

Determinant Factors of Surgical Career Selection Among Medical Specialist Residents

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Abstract—This study examines the determinants influencing career selection as a surgical specialist among residents enrolled in the Doctor Specialist Education Program at the Faculty of Medicine, Universitas Airlangga. A cross-sectional quantitative design was applied using an online questionnaire distributed to residents from seven surgical-related programs. A total of 159 valid responses were analyzed through univariate statistics and bivariate chi-square testing to identify associations between demographic characteristics, motivational factors, and career choice in surgical specialization. The findings indicate that age and socioeconomic background do not have significant associations with the selection of a surgical career. In contrast, gender and domicile show significant relationships, with male residents and those originating from urban areas demonstrating a higher tendency to choose surgical specialization. Motivation does not present a statistically significant relationship with career choice; however, descriptive results reveal strong intrinsic and extrinsic motivational drives, including interest in surgical procedures, perceived self-competence, clinical exposure, career development prospects, and expected income. These results suggest that career decision-making toward surgical specialization is shaped by multidimensional interactions between personal attributes, educational experiences, and environmental factors. The study provides empirical evidence to support strategic planning in medical education and career guidance for future specialist training.

Keywords— Career choice, Medical education, Motivation, Residency training, Surgical specialization.

I. INTRODUCTION

The development of modern healthcare systems has expanded the spectrum of roles within the medical profession. Doctors not only practise clinically but also contribute to research, education, health policy, and the management of medical services. Classifying doctors' career paths into clinical and non-clinical fields indicates that the medical profession makes a multidimensional contribution to public health development (Lim, 2024). Nevertheless, the advanced clinical pathway as a specialist doctor remains a key element in the provision of advanced healthcare services, particularly in managing complex medical cases.

A specialist doctor is defined as a medical professional who has completed advanced professional education and possesses specific competence in a particular field of medicine (Asare, 2020). Functionally, specialist doctors are responsible for complex diagnostic and therapeutic procedures, as well as the management of clinical services within their area of expertise. The presence of specialist doctors is an important

indicator of the quality of the referral system and the effectiveness of tiered healthcare services.

In Indonesia, meeting the need for specialist doctors still faces quantitative challenges. Data from the Indonesian Health Council show that the number of primary care physicians still dominates the composition of national medical personnel, while the number of specialist physicians is relatively lower (Indonesian Health Council, 2025). This condition indicates that the availability of medical personnel with advanced expertise has not fully kept pace with the increasing need for specialised healthcare services.

Besides the issue of quantity, the distribution of specialist doctors is also still uneven. The majority of specialist personnel are concentrated on the island of Java, while areas outside Java, particularly remote, border, and island regions, experience limited access to specialist services (Indonesian Health Council, 2025). This distribution imbalance impacts the disparity in healthcare service quality between regions and underscores the urgency of a national strategy to increase and equalise the number of specialist doctors.

One of the specialist areas that plays a crucial role is surgical specialists. Surgical specialists are important in handling emergency cases, complex surgical procedures, and post-clinical rehabilitation. The limited availability of surgical specialists could potentially lead to delays in medical services and an increased risk of patient complications. Therefore, increasing interest in the field of surgery is a strategic aspect of health human resource planning.

The choice of a career as a specialist doctor is influenced by various internal and external factors. Factors such as interest, talent, future prospects, income level, work-life balance, intellectual satisfaction, and demographic characteristics have been proven to influence medical students' career decisions (Syakurah et al., 2014). Additionally, the presence of professional role models in the clinical education environment also has an important effect on developing students' interest in specific specialities, including surgery (Maulidira et al., 2015).

To date, empirical studies on the determinants of career choice as a surgical specialist at the Faculty of Medicine, Universitas Airlangga, are still limited. In fact, understanding these factors is necessary as a basis for planning specialist education, strategies for equitable distribution of medical personnel, and improving the quality of national surgical services. Therefore, this study aims to identify and describe

the determining factors that influence students in the Specialist Doctor Education Program at the Faculty of Medicine, Universitas Airlangga, in choosing a career as a surgical specialist.

