Personality types of medical students in terms of their choice of medical specialty

Małgorzata Tobiaszewska, Tytus Jacek Koweszko, Jonasz Jurek, Karolina Mikołap, Jantoni Mikulski, Napoleon Waszkiewicz

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Table of Contents

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Abstract

Background: Research on personality types among doctors reveals its impact on medical specialty choices, suggesting that considering personality in career planning may enhance work satisfaction and reduce burnout risks.

Objective: This study, encompassing 2140 medical students, explores how personality types, traits, and gender correlate with specialty preferences

Methods: Subjects of the study were medical students from various universities in Poland. The study surveyed 2104 participants, who completed a general questionnaire and a personality test. To ensure we included undecided students and obtained meaningful data, we allowed participants to select up to three medical specialties from the 77 available in Poland at the time of the study.

Results: The findings unveil significant correlations between gender, personality types, traits, and specialty preferences. Women tended to favor Neonatology, while men leaned towards Orthopaedics and traumatology of the locomotor system. ENFP-T (Extroverted, Intuitive, Feeling, Prospecting, and Turbulent) students showed a heightened interest in Psychiatry, whereas (ISFJ-T) Introverted, Observant, Feeling, Judging types favored Family Medicine and Paediatrics.

Conclusions: In conclusion, this research establishes a link between personality and medical specialty selection. Taking into account the significant role of personality traits, it should be to considered integrate them into the process of selecting a medical career or designing a medical curriculum. This approach may allow for the customization of programs to match students' traits, thereby cultivating improved clinical communication skills, fostering interprofessional collaboration and ultimately enhancing treatment outcomes and professional fulfillment among physicians.

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Keywords: personality type, medical students, burnout

1. Introduction

Personality traits affect many significant life choices including career path. It was proven that a good match between personality traits of an individual and these of the work environment has a positive effect on job satisfaction. For instance, people with low levels of neuroticism will be more satisfied in occupations where there is lower mean level of neuroticism. The same is true for openness – the greater was the fit between a worker's personality and the average personality of the occupation, the bigger was job satisfaction.(1)

The above study's results strongly correspond with 2 major theories of career choice. The first theory is the attraction-selection-attrition (ASA) model presented by B. Schneider. The ASA model claims that people are attracted to, and selected by, specific environments according to their individual predispositions. This selection effect creates environments that are consistent with people with specific attributes, which leads to significant person-environment fit. Moreover, employees who do not fit sometimes leave, and people who remain in the occupation will be similar to each other and therefore create a more homogenous group than those who were attracted to the work environment in the beginning(2).

The second model is Holland's Vocational Theory. It states that people select themselves into an occupation environment that matches their vocational interests, which further leads to greater contentment and better performance. Holland's theory declares that most people fit into one of six personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. The six vocational types characterize both occupational interests and individual differences in interests. Holland asserts that people of the same personality type, when working together, create an environment that is best suited to them and their working style. The conclusion is that working among people with similar personality types brings more satisfaction and success at work(3).
Therefore, taking into consideration these 2 career choice theories, we believe that making the decision of medical specialty according to the personality type might also benefit in greater job satisfaction.

Previous studies have shown that certain personality traits appear more often in physicians of some medical specialties. For instance, physicians working in surgery or emergency medicine were more likely to be extrovert(4). It has also been proven that surgical specializations are much more often chosen by people with the personality preference for thinking rather than feeling(5).

One study showed that only around 11% of the medical personnel and 15% of the general population believe that the current doctor-patient relationship is harmonious(6). Improving the doctor-patient relationship is undoubtedly an important matter and it is known that doctors' understanding of their personality can improve their communication skills with future patients, which directly affects the patient-doctor relationship(6, 7). A recent study suggests that communication training, based on students' personality traits and aimed towards improving the doctor-patient relationship should be implemented in medical studies curriculum(8).

In Poland burnout affects as many as 67% of physicians (9). The literature demonstrates that certain personality types, especially realistic type, are more prone to burnout than for example social or artistic personality(10). Medical students who are aware and understanding of their personality type might make a more conscious choice when deciding between surgery or urgency residencies, where the level of burnout prevalence is high, and clinical specialization, where the level is lower. (11) Moreover, personality preference research has contributed to a better comprehension of teaching styles and clinical performance test achievements(12, 13).

Up to now, no research has been done on Polish medical students that would so extensively investigate the influence of personality type on the choice of a medical career. This paper is notable because it surveyed a large number of students questioned (around 6% of all medical students in Poland) and considered various factors including gender, academic year, personality type and personality traits. Furthermore, it facilitates the comparison of the data with existing research on the subject. The authors analysed the link between demographic factors and personality traits exhibited by medical students and their choice of specialties. Such a thorough examination allows for better comprehension of choices regarding medical specialty made by Polish students. This may benefit in raising the awareness about burnout prevention and job satisfaction.

