Uncertainty Regarding Specialty Choice Among Medical Students

Exploring the added value of a three-step guidance programme using an interest questionnaire

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Preface

During the final months of our 6th year of medical school, we both struggled with choosing a specialty. We still look back on that period as a difficult time with a significant impact on our mental well-being. When we were given the opportunity to write a thesis on this topic, we readily embraced it. Although writing a thesis in which we truly believed brought us much satisfaction and a sense of purpose, the process also required much of our time and energy, especially combining it with an almost full-time job. Fortunately, we were not alone. Thanks to the support of many people around us, we succeeded in bringing this work to a good end.

First and foremost, our thanks go to our supervisor, Sandrine Herbelet, and co-supervisor, Janique Lobbestael. They gave us the opportunity and freedom to let the topic and methodology of our thesis grow from our own experiences and ideas. Thanks to them, we were able to turn our mission – helping doubting students in their choice of specialty – into a fully-fledged, meaningful thesis. Communication always went smoothly and their enthusiasm remained a lasting source of motivation. We also greatly appreciated their genuine interest in how we were doing, even beyond the scope of this thesis. In addition, we would like to sincerely thank Prof. Dr. Filip De Fruyt. He was able to elevate our guidance model to a higher level by offering the LOLA questionnaire free of charge. With his expertise and experience, he provided us with valuable support in shaping the process and structure of the thesis.

We would also like to thank our close friends and family. Their unconditional support, listening ear, or the necessary distraction during difficult moments has always meant a lot to us. In particular, we thank our parents, who gave us the opportunity to study and to complete this long training. Furthermore, we are also grateful to our dear friends, Matthias, Drieke, Josephine, Louise, Marie, Annabel, Roy and Laura. Each of them has helped us in their own way through the past three years. Finally, we are also grateful for each other – for our friendship and for our collaboration. Moreover, we are not only grateful, but also proud – of each other and of our thesis.

We hope that this guidance programme can be a starting point for further research and the implementation of more support within medical education. Writing this thesis has only strengthened our belief that we can better guide students and that the need is great. We hope that you, as the reader of this thesis, can feel our passion and commitment to this topic.

Emma Demeulenaere & Jeroen Preem

Bruges, April 2025

Abstract (NL)

Inleiding: Het kiezen van een specialisatie na de zesjarige geneeskundeopleiding is een cruciaal en stressvol moment voor studenten. Deze beslissing, waarbij zowel persoonlijke als externe factoren een rol spelen, wordt bemoeilijkt door een breed aanbod aan specialisatieopties, de impact en mogelijke consequenties van de keuze en de concurrentie om een specialisatieplaats. Bovendien ontbreekt vaak een gestructureerde begeleiding voor studenten die twijfelen over hun specialisatiekeuze. Zowel nationaal als internationaal wordt er weinig onderzoek verricht naar effectieve interventies ter ondersteuning van dit keuzeproces. Deze masterthesis zet de eerste stap in het ontwikkelen van een gestructureerd begeleidingstraject aan de universiteit van Gent, gericht op het vergroten van zelfkennis en het ondersteunen van geneeskundestudenten in dit keuzeproces.

Methode: In deze studie wordt getracht te exploreren welke meerwaarde een kort begeleidingstraject voor geneeskundestudenten die twijfelen over hun specialisatiekeuze kan bieden. Op basis van literatuuronderzoek werd een driestapsmodel ontwikkeld en toegepast op twintig vierdejaars geneeskundestudenten van de Universiteit Gent. Dit individuele begeleidingstraject bestond uit: (1) het invullen van de LOLA-interessevragenlijst (gebaseerd op het PAKSOC-model), (2) het rangschikken van specialisatiekenmerken, en (3) een persoonlijk gesprek waarin alle resultaten werden besproken en samengebracht in een SWOT-analyse. Na afloop werd feedback van de studenten verzameld, waarna de data werden geanalyseerd met SPSS.

Resultaten: Uit de algemene vragenlijst bleek dat slechts 40% van de deelnemers aangaf te beschikken over voldoende zelfkennis voor het maken van een specialisatiekeuze en 55–60% meldde onvoldoende inzicht te hebben in hun vaardigheden en interesses. Daarnaast gaf 60–70% aan beperkte kennis te hebben over de verschillende specialisaties en de bijbehorende competenties. Het begeleidingstraject leverde een aanzienlijke meerwaarde op. Zo rapporteerden 85–90% van de studenten nieuwe inzichten en meer zelfkennis te hebben, wat resulteerde in een duidelijker beeld van de bij hen passende specialisatie. Bovendien steeg het percentage studenten dat vertrouwen had in het maken van een juiste keuze van 55% voor deelname naar 75% na afloop van het traject.

Discussie: De resultaten suggereren dat dit begeleidingstraject de zelfkennis van geneeskundestudenten en hun vertrouwen in het maken van een specialisatiekeuze vergroot. In de feedback werd aangegeven dat er nood is aan dergelijk begeleidingstraject in de opleiding. Daarnaast vragen de studenten meer gedetailleerde informatie over de diverse specialisaties en de bijbehorende competenties. Hoewel de feedback veelbelovend is, dient rekening gehouden te worden met de beperkingen, zoals de kleine, zelfgeselecteerde steekproef en de afwezigheid van een gerandomiseerde controlegroep. Verdere studies zijn noodzakelijk om het traject te verfijnen, de lange-termijn effecten te beoordelen en de praktische integratie in het curriculum te organiseren.

Conclusie: Deze studie onderstreept het belang van gestructureerde begeleiding voor geneeskundestudenten die geconfronteerd worden met twijfels over hun specialiteitskeuze. Het programma leverde inzichten die als basis kunnen dienen voor verder onderzoek naar de inhoud en implementatie van een begeleidingstraject binnen de opleiding geneeskunde.

Abstract (EN)

Introduction: The decision regarding a medical specialty after six years of medical school is a pivotal and stressful process for medical students. This decision, which is influenced by both personal and external factors, is complicated by the wide range of specialty options, the consequences of the choice and the competition for a limited number of specialty positions. Moreover, students who are uncertain about their specialty choice often lack access to structured guidance. Both nationally and internationally, there is little research on effective interventions to support this decision-making process. This master's thesis represents a first step in developing a structured guidance programme at Ghent University, aimed at enhancing self-knowledge and supporting medical students in making an informed specialty choice.

Materials and Methods: This study aims to explore the potential added value of a short-term guidance programme for medical students who experience uncertainty regarding their specialty choice. Based on literature, a three-step model was developed and applied to twenty fourth-year medical students at Ghent University. The individual counselling process consisted of: (1) completing the LOLA interest questionnaire (based on the RIASEC model), (2) ranking specialty characteristics, and (3) participating in a personal counselling session in which all results were discussed and integrated into a SWOT analysis. After completion, student feedback was collected, and the data were analysed using SPSS.

Results: The general questionnaire revealed that only 40% of the participants reported having sufficient self-knowledge to make a specialty choice and 55-60% reported insufficient insight into their skills and interests. In addition, 60-70% indicated having limited knowledge about the various specialties and their associated competences. The guidance programme proved to be of considerable added value. 85-90% of the students reported new insights and increased self-knowledge, resulting in a clearer picture of the specialty that suited them. Furthermore, the percentage of students who felt confident in making the right choice increased from 55% before participation to 75% after completion of the programme.

Discussion: The results indicate that a structured guidance programme enhances medical students' self-knowledge and their confidence in making a specialty choice. Feedback indicated a clear need for such a programme within the curriculum. Participants also indicated a desire for more detailed information about the various specialties and associated competences. Despite the positive feedback, limitations such as the small, self-selected sample and the absence of a randomized control group must be taken into account. Further research is required to refine the guidance programme and evaluate its long-term effects and its practical integration into the curriculum.

Conclusions: This study highlights the importance of structured guidance for medical students experiencing uncertainty regarding their specialty choice. The programme provided valuable insights that may serve as a foundation for further research into the content and implementation of the guidance programme within the context of medical education.

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1 Introduction

1.1 Specialty choice

Medical training in the Flemish educational system consists of a six-year curriculum. Upon completion, students must decide which advanced master's programme ('ManaMa') to pursue in order to specialize in a particular field of medicine. This system is also observed in other countries such as the Netherlands and Germany, but also in countries of continents other than Europe. Moreover, similar educational structures can be found in countries outside of Europe, where a general medical education is followed by specialized training to become a specialist physician. Choosing a specialty is a crucial issue among medical students (1). Research has shown that this decision is accompanied by considerable stress and doubt. For some students, making this choice is challenging for various reasons. On the one hand, there is a broad range of specialty options, each differing significantly. Additionally, the decision determines the student's future professional career, and once a specialty programme has started, switching is not straightforward. A wrong choice can lead to significant distress for the student. Finally, competition for specialty positions further complicates the decision-making process of medical students.

Beyond this stress, which increases throughout medical school, students already experience tremendous stress during their education, particularly during their final-year clinical rotations. Although these rotations should help students in their decision-making process, they are not always effective in alleviating stress related to specialty choice. Given the impact of this decision-making process, proper guidance for students in making their choice is crucial and needed (2-4).

Beyond its relevance for individual students, this topic is also gaining increasing attention from a research perspective. In particular, there is growing interest in understanding and mapping students' preferences – both in terms of their professional ambitions and broader life goals. Research can provide insight into students' preferences, allowing better alignment with the healthcare needs of a specific country. It is well established that the influx of new residents into different specialties is a dynamic phenomenon in which the government plays a crucial role. An unbalanced distribution can lead to shortages in certain specialties and an oversupply in others, potentially compromising the healthcare system (2, 4-10). Since research has also demonstrated that universities themselves influence students' specialty choices, it is essential to conduct localized studies focused on specific universities (10). Ultimately, the goal is to ensure that well-structured education and counselling enable medical students to reach their full potential while maintaining a balanced healthcare system for the future. Having the most

suited doctor at the most suited place will be beneficial for all included stakeholders (doctor, patient, team, practice, hospital, …), the healthcare system and its sustainability in the future (7).

Research on specialty choice is extensive, primarily focusing on the following aspects:

- Instruments to quantify students' uncertainty
- Students' perceptions of various specialties
- Internal and external determinants influencing specialty choice
- Students' personality traits and job-related preferences linked to their chosen or desired specialty

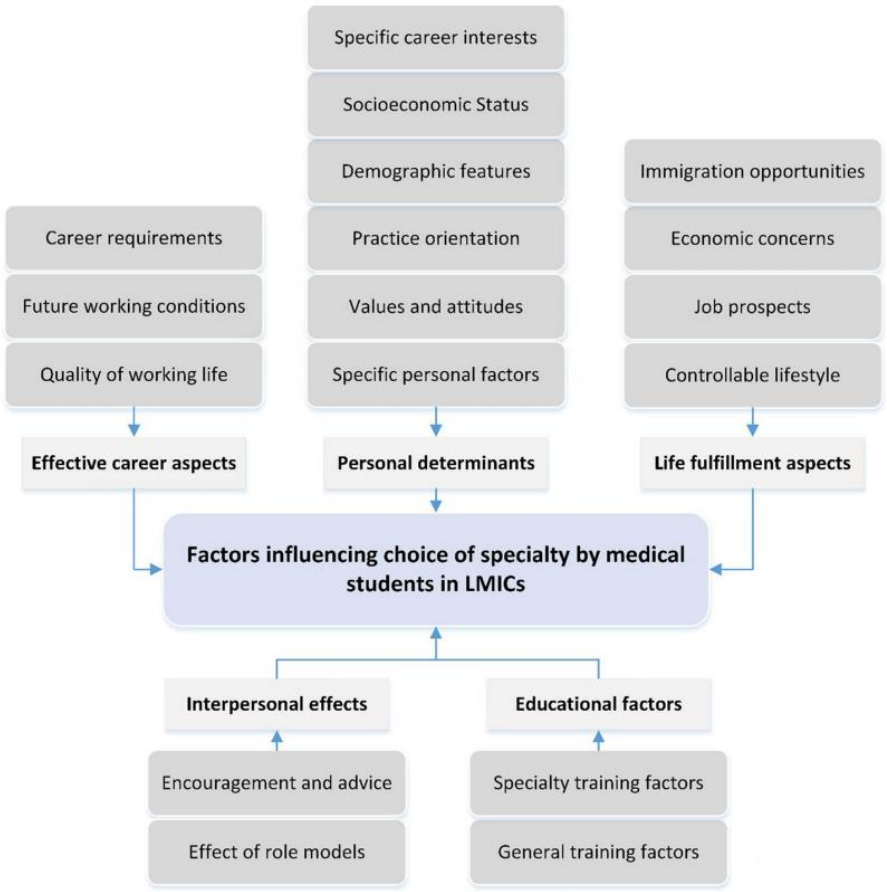
1.2 Instruments for qualifying uncertainty

Evaluating students' progress in choosing a specialty using scales or questionnaires and tracking these throughout their education is useful for mapping the problem and assessing the effectiveness of interventions. Specifically, uncertainty about specialty choice can be approached using measurement tools. Existing career decision-making scales can logically be adapted to assess specialty choice uncertainty. For example, the Career Decision Scale was modified to create the Specialty Indecision Scale (SIS), which is widely used in the United States (11). Additionally, the Medical Career Development Inventory (MCDI) builds upon the SIS. This survey provides information about decisional difficulties and assesses the career maturity of medical students. Another related questionnaire is the Career Maturity Inventory, though it is not specifically tailored to medical careers (12).

