 Mar;9(3):e022097. <https://doi.org/10.1136/bmjopen-2018-022097>.
13. Lefevre JH, Roupret M, Kerneis S, Karila L. Career choices of medical students: a national survey of 1780 students. *Med Educ.* 2010 Jun;44(6):603–1. <https://doi.org/10.1111/j.1365-2923.2010.03707.x>.
14. Alyazidi AS, Gaddoury MA, Alotibi FA, Aljehani KM, Ahmed RA, Alhudaifi SA, et al. The determining factors of medical students in considering a specialty as a future career path: A cross-sectional multinational study in the Middle East. *J Family Med Prim Care.* 2023 Nov1;12(11):2622–34. [https://doi.org/10.4103/jfmprc.jfmprc\\_1742\\_22](https://doi.org/10.4103/jfmprc.jfmprc_1742_22).

15. McDonald C, Henderson A, Barlow P, Keith J. Assessing factors for choosing a primary care specialty in medical students; A longitudinal study. *Med Educ Online*. 2021 Jan 1;26(1):1890901. <https://doi.org/10.1080/10872981.2021.1890901>.
  16. Ng-Sueng LF, Vargas-Matos I, Mayta-Tristán P, Pereyra-Elías R, Montenegro-Idrogo JJ, Inga-Berrosapi F, et al. Gender Associated with the Intention to Choose a Medical Specialty in Medical Students: A Cross-Sectional Study in 11 Countries in Latin America. Ciccozzi M, editor. *PLoS One*. 2016 Aug 12;11(8):e0161000. <https://doi.org/10.1371/journal.pone.0161000>.
  17. Heiligers PJ. Gender differences in medical students' motives and career choice. *BMC Med Educ*. 2012 Aug 23;12(1). <https://doi.org/10.1186/1472-6920-12-82>.
  18. Lambert TW, Smith F, Goldacre MJ. Career specialty choices of UK medical graduates of 2015 compared with earlier cohorts: questionnaire surveys. *Postgrad Med J*. 2018 Feb 12;94(1110):191-7. <https://doi.org/10.1136/postgradmedj-2017-135309>.
- Levaillant M, Levaillant L, Lerolle N, Vallet B, Hamel-Broza JF. Factors influencing medical students' choice of specialization: A gender based systematic review. *EClinicalMedicine*. 2020 Nov;28:100589. <https://doi.org/10.1016/j.eclinm.2020.100589>.

**Correspondent author:**

João Lucas Lalor Tavares  
Travessa Estrela, 1663,  
CEP: 66080-009.  
Belém, Pará, Brasil.  
joalucadmed055@gmail.com