



PERSONALITY PROFILE AND CHOICE OF SPECIALITY BY RESIDENT DOCTORS

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ABSTRACT **Background:** The choice of medical specialty among resident doctors is a complex and significant decision that impacts their professional satisfaction, performance, and the overall healthcare system. Personality traits have been recognized as one of the major individual-level determinants influencing specialty preferences. These traits affect how doctors perceive, engage with, and adapt to different specialties. Global literature highlights notable differences in personality profiles across specialties; however, most studies have been conducted in Western contexts. Given the cultural and training practice differences in medical education and practice in countries like India, it becomes essential to explore these associations in a local context. Moreover, very few studies have systematically examined the relationship between personality traits and specialty choices among junior resident doctors in Indian settings. This study was designed to understand the personality profiles of residents and their association with specialty selection to plan and guide the future work force of doctors into specialties which suit them the most. **Aims:** To examine the relationship between personality traits and the choice of medical specialty among junior resident doctors in different medical colleges. **Methods:** This observational, cross-sectional study was conducted among junior resident doctors pursuing postgraduate education at different medical colleges. After obtaining informed consent, socio-demographic data were collected using a structured proforma. The Big Five Personality Inventory (developed by K.S. Mishra) was used to assess five core personality traits: conscientiousness, openness, neuroticism, agreeableness, and extraversion. Specialty choice was documented, and statistical analysis was performed to explore associations between personality domains and the selected specialties. Analytical tools included descriptive statistics, t-tests, and Pearson correlation coefficients. Specialty-specific personality trends were also evaluated. **Results:** The study included 242 junior resident doctors with a mean age of 29.02 years (SD = 3.06), comprising 134 males (55.4%) and 108 females (44.6%). The majority of participants were from clinical specialties (71.5%), while 19.4% and 9.1% belonged to paraclinical and preclinical branches, respectively. A total of 148 residents (61.2%) had voluntarily chosen their specialty, while 6.6% stated their choice was imposed. The most commonly selected specialties were Medicine (24.8%), Radiology (14%), and Surgery (11%). Personality assessment using the Big Five Personality Inventory revealed average scores of 28.15 (SD = 4.18) for conscientiousness, 28.36 (SD = 4.44) for openness, 26.35 (SD = 4.65) for neuroticism, 27.68 (SD = 3.63) for agreeableness, and 27.77 (SD = 3.83) for extraversion. Psychiatry residents recorded the highest scores in both conscientiousness (32.05) and openness (33.3). Neuroticism showed a significant negative correlation with Psychiatry ($r = -0.624$, $p = 0.023$) and Forensic Medicine ($r = -0.689$, $p = 0.028$), indicating greater emotional stability in these fields. Significant positive associations were noted between openness and Radiology ($r = 0.990$, $p = 0.016$), agreeableness and both ENT ($r = 0.872$, $p = 0.010$) and Paediatrics ($r = 0.959$, $p = 0.010$), as well as extraversion and PSM ($r = 0.652$, $p = 0.006$) and Orthopaedics ($r = 0.489$, $p = 0.027$). These findings highlight clear associations between personality traits and medical specialty preferences. **Conclusion:** This study highlights a significant relationship between personality traits and specialty preferences among junior resident doctors. Distinct personality patterns emerged for various specialties, suggesting that personality profiling can serve as a useful tool for guiding specialty selection and career counselling in medical education. Tailoring educational and support systems to align with these personality traits may enhance resident satisfaction, reduce attrition, and improve long-term professional outcomes in healthcare delivery.

KEYWORDS :

INTRODUCTION

Medical specialization is a crucial decision in a doctor's career that shapes the trajectory of their professional life and impacts the healthcare system at large. Despite considerable financial and institutional investment in training physicians, many still report stress, dissatisfaction, and specialty mismatch, which contributes to workforce shortages and attrition globally. These issues have brought attention to the need for improved understanding of how personal attributes, especially personality traits, influence specialty choice.

Personality traits are consistent ways in which individuals think, feel, and act across various situations. Personality encompasses emotional, experiential, and motivational aspects that reveal a person's values, attitudes, and ways of dealing with upheaval in the field of work. Individuals have a variety of personality traits, which influence how people see view the world and take decisions in all aspects of life including a choice of vocation. This may influence productivity and job satisfaction in the field of work. The "Big Five" model—comprising neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness—has emerged as one of the most widely accepted frameworks for studying personality in psychology and medicine. These traits affect how individuals process experiences, interact with patients, respond to stress, and adapt to the demands of various clinical environments.