1.3 Determinants influencing specialty choice

Research consistently demonstrates that specialty choice is a complex process influenced by numerous factors. Identifying these factors can assist student advisors in counselling students, which explains the significant amount of research dedicated to this topic (4). Sarikhani et al.'s review (9) provided a comprehensive overview of all factors influencing specialty choice, as shown in Figure 1.

Figure 1
Factors influencing choice of specialty



Note. A thematic overview of factors influencing medical students in their choice of specialty (9)

Two particular factors stand out:

1.3.1 Job preferences

In addition to numerous other influencing factors, personal career goals, and job-related needs are of great importance. Extensive research has confirmed their significant role in choosing a medical specialty. These factors include expectations regarding work-life balance, intellectual challenge, variety of pathologies, etc. Based on knowledge of these preferences and students' eventual specialty choices, tools have been developed to predict specialty decisions and provide recommendations to students. In the United Kingdom, the Specialty Choice Inventory (Sci45) was developed in 1997 with governmental support. By completing a CD-ROM-based questionnaire, students could identify the ten statements that most and least aligned with their interest profiles (13, 14). The Sci45 has since been updated and expanded into the Sci59 (13).

The American counterpart to the Sci45 is the Medical Specialty Preference Inventory (MSPI), which consists of 150 statements describing medical tasks. Participants indicate their level of

interest on a scale. Another alternative is the Medical Specialty Preference Scales (MSPS), which focuses on general interests rather than medically specific tasks (13, 15).

Both the Sci45 and the MSPI aimed to link students' interests in specific job characteristics to their eventual specialty choices. Over time, increasing attention has been paid to the role of personality in this process, rather than focusing solely on job characteristics.

1.3.2 Personality

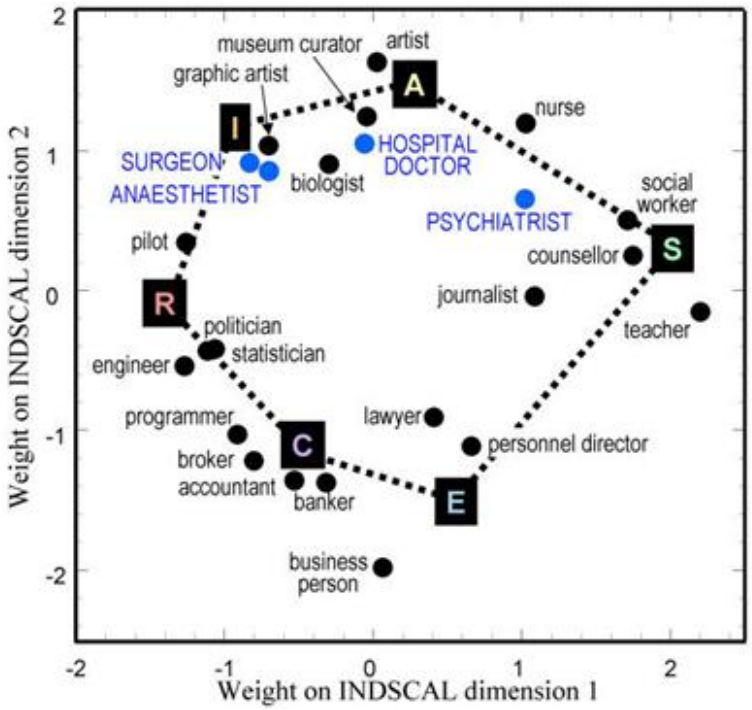
More recent studies investigating why medical students choose particular specialties have highlighted the significant role of personality. It is considered one of the most influential factors in specialty choice and varies greatly among students. However, not all studies produce consistent results, and comparing findings is difficult due to the wide range of personality scales and criteria used to categorize medical specialties (16).

Several theoretical personality frameworks exist, inspired by different psychological theories. Holland's theory classifies careers into six broad types, summarized under the acronym 'RIASEC': Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. On the other hand, Ackerman utilizes the Big Five personality traits (Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness). Another widely used framework is the Myers-Briggs Type Indicator, which classifies individuals into 16 personality types based on four dichotomous categories. Various studies have applied these models to explore the relationship between personality and specialty choice (13, 17-19).

Holland's model provides the most comprehensive information and serves as a foundation for other concepts, such as Ackerman's. Petrides' research demonstrated that Holland's model can be used as a tool to link personal preferences and qualities to specialty preferences. This study also suggested that different elements of the RIASEC model could be associated with specific prototype specialties, as shown in Figure 2, e.g. 'Realistic' with surgery and 'Artistic' with psychiatry (17). Research consistently indicates that personality traits influence specialty choice, reinforcing the necessity of incorporating personality assessments into medical education to assist students in making informed decisions (20). Other studies have consistently shown that certain specialties are associated with specific personality traits and that personality characteristics significantly impact the specialty students choose or find suitable (21, 22).

Figure 2

The relation between professional careers including medical specialties and Holland's RIASEC model



Note. 8283 students of medical universities in the United Kingdom from different cohorts were asked about their interests in different specialties and other professional careers. After various analyses, the study showed that different types of career can be plotted on Holland's RIASEC model and a clear relation between personality traits and career choices exists (17).

Given the established role of personality, it has been demonstrated that focusing solely on students' job-related needs, as exemplified by the MSPI, presents an overly narrow perspective. Conversely, considering only personality traits and linking them directly to specialty preferences is also a risk.

There is sufficient evidence to advocate for the use of personality assessments in medical education concerning specialty choice. However, it is crucial to ensure that their application does not lead to premature conclusions and that their limitations, as well as the broader context of the student, are taken into account (13, 20). Combining personality assessments with an evaluation of personal needs in a future job is essential. Furthermore, relying on a single instrument for guidance may overly restrict the specialty choice process by offering only such an instrument – requiring students to complete it independently – rather than providing a structured programme with guidance from professionals or experienced experts (13, 15).

1.4 Counselling

As previously stated, existing research on specialty choice among medical students has only to a limited extent focused on interventions and counselling. There is a significant lack of research on advising students and how to organize this process effectively and efficiently. In particular, there is a shortage of longitudinal research examining the effects of counselling. This research gap is reflected in the global lack of guidance available to medical students regarding this decision. In a Pakistani study, only 13.7% of students reported receiving professional advice in their choice, with the majority of advice coming from family members (23). Similar statistics are observed in other countries (7, 24).

Despite this, universities bear the responsibility of providing better guidance to students in their decision-making process, a notion supported by students themselves (1, 13, 23). However, in many countries and universities, there is no structured plan to assist students in making this choice (10). Various studies have concluded that there is a need for professionals – either professional academic advisors or practicing physicians who do not participate in student evaluations – to support students in their decision-making process (13). The objective of such guidance should be to help students develop greater self-awareness regarding their strengths, weaknesses, and aspirations for their future professional careers, equipping them with the necessary tools to make an informed decision (1, 3, 13). This guidance should also align with the needs of the local healthcare system (7, 8).

In the United Kingdom, there was no formal framework for student counselling until 2005. However, the need for better guidance, as revealed by a national survey, led to the establishment of career support services specifically for medical students, with each medical school appointing a career advisor. Similarly, a large-scale national study was recently conducted in the Netherlands, aiming to initiate better support for specialty choice (1, 13).

In the United States, the Association of American Medical Colleges (AAMC) provides online tools to assist students in their decision-making. This is available as a free website accessible exclusively to medical students, offering specific tools tailored to each phase of medical education and the specialty choice process (8, 13).

1.5 Developing a structured guidance programme

In Flanders, no large-scale initiatives exist to support medical students in their specialty choice, and there is also a lack of local research on this subject. Universities strive to provide sufficient internship opportunities to familiarize students with various specialty options. At Ghent University, for instance, the bachelor's programme includes a one-week internship in elderly care and a one-week internship in family medicine. In the master's programme, during the fourth year of medical studies (which corresponds to the first year of the master's programme), 12 half-day observation internships are organized. From the second half of the fifth year through the first half of the sixth year, the senior internships take place, consisting of 10 blocks of four-week internships in different disciplines. Students may select two of these internships according to their preferences, with this choice being determined at the end of the fourth year. In the second half of the sixth and final year, three in-depth internships are conducted as part of the students' specialty selection (25).

However, guiding students in their specialty choice, particularly those who experience significant uncertainty and require additional advice, involves more than merely providing a sufficient number of internship hours. Ghent University already emphasizes the development of professional identity and the creation of a safe environment to discuss uncertainties through mentor groups. These fixed groups, consisting of approximately ten students, meet around four times per year throughout the programme to discuss various aspects of medical education and professional identity development. Despite the existence of this initiative, personal experiences have indicated that there is still minimal guidance available at Ghent University for this challenging decision-making process.

Based on previous research, the following elements have been identified as crucial for student counselling:

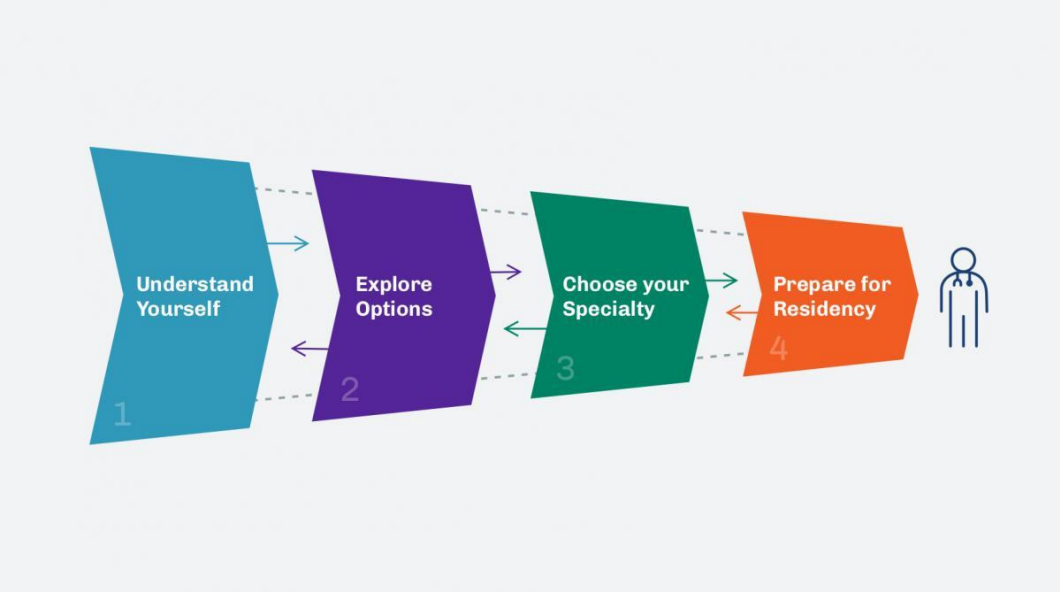
- The optimal specialty decision-making process consists of four phases, as described by the AAMC and shown in Figure 3: (1) increasing self-knowledge, (2) learning about and exploring specialty options, (3) choosing a specialty, and (4) implementing the choice and preparing for residency.
- It is only meaningful to concretely select a specialty once sufficient attention has been given to exploring personal characteristics, preferences and all specialty options.
- The decision-making process is dynamic, as many students change their specialty preference during their clinical years, and for most students, more than one suitable choice exists.
- The use of personality tests plays a role in guiding students but should be seen as part of a broader counselling process aimed at increasing self-knowledge and stimulating

discussion and self-reflection, rather than as a simple solution for determining a student's most suitable specialty.