II. LITERATURE REVIEW

A. *The Concept of Determinants in Career Selection*

Determinants refer to specific factors or conditions that influence an individual's decision-making process. In behavioral and social studies, determinants are used to explain the causal relationship between personal and environmental characteristics and specific actions (Hajek et al., 2017). In the context of career choice, determinants play a role in shaping individual preferences, perceptions of opportunities, and professional orientation. These factors can stem from internal aspects inherent to the individual or from external aspects that influence the career consideration process.

Internal factors influencing career choice include interests, needs, personality, learning experiences, talents, and an individual's physical condition (Noor, 2018; Widarto, 2015). The combination of these factors shapes personal tendencies in determining a career path considered aligned with an individual's capabilities and goals. In the context of the medical profession, internal factors become important because each specialization path has different academic, clinical, and psychological demands, so the decision to choose a specific specialization cannot be separated from an individual's personal readiness.

Physical condition and outward appearance are two of the aspects that can influence the perception of a person's competence and performance. Physical limitations refer to certain functional impairments that can affect professional activities (Isman, 2018). In the world of work, individuals with physical limitations often face structural barriers and social stigma in obtaining and maintaining employment (Dinelli et al., 2024). In the context of medicine, certain specializations like surgery demand stamina, the ability to stand for long durations, and fine motor skills. Therefore, the perception of physical readiness can be one of the considerations for medical students in choosing a specialization path.

Besides physical condition, gender also influences career choices in the field of medicine. Gender is understood as a social construct that shapes individual roles, behaviors, and identities beyond biological differences (Matsumoto & Juang, 2016). Various studies indicate that the field of surgery still tends to be dominated by men, while women are more likely to choose other specializations considered more supportive of work-life balance. Male students tend to consider the prestige of the profession, intellectual challenges, and income prospects as the main determinants in choosing a surgical specialty, while female students place more emphasis on time flexibility, workload, and career stability in their decision-making process (Trinh et al., 2021; Levaillant et al., 2020). This difference in orientation contributes to the variation in gender distribution within medical specializations, particularly in surgery.

Talent is another internal factor that plays a significant role in choosing a professional career path. Talent is defined as an innate ability that has the potential to develop through structured practice and experience (American Psychological Association, 2021). In the medical profession, talent encompasses not only cognitive intelligence but also non-cognitive abilities such as empathy, communication, clinical reasoning, and psychomotor skills. Global medical selection standards place clinical reasoning ability, ethical judgment, interpersonal skills, and fine motor skills as the main dimensions of medical aptitude (UCAT Consortium, 2023). Specifically in the field of surgery, psychomotor talent and mental resilience are crucial factors because surgical procedures demand high precision, stable concentration, and the ability to withstand clinical pressure.

Overall, internal determinants such as physical condition, gender, and aptitude shape medical students' personal readiness in determining their career path. These three factors interact with clinical educational experiences and the professional social environment, so the decision to choose a specific specialization, including surgical specializations, is the result of a multidimensional consideration process. Understanding these determinants is crucial for analyzing the factors influencing career choices as surgical specialists among students in the Specialist Doctor Education Program.

B. *Career in Medicine*

A career in medicine is a professional path focused on healthcare service through diagnostic, therapeutic, and preventive activities, based on the principles of patient care and the medical code of ethics. In Indonesia, the education process and medical practice are strictly regulated by the Indonesian Health Council to ensure competency standards and legal protection for medical personnel and the public (Akbari et al., 2025). As healthcare systems evolve, a career in medicine is no longer linear but rather develops as a dynamic ecosystem encompassing interest formation, specialisation determination, and the selection of advanced career paths (Sax Institute, 2021).