The aim of the study was to determine whether personality type affects Polish medical students' career choice.

2. Methods

2.1 Study design

The study was conducted in March 2020. Each participant answered a questionnaire which included both the NERIS Type Explorer as well as other questions regarding demographics and the chosen medical specialty. Not to exclude undecided students from our study and to receive as meaningful data as possible we asked for the choice of up to three medical specialities from 77 available in Poland at the moment of the study.

The data collected in the questionnaires was analysed using NERIS Type Explorer to obtain each participant personality type.

The questionnaire was distributed on social media groups for medical students from all Polish universities. It was completely anonymous and all participants took part voluntarily. Informed consent was obtained from the study participants.

2.2 Statistical analysis

An exploratory statistical analysis was performed to find correlations between the personality type, personality traits, chosen specialty, chosen specialty traits and demographic data. For each tested correlation a Fisher's exact test was conducted. The significance level was $p = 0.05$. Each test resulted with a p-value and OR (Odds Ratio) with a confidence interval. For a test to be conducted the following inclusion criteria had to be met: for each subgroup in the contingency table there had to be at least one person in the subgroup and the number of expected frequency for each subgroup had to be at least 5.

To account for the multiple comparisons problem, we applied the Bonferroni correction for the cut-off point of the significance level. To estimate the family-wise error rate the correlations were divided into a few families (specialty vs motivation, personality type vs specialty, personality type vs motivation, personality type vs specialty traits etc.). The cut-off value for a p-value to be recognized as significant was the significance level (5%) divided by the number of conducted tests within a family.

All the computations were performed using R software (R Core Team, R Foundation for Statistical

Computing) in version 4.1.2.

2.3 Instrument for data collection

Myers-Briggs Type Indicator (MBTI) is a personality inventory created by Isabel Briggs Myers and Katherine Briggs and based on the theory described by Carl Gustav Jung.(14) It identifies four personality types and later divides each of them into four more subtypes, distinguishing overall sixteen personality types. The name of the type consists of four letters, describing certain personality traits: E or I (for Extraversion or Introversion, understood as the preference for outer or inner world), S or N (for Sensing or Intuition, understood as the preference on relying on the basic information or interpreting and adding meaning), T or F (for Thinking or Feeling, understood as the preference for logical thinking or seeing special circumstances), J or P (for Judging or Perceiving, understood as the preference for making strong decisions or being open to new options). The MTBI instrument has been validated, used in various studies over the past 40 years and described as reliable and accurate. (14)

NERIS Type Explorer is an instrument used by creators of the website 16personalities.com. It is based on the MBTI inventory as well as on the “Big Five" personality traits concept. (15) In addition to using 16 types identical as the Myers-Briggs test, it allows to add another aspect to the classic four-letter personality type of the MTBI inventory, using either -A or -T (for Assertive or Turbulent, understood as how confident people are in their decisions and abilities). In consequence it consists of 32 separate subtypes all of which are presented in the table below.

Personality type	**Personality traits**
INTJ-A	Introverted, Intuitive, Thinking, Judging, Assertive
INTJ-T	Introverted, Intuitive, Thinking, Judging, Turbulent
INTP-A	Introverted, Intuitive, Thinking, Prospecting, Assertive
INTP-T	Introverted, Intuitive, Thinking, Prospecting, Turbulent
ENTJ-A	Extraverted, Intuitive, Thinking, Judging, Assertive
ENTJ-T	Extraverted, Intuitive, Thinking, Judging, Turbulent
ENTP-A	Extraverted, Intuitive, Thinking, Prospecting, Assertive
ENTP-T	Extraverted, Intuitive, Thinking, Prospecting, Turbulent
INFJ-A	Introverted, Intuitive, Feeling, Judging, Assertive
INFJ-T	Introverted, Intuitive, Feeling, Judging, Turbulent
INFP-A	Introverted, Intuitive, Feeling, Prospecting, Assertive
INFP-T	Introverted, Intuitive, Feeling, Prospecting, Turbulent
ENFJ-A	Extraverted, Intuitive, Feeling, Judging, Assertive
ENFJ-T	Extraverted, Intuitive, Feeling, Judging, Turbulent
ENFP-A	Extraverted, Intuitive, Feeling, Prospecting, Assertive
ENFP-T	Extraverted, Intuitive, Feeling, Prospecting, Turbulent
ISTJ-A	Introverted, Observant, Thinking, Judging, Assertive
ISTJ-T	Introverted, Observant, Thinking, Judging, Turbulent
ISFJ-A	Introverted, Observant, Feeling, Judging, Assertive
ISFJ-T	Introverted, Observant, Feeling, Judging, Turbulent
ESTJ-A	Extraverted, Observant, Thinking, Judging, Assertive
ESTJ-T	Extraverted, Observant, Thinking, Judging, Turbulent
ESFJ-A	Extraverted, Observant, Feeling, Judging, Assertive