- Beyond examining personality traits alone, a broader perspective should be adopted, considering students' specific personal needs and job-related preferences and linking these to various medical specialties.
- Counselling should be organized by universities, with a key role for experienced professionals and/or career psychologists.

Figure 3

The 4-phase model of the Association of American Medical Colleges



Note. The four-step career-planning process described by the 'Careers in Medicine'-tool developed by the Association of American Medical Colleges (AAMC) (13).

Based on these elements and the current shortcomings within medical education, we have attempted to develop a short guidance programme to assist students in their decision-making process, focusing primarily on the first phase: increasing students' self-knowledge.

Our target group consisted of first-year master's students who were uncertain about their specialty choice. In general, first-year master's students can be categorized into different groups based on their specialty choice status:

- Those who were initially unsure but have now made a decision.
- Those who have always known what they want to pursue.
- Those who initially had an idea but began to doubt during their education.
- Those who have never had a clear idea.

The groups most in need of additional counselling are students who initially had an idea but started to doubt and those who have always been uncertain. It was for these students that we designed a short guidance programme.

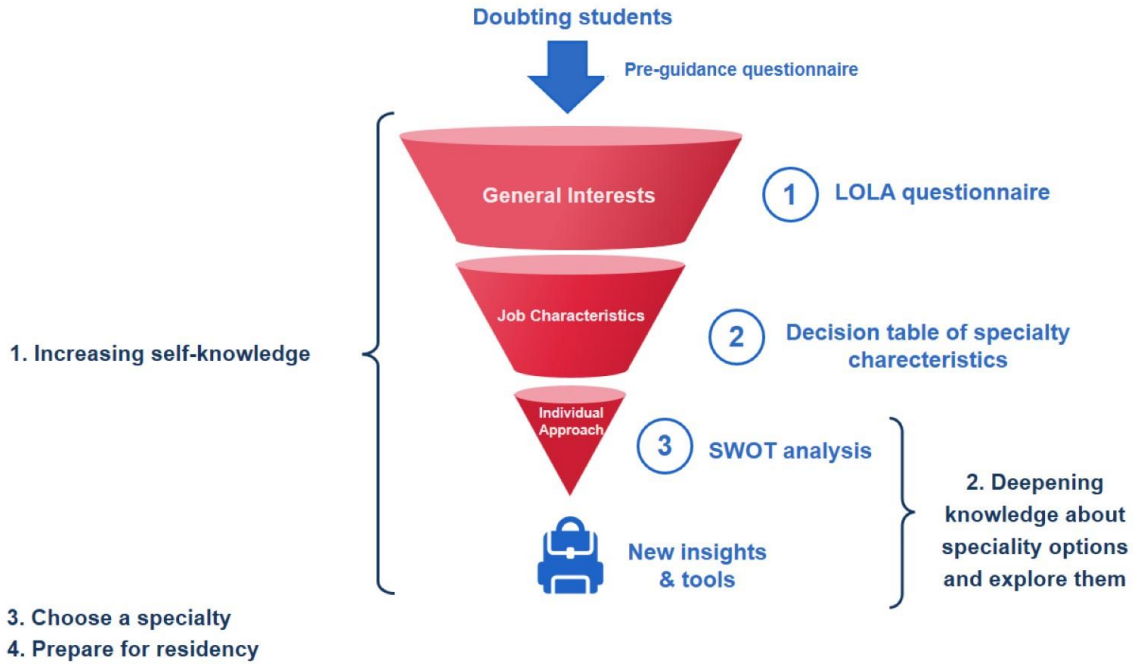
Given limitations in time and resources, a long-term, extensive guidance programme was not feasible. Consequently, our primary objective was to provide students with a broader framework, enhancing their understanding of their own preferences, characteristics, strengths, and weaknesses – knowledge that they could utilize in the decisive phase of their specialty choice in the coming years. To achieve this, we developed a programme incorporating all previously discussed elements from the literature and our own experiences as medical students. The programme consists of three steps, which can be viewed as progressive stages, moving from general characteristics to a more individualized approach, as shown in figure 4:

- General Interest Questionnaire
  Using the RIASEC model, we assessed individual characteristics through a general interest questionnaire. To achieve this, we collaborated with the Faculty of Psychology and Educational Sciences at Ghent University. With the assistance of Professor Dr. Filip De Fruyt, we were able to offer the Low Lands Assessment Systems (LOLA), a career assessment questionnaire typically requiring payment, free of charge to participating students (26).

- Medical Specialty Characteristics Assessment
  In the second step, we focused specifically on medical education. Based on a review of scientific literature, we identified 20 key characteristics of medical specialties that influence students' choices. A framework was provided to students, enabling them to assess which future job factors—specifically within medicine—align with their interests.

- Personalized SWOT Analysis
  In the final step, the previous results, along with the initial general questionnaire, were combined to reach the most individualized level. A personal analysis was conducted using the SWOT model, where students identified their Strengths, Weaknesses, Opportunities, and Threats. In a one-on-one conversation, we delved into individual considerations, equipping students with enhanced self-knowledge and a structured framework to guide them toward their senior clinical rotations.

Figure 4
The three-step model used as framework for the guidance programme



Note. The three-step model of the guidance programme is structured as a funnel, beginning with a broad focus and progressively narrowing to a more individualized approach. The steps are designed to enhance self-knowledge by providing the students with new insights into their interests, preferences, strengths, and weaknesses, as well as equipping them with tools to navigate the decision-making process. This aligns with the first phase of the four-step career decision-making process. The final step of this guidance programme also addresses the second phase: deepening students' knowledge about specialty options.

To ensure that the programme reached the right target group, we included a brief assessment in the application form to determine which category of uncertain students (as outlined above) each participant belonged to. From the numerous applications, we aimed to select not only the most uncertain students but also a diverse group representing different types of uncertainty.

In addition to the three-step programme, selected participants were given a questionnaire assessing their degree of uncertainty. The questions were grouped into different categories, including the extent of self-reflection on specialty choice, prior engagement in the decision-making process, the level of uncertainty regarding specialty choice, and the anxiety experienced during this process. Nearly all statements presented in this questionnaire were derived from or based on previously discussed existing scale.

2 Materials and methods

2.1 Study objectives

The primary objective of this study is to explore the potential added value of a short-term guidance programme for medical students who experience uncertainty regarding their specialty choice. The programme was developed following an extensive literature study, with particular attention to the various factors influencing the decision-making process. Ultimately, this study seeks to highlight the importance of enhanced guidance within medical education and to explore its potential for implementation.

2.2 Study population

The participants were 4th year medical students at Ghent University (Belgium). They were recruited by giving a brief introduction on this study before a lecture where they could scan a projected QR code to sign up immediately or take a leaflet and sign up later. By scanning the QR code, they received a hyperlink to a Google Forms with some demographic questions and questions inquiring about doubts regarding their specialty choice (appendix 1).

In total, 42 students applied. Twenty-one of them were included using seven criteria to select those who were most uncertain about their specialty choice; ultimately, twenty participants completed the full trajectory, while one was lost to follow-up (appendix 2–3). The aim was to include twenty participants. This number allows for the primary objective of the study to be meaningfully examined. Given the extensiveness of the programme, with a strong emphasis on individualized, one-on-one support, it was determined that twenty participants, with each researcher guiding ten students, represents the maximum feasible number within the scope of this thesis.

Written informed consent was obtained from each participating student (appendix 4).

2.3 Research instruments

During the second half of the 4th year of medical school, all participants received an email containing two questionnaires. One was a general questionnaire that included questions about self-knowledge, engagement with the specialty choice, level of uncertainty, and anxiety experienced during the decision-making process (appendix 5). A Google Form with a 5-point Likert type response scale was used for this purpose. The second one was the LOLA questionnaire. This questionnaire is a tool designed to assess an individual’s interests according to Holland's theory. After answering 150 statements on a Likert type response scale, the result is a report that presents the participant's unique interest profile within six broad

domains or areas of interest: realistic, investigative, artistic, social, enterprising, and conventional. Within these domains, a total of 16 specific interest components are distinguished. The tool is designed to be used by career counsellors, human resources departments or individuals. This normally paid questionnaire was provided for free to participants of this master's thesis by one of the founders, Prof. Dr. Filip de Fruyt.

Shortly thereafter, a one-on-one meeting was arranged between the participants and one of the researchers, who are both general practitioner trainees. During this one and a half hour session, the results of the two questionnaires were discussed. The participant was then given twenty specialty characteristics that have been scientifically proven to play a role in the choice medical students have to make. A pairwise comparison was used to rank the characteristics (appendix 6). This approach enabled the student to identify the criteria that carry the most weight in their own decision-making process. Finally a SWOT analysis was used to identify their strengths and weaknesses as a future physician, as well as the opportunities and threats they may face regarding their specialty preferences.

One week after the meeting the participants received a summary of their findings and a short evaluation questionnaire to assess their experience. Feedback was solicited using Likert scale questions and open-ended questions (appendix 7).

2.4 Data analysis

To ensure the confidentiality of the participants, all collected data was pseudonymised. The identification information was replaced by unique codes, which allowed for data analysis without compromising individual identities. The supervisor of this thesis was the only person with access to the keyfile. Data analysis was performed using SPSS Statistics 29 for descriptive statistics.

2.5 Literature

Literature was collected from three online accessible databases, namely PubMed, Embase, and Google Scholar. The use of relevant MeSH and Emtree terms resulted in the selection of 35 articles after screening the abstracts, of which 24 were retained for the writing of this study.

2.6 Ethical approval

Ethical approval for this study was obtained on the 7th of February 2024 by the Ethics Committee of the Ghent University (appendix 8).

3 Results

3.1 Demographics

The participants were 4th year medical students from Ghent University. 85% (n=17) of them were female, 15% (n=3) of them were male. The students were aged between 21 and 23 years old.

The students who participated are similar in many ways. They all are more or less the same age, chose to study medicine, passed the entrance examination and are currently in their fourth year of medical school. They were selected in such way that they are moderately to very satisfied with their choice to study medicine, but strongly doubt their specialty choice. 10% of the students (n = 2) have a limited number of options from which they are still undecided. The other 90% (n = 18) still have a wide range of specialty options available to them.

Although there is a certain level of homogeneity within this group, it is important to note that there is also heterogeneity among the participants. Despite their common interest in medicine, they differ significantly in their interest profile as well as their priorities when it comes to specialty characteristics.

3.2 General questionnaire

At the beginning of the guidance programme the participants received a general questionnaire including questions on self-knowledge, engagement with the specialty choice, level of uncertainty, and anxiety experienced during the decision-making process.

3.2.1 Self-knowledge

Figure 5
"I have enough self-knowledge to be able to make a specialty choice."

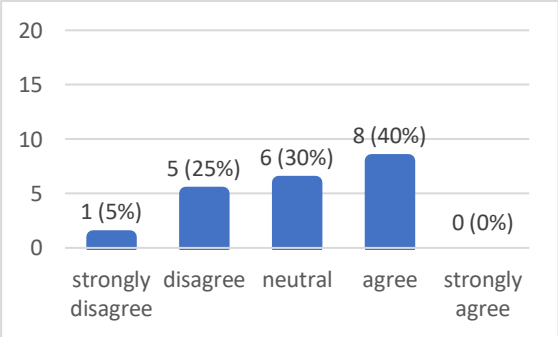


Figure 6
"I have a clear picture of how I see myself in my future workplace."

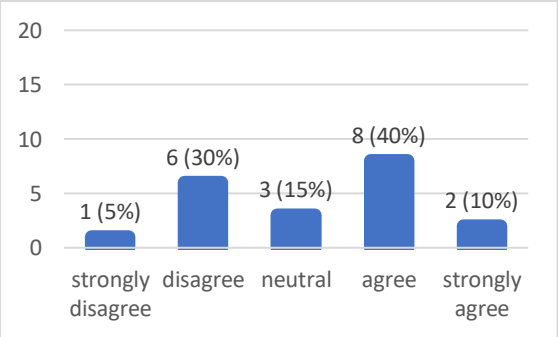


Figure 7
"I don't know what my strengths and weaknesses are in medicine."