Medical career paths are classified into clinical and non-clinical fields. Clinical paths include general practitioners and specialists, while non-clinical paths encompass academics, researchers, hospital managers, and health policymakers. The formation of this career is closely related to the continuous stages of medical education, starting from undergraduate and medical professional education, the internship period for clinical proficiency, and culminating in specialist education that emphasises in-depth mastery of medical skills. The motivation to pursue specialist education is often formed from the early stages of medical training (Kimura et al., 2025), while the internship phase plays a crucial role in building clinical confidence before making a specific career choice (Yang et al., 2025).

At an advanced level, specialist medical education becomes the primary pathway for developing clinical competence, while subspecialists or consultants represent the highest level, focusing on managing complex cases based on technology and research. On the other hand, the master's track

in medicine or health places more emphasis on strengthening academic, research methodology, and managerial capacity, without providing additional specialised clinical authority. The differences in the characteristics of each of these pathways indicate that the choice of a medical career is influenced by professional orientation, academic interests, and individual competency development goals (Universitas Sumatera Utara, 2023).

C. Profile and Competencies of Surgical Specialist

A surgical specialist is a professional medical professional with in-depth knowledge and specialized clinical skills in performing surgical procedures, perioperative management, and handling complex complications in medical conditions requiring operative intervention (Sjamsuhidajat et al., 2017). The regulations of the Indonesian Health Council, through KKI Regulation Number 73 of 2020, emphasize that a surgical specialist is a doctor with standardized academic competence and skills to provide surgical services encompassing preventive, curative, and rehabilitative aspects and is capable of working collaboratively in multidisciplinary teams.

A surgeon's competence is not only determined by technical dexterity but also by the ability to think critically in evidence-based clinical decision-making, particularly in life-threatening emergency situations (American College of Surgeons, 2016). The role of a surgical specialist includes preoperative assessment, performing precise surgical procedures, and overseeing postoperative recovery to ensure successful clinical outcomes. As medical technology advances, modern surgical specialists are also required to be able to integrate minimally invasive techniques and robotic surgery to minimize tissue trauma and improve patient safety (Townsend et al., 2022).

In professional practice, surgical specialists carry out comprehensive responsibilities that include diagnosis, determining the operative treatment plan, performing surgical procedures, and post-operative evaluation through monitoring recovery and early detection of complications (Jain & Puranik, 2022). In addition to clinical responsibilities, surgical specialists also play a role in mentoring medical personnel during training, conducting medical audits, documenting medical records, and participating in research to support the development of evidence-based surgical practices (Holzer et al., 2019). Specialist surgical training in Indonesia is conducted through the Specialist Doctor Education Program with a competency-based curriculum integrated between universities and teaching hospitals. This program is designed to gradually develop cognitive, psychomotor, and clinical professionalism skills, enabling graduates to independently handle both elective and emergency surgical cases according to national and global standards (KKI, 2020). The long educational process, the high demands for technical skills, and the significant clinical responsibility make surgical specialties one of the medical career fields requiring strong academic, physical, and psychological readiness.

D. Factors Influencing Specialty Career Choice

The interaction between intrinsic and extrinsic factors influences the complex decision-making process of selecting a specialized career in medicine. Intrinsic factors originate from within the individual, encompassing personal characteristics, specific interests in particular scientific fields, self-efficacy, and altruistic motivations to contribute to patient health. Extrinsic factors include outside influences like the availability of residency programs, pressure from family or friends, and practical benefits such as work hours, salary, lifestyle, and job opportunities in the future (Khamees et al., 2022).

III. METHODOLOGY

This research is a quantitative study employing an observational analytic design with a cross-sectional approach, aimed at analyzing the relationships between variables through data collection at a single point in time. The primary instrument utilized for data collection from the research subjects is a questionnaire. The population for this study comprises all residents in the Medical Specialist Education Programs (PPDS) within the Faculty of Medicine, Universitas Airlangga, encompassing seven surgical departments: Neurosurgery, General Surgery, Pediatric Surgery, Thoracic and Cardiovascular Surgery, Plastic Reconstructive and Aesthetic Surgery, Orthopaedics and Traumatology, and Urology, totaling 259 individuals. Based on the Slovin formula with a 5% margin of error, a minimum sample size of 157 was determined. Sampling was conducted using a purposive sampling technique, including only those residents who met the inclusion criteria and consented to participate in the study.