ESFJ-T	Extraverted, Observant, Feeling, Judging, Turbulent
ISTP-A	Introverted, Observant, Thinking, Prospecting, Assertive
ISTP-T	Introverted, Observant, Thinking, Prospecting, Turbulent
ISFP-A	Introverted, Observant, Feeling, Prospecting, Assertive
ISFP-T	Introverted, Observant, Feeling, Prospecting, Turbulent
ESTP-A	Extraverted, Observant, Thinking, Prospecting, Assertive
ESTP-T	Extraverted, Observant, Thinking, Prospecting, Turbulent
ESFP-A	Extraverted, Observant, Feeling, Prospecting, Assertive
ESFP-T	Extraverted, Observant, Feeling, Prospecting, Turbulent

Table 1 Personality types and personality traits identified by Myers-Briggs Type Indicator (MBTI)

2.4 Characteristics of the study group

In 2020 there were approximately 37 000 medical students studying at 22 different Polish medical universities(16). Our questionnaire was filled by 2104 medical students from Poland.

Among 2104 students who filled in our online questionnaire, the majority of 1645 people (78%) was female, while only 454 (22%) were male. Five students chose the “other” option in the gender-related question. 1830 surveyed students (86%) declared heterosexual orientation, 141 (6%) bisexual, 84 (4%) homosexual, 16 (0,4%) asexual and 33 (1,6%) chose the option “other/refuse to answer”.

Mean age of our surveyed population was 23 years old, with the age range from 18 to 40.

At the moment of the survey most students were in their 3rd or 4th year. In Poland medical studies last 6 years and clinical rotations start during the 3rd year. Consequently, around 3/4 of our surveyed population had started classes in the hospital, encountered patients and by this time could already have an opinion on the type of clinical work they enjoy or value the most.
99,6% of the students questioned in our study came from public-funded Polish universities.

3. Results
3.1 Gender differences

Men more often belonged to the Thinking group (OR=3.18, 95%CI [2.55, 3.98]), while women were more dominant in the Turbulent group (OR=2.85, 95%CI [2.3, 3.55]). Moreover, men more frequently were INTJ-A (OR=7.16, 95%CI [3.45, 15.52]) and ISTJ-A (OR=3.87, 95%CI [2.1, 7.14]). They were also more abundant in ESTP (OR=4.22, 95%CI [2.12, 8.44]), INTP (OR=3.83, 95%CI [2.24, 6.54]) and INTJ (OR=2.7, 95% CI [1.7, 4.23]) groups regardless of A/T feature. Women group was characterized by greater presence of ISFJ-T (OR=2.95, 95%CI [1.74, 5.34]) and ENFP-T (OR=2.28, 95%CI [1.53, 3.5]) personality types. Strongest corelation between gender and preference of medical specialty were observed in Neonatology, which was chosen over 9 more times by women (OR=9.15, 95%CI [3.02, 45,46]), and Orthopaedics and traumatology of locomotor system – chosen 7 times more by men (OR=7.53, 95%CI [4.87, 11.94]). Moreover, women were more commonly interested in Obstetrics and gynaecology (OR=4.2, 95%CI [2.5, 7.56]), Paediatrics (OR=2.82, 95%CI [1.99, 4.08]) and Dermatology and venereology (OR=2.78, 95%CI [1.75, 4.65]). Men were more inclined to choose Urology (OR=5.4, 95%CI [3.11, 9.48]), Cardiology (OR=2.08, 95%CI [1.55, 2.97]) and Anaesthesiology and intensive care (OR=1.96, 95%CI [1.48, 2.59]). Generally, women were more drawn to chose pediatric specialties (OR=3.33, 95%CI [2.47, 4.51]). On the other

hand, men preferred specialties related to surgeries (OR=2.76, 95%CI [2.2, 3.48]).