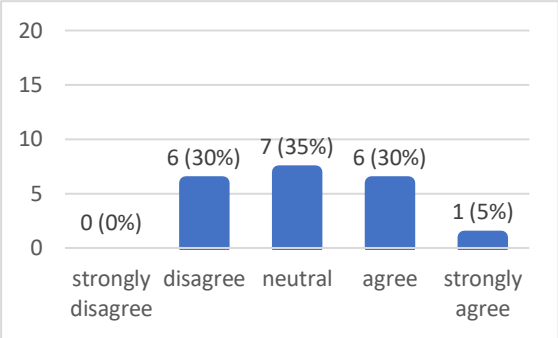


Figure 8
"I have a lack of knowledge about my interests and want to learn more about them."

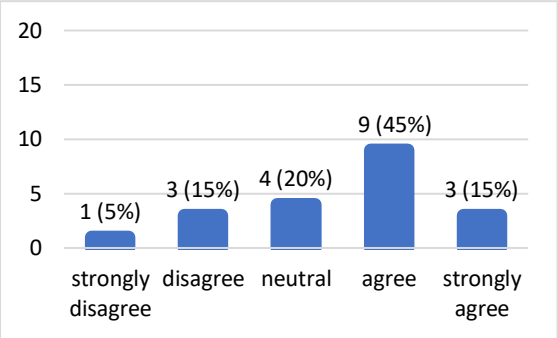


Figure 9
"I have a lack of knowledge about my skills and want to learn more about them."

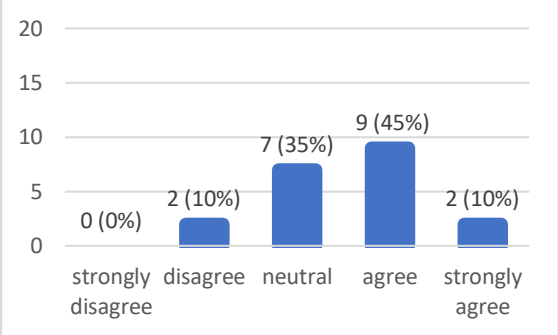
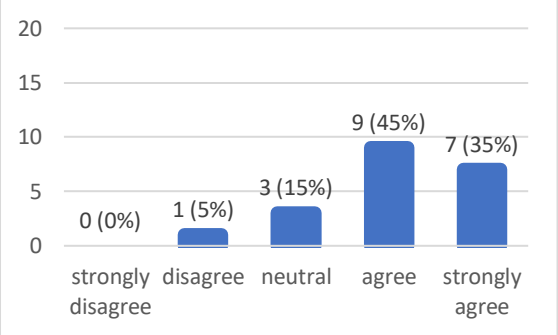


Figure 10
"I don't know who or what can help me in this decision making process."



The results of the questionnaire indicate that 40% (n = 8) of the students report having sufficient self-knowledge to make an informed choice of specialty (figure 5), and 50% (n = 10) state that they already have a clear picture of how they see themselves in the future workplace (figure 6).

However, 35% (n = 7), profess a lack of awareness regarding their strengths and weaknesses within the medical field. 30% (n = 6) assert that they have already attained a sufficient level of insight into this aspect. The remaining 35% (n = 7) maintain a neutral stance on the matter (figure 7). Furthermore, 60% (n=12) and 55% (n=11) of respondents, respectively, acknowledge a lack of insight into their interests and skills, and express a desire to gain more knowledge in these areas (figure 8-9). A total of 80% of participating students are unaware of who or what could assist them in this decision making process (figure 10).

3.2.2 Knowledge on medical specialties

Figure 11
"I have a good understanding of the different specialties and their field of work."

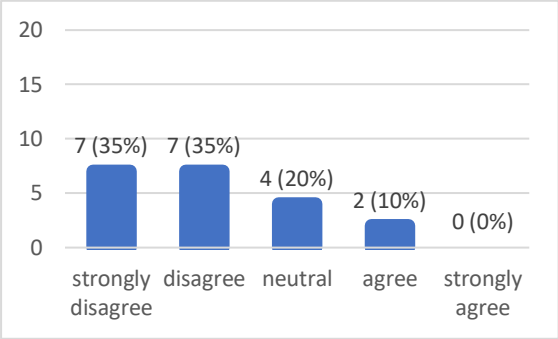
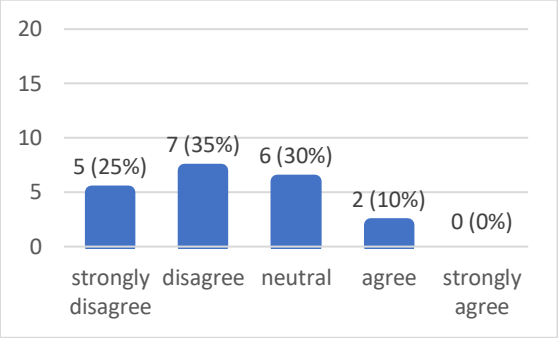


Figure 12
"I know what skills each specialty requires."



70% (n = 13) of students indicated that they do not have a good understanding of the different specialties and their field of work (figure 11). 60% have no knowledge of the skills that each specialty requires (figure 12). Respectively 20% and 30% were neutral on these questions, resulting in only 10% of students indicating that they have sufficient knowledge on these topics.

3.2.3 The impact of choice

Figure 13
"I feel under pressure to choose a specialty as soon as possible."

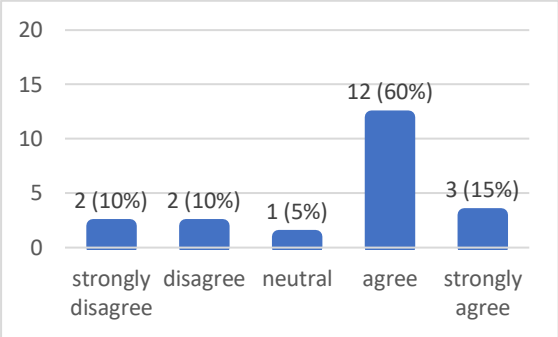


Figure 14
"Thinking about the specialty choice makes me anxious."

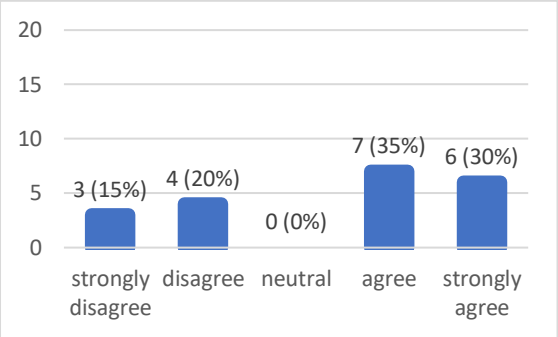


Figure 15
"The doubt about my specialty choice has a great impact on my mental well-being."

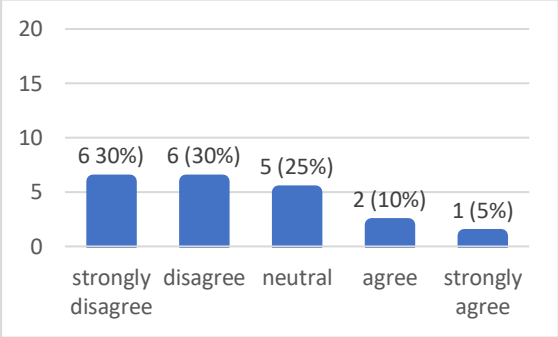
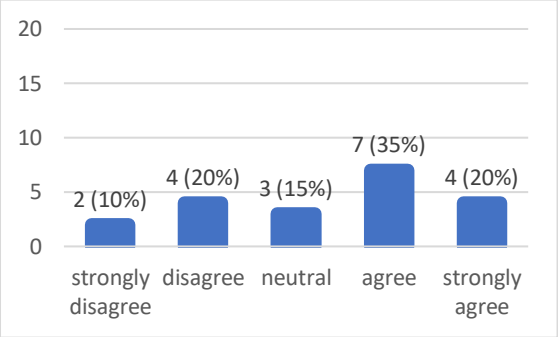


Figure 16
"I am confident that I will make the right choice."

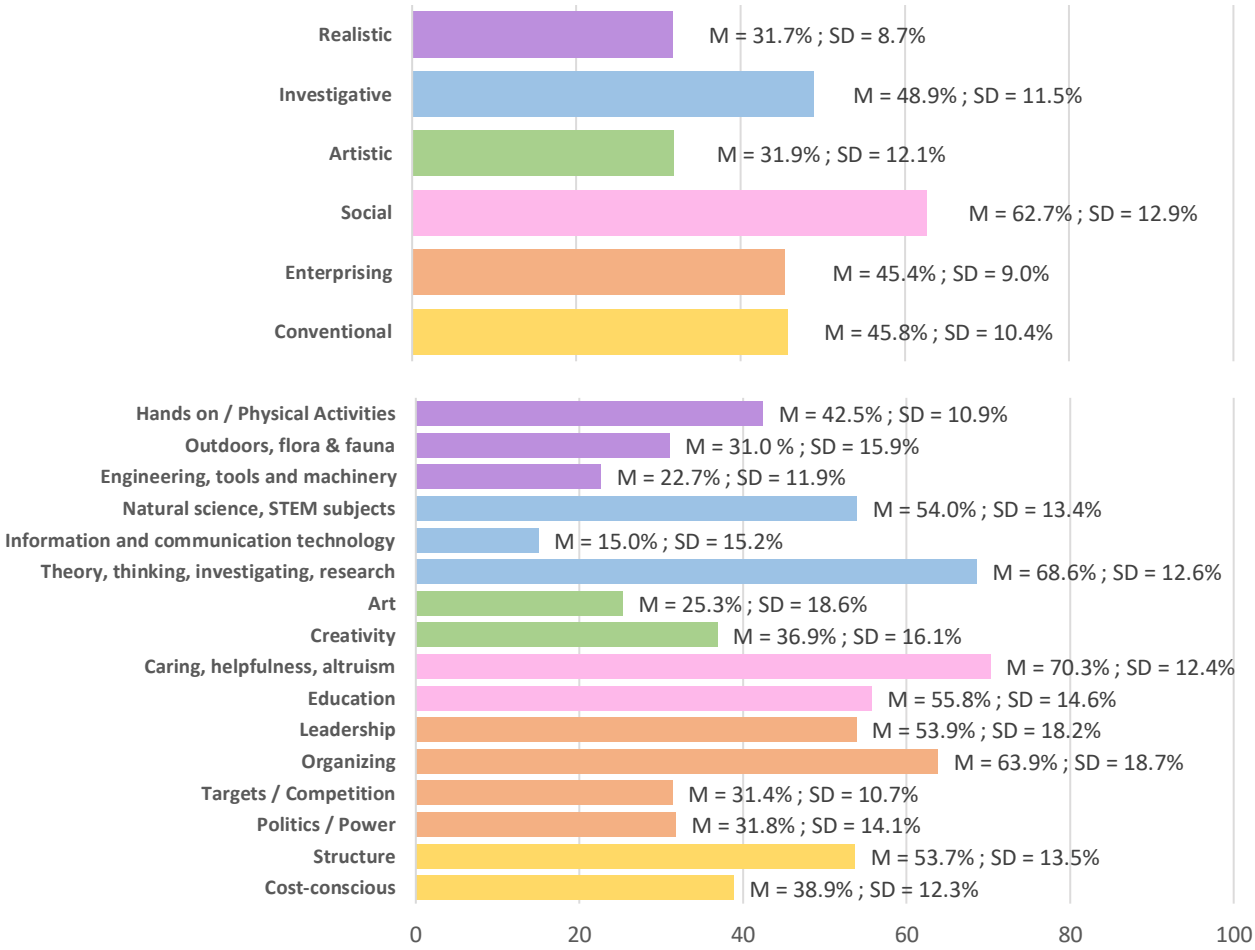


This questionnaire also explored the impact of the decision-making process on these students. First of all, 75% (n = 13) of them feel under pressure to choose a specialty as soon as possible (figure 13). 65% (n = 11) says that thinking about their specialty choice makes them feel anxious (figure 14). Regardless of the specialty choice, 50% of students (n = 10) state that making an important decision is always difficult for them.