There is growing empirical evidence suggesting that certain personality profiles are associated with specific medical specialties. For instance, psychiatrists have been characterized by high openness and agreeableness, while surgeons often display high conscientiousness and extraversion. Despite these observed patterns, most existing research originates from Western contexts with different healthcare systems and cultural norms. There is limited literature from India exploring these associations within its unique sociocultural and academic framework.

Furthermore, personality traits not only influence a doctor's clinical behaviour and communication style but may also contribute to burnout or resilience depending on the specialty demands. A mismatch between personality and work environment may lead to professional dissatisfaction, dropout from training programs, or even poor patient care outcomes.

In the Indian postgraduate medical education system, where specialty choice is often made early and under multiple external influences, understanding personality-based preferences becomes vital. Recognizing personality–specialty correlations can support better specialty counselling and selection, thereby improving resident well-being, retention, and performance.

Thus, the present study aims to explore the relationship between the

personality profiles of junior resident doctors and their choice of specialty, using a validated five-factor model of personality. This study intends to provide evidence-based insights to facilitate better alignment between personality traits and career paths in medical practice.

Methodology

Aims

- 1) To study the association of personality traits and choice of specialty among junior residents in different medical colleges.

Inclusion Criteria

- Junior residents currently pursuing postgraduate studies in different medical colleges.
- Residents from all academic years (1st, 2nd, and 3rd year) of residency.
- Residents from clinical, paraclinical, and preclinical specialties.
- Willing participants who provided written informed consent for inclusion in the study.

Exclusion Criteria

- Residents who submitted incomplete questionnaires.
- Residents who were sponsored by any government, quasi-government, or other institutions for their postgraduate studies.

Assessment Tools

1. **Socio-Demographic Proforma:** A structured form was used to collect demographic details including age, gender, marital status, type of institution (government or private), economic status (using modified Kuppaswamy scale), family background, specialty, and whether the specialty was chosen voluntarily or not.
2. **Big Five Personality Trait Inventory (by K.S. Mishra):** This standardized inventory was used to assess the five key personality traits:
 - Conscientiousness
 - Openness to Experience
 - Neuroticism
 - Agreeableness
 - Extraversion

This tool is based on the Five-Factor Model (FFM) and is widely validated in psychological research. It allows comprehensive assessment of enduring personality patterns that may influence career choices.

Statistical Analysis

The data collected was analysed using **SPSS version 20.0** (IBM, Chicago). Descriptive statistics such as mean, standard deviation, and percentage distributions were calculated for all major variables. To analyse the association between personality traits and choice of medical specialty, the following statistical tests were applied:

- **Pearson Correlation Coefficient (r)** was used to assess the strength and direction of correlation between continuous variables (e.g., personality scores and specialty)

Visual tools such as scatter plots and histograms were employed to explore trends and data distribution. A **p-value < 0.05** was considered statistically significant for all tests.

RESULTS

Table-1

Parameters		Frequency (n)	Percentage (%)
Age groups	20-30	180	74.380
	31-40	61	25.207
	41-50	1	0.413
Mean age±SD		29.025±3.065	
Gender	Female	108	44.6
	Male	134	55.4
Currently doing Pg from	Government	142	58.7
	Private	100	41.3
Marital status	Married	91	37.6
	Single	151	62.4
Economic status (Modified Kuppaswamy)	Upper class	153	63.2
	Upper middle class	89.0	36.8
	Lower middle class	.0	.0
	Upper lower class	0	0

	Lower class	0.0	0.0
Type of specialty	Clinical	173	71.5
	Paraclinical	47	19.4
	Preclinical	22	9.1
Chosen voluntarily	No	94	38.8
	Yes	148	61.2
Specialty was forced upon you	No	226	93.3
	Yes	16	6.6
Family members (parents/siblings) in medical profession	No	108	44.6
	Yes	111	45.9
	No response	23	9.5

Table 2 Mean Score Of Five Criteria Of Big Five Factor Inventory

Big five factor inventory	Mean	SD
Conscientiousness	28.1529	4.18521
Openness	28.3595	4.44222
Neuroticism	26.3512	4.65005
Agreeableness	27.6818	3.63278
Extraversion	27.7686	3.83316