The independent variables consist of internal factors (age, gender, and motivation) and external factors (domicile and economic status), while the dependent variable is the career choice as a surgical specialist. The data source for this research is primary data collected via an online questionnaire using Google Forms. Data validity was maintained by restricting each device to a single submission to prevent duplicate entries. Data analysis involved univariate analysis to observe frequency distributions and bivariate analysis using the Chi-Square test to examine the relationships between variables.

IV. RESULT AND DISCUSSION

A. Distribution of Study Programs and Respondent Characteristics

Before proceeding to further statistical analysis, an initial step in this study involved describing the distribution of respondents according to their specialization programs and demographic characteristics. This descriptive overview is essential to provide a general profile of the participants involved in the study and to establish contextual grounding for interpreting subsequent analytical findings. The distribution of respondents is presented in Table I, which summarizes participation across specialization programs as well as characteristics related to age, gender, domicile, and

socioeconomic background.

Table I shows that the largest proportion of respondents originated from the Orthopaedics and Traumatology specialization, followed by Urology, General Surgery, and Neurosurgery. Cardiothoracic Surgery recorded the smallest number of participants. This distribution reflects varying enrollment sizes across surgical subspecialties and indicates differential representation among training programs.

TABLE I. Distribution of Study Programs and Respondent Characteristics (n = 159)

Category	Frequency	Percentage (%)
Specialization Program		
Orthopaedics and Traumatology	58	36.5
Urology	27	17.0
General Surgery	23	14.5
Neurosurgery	23	14.5
Plastic, Reconstructive, and Aesthetic Surgery	14	8.8
Pediatric Surgery	8	5.0
Cardiothoracic Surgery	6	3.8
Age		
< 30 years	81	50.9
≥ 30 years	78	49.1
Gender		
Male	127	79.9
Female	32	20.1
Domicile		
Rural	25	15.7
Urban	134	84.3
Socioeconomic Background		
Lower class	8	5.0
Lower-middle class	27	17.0
Upper-middle class	124	78.0

Source: Processed Research Data (2025)

In terms of demographic characteristics, most respondents were below 30 years of age, although the proportions of younger and older participants were relatively balanced. Regarding gender, male respondents constituted the dominant group, suggesting that surgical specialization remains more frequently pursued by male trainees. From the perspective of domicile, the majority of respondents came from urban areas, indicating greater access to and concentration of specialist medical training in city-based environments. Finally, socioeconomic data reveal that most participants originated from upper-middle-class families, suggesting that specialist surgical education remains more accessible to individuals with stronger economic support.

Overall, this respondent profile indicates that most participants were male trainees from urban backgrounds and upper-middle socioeconomic groups, with the highest concentration in Orthopaedics and Traumatology. This demographic context provides an important foundation for interpreting the factors influencing the choice of surgical specialization in the subsequent analysis.

B. Frequency Distribution of the Motivation Variable

To examine respondents' motivational tendencies in choosing a surgical specialization, descriptive analysis was conducted using a Likert-scale questionnaire. Responses ranged from strongly disagree to strongly agree for each statement representing intrinsic and extrinsic motivational factors. The frequency distribution presented in Table 5.3 provides an overview of respondents' levels of agreement with each motivational indicator, allowing identification of dominant factors influencing career selection among PPDS trainees at Universitas Airlangga.