Nevertheless, only 15% (n = 3) indicate that doubting about the specialty choice has a great impact on their mental well-being (figure 15). 55% of students are even confident that they will make the right choice (figure 16).

3.3 LOLA questionnaire

Figure 17
The average interest profile of the participating students



Note. The figure above illustrates the mean interest profile of the twenty participants following the completion of the LOLA questionnaire. The upper portion of the figure illustrates the average Holland profile, showing the six domains (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional). The bottom section presents the average component profile, which consists of sixteen components. The mean (M) indicated in the figure represents the average achieved percentage of the maximum attainable score by the participants. Furthermore, the standard deviation (SD) is exhibited, thereby offering insight into the extent of variation present within the group's responses.

The average participating medical student is primarily interested in the following three domains: social (M = 62.65%; SD = 12.861), investigative (M = 48.90; SD = 11.466), and conventional (M = 45.75%; SD = 10.361). If looking at the 16 components, the average interest profile consists of caring (M = 70.25%; SD = 12.409), theory (M = 68.60%; SD = 12.571), and organizing (M = 63.85%; SD = 18.729). Despite the existence of an average interest profile, considerable variation exists among participants' interest profiles (appendix 9).

3.4 Specialty characteristics

Table 1
The average ranking of specialty characteristics of participating students.

Ranking	Specialty characteristics	Mean	Std. Deviation
1	Work-life balance	4.25	3.61
2	One on one patient contact	5.05	3.49
3	Teamwork / multidisciplinary	6.40	3.83
4	Long-term doctor-patient relationship	7.10	4.70
5	Job security	7.30	4.57
6	Highly specialized, intellectually challenging	7.95	4.45
7	Great importance of communication skills	8.40	4.44
8	Possibility of setting up your own practice	8.85	5.50
9	Performing many technical interventions	9.00	3.63
10	Opportunity to work abroad or engage in research	9.95	7.02
11	Acute pathology	10.65	4.63
12	Low competition for a specialty position	11.50	6.92
13	Hospital environment	11.75	3.95
14	Great attention to prevention	11.75	3.60
15	Income	12.45	4.03
16	Working with children	12.45	6.27
17	Working with the elderly	15.35	3.23
18	Duration of the training	15.40	4.26
19	Family or friends' opinion/choice	16.10	3.18
20	Image of the specialty	18.35	1.63

Note. This table presents a list of twenty specialty characteristics that have been identified as playing a role in the specialty choices of medical students. Using a decision table (appendix 6), twenty participants ranked these characteristics based on their preferences. The mean column indicates the average ranking position for each characteristic across all participants, with lower means representing higher preference. The standard deviation provides insight into the variation in rankings among the students, reflecting how consistently a particular characteristic was ranked.

Table 1 illustrates the average order of the specialty characteristics ranked by the twenty participating students. The three characteristics that resulted in the highest mean scores are as follows: work-life balance (M = 4.25 ; SD = 3.611), having one-on-one patient contact (M = 5.05 ; SD =3.486), and the ability to work multidisciplinary or in a team (M = 6.40 ; SD = 3.831). These characteristics were considered most important by the majority of participating students in making their specialty choice. The length of the programme (M = 15.40 ; SD = 4.260), the

opinion or choice of family or friends (M =16.10 ; SD = 3.177), and the image of the specialty (M = 18.35 ; SD = 1.631) weigh the least for these students in their specialty choice.

The three characteristics that exhibited the greatest variability in responses are the opportunity to work abroad or engage in research (M = 9.95 ; SD = 7.015), low competition for a specialty position (M = 11.50 ; SD 6.917), and working with children (M = 12.45 ; SD 6.270).

Conversely, the characteristics that exhibited the least variability in responses were the image of the specialty (M = 18.35 ; SD = 1.631), family or friend's opinion or choice (M = 16.10 ; SD = 3.177), and working with the elderly (M = 15.35 ; SD = 3.233).

3.5 SWOT analysis

At the end of the one-on-one meeting a SWOT analysis was conducted with the participants. Their strengths and weaknesses as a future doctor were identified as well as the opportunities and threats they may experience regarding their specialty preferences. For each student the SWOT analysis consisted of results from the LOLA questionnaire, the specialty characteristics, as well as new insights that came with the one-on-one conversation between the student and the researcher.

Table 2
Examples of various elements that emerged from the SWOT analyses

Strengths	Weaknesses
- You are empathetic. People feel heard by you. You want a specialty in which you can bring that forward. - You like teamwork and think a multidisciplinary approach is important. - You have a strong interest in the investigative domain, you like to reason, you like to work hard on a case. You are not put off if a case is not immediately obvious. - It appeals to you to follow up patients for a long period of time. You see opportunities for prevention here. - You have a strong interest in the education component and are also good at this. This can come in handy in supervising patients and/or students. - You are good at completing your work and letting go of it.	- You don't like acute situations where you have to make quick decisions. - You would quickly discount yourself relative to other candidates/colleagues if there is competition. - You are less interested in performing practical actions. You also think of yourself as not very handy. As a variation within your job, you do hope to be able to do technical actions now and then. - You consider yourself a perfectionist and this sometimes requires a lot of time. - Order and structure are less important to you. This may be a pitfall for keeping patient records, writing letters, and various other tasks that will come your way throughout your workday.

Opportunities	Threats
- Gynaecology: Technical interventions and the opportunity to start a private practice. - Family medicine: The long-term doctor-patient relationship and the wide variety of pathology appeal to you. You see potential for starting a private practice where you hope to take on a coordinating role. There are few on-call shifts and no hospital environment. - Psychiatry: In this specialty, the communicative aspect appeals to you. Choosing a specialty initially seems very narrow, but afterwards a range of possibilities open up again in many disciplines (e.g. research, management positions, teaching, Kind & Gezin, etc.).	- Gynaecology: You worry about the work/life balance and unpredictability. The obstetrics component appeals less to you. - Family medicine: You wonder if this is sufficiently intellectually challenging. You think you would find it difficult to hand over the patient when you refer them. The income is lower than some other specialties. - Psychiatry: A lot of difficult and negative stories. You fear being able to achieve little in the short term. -

Note. This table contains a selection of elements identified by different participating students, offering a representative example of what can emerge from a SWOT analysis.

3.6 Feedback

Hereabove, the content of the guidance programme and the associated results were described. The following section presents the feedback received from the participating students. Feedback was solicited using Likert scale questions and some open-ended questions. The feedback is broken down into overarching themes that emerged.

3.6.1 Content of the guidance programme

3.6.1.1 LOLA

The LOLA questionnaire was generally perceived as positive. While the completion of the questionnaire did require a certain investment of time from some students, the results obtained were considered to be helpful. The fact that the questionnaire does not specifically target medical students allowed for insights to be gained extending beyond the specialty choice.

> *Student 16: '"LOLA is a good questionnaire, but there are some questions that aren't as relevant. It's a good tool because it helps you understand what you like to do and where you will find satisfaction later on. This is important for most people when choosing a job. Even though sometimes it was about things that are not addressed at all in any specialty (working outside the artistic), those things are still nice to know what you can then apply yourself to in your free time."*

> *Student 10: "I thought the LOLA test felt very long, but in the end it was very interesting to read/hear the result and I learnt a lot from it."*

3.6.1.2 Specialty characteristics

Completing the decision table of specialty characteristics required the students to make 210 choices at a fast pace. Some students felt this to be (time) intensive, although they also saw the added value of this. Some students suggested to have this decision table filed in beforehand in order to have more time for reflection during the individual counselling.

> *Student 16: "Decision table: very interesting to see your preferences ranked objectively. Also the further discussion ("why is working with children ranked so low?") and in which specialties you do or do not find this, contributes to further insight into what is important to you in a job".*
>
> *Student 20: "I thought the one-on one discussion was a very good addition. Not only because the results of the LOLA questionnaire are discussed, but especially because it gives you a choice between two specialty characteristics and choose between them. [...] It puts your thoughts in order and makes certain things much clearer."*
>
> *Student 1: "Perhaps I would just have the student arrange the various options of the "decision table" instead of going through the (somewhat lengthy) process now.*

3.6.1.3 SWOT analysis

One student provided a negative feedback response regarding the SWOT analysis. For the remaining students (n = 19), this step of the counselling process facilitated the consolidation of all the results and enhanced clarity.

> *Student 16: "Very valuable for internship preparation! Now I can prepare even better (what to look out for during the internships). You can easily repeat this during the internship process, so I'm glad I learnt about it."*
>
> *Student 18: "I found the SWOT analysis less interesting."*
>
> *Student 19: "What I found most interesting was the SWOT analysis for each specialty you are interested in, all the pieces of the puzzle suddenly seemed to fit together. It made it clear why I found these specialties so interesting […]."*

3.6.1.4 Individual counselling

The feedback also cited the added value of discussing the results with the student during an individual counselling session.

Student 17: "The one-on-one meeting itself was very interesting, considering that all the results of the tests taken were then discussed, and the researcher also made us think more about the questions we had answered, which was really an added value!

3.6.2 Outcome of the counselling

Figure 18
"I learnt something about myself (strengths, weaknesses, interests or factors I consider important in my future profession) thanks to this counselling programme."

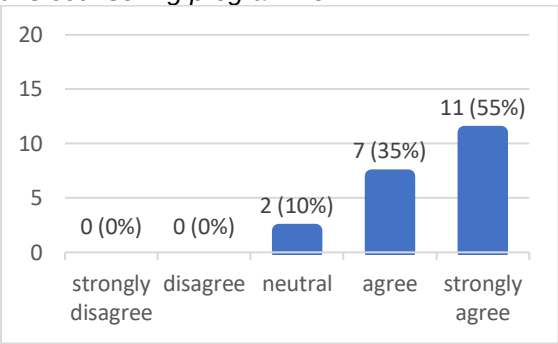


Figure 19
"This guidance programme has provided me with new insights that I would not have gained otherwise."

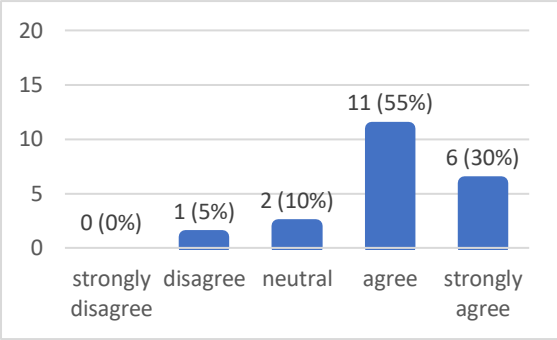


Figure 20
"The counselling programme has provided me with a clearer understanding of which specialty choice(s) would suit me best."

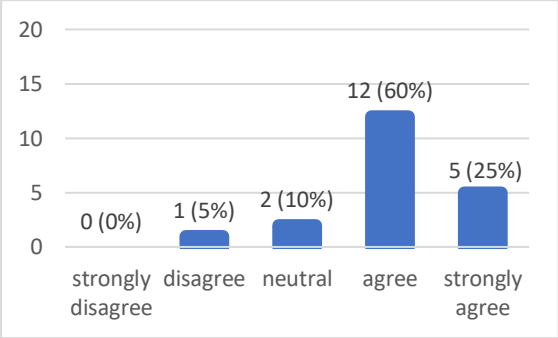


Figure 21
"I feel more confident in my ability to make an appropriate specialty choice."