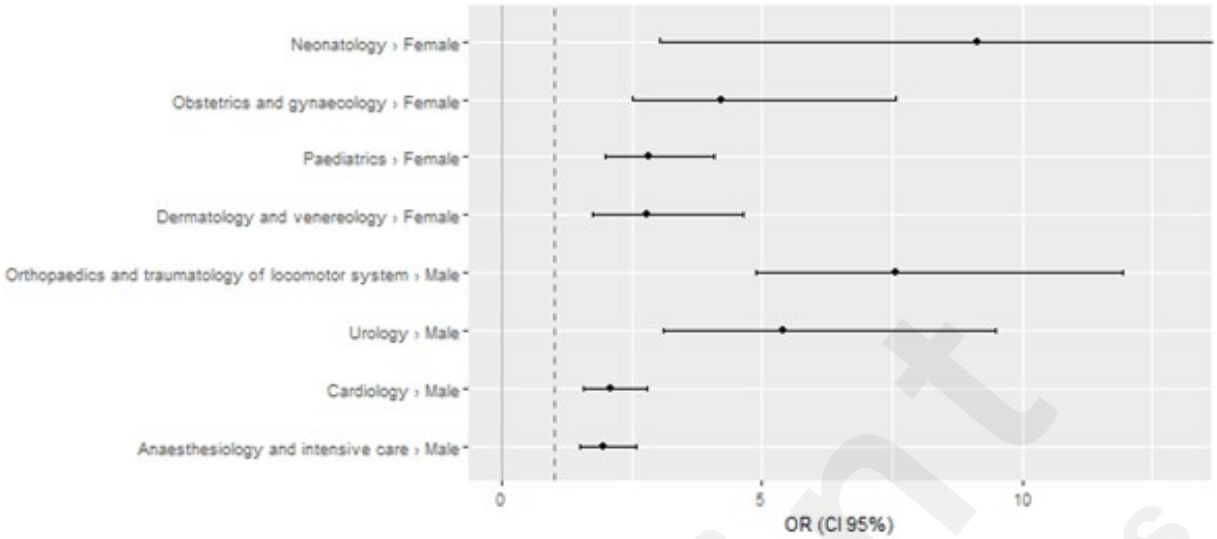

Figure 1 Observed association between chosen medical specialty and gender as odds ratio with 95% confidence interval

3.2 Personality traits

Family medicine was chosen almost 2 times more often by Introvert (OR=1.96, 95%CI [1.52, 2.53]), Observant (OR=1.98, 95%CI [1.54, 2.56]) or Judging (OR=1.68, 95%CI [1.27, 2.24]). Being Intuitive (OR=2.22, 95%CI [1.73, 2.86]) and Prospective (OR=1.79, 95%CI [1.41, 2.26]) correlated positively with interest in Psychiatry. Moreover, Prospective students were also keen on Psychiatry of children and youth (OR=2.16, 95%CI [1.48, 3.17]). Thinking trait was more common in group of students choosing Neurosurgery (OR=4.14, 95%CI [2.37, 7.34]), Forensic medicine (OR=2.7, 95%CI [1.69, 4.31]), Plastic surgery (OR=2.33, 95%CI [1.57, 3.45]) and General surgery (OR=2.02, 95%CI [1.46, 2.79]), while Feeling was more popular in Paediatrics (OR=2.09, 95%CI [1.58, 2.8]). Overall, Thinking went with specialties involving surgeries (OR=1.69, 95%CI 1.39, 2.06]). Feeling was associated with pediatric specialties (OR=1.84, 95%CI [1.46, 2,32]). Respondents with Assertive trait were more commonly picking surgical specialties (OR=1.64, 95%CI [1.37, 1.97]), especially Orthopaedics and traumatology of locomotor system (OR=2.64, 95%CI [1.71, 4.08]) and General surgery (OR=1.87, 95%CI [1.36, 2.57]). In contrast, Turbulent trait favored specialties of internal medicine (OR=1,42, 95%CI [1.17, 1.71]). Additionally, Turbulent also favored Paediatrics (OR=1.62, 95%CI [1.27, 2.08]) and Endocrinology (OR=1.78, 95%CI [1.33, 2.41]).