TABLE II. Frequency Distribution of Motivation Variable (n = 159)

No.	Item	Strongly Disagree		Disagree		Agree		Strongly Agree	
		f	%	f	%	f	%	f	%
1	Interested in surgical procedures or technology	3	1,9%	1	0,6%	25	15,7%	130	81,8%
2	I have a talent for that specialty	1	0,6%	6	3,8%	73	45,9%	79	49,7%
3	I feel the profession suits my personality	1	0,6%	7	4,4%	62	39,0%	89	56,0%
4	I enjoy working in this field of specialty	1	0,6%	3	1,9%	47	29,6%	108	67,9%
5	Prospects for further development in this field	1	0,6%	1	0,6%	41	25,8%	116	73,0%
6	Highly respected in society	1	0,6%	16	10,1%	79	49,7%	63	39,6%
7	I became interested in the specialty during undergraduate medical education	4	2,5%	17	10,7%	51	32,1%	87	54,7%
8	I have personal experience related to diseases associated with the profession	16	10,1%	24	15,1%	51	32,1%	68	42,8%
9	Memorable experiences in class or clinical rotations	7	4,4%	13	8,2%	64	40,3%	75	47,2%
10	Parental advice/expectations	10	6,3%	28	17,6%	57	35,8%	64	40,3%
11	Advice from senior students/residents	15	9,4%	45	28,3%	54	34,0%	45	28,3%
12	Advice from teachers/consultants	15	9,4%	35	22,0%	55	34,6%	54	34,0%
13	Peer influence	37	23,3%	55	34,6%	37	23,3%	30	18,9%
14	Expected income	4	2,5%	22	13,8%	63	39,6%	70	44,0%
15	I feel the cost and duration of the professional education match my capabilities	2	1,3%	11	6,9%	83	52,2%	63	39,6%
16	Achievable lifestyle	3	1,9%	23	14,5%	76	47,8%	57	35,8%
17	Influence of future health reforms	3	1,9%	12	7,5%	72	45,3%	72	45,3%

Source: Processed Research Data (2025)

The frequency distribution in table II indicates that intrinsic motivational factors dominate respondents' decisions to pursue surgical specialization. High levels of agreement were observed for interest in surgical procedures, perceived aptitude, personality-profession fit, enjoyment of surgical work, and optimism regarding career development prospects.

Educational exposure also played a significant role, as many respondents reported that their interest in surgery emerged during undergraduate training and was reinforced through meaningful clinical rotation experiences.

Extrinsic factors showed moderate influence. Parental guidance, mentorship from senior trainees and consultants,

and perceived professional prestige contributed to career motivation, though peer influence was comparatively low. Economic considerations, including expected income, achievable lifestyle, and manageable education costs, were positively acknowledged. Overall, the findings suggest that specialization choice among PPDS trainees is primarily driven by internal interest and self-perceived competence, supported by educational experiences and external professional expectations.

C. Analysis of Research Findings

Bivariate analysis in this study employed the Chi-square test to determine the relationship between independent variables and the dependent variable, namely the choice of career as a surgical specialist. The test was conducted using a significance level of $\alpha = 0.05$. A significance value (Sig.) less than 0.05 indicates a statistically significant relationship, while a value greater than 0.05 indicates no statistically significant relationship between the variables.

To examine whether age is associated with the selection of surgical specialization, a Chi-square test was performed. The distribution of respondents' specialization choices across age groups is presented in Table III.

TABLE III. Analysis of the correlation between age and career choice

Surgical Specialty Career Choices	Age				Total		Sig.
	<30		≥30		Count	%	
	f	%	f	%			
Plastic, Reconstructive, and Aesthetic Surgery	6	7,4%	8	10,3%	14	8,8%	0,243
Thoracic and Cardiovascular Surgery	5	6,2%	1	1,3%	6	3,8%	
General Surgery	12	14,8%	11	14,1%	23	14,5%	
Pediatric Surgery	5	6,2%	3	3,8%	8	5%	
Neurosurgery	10	12,3%	13	16,7%	23	14,5%	
Orthopaedics and Traumatology	25	30,9%	33	42,3%	58	36,5%	
Urology	18	22,2%	9	11,5%	27	17%	
Total	81	100%	78	100%	159	100%	

Source: Processed Research Data (2025)

The Chi-square test yielded a significance value of 0.243 ($p > 0.05$), indicating that age has no statistically significant association with the choice of surgical specialization. This finding suggests that respondents' age does not meaningfully influence their selection of a particular surgical field. Although no significant relationship was found, descriptive patterns show slight variations between age groups. Among respondents younger than 30 years, Orthopaedics and Traumatology was the most selected specialization, followed by Urology and General Surgery. Similarly, among respondents aged 30 years and above, Orthopaedics and Traumatology remained the most preferred field, followed by Neurosurgery and General Surgery. Minor differences appeared in less chosen fields such as Cardiothoracic and Pediatric Surgery.