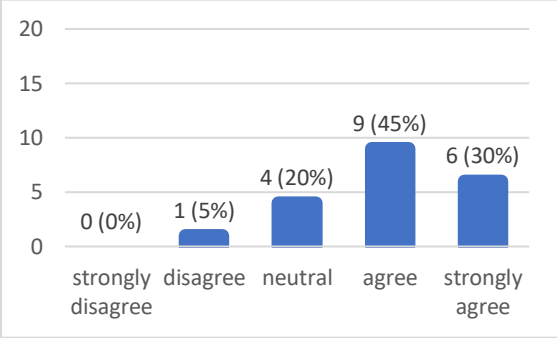
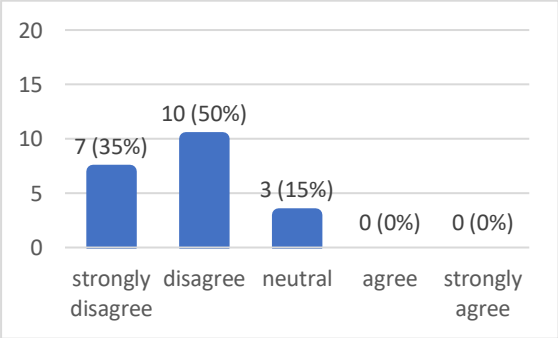


Figure 22
"As a result of this guidance programme, I experience even greater uncertainty regarding my specialty choice."



90% (n = 18) of the students indicated that they did learn something about themselves and what they consider important in their future profession (figure 18). 85% (n=17) of the students gained more insights that they might never have known without the counselling (figure 19). Likewise, 85% (n=17) indicated that thanks to this guidance programme, they have a clearer idea about which specialty choice suits them better (figure 20). 75% (n=15) of students feel more confident in making the 'right' choice (figure 21). None of the students experience more

uncertainty regarding their specialty choice after completing the programme (figure 22). These findings were also confirmed in the open feedback.

> *Student 8: "I found it very informative. In particular, I learnt to look at my choice of specialty in a different way. Besides what I find interesting, I learnt to look at who I am and what suits me. [...] For the first time I saw how you can put a specialty to the test. In addition to internships and talking to people, it seems to me to be a really valuable additional look at the choice I will have to make".*

3.6.3 Implementation in the medical curriculum

3.6.3.1 Added value

Figure 23
"I would recommend this guidance programme to my fellow students."

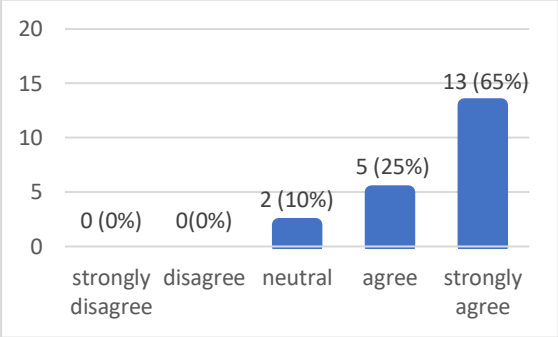
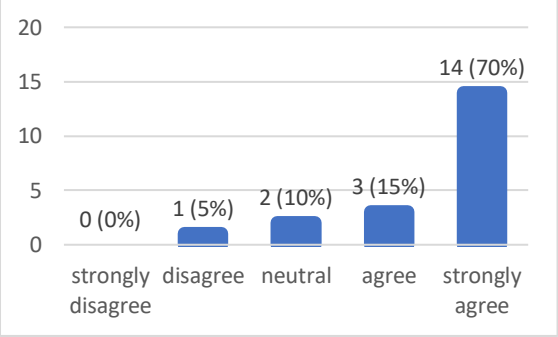


Figure 24
"The implementation of this guidance programme (or a similar one) would enhance the medical programme's value."



In response to the question of whether they would recommend the counselling programme to their peers, 90% (n = 18) of the students expressed a positive response, while 10% (n = 2) remained neutral (figure 23). Furthermore, 85% (n = 17) of the students indicated that this or a similar guidance programme could enhance the medical programme, while 10% (n = 2) were neutral on this matter (figure 24). One student stated that he or she did not perceive any added value in this programme, although he or she acknowledged the necessity of such counselling and expressed a unanimous agreement with the statement that he or she would recommend it to their peers.

> *Student 13: "I found this guidance programme to be very informative, especially in getting to know oneself, one's interests, values and norms, strengths and weaknesses. A similar implementation in medical school for students who have to make this important decision would be a great asset."*

> *Student 19: "I shared the results of my talk with my close friends of medical school. They were also very excited about this project when I talked to them about it, and regretted that they had not signed up for it as well when they saw my results. So I think I can say that it can be useful for several students."*

3.6.3.2 Practical approach

The students were able to provide feedback on both the content and the practical approach of the guidance programme.

Timing

For 95% of the students (n = 19), the timing of the guidance programme was optimal, aligning with the second semester of the fourth year of medical school. This alignment is attributable to two primary factors. Firstly, a significant portion of the clinical courses had already been completed and students had undergone an internship in family medicine and several observational internships. The knowledge acquired from these experiences can be utilized during the guidance programme. Secondly, the timing precedes the senior internships. This enables students to apply the insights gained during counselling in selecting their two elective senior internships and to test the tools provided by the programme against the realities of clinical practice.

> *Student 19: "I think the guidance programme was organized at the right time. You've already had a general practitioner internship and some short observation internships, which does give you a little bit of a picture of 'What do I like to do?'. But the senior internships haven't happened yet, which is good because you can use what you've learnt about yourself for those important internships."*

One student indicated a preference for the fifth year of medicine, but still wanted it to occur at a time prior to the senior internship. Three students proposed the scheduling of a second session during or after the senior internships.

Workload

Two students indicated that the workload for the guidance programme was acceptable. The remaining students did not offer their opinion on the workload. The LOLA questionnaire was considered labour-intensive by one student. The decision table with specialty characteristics was considered labour-intensive by two students.

> *Student 11: "Pleasant, was not a lot of work to achieve meaningful results."*

By whom?

In order to implement a guidance programme in the medical curriculum, it is essential to allocate a designated time and place for these sessions. Some students opt for the integration of counselling sessions within the already existing mentoring programme, while others express a preference for individualized guidance from a neutral third party, e.g. a student psychologist.

Student 10: "I think it could also be useful to integrate this topic more into the mentoring sessions, because there you can have a low-threshold discussion about what everyone's vision is regarding specialty. Of course, this depends a lot on the group and the students, as some have a very competitive mindset when it comes to this topic and may find it difficult to talk about.

Student 13: "One-on-one conversations can teach you a lot, I think. I have already experienced that with this counselling. I don't really see that in the mentoring sessions, I don't know if our mentor knows us well enough to guide us and give us tips...".

Student 19: I also really like the idea of a one-on-one meeting with a student psychologist! […]. He or she is separate from your studies, which is nice. The mentor could also do this, but I've heard in many groups that the mentor is sometimes a bit distant from the students or has little time. That's why I prefer a student psychologist.."

3.6.3.3 Students' needs

Information on specialty options

We asked the participating students what they need apart from this guidance programme. Two elements clearly emerged. Firstly, 85% (n =17) of the students indicated that they needed more information from the faculty of medicine about the different specialty options in order to make a fully informed choice. More information about the senior internship is also requested.

Student 3: "It would be good to have an information session about specialty choices in the fourth year, because now everyone has information from what they've heard from other students, and it's actually hard to know what's the truth.

Elective internships

Secondly, 25% (n = 5) have stated that the provision of additional elective internships would assist them in the decision-making process. This would facilitate a more informed choice by enabling them to gain insight into the various available specialty options.

Student 17: "I think it would be nice to have more observation internships so we can get a taste of different disciplines. Now sometimes we don't really know what everything entails and that makes it difficult to choose."

Student 8: "In addition, I think it would be a good idea for Ghent University to add more internships to the curriculum in the first three years (or offer more elective internships/voluntary day internships), so that students get a chance to sample a lot of different specialties, which allows them to get an idea of what suits them and what doesn't."

4 Discussion

The choice of a medical specialty is a crucial decision in the career of medical students. Many students express a need for guidance, a need that is also essential for maintaining balance within the healthcare system. However, structured and well-organized support for this decision is largely lacking. This study aimed to take a first step toward more targeted guidance for medical students who are uncertain about their specialty choice. Increasing self-knowledge is considered a fundamental first step in the decision-making process, which is why this guidance initiative initially prioritized this foundational phase (13).

The extant literature indicates that personality plays a significant role in the specialty choices students make and that certain specialties are associated with specific personality traits (13, 17–19, 21, 22). In this study, the LOLA questionnaire was used to apply Holland's model to incorporate students' personality and general interests into the guidance process. However, extant research indicates that personality alone is insufficient to make a well-informed decision; environmental factors, including the specific demands of medical specialties, must also be considered. The integration of individualized counselling and reflective dialogue has emerged as a critical component in this regard (13, 15, 20). Therefore, a three-step guidance programme was developed, designed as a funnel structure: starting at the broadest level and gradually narrowing to the most individualized level, as shown in figure 4. The process began with the general interest LOLA-questionnaire, which focuses on students' general personality and interests. Subsequently, the focus shifted to a medical context through a decision-making table that explored occupational characteristics potentially influencing specialty choice. Finally, all results were synthesized and discussed with the student in order to create a personalized SWOT analysis, applied to the individual and their specialty preferences.

The results of the LOLA questionnaire revealed the average interest profile of the participating students. The three domains in which students scored the highest – 'social', 'investigative', and 'conventional' – can be partly explained by their shared decision to pursue medical studies. However, the substantial variability observed among participants suggests important individual differences, underscoring the necessity for personalized guidance. As this questionnaire was not specifically developed for medical professions, the results extended beyond interests within the medical context. This allowed students to reflect on which interest areas they would like to develop in their future careers, as well as which interests they may wish to pursue in their free time.

The specialty characteristics table was composed of twenty features of medical specialties that literature suggests play a role in the decision-making process. To assess the relative importance of these characteristics, students were required to make 210 rapid successive decisions. Several students found this to be labour-intensive. However, its added value became evident only upon subsequent reflection during the discussion of the results.
The table indicated that, on average, work-life balance emerged as the most important factor in the participants' choice of specialty. It further revealed high variability in the ranking of some characteristics, including the opportunity to work abroad or engage in research, low competition for a specialty position, and working with children. This finding underscores the individual differences in students' prioritization of these factors, influenced by their personal preferences, career aspirations, and prior experiences. External factors such as the image of the specialty, duration of the training, the opinions of family and friends, and future income appeared to have less influence on students' specialty choices.

In the SWOT analysis, the findings from the LOLA questionnaire and the specialty characteristics table were integrated. The individual conversation with the student during the SWOT process also elicited additional insights. At the time of participation, students had limited clinical experience, complicating their ability to accurately identify strengths and weaknesses, or to assess opportunities and threats related to their specialty preferences. Additionally, there is a risk that students may hold certain biases about specialties. This underscores the importance of engaging in guided discussion with a supervisor who can serve as a sounding board and encourage critical reflection. However, there is also the danger that the supervisor may inadvertently steer students in a particular direction, influenced by stereotypical thinking or personal experiences.

While these results provide a general overview of the participating students, it should be noted that this was not the study's objective. Contrary to previous research, this study did not intend to provide a summary of average interests, personality traits, or decision-making factors. Instead, the objective was to provide students with structured, personalized guidance through a self-centred approach and to evaluate this process. This guidance programme was principally oriented towards the initial phase of the decision-making process: increasing self-knowledge. Among the twenty participants, 90% reported gaining new insights about themselves in relation to their future profession. Furthermore, 85% of the participants indicated that they had acquired insights they likely would not have gained without this programme, and the same percentage reported an enhanced understanding of which specialty best suits them. Thus, the programme succeeded in enhancing students' self-knowledge.

During the individual conversations, the second phase of the decision-making process – deepening knowledge about medical specialties – spontaneously became a topic of discussion. Students asked questions about the daily practice of various specialties, to which the researchers responded based on their own knowledge. A well-founded choice of specialty requires not only insight into one's own strengths and interests, but also sufficient knowledge of the various specialty options. (13).

In Flanders, and more specifically at Ghent University, there is a lack of structured guidance for specialty choices. The guidance is also limited internationally, although some countries have recently made efforts to improve it (1, 13, 18).
This study demonstrates a substantial need for guidance, as evidenced by the high number of registrations and the feedback received after the guidance programme. Completing the guidance process not only helped students develop more self-knowledge, but also increased their confidence in making the right specialty choice. After completing the programme, 75% of the students expressed confidence in their choice, compared to 55% before the programme, and none of the students experienced more uncertainty regarding their specialty choice. The strength of this guidance programme lies in the combination of a general interest analysis, specific medical specialty characteristics, and a personalized approach. Any guidance programme implemented within the curriculum should adhere to these principles.