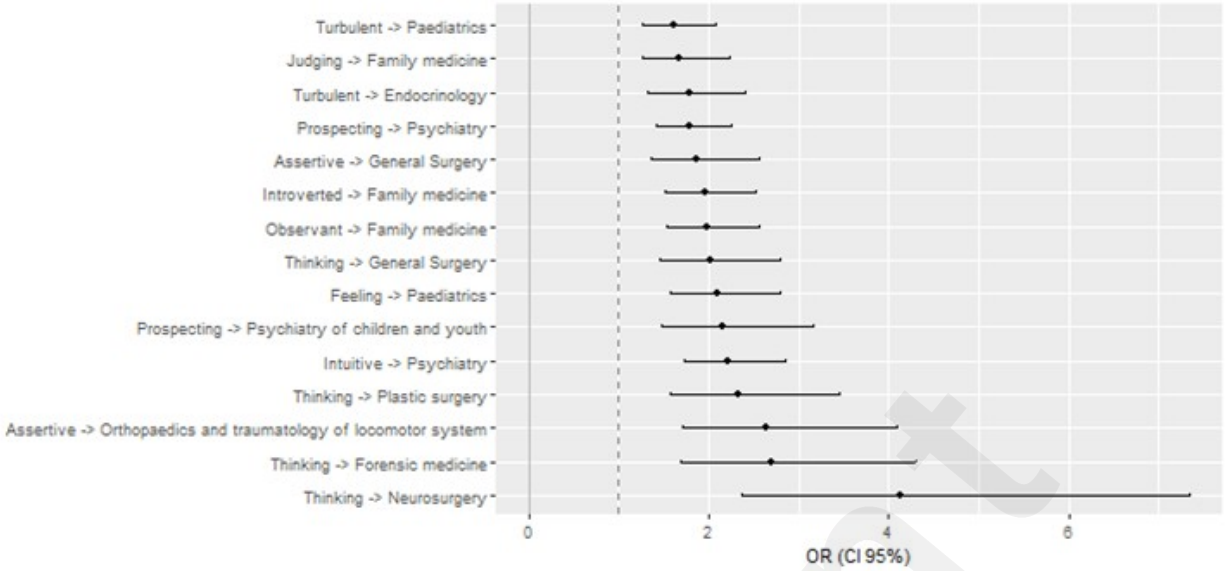

Figure 2 Observed association between chosen medical specialty and personality trait as odds ratio with 95% confidence interval

3.3 Personality type

Respondents with ENFP-T personality type seemed to be interested in Psychiatry (OR=2.23, 95%CI [1.64, 3.01]) and Psychiatry of children and youth (OR=3.11, 95%CI [2, 4.75]). Moreover, ESTJ-A were often choosing specialties related to surgeries (OR=2.61, 95%CI [1.57, 4.5]). ISFJ-T personality type correlated negatively with interest in surgical specialties (OR=0.32, 95%CI [0.18, 0.53]), but positively with Family medicine (OR=2.98, 95%CI [2.08, 4.24]) and Paediatrics (OR=2.13, 95%CI [1.51, 2.99]). INTJ-A very rarely chose pediatric specialties, choosing them over 16 times less than the rest of the respondents (OR=0.06, 95%CI [0.002, 0.385]).

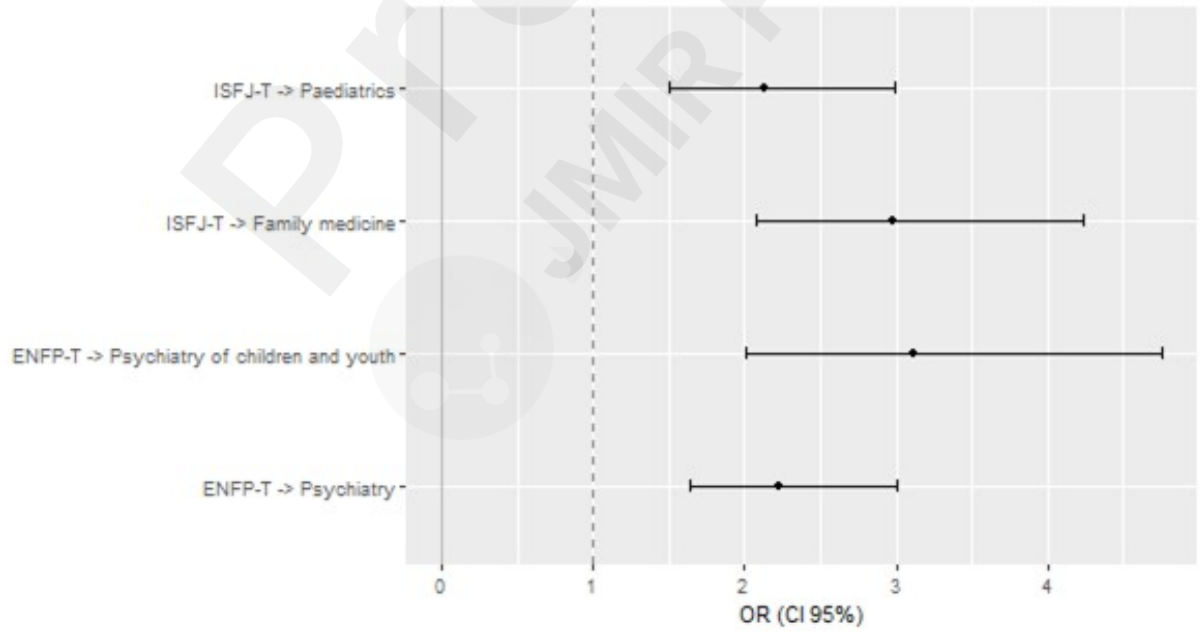

Figure 3 Observed association between chosen medical specialty and personality type as odds ratio with 95% confidence interval.