Based on the data analysis, the results demonstrate a statistically significant relationship between gender and the selection of a surgical specialty among residents in the

Medical Specialist Education Program (PPDS) at Universitas Airlangga ($p = 0.000$; $p < 0.05$). The distribution of specialty choices reveals a contrasting tendency between the two groups, with a predominant dominance of males compared to females.

TABLE IV. Analysis of the correlation between gender and career choice

Surgical Specialty Career Choices	Gender				Total		Sig.
	Male		Female		Count	%	
	F	%	f	%			
Plastic, Reconstructive, and Aesthetic Surgery	5	3,9%	9	28,1%	14	8,8%	0,000
Thoracic and Cardiovascular Surgery	5	3,9%	1	1,3%	6	3,8%	
General Surgery	16	12,6%	7	21,9%	23	14,5%	
Pediatric Surgery	3	2,4%	5	15,6%	8	5%	
Neurosurgery	19	15%	4	12,5%	23	14,5%	
Orthopaedics and Traumatology	54	42,5%	4	12,5%	58	36,5%	
Urology	25	19,7%	2	6,3%	27	17%	
Total	127	100%	32	100%	159	100%	

Source: Processed Research Data (2025)

TABLE V. Analysis of the correlation between domicile and career choice

Surgical Specialty Career Choices	Domicile				Total		Sig.
	Rural		Urban		Count	%	
	f	%	f	%			
Plastic, Reconstructive, and Aesthetic Surgery	0	0%	14	10,4%	14	8,8%	0,032
Thoracic and Cardiovascular Surgery	2	8%	4	3%	6	3,8%	
General Surgery	7	28%	16	11,9%	23	14,5%	
Pediatric Surgery	0	0%	8	6%	8	5%	
Neurosurgery	1	4%	22	16,4%	23	14,5%	
Orthopaedics and Traumatology	8	32%	50	37,3%	58	36,5%	
Urology	7	28%	20	14,9%	27	17%	
Total	25	100%	134	100%	159	100%	

Source: Processed Research Data (2025)

Statistical analysis reveals a significant positive relationship between domicile or region of origin (urban or rural) and the selection of an advanced career as a surgical specialist among residents in the Medical Specialist Education Program (PPDS) at Universitas Airlangga ($p = 0.032$; $p < 0.05$). The data distribution indicates that the majority of respondents originate from urban areas, and there are distinct differences in specialty preferences based on domiciliary background.

Statistical analysis indicates that there is no significant relationship between family economic background and the selection of a career as a surgical specialist among residents in the Medical Specialist Education Program (PPDS) at Universitas Airlangga ($p = 0.334$; $p > 0.05$). Although variations in specialty preferences exist across different economic groups, these factors do not influence the

respondents' career decision-making process.

TABLE VI. Analysis of the correlation between economic background and career choice

Surgical Specialty Career Choices	Economic Status						Total		Sig.
	Lower Class		Lower-Middle Class		Upper-Middle Class		Count	%	
	f	%	f	%	f	%			
Plastic, Reconstructive, and Aesthetic Surgery	0	0%	0	0%	14	11,3%	14	8,8%	0,334
Thoracic and Cardiovascular Surgery	0	0%	0	0%	6	4,8%	6	3,8%	
General Surgery	2	25%	7	25,9%	14	11,3%	23	14,5%	
Pediatric Surgery	0	0%	1	3,7%	7	5,6%	8	5%	
Neurosurgery	1	12,5%	5	18,5%	17	13,7%	23	14,5%	
Orthopaedics and Traumatology	2	25%	11	40,7%	45	36,3%	58	36,5%	
Urology	3	37,5%	3	11,1%	21	16,9%	27	17%	
Total	8	100%	27	100%	124	100%	159	100%	