4.1 Implementation in the medical curriculum

The guidance programme took place during the second half of the fourth year of medical school. This timing was deliberately selected by the researchers and positively evaluated by the participating students. At this point in time, students had already completed several observational internships, which enabled them to integrate their prior experiences into the reflective process. Moreover, senior internships begin shortly after the programme, providing an opportunity to apply and test the insights acquired through this trajectory.
Scheduling the programme earlier would include students who have little practical experience and are not yet actively engaged in their decision-making process. Furthermore, it is crucial to acknowledge that scheduling the programme too early could imply to students that they should already be actively involved in this decision-making process, potentially exacerbating pressure and competitiveness. Conversely, scheduling it too late would deny students the opportunity to reflect during internships on the tools and insights provided by the guidance process, and may result in the exclusion of students who have already committed to a specialty. It is recommended that the guidance be offered not as a single moment but at multiple times, as proposed by several participants. The development of a new curricular track ("lijn" at Ghent University), focused on competences regarding "professional identity", could support this.

Furthermore, it is necessary to evaluate who should provide such guidance. While physicians or senior medical students are experienced professionals and can offer practice-based guidance, there is a risk that personal experiences and views may influence the process. Additionally, physicians engaged in student assessment or selection may not be perceived as safe individuals with whom to share information, due to fear of potential consequences for students' careers. Professional career counsellors or student psychologists, as suggested by some participants, could offer a more neutral and methodologically grounded approach but may lack specific knowledge about the medical field.
Another option proposed by students is to integrate such guidance into the existing mentoring groups at Ghent University. Currently, these mentoring groups are only minimally used for career counselling, although they could provide a suitable setting for going through the steps of the guidance programme and discussing doubts regarding specialty choices. It is important to note that these mentoring sessions occur in a group setting, raising concerns among some students about openness in the presence of peers. Consequently, the quality of guidance strongly depends on group dynamics, the level of competition among students, and the skills of the mentor. As mentors see their mentees four to five times per academic year throughout the six-year programme, they could play a key role in identifying students with doubts and addressing their need for guidance.

Finally, the feedback indicated a strong need for more information about the different specialties. This could be integrated into the curriculum through short interactive lectures at the end of each clinical subject, in which a specialist or resident provides insight into the daily work and required competences of the discipline. An alternative approach would be to incorporate brief internships at the end of each course, although the curriculum already includes a substantial number of internship days. The existing events such as 'Date Your Doctor', organized by BeMSA Ghent, provide students with the opportunity to interact directly with physicians from various specialties. Such initiatives merit broader institutional support and curricular integration.

Of course, the financial feasibility of such guidance initiatives must be carefully considered. Implementing multiple guidance moments, involving professionals, and developing a new educational track require significant time and resources. It is essential to strike a balance between the benefits of extensive guidance and the available educational budgets.

4.2 Limitations

This study has several limitations. The guidance process involved only twenty students from the same academic year and university. Given this small sample size and the great

heterogeneity among medical students, it is not possible to draw statistically significant conclusions. Furthermore, this was not a randomized controlled trial, precluding meaningful comparison between participants and non-participants, and limiting the capacity to establish causal effects.

Additionally, selection bias was present. Students enrolled on a voluntary basis and were selected based on strong doubts about their specialty choice. It was therefore expected that they would report a higher need for guidance.

The guidance process involved multiple questionnaires. Two of these were researcher-constructed, based on existing validated questionnaires, but were never tested for internal validity. The LOLA questionnaire, however, was developed using a scientific methodology. A relevant note is that many alternative interest questionnaires exist for this purpose. Moreover, the LOLA questionnaire is usually not freely available, which can impose financial pressure on the university or individual students. For the present study, the questionnaire was provided free of charge by Prof. Dr. Filip De Fruyt, one of its developers.

The researchers, both general practitioner trainees, made every effort to provide effective guidance but do not possess formal training in counselling and may not have been fully neutral in their perspective on different specialty options.

While the guidance programme contained several key elements that characterize a high-quality intervention, it was limited in both duration and scope. In addition to promoting self-knowledge, a complete guidance programme should also encompass later stages of the decision-making process, including a greater emphasis on acquiring knowledge about the various specialties (13).

4.3 Further research

This study can serve as a foundational framework for further research on how (Flemish) medical students can be better supported in choosing a specialty. Subsequent studies may concentrate on refining the components of the guidance process. For instance, the development of validated questionnaires could facilitate the identification of students experiencing uncertainty regarding their choice. Research could also investigate which interest inventories offer the greatest added value while maintaining cost-efficiency. Additionally, the table of specialty characteristics could be refined and alternative methods to the decision-making table could be explored for better-founded ranking.

Beyond the programme content, practical implementation within the curriculum also merits investigation. Key questions include: who should deliver the guidance, when during the programme should it take place, and what format (individual or group-based, online or in-person) is most effective?

This guidance initiative may serve as a foundation, upon which randomized controlled trials could more precisely evaluate its efficacy and added value for students. Follow-up moments could then evaluate the long-term effects of such programme.

In conducting further research, it is essential to safeguard the original aim of supporting undecided students. This means providing medical students with greater self-knowledge and tools to navigate the specialty decision-making process – ultimately alleviating the psychological burden associated with this pivotal career decision and increasing the likelihood that students end up in specialties that align with their competences and interests. This contributes to an efficient healthcare system in which physicians can function optimally and patients receive the best possible care.

5 Conclusions

The decision of a medical specialty at the end of medical school represents a pivotal moment for students and is often accompanied by considerable stress. Both nationally and internationally, counselling related to this decision and research in this area remain limited, while existing studies primarily focus on the factors influencing specialty choice. However, improved counselling has the potential to reduce the students' stress and anxiety and to foster better alignment between the chosen specialty, the student's personal interests, and the needs of the healthcare system.

This study aimed to integrate essential elements of a comprehensive guidance programme into a self-developed trajectory, in which twenty students received short-term support. The programme was structured according to a three-step model: an interest analysis, a ranking of specialty characteristics, and an individual conversation incorporating a SWOT analysis that synthesized all available data. This programme provided students with practical tools to navigate the decision-making process and instilled greater confidence in making an appropriate choice.

The positive feedback from participants, as well as the high number of registrations for the guidance programme, underscores the need for broader structural implementation within the medical curriculum. At the same time, this study acknowledges its methodological limitations and highlights the importance of further research into the optimization and integration of such guidance programmes in medical education.

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Appendices

1. Application form

Demographics

- Name:
- Mail address:
- Gender: M - F – X
- Age (in years):
- What year of medical school are you currently in (the year of which you are taking the most credits)?

Triage Questions

1- How satisfied are you with your current major (Master of Medicine in medicine)? Indicate your answer on a scale of 1 (very dissatisfied) to 5 (very satisfied).

2- Rate each statement on a scale of 1 (strongly disagree) to 5 (strongly agree):

a. I had a clear idea of what specialty I wanted to do when I started medical school and I still do.
b. I had no idea what specialty I wanted to do when I started medical school, but have since been able to make a choice.
c. I had a clear idea at the start of my medical school which specialty I wanted to do, but I am now starting to have doubts.
d. I had no idea at the start of medical school which specialty I wanted to do, and I still don't know.

3- How many options for specialty choice do you have left? (multiple choice)

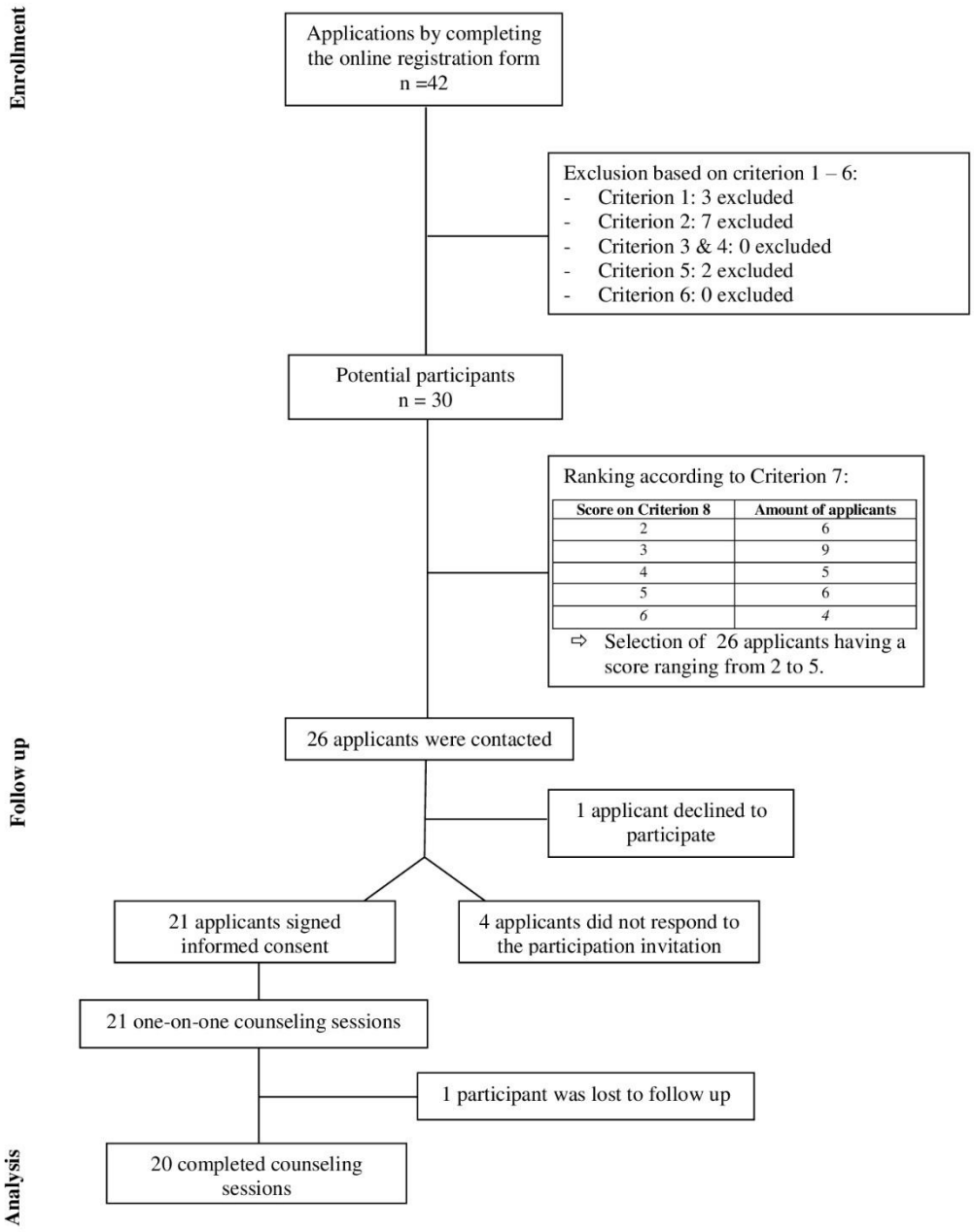
a. I have not yet ruled out any specialty and have no preference yet
b. I am considering multiple specialties but this may still change
c. I am hesitating between a limited number of specialty choices
d. I am sure of 1 specialty choice

2. Selection criteria

The selection criteria were established based on the application form (Appendix 1).

CRITERION 1	Inclusion criterion: Fourth year medical students at Ghent University.
CRITERION 2	Inclusion criterion: Applicants who are satisfied or very satisfied with their choice to study medicine.
CRITERION 3	Exclusion criterion: Applicants who are certain of their choice of specialty according to triage question 3.
CRITERION 4	Exclusion criterion: Applicants who answered 5 (strongly agree) to statement A and/or B of triage question 2.
CRITERION 5	Inclusion criterion: Applicants who indicated ≥ 3 (neutral, agree or strongly agree) on statement C and/or D on triage question 2.
CRITERION 6	The remaining applicants are chosen in such a way as to try to achieve a balance: - between students who gave a high score to statement C or statement D on triage question 2. - between students who chose statement A, B or C on triage question 3.
CRITERION 7	The applicants will be ranked according to the sum of the following formula: Score = Degree of agreement with statement A in triage question 2 + degree of agreement with statement B in triage question 2. The participants with the lowest score are chosen, as it can be assumed that these students are the least certain about their specialty choice.