3.4 Specialties, which correlate with each other

Students who chose Anaesthesiology and Intensive Care often chose Emergency medicine (OR=4.51, 95%CI [2.6, 7.71]). General Surgery was often picked together with Oncological Surgery (OR=9.26, 95%CI [5.22, 16.23]) and Paediatric Surgery (OR=4, 95%CI [2.23, 6.92]). Internal Medicine correlated positively with Gastroenterology (OR=3.28, 95%CI [1.98, 5.29]). Endocrinology was commonly co-chosen with Gynaecological endocrinology with reproductiveness (OR=3.82, 95%CI [2.13, 6.7]), which was also common among students, who picked Obstetrics and gynaecology (OR=5.61, 95%CI [3.22, 9.91]). Just like Paediatrics and Neonatology (OR=4.46, 95%CI [2.93, 6.78]), Paediatrics and Paediatric Gastroenterology together were a common founding (OR=12.76, 95%CI [5.14, 35.99]). Specialties, which were very common among students interested in Psychiatry, were: Psychiatry of children and youth (OR=8.15, 95%CI [5.51, 12.11]) and Sexology (OR=5.08, 95%CI [2.54,10.15]).

4. Discussion

In this research we aimed to find correlations between personality types defined by NERIS Type Explorer and future specialty preferences among the Polish medical school population. We found statistically significant links between certain representations of aforementioned factors which correspond to the results of past similar research conducted on American medical students.(5) A study that collected data through several years and apart from students included also graduates has shown statistical significance of extroversion-introversion (E-I) and thinking-feeling (T-F) axes as far as the choice between primary and non-primary specialties is concerned. According to the authors, extraverted and thinking types were more inclined towards surgical professions whereas introverted and feeling types are more likely to favor primary care.(5) Another research sought for the correlation between MBTI type assigned in the first year of school and the actual specialty choice in the postgraduate year(17). Three correlations were found statistically significant. The interviewees who were classified as sensing, feeling and judging type tended to choose family medicine. Sensing, thinking and judging types were also prone to follow a career path in obstetrics-gynaecology. Last but not least, psychiatry was preferred by intuitive, feeling and prospecting types.

The results of our study are in line with the aforementioned findings. The analysis showed that Extraverted, Intuitive, Feeling, and Perceiving (ENFP) personality as well as Intuitive and Prospecting assets in general are more common in students interested in psychiatry. Moreover, thinking trait correlated positively with the choice of specialties that involved surgeries. Students who were classified as introverted, observant and judging or had ISFJ-T personality were more likely to choose family medicine. As far as particular MBTI personality types are concerned, our findings are consistent with data adapted from McCaulley's(18, 19).

In ICD-11 burnout is classified as an occupational phenomenon, characterised by three dimensions: "feelings of energy depletion or exhaustion; increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and reduced professional efficacy"(20). The idea behind our study is a concern about preventing burnout among the population of medical doctors by finding the best fit between one's personality type and a medical specialty. The concept of making occupational choices based on personality traits has been present in psychological discourse for decades, resulting in many inspiring works. One of them is Holland's Theory of Career Choice (RIASEC), that links one's key skills and interest areas to certain occupations and subjects(3). This approach, that Kristof-Brown calls person-vocation fit, seems to be the most suitable theoretical framework in terms of matching MBTI personality types with particular medical specialties (21).

Although some skills, qualities and requirements are to be found in a number of medical disciplines, some of these traits are exclusive to a certain specialty. For instance, the authors of a study conducted at Chang Gung Memorial Hospital observed that the emergency physicians (EPs) demonstrated less preference for sensing trait than other attending physicians (22). It was suggested that the intuitive trait of the EPs is a result of the circumstances of the work in emergency department, where pattern recognition is crucial to diagnose conditions presenting ambiguous symptoms in short time.

A noteworthy result of the aforementioned study is the fact that although both junior doctors and attending physicians exhibited similar personality types depending on a medical specialty, the latter had more distinct sensing, thinking and judging personality traits. The authors of the study suggest that it is the clinical experience and evidence-based approach that contribute to the development of such a bias.(22) Given the attraction-selection-attrition (ASA) model, a question whether it is a matter of the work environment or the matter of the interpersonal influence, or rather the combination of those two, should be taken into consideration. Subsequently, a research that defines if having more distinct MBTI personality traits correlates with job satisfaction would also be beneficial to early burnout prevalence.

This study is noteworthy due to the extensive size of the respondent group surveyed, while considering various factors such as gender, academic year, personality type and personality traits. Additionally, it facilitates the comparison of the data with prior research in the field.

Since our findings correspond with the results of studies conducted on a population with a different cultural and socio-economic background, involving a contrasting healthcare system, it may be supposed that a model analogous to the Holland Occupational Themes, but concerning medical areas, could be created. Yet in order to form such a classification, an extensive socio-psychological research on medical doctors population would be needed. Undoubtedly, this area is yet to be covered.