Source: Processed Research Data (2025)

D. Discussion

The chi-square test revealed a significant relationship between gender and the selection of a surgical specialty ($p < 0.05$), with male participants more likely to choose surgical careers than female participants. This indicates that gender influences the tendency to select procedurally intensive and technically demanding specialties. The finding is consistent with Gavinski et al. (2020), who reported that men generally exhibit higher confidence in procedural skills, while women place greater emphasis on work–life balance and patient-centered practice. Studies by Winkel et al. (2021) and Campbell et al. (2020) further demonstrate that gender stereotypes, masculine workplace culture, and unequal access to role models contribute to gendered distributions across medical specialties. Additionally, Pace and Sciotto (2022) found that gender-based differences in perceptions of career opportunity and work–life balance shape professional decision-making. Thus, gender represents a significant factor in the preference for surgical specialization.

The chi-square analysis indicated a significant relationship between domicile and the choice of a surgical specialty ($p = 0.032$), with participants from urban areas more likely to pursue surgical training than those from rural backgrounds. This suggests that access to educational facilities, clinical exposure, and professional opportunities in urban settings influences career decisions. These findings are supported by Acher et al. (2024), who emphasized that geographical and social environments shape educational and occupational pathways. Similarly, Fielding et al. (2022) and Kawamoto et al. (2022) found that rural background and lived experiences affect career intentions and practice location choices in medical professions. Consequently, domicile functions as a structural determinant affecting opportunity and orientation toward surgical specialization.

Statistical analysis showed no significant relationship between family economic background and the selection of a surgical specialty ($p = 0.334$), despite most participants originating from middle-to-high-income households. This suggests that economic background does not directly determine career choice within this population. The result is consistent with Jacob and Klein (2019), who reported that socioeconomic origin does not strongly predict career outcomes among university graduates. Deutschmann (2025)

also found that educational attainment mediates the influence of economic background on occupational status, thereby reducing its direct effect. Accordingly, once access to medical education is achieved, the influence of family economic status on specialty selection becomes less pronounced.

Descriptive findings show that most respondents exhibited high motivation influenced by internal factors such as interest in surgical procedures, perceived personal aptitude, personality fit, and clinical experiences, as well as external factors including professional prestige, parental expectations, income prospects, and financial readiness. These results confirm that motivation plays a central role in shaping career orientation toward surgical specialization. This aligns with Gardner and Willis (2022), Sawafi et al. (2024), and AlQurashi et al. (2024), who identified intrinsic interest, clinical exposure, and self-perceived competence as primary drivers of surgical career choice. Moreover, Pershad et al. (2023) concluded that intrinsic motivation consistently outweighs demographic factors in determining surgical career preference. Hence, motivation emerges as a multifactorial and pivotal element in specialty decision-making.

V. CONCLUSION

Students in the Specialist Medical Education Program at the Faculty of Medicine, Universitas Airlangga, choose to become surgical specialists based on a mix of personal and educational factors. The research findings indicate that age and socioeconomic background have no significant relationship with the choice of a surgical specialty, suggesting that basic demographic factors are not a primary determinant in the career decision-making process. On the other hand, we found a significant relationship between gender and domicile, showing a preference for surgical specializations among male students and those from urban areas. These findings show that differences in access to specialist education, experiences in clinical settings, and social and cultural factors still affect career choices in advanced medical education.

Motivation did not show a statistically significant relationship with the choice of a surgical specialty career, but descriptive findings revealed that intrinsic and extrinsic drives still play an important role in shaping learners' career orientations. Interest in surgical procedures, self-confidence, memorable clinical experiences, career development prospects, and considerations of income and social status were

consistent factors that emerged in respondents' responses. This confirms that the decision to choose a surgical specialization is a multidimensional process influenced not only by measurable quantitative variables but also by the interplay of educational experiences, personal perceptions, and professional expectations.

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