3. Flowchart for participant recruitment



4. Informed consent form

Informatiebrief voor deelnemers aan een experiment

Titel van de studie: Twijfel over specialisatiekeuze bij studenten geneeskunde: biedt een kortdurende begeleiding met behulp van een interessevragenlijst een meerwaarde?

Beste,

U wordt uitgenodigd om deel te nemen aan een studie. Neem, voor u beslist om deel te nemen aan deze studie, voldoende tijd om deze informatiebrief aandachtig te lezen en dit te bespreken met de onderzoeker Dr. Sandrine Herbelet of haar vertegenwoordigers Dr. Janique Lobbestael, Dr. Emma Demeulenaere of Dr. Jeroen Preem. Neem ook zeker de tijd om vragen te stellen indien er onduidelijkheden zijn of indien u bijkomende informatie wenst. Dit proces wordt “informed consent” of “geïnformeerde toestemming” voor deelname aan een experiment genoemd. Eens u beslist heeft om deel te nemen aan de studie zal men u vragen om het toestemmingsformulier op de laatste pagina te ondertekenen.

1 WAT IS HET DOEL VAN DE STUDIE?

Wij nodigen u uit om deel te nemen aan een studie met als doel studenten uit de eerste master geneeskunde die twijfelen aan hun specialisatiekeuze meer inzicht en handvaten te geven in hun keuzeproces.

2 WAT HOUDT DEELNAME AAN DE STUDIE IN VOOR U?

Indien u deelneemt aan de studie zal u gevraagd worden om onderstaande vragenlijsten in te vullen. De inhoud en ingeschatte tijdsbesteding per vragenlijst wordt hieronder weergegeven.

- **Aanmeldingsformulier:** Een korte online vragenlijst waarin enkele demografische gegevens worden bevraagd (naam, leeftijd, geslacht, mailadres, studiejaar geneeskunde) en gepeild wordt naar uw huidige standpunt m.b.t. uw specialisatiekeuze (online - 5 minuten).

- **Algemene vragenlijst:** De student krijgt initieel een algemene vragenlijst die peilt naar ‘de mate waarin de student al bezig is met zijn/haar specialisatiekeuze’, ‘de mate van twijfel over de specialisatiekeuze’, ‘de mate van (on)rust die de student ervaart binnen dit keuzeproces’, en ‘de mate van zelfreflectie m.b.t. de specialisatiekeuze’. (online - 10 minuten).

- **LOLA-interessevragenlijst:** Het is een vragenlijst die peilt naar de interesses van mensen, gebaseerd op de theorie van John Holland. Het resultaat van deze vragenlijst is een rapport waarin het interesseprofiel van de deelnemer wordt weergegeven in 6 brede domeinen of interessegebieden (praktisch, analytisch, kunstzinnig, sociaal, ondernemend en conventioneel). Binnen elk van deze domeinen wordt er een onderscheid gemaakt tussen in totaal 16 specifieke interessecomponenten. (online - 30 minuten)

Nadien wordt met de deelnemer gezocht naar een passend moment om samen te komen met één van de onderzoekers. Dit zal doorgaan op de campus UZ Gent. Tijdens deze samenkomst worden volgende stappen doorlopen:

- **Beslissingsboom:** De student krijgt een lijst met 30 criteria die belangrijk kunnen zijn in de keuze tot een vervolgopleiding. Al deze criteria worden ten opzichte van elk ander criterium van de lijst afgewogen. Door gebruik te maken van de beslissingsboom creëer je een rangorde die de student toont welke criteria voor hem/haar het zwaarst doorwegen (on campus – 30 minuten).

- **Nabespreking:** De onderzoekers zitten 1-op-1 samen met de deelnemers en overlopen de resultaten van de algemene vragenlijst, de LOLA-interessevragenlijst en de beslissingsboom. De informatie hieruit verkregen wordt gebruikt om aan de hand van een SWOT-analyse de deelnemer te laten reflecteren over zijn/haar specialisatiekeuze(proces). (on campus – 45 minuten).

Tot slot:

- **Korte feedback:** Ten laatste 14 dagen na de samenkomst krijg de deelnemer een korte vragenlijst toegestuurd om te peilen naar zijn/haar ervaring. (5-10 minuten)

Deze studie werd vooraf goedgekeurd door een onafhankelijke Commissie voor Medische Ethiek verbonden aan het Universitair Ziekenhuis van Gent en de Universiteit Gent.

De opdrachtgever van deze studie is UGent. Deze verzameling van gegevens wordt uitgevoerd onder supervisie van Dr. Sandrine Herbelet. Studenten uit de opleiding Master of Medicine in de huisartsgeneeskunde zullen deel uitmaken van het onderzoeksteam.

3 HOEVEEL DEELNEMERS ZULLEN AAN DEZE STUDIE DEELNEMEN?

Er zullen in totaal maximum 20 studenten aan deze studie deelnemen. Indien er zich meer dan 20 studenten aanbieden zal de voorkeur gegeven worden aan studenten die aangeven het sterkst te twijfelen over hun specialisatiekeuze. De persoonsgegevens van de overige studenten zullen niet bewaard of gebruikt worden.

4 WAT IS DE DUUR VAN DEZE STUDIE?

De studie vindt plaats in de periode februari 2024 t.e.m. september 2025.

De verwachte totale duur van de studie voor u is:

- Online:
  - Aanmeldingsformulier: 5 minuten
  - Algemene vragenlijst: 10 minuten
  - LOLA-vragenlijst: 30 minuten

- Samenkomst met onderzoekers: +/- 1u15min
  - Beslissingsboom: +/- 30 minuten
  - Nabespreking: +/- 45 minuten

- Online
  - Feedback: 5 minuten

5 WAT WORDT VERWACHT VAN DE DEELNEMER?

Voor het welslagen van de studie, is het uitermate belangrijk dat u volledig meewerkt met de onderzoeker en dat u zijn/haar instructies nauwlettend opvolgt.

6 WELKE PROCEDURES VINDEN TIJDENS DE STUDIE PLAATS?

6.1 Procedures:

Zie ‘ 2. Wat houdt deelname aan de studie in voor u?’

6.2 Studieverloop:

Indien u beslist om deel te nemen aan de studie en aan alle voorwaarden voor deelname voldoet, zal u onderstaande testen en onderzoeken doorlopen:

Zie ‘ 2. Wat houdt deelname aan de studie in voor u?’

7 WAT ZIJN UW RECHTEN BIJ DEELNAME AAN DEZE STUDIE?

7.1 Rechten bij deelname aan de studie

Deelname aan deze studie is volledig vrijwillig, er kan op geen enkele manier sprake zijn van dwang. U kan weigeren om deel te nemen aan de studie en u kan zich op elk ogenblik terugtrekken uit de studie zonder dat u hiervoor een reden moet opgeven en zonder dat dit een invloed zal hebben op de relatie met de onderzoeker.

Deze studie werd vooraf goedgekeurd door een onafhankelijke Commissie voor Medische Ethiek verbonden aan het Universitair Ziekenhuis van Gent en de Universiteit Gent. In geen geval dient u de goedkeuring door de Commissie voor Medische Ethiek te beschouwen als een aanzet tot deelname aan deze studie.

7.2 Rechten met betrekking tot de verwerking van persoonsgegevens

In overeenstemming met de Algemene Verordening Gegevensbescherming (AVG of GDPR) (EU) 2016/679 van 27 april 2016 en de Belgische wet van 30 juli 2018, betreffende de bescherming van natuurlijke personen in verband met de verwerking van persoonsgegevens en betreffende het vrije verkeer van die gegevens, zal uw persoonlijke levenssfeer worden gerespecteerd en kan u toegang krijgen tot de over u verzamelde gegevens. Elk onjuist gegeven kan op uw verzoek verbeterd worden. Ook over uw andere rechten (o.a. het recht op beperking van de verwerking van uw (persoons)gegevens, het recht om uw (reeds verzamelde) gegevens te laten wissen in bepaalde omstandigheden, en het recht om een klacht in te dienen) wordt gewaakt. Voor meer informatie over de rechten die u heeft en hoe u die kan uitoefenen, kan u terecht op de website van UGent
(https://www.ugent.be/nl/univgent/privacy/privacyverklaring.htm)

Uw deelname aan de studie betekent dat uw gegevens verwerkt worden voor het doel van de studie. Deze verwerking van gegevens is noodzakelijk voor de vervulling van een taak in het algemeen belang volgens artikel 6, paragraaf 1 (e) en is noodzakelijk met het oog op wetenschappelijk onderzoek volgens artikel 9, paragraaf 2 (j) van de Algemene Verordening Gegevensbescherming. De persoonsgegevens van studenten die zich aanmelden, maar uiteindelijk niet deelnemen aan het onderzoek zullen niet bewaard of gebruikt worden.

Alle informatie die tijdens deze studie verzameld wordt, zal gepseudonimiseerd worden (hierbij kan men uw gegevens nog terug koppelen naar uw persoonlijk dossier door middel van een code). De sleutel tot de codes zal enkel toegankelijk zijn voor Dr. Sandrine Herbelet, Dr. Jeroen Preem en Dr. Emma Demeulenaere. In deze studie kunnen ook gegevens verzameld worden via vragenlijst aan de deelnemer. Daartoe zal u gevraagd worden een persoonlijk email-adres te bezorgen waarop u deze vragenlijst wenst te ontvangen.
De verzamelde gepseudonimiseerde gegevens kunnen gedeeld worden met andere (toekomstige) onderzoekers. Dit kan leiden tot hergebruik van uw gepseudonimiseerde gegevens voor toekomstige academische onderzoeksprojecten en studies, uitsluitend in het kader van zelfde of een vergelijkbaar onderzoek m.b.t specialisatiekeuze/beroepskeuze. Dergelijke nieuwe studie en hergebruik van gegevens dient steeds ingediend en goedgekeurd te worden door het ethisch comité. Indien u wenst dat uw gegevens niet gebruikt worden voor toekomstig onderzoek, kan u de DPO hiervoor contacteren (zie contactgegevens onder hoofdstuk 7).
Enkel de gepseudonimiseerde gegevens zullen gebruikt worden voor analyse van de gegevens en in alle documentatie, rapporten of publicaties (in medische tijdschriften of congressen) over de studie. Vertrouwelijkheid van uw gegevens wordt dus steeds gegarandeerd.

Zowel persoonsgegevens als gegevens verzameld binnen het onderzoek zullen verwerkt en bewaard worden tot minstens 10 jaar na het einde van de studie en uit veiligheidsoverwegingen ten aanzien van de uitgevoerde studie en de (eventuele) opvolging daarvan.

De verwerkingsverantwoordelijke van de gegevens is Dr. Sandrine Herbelet (UGent). Haar onderzoeksteam (Jeroen Preem en Emma Demeulenaere) zullen toegang krijgen tot uw persoonsgegevens. In het kader van de gegevensbescherming zullen de gegevens verwerkt worden door personen behorend tot het onderzoeksteam.

Professor Filip De Fruyt is de verantwoordelijke voor het beheer van de LOLA-vragenlijst en het verwerken van deze gegevens. Zo is er een kwaliteitscontrole op het opmaken van de resultaten door hem als getraind psycholoog. De LOLA-vragenlijst wordt gepseunonimiseerd ingevuld waardoor professor Filip De Fruyt geen toegang heeft tot uw persoonsgegevens. Hij verleent zijn medewerking aan dit onderzoek en kan steeds gecontacteerd worden bij vragen over het verzamelen, verwerken en bijhouden van uw gegevens.

Om meer inhoudelijke informatie te verkrijgen over de studie en om uw rechten uit te kunnen oefenen, kan u contact opnemen met het studieteam. De Data Protection Officer kan u desgewenst ook meer informatie verschaffen over de bescherming van uw persoonsgegevens. Contactgegevens: privacy@ugent.be.

De Belgische toezichthoudende instantie die verantwoordelijk is voor het handhaven van de wetgeving inzake gegevensbescherming is bereikbaar via onderstaande contactgegevens:

Gegevensbeschermingsautoriteit (GBA)
Drukpersstraat 35 – 1000 Brussel
Tel. +32 2 274 48 00
e-mail: contact@apd-gba.be