4.1 Limitations

There are several limitations inherent in this study.

Firstly, the major limitation that could be addressed in future research is that it was conducted on medical students, who, inevitably, do not possess the full picture of the work as a specialist in a specific area. Therefore, their declared choice of future specialty is based on a general impression that was formed during relatively short time spent in particular wards.

Secondly, as Kristof Brown indicates, apart from the person-vocation fit, there are other significant factors that influence one’s job satisfaction, i.e. person-job, person-organisation, person-group and person-supervisor fit. (21) Hence, even if a model linking personality type with medical discipline would be created, the true impact on individual-level cannot be concluded.

Thirdly, although some distinctive traits seem to be unique for particular specialties regardless of a country, many aspects of work as a medical doctor are inseparably intertwined with cultural and socio-economic conditions found in particular communities. What is more, these conditions change over time.

Furthermore, it is contentious if accepting environmental determinism is beneficial to an organisation. Creating a homogenous group, as Benjamin Schneider indicates, may decrease the capability to adapt to changing demands and requirements of society. (2)

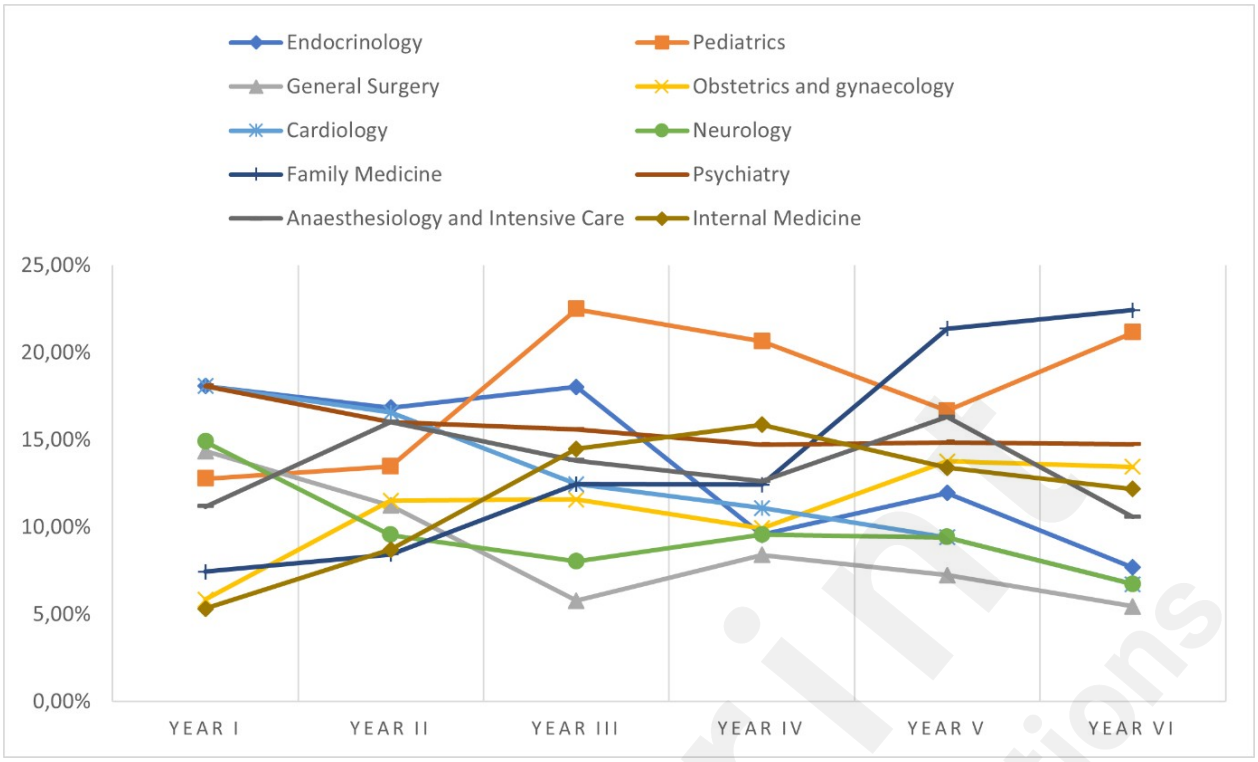

Figure 4 Ten most chosen medical specialties depending on the year of studies

5. Conclusion

To conclude, the findings of this study showed that there is a link between one's personality and their choice of medical specialty. In general, women exhibited a greater preference for pediatric specialties, while men tended to favor surgical specialties. Introverted, Observant, and Judging individuals showed a notable inclination towards Family Medicine, while Intuitive and Prospective traits correlated positively with interest in Psychiatry, particularly in Child and Youth Psychiatry. Additionally, the Thinking trait was prevalent among students opting for surgical specialties such as Neurosurgery, Forensic Medicine, Plastic Surgery, and General Surgery, whereas the Feeling trait was more common among those choosing pediatric specialties. Taking into consideration students' personality traits, medical curriculum should be designed to match the clinical communication skills, interprofessional collaboration and teamwork for the best outcomes of treatment as well as physicians' professional fulfilment.