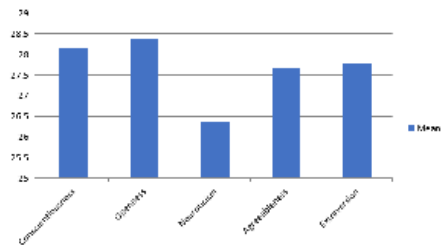


Table 3 - Mean Score Of Five Criteria Of Big Five Factor Inventory In Different Specialty

Speciality	Conscientiousness	Openness	Neuroticism	Agreeableness	Extraversion
Anaesthesia	30.20	27	30.2	27.6	30.4
Anatomy	25.4	29.2	26	31	26.4
Biochemistry	25.17	31	28.33	28	25.17
Dermatology	27.091	26.36	27.45	26.72	25.18
Emergency medicine	29.00	30.75	21.75	25.50	25.00
Ent	27.71	28.00	24.8571	28.42	29.71
Forensic medicine	28.40	28.4	19	25.1	28.9
Medicine	31.00	32.28	29.29	32	28.62
Microbiology	28.10	26.4	26.5	27.8	25.5
Obgyn	30	26.31	29.31	26.77	28
Ophthalmology	24.18	20.82	24.09	26.82	25
Orthopaedics	29.36	28.81	25.09	27.91	28.18
Paediatric	28.60	29	26.8	28.6	26.8
Pathology	27.53	26.27	26.13	24.6	25.73
Pharmacology	21.78	30.57	25.14	25.14	27.5
Physiology	23.00	23.2	26	23.2	23
PSM	31.18	27.75	24.94	29.31	33.19
Psychiatry	32.05	33.3	27.95	31.15	30.75
Radiology	25.00	24.85	28.31	25.92	24.38
Surgery	29.42	30.04	25.24	27.19	28.05

Table 4 - Co-relation Between Choice Of Specialty And Big Five Factor Inventory Criteria Of All Participants In Different Specialty

Speciality		Conscientiousness	Openness	Neuroticism	Agreeableness	Extraversion
Anaesthesia	R	.555	-.649	.327	.111	.295
	p-value	0.889	.236	.592	.859	.630
Anatomy	R	.676	.204	-.414	.556	-.229
	p-value	.550	.743	.489	.331	.711
Biochemistry	R	.809	.685	.207	.152	.746
	p-value	.559	.133	.695	.774	.089
Dermatology	R	.778	.886	-.025	.019	.111
	p-value	.809	.000*	.942	.955	.746
Emergency medicine	R	1.778	.816	.478	.000	-.500
	p-value	.006*	.184	.522	1.000	.500
Ent	R	1.007	.719	.615	.872*	.707
	p-value	.898	.069	.142	.010*	.076

Forensic medicine	R	1.223	-.309	-.689*	-.127	.442
	p-value	.677	.385	.028*	.727	.201
Medicine	R	1.221	.517*	-.005	-.199	.070
	p-value	.778	.016*	.984	.387	.764
Microbiology	R	.889	-.191	.440	-.766	.760
	p-value	.090	.596	.203	.087	.011*
Obgy	R	.998	.411	-.469	.679	-.250
	p-value	.600	.163	.010*	0.909	.409
Ophthalmology	R	1.332	-.010	.852	.828	.618
	p-value	.221	.976	0.178	.087	0.665
Orthopaedics	R	1.055	-.612	.250	.170	.489
	p-value	.707	.045*	.459	.617	.027*
Paediatric	R	.656	.774	.209	.959*	.651
	p-value	.110	.125	.736	.010	.234
Pathology	R	.554	-.450	.236	-.062	-.290
	p-value	.404	.092	.396	.827	.295
Pharmacology	R	.543	-.019	-.494	.381	-.683
	p-value	.177	.949	.041	.179	.089
Physiology	R	.833	.918	-.707	-.590	.375
	p-value	.080	.028*	.182	.295	.534
Psm	R	.456	.307	.577*	.152	.652
	p-value	.076	.248	0.889	.575	.006*
Psychiatry	R	1	.179	-.624*	.686	.101
	p-value		.019*	.023	.010*	.742
Radiology	R	.178	.990	.544	.221	.091
	p-value	.550	.016*	.189	.459	.700
Surgery	R	1.332	.363	-.074	.203	.014
	p-value	.671	.105	.749	.378	.624

Socio-Demographic Data

As shown in table 1, An observational cross-sectional study was conducted among junior resident doctors across different medical colleges.

The study comprised 242 junior resident doctors across various specialties and training years (first to third year). Of these, 55.4% were male and 44.6% were female. The majority (71.5%) were from clinical branches, with others from preclinical and paraclinical streams. Voluntary specialty selection was reported by 61.2% of participants, while 6.6% stated their choice was imposed. The top first-choice specialties included Medicine (24.8%), Radiology (14%), and Surgery (11%).

Female residents showed higher preference toward Obstetrics & Gynaecology (11.1%), Psychiatry (10.2%), and Medicine (9.3%), while males predominantly chose Orthopaedics (9%), Surgery (9%), and Medicine (9%).

Personality Trait Distribution

As shown in table 2, 3 and 4. Assessment using the **Big Five Personality Inventory (K.S. Mishra)** revealed the following overall mean scores for the five domains among all participants:

- **Conscientiousness:** 28.15 ± 4.18
- **Openness:** 28.36 ± 4.44
- **Neuroticism:** 26.35 ± 4.65
- **Agreeableness:** 27.68 ± 3.63
- **Extraversion:** 27.77 ± 3.83

These findings suggest relatively high levels of conscientiousness and openness among junior residents, with moderate scores in agreeableness and extraversion.

Personality Profiles And Specialty Correlation

Using the Big Five Inventory, key personality traits were recorded and analysed across specialty preferences:

- **Conscientiousness** was highest among those in Psychiatry (32.05), PSM (31.18), and Medicine (31.00), with significant positive correlations in Psychiatry ($r = 1.0$, $p = 0.019$) and Emergency Medicine ($r = 1.778$, $p = 0.006$).
- **Openness to Experience** was most evident in Psychiatry (33.3) and Biochemistry (31.0), significantly correlating with Radiology ($r = 0.990$, $p = 0.016$) and Medicine ($r = 0.517$, $p = 0.016$).
- **Agreeableness** peaked in Medicine (32.0) and Psychiatry (31.15), with strong associations in ENT ($r = 0.872$, $p = 0.010$), Paediatrics ($r = 0.959$, $p = 0.010$), and Psychiatry ($r = 0.686$, $p = 0.010$).
- **Extraversion** was highest in PSM (33.19) and Psychiatry (30.75), significantly correlating with Microbiology ($r = 0.760$, $p = 0.011$),

Orthopaedics ($r = 0.489$, $p = 0.027$), and PSM ($r = 0.652$, $p = 0.006$).

- **Neuroticism** scores were elevated in Anaesthesia (30.2) and Medicine (29.29), while lower values were seen in Forensic Medicine (19.0). Significant negative correlations were found in Forensic Medicine ($r = -0.689$, $p = 0.028$), Psychiatry ($r = -0.624$, $p = 0.023$), and Pharmacology ($r = -0.494$, $p = 0.041$), suggesting greater emotional stability in these fields.

DISCUSSION

Big Five Factor Inventory and Specialty Choice Among Resident Doctors

The Big Five Factor Inventory (BFFI) is a validated psychological tool assessing five dimensions of personality: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. In this study, it served as a key framework to explore how personality traits align with specialty preferences among junior resident doctors. Notable variations across traits indicate a strong correlation between psychological disposition and the demands of specific medical disciplines, supported by both national and international literature.