6. References

1. Törnroos M, Jokela M, Hakulinen C. The relationship between personality and job satisfaction across occupations. Personality and Individual Differences. 2019;145:82-8.
2. SCHNEIDER B. THE PEOPLE MAKE THE PLACE. Personnel Psychology. 1987;40(3):437-53.
3. Holland JL. Making vocational choices: A theory of vocational personalities and work environments, 3rd ed. Odessa, FL, US: Psychological Assessment Resources; 1997. xiv, 303-xiv, p.
4. Alsalamah M, AlHamdani A, Albassam M, Alasgah Y. Distribution of the Myers Briggs Type Indicator types in an Emergency Medicine residency training program in Saudi Arabia. Journal of Health Informatics in Developing Countries. 2017;11(1).
5. Stilwell NA, Wallick MM, Thal SE, Burleson JA. Myers-Briggs Type and Medical Specialty Choice: A New Look at an Old Question. Teaching and Learning in Medicine. 2000;12(1):14-20.
6. Sang T, Zhou H, Li M, Li W, Shi H, Chen H, et al. Investigation of the differences between the medical personnel's and general population's view on the doctor-patient relationship in China by a cross-sectional survey. Globalization and Health. 2020;16(1).

7. Clack GB, Allen J, Cooper D, Head JO. Personality differences between doctors and their patients: implications for the teaching of communication skills. Medical Education. 2004;38(2):177-86.
8. Suciu N, Meliț LE, Mărginean CO. A Holistic Approach of Personality Traits in Medical Students: An Integrative Review. International Journal of Environmental Research and Public Health. 2021;18(23):12822.
9. Owoc J, Mańczak M, Tombarkiewicz M, Olszewski R. Burnout, well-being and self-reported medical errors among physicians. Polish Archives of Internal Medicine. 2021.
10. Ahmadpanah M, Torabian S, Dastore K, Jahangard L, Haghighi M. Association of occupational burnout and type of personality in Iranian general practitioners. Work. 2015;51:315-9.
11. Rodrigues H, Cobucci R, Oliveira A, Cabral JV, Medeiros L, Gurgel K, et al. Burnout syndrome among medical residents: A systematic review and meta-analysis. PLOS ONE. 2018;13(11):e0206840.
12. Jessee S, O'Neill P, Dosch R. Matching Student Personality Types and Learning Preferences to Teaching Methodologies. Journal of dental education. 2006;70:644-51.
13. Shin SJ, Kim KS, Lee DS. The Effect of Personal Character on the Results of Clinical Performance Skill Tests. Korean Journal of Medical Education. 2011;23(2):111-7.
14. The myers & briggs foundation - mbti® basics [Available from: https://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/.
15. Free personality test, type descriptions, relationship and career advice | 16Personalities [Available from: https://www.16personalities.com/.
16. GUS. Szkolnictwo wyższe – studenci i absolwenci [Available from: https://stat.gov.pl/obszary-tematyczne/edukacja/edukacja/szkolnictwo-wyzsze-studenci-i-absolwenci,20,2.html.
17. Friedman CP, Slatt LM. New results relating the Myers-Briggs Type Indicator and medical specialty choice. Academic Medicine. 1988;63(4):325-7.
18. Freeman BS. The ultimate guide to choosing a medical specialty: McGraw-Hill; 2013.
19. McCaulley MH. The Myers Longitudinal Medical Study. Monograph II. Final Report: ERIC; 1977.
20. International Classification of Diseases, Eleventh Revision (ICD-11), World Health Organization (WHO) 2019/2021 [Available from: https://icd.who.int/browse/2024-01/mms/en#129180281.
21. KRISTOF-BROWN AL, ZIMMERMAN RD, JOHNSON EC. CONSEQUENCES OF INDIVIDUALS' FIT AT WORK: A META-ANALYSIS OF PERSON–JOB, PERSON–ORGANIZATION, PERSON–GROUP, AND PERSON–SUPERVISOR FIT. Personnel Psychology. 2005;58(2):281-342.
22. Chang Y-C, Tseng H-M, Xiao X, Ngerng RYL, Wu C-L, Chaou C-H. Examining the association of career stage and medical specialty with personality preferences – a cross-sectional survey of junior doctors and attending physicians from various specialties. BMC Medical Education. 2019;19(1).

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