- Conscientiousness and Career Fit** Conscientiousness, defined by traits such as self-discipline, orderliness, and reliability, was highest among residents in Psychiatry (32.05), Public and Social Medicine (31.18), and Medicine (31.00). These traits positively correlated with Psychiatry ($r = 1.0$, $p = 0.019$) and Emergency Medicine ($r = 1.778$, $p = 0.006$), suggesting that specialties requiring detailed clinical care, continuity, quick decision making and responsibility attract residents with high Conscientiousness. This contrasts with Western data, such as McGreevy et al. (2002), Hoffman et al. (2010), and Drosdeck et al. (2015), where high Conscientiousness was more associated with surgical fields. In our study, Pharmacology (21.78) and Physiology (23.0) scored lowest, indicating that less patient-facing, academic specialties may draw individuals lower in this trait.
- Openness to Experience and Specialty Characteristics** Openness, encompassing intellectual curiosity and adaptability, was highest in Psychiatry (33.3) and Biochemistry (31.0), and lowest in Ophthalmology (20.82) and Physiology (23.2). Statistically significant associations emerged with Radiology ($r = 0.990$, $p = 0.016$) and Medicine ($r = 0.517$, $p = 0.016$). This mirrors findings from Bexelius et al. (2016) in Sweden and Mullola et al. (2018) in Finland, where abstract, analytical specialties like Psychiatry attract individuals high in Openness. In the Indian context, high Openness similarly aligned with specialties offering diagnostic complexity or scientific exploration.
- Neuroticism and Emotional Demands** Neuroticism, a trait associated with emotional instability and stress sensitivity, was elevated in Anaesthesia (30.2) and Medicine (29.29), and lowest in Forensic Medicine (19.0). Negative correlations were noted with Forensic Medicine ($r = -0.689$, $p = 0.028$), Psychiatry ($r = -0.624$, $p = 0.023$), and Pharmacology ($r = -0.494$, $p = 0.041$). These findings suggest that specialties like Psychiatry may attract individuals with better emotional regulation, contrary to stereotypes about mental health professionals. Conversely, high Neuroticism in Anaesthesia and Medicine may reflect the cognitive-emotional burdens these fields entail, especially in resource-constrained Indian settings. These results differ from Kwon et al. (2016) in South Korea, who reported low Neuroticism in Anaesthesia.
- Agreeableness and Patient-Centeredness** Agreeableness, defined by empathy, cooperation, and emotional attunement, was prominent in Medicine (32.0), Psychiatry (31.15), and Paediatrics. Significant correlations with ENT ($r = 0.872$, $p = .010$), Paediatrics ($r = 0.959$, $p = .010$), and Psychiatry ($r = 0.686$, $p = .010$) further reinforce that people-oriented specialties attract highly agreeable individuals. These findings mirror global studies such as Borges et al. (2002) in the US and Kwon et al. (2016), linking higher Agreeableness to specialties emphasizing long-term patient relationships. In contrast, residents in Pathology and Pharmacology scored lower, likely due to the minimal patient interaction and technical focus of these fields.
- Extraversion and Specialty Environment** Extraversion, reflecting sociability, energy, and assertiveness, was highest in Public and Social Medicine (PSM) (33.19), Psychiatry (30.75), and Anaesthesia (30.4). Significant correlations were observed with Microbiology ($r = 0.760$, $p = 0.023$), Orthopaedics ($r = 0.489$, $p = 0.023$), and PSM ($r = 0.652$, $p = 0.023$). Lower scores were

recorded in Ophthalmology (25.0) and Physiology (23.0), which are known for their solitary or structured environments. The prominence of Extraversion in PSM highlights its community-facing, field-intensive roles. These patterns are consistent with international findings, including Al Sawafi et al. (2024) from Oman, showing extroverted individuals gravitating toward socially and dynamically interactive specialties.

In summary, the Big Five personality dimensions provide valuable insight into the professional alignment of medical residents. The study underscores the need for early personality assessment and structured career counselling to promote informed specialty choices, optimize training satisfaction, and mitigate burnout.

CONCLUSION

The present study underscores the significant relationship between personality traits and specialty choice among junior resident doctors. Utilizing the Big Five Personality Inventory, the study identified clear trait patterns associated with various medical specialties, reinforcing the relevance of personality as a guiding factor in career planning within postgraduate medical education.

Residents in clinical specialties like psychiatry and medicine demonstrated high openness and conscientiousness, suggesting a natural inclination towards introspection, empathy, and disciplined work. Surgical specialties correlated positively with extraversion and conscientiousness, reflecting the assertive and structured temperament needed for high-pressure operative environments. Paraclinical and preclinical branches tended to show lower extraversion, aligning with the analytical, less patient-facing nature of their work.

These findings validate the broader application of the person-job fit theory in medical settings. When doctors select specialties aligned with their personality, they are more likely to experience career satisfaction, better adapt to clinical demands, and contribute positively to patient care. Conversely, specialty mismatches may contribute to dissatisfaction, stress, or burnout in the long term.

Integrating personality assessments into career counselling processes for medical graduates may help foster better specialty alignment, enhance professional fulfilment, and reduce attrition. The insights gained from this study offer a valuable framework for medical educators and policy planners to tailor support and guidance strategies that align with the individual traits and aspirations of future healthcare professionals.

Limitations

This was a cross-sectional study based on self-reported data, which may be subject to recall or response bias. The study was limited to limited medical colleges, which may restrict the generalizability of findings across the entire medical postgraduate population in India. Furthermore, while the study focused on personality, other potentially influential variables—such as academic performance, or job market dynamics—were not accounted for.

Future Directions

Further research incorporating longitudinal designs could explore how personality traits evolve through residency and influence specialty transitions or career satisfaction. Expanding the scope to include more institutions and considering additional psychological constructs like resilience, empathy, or emotional intelligence could enrich the understanding of person–specialty alignment in medicine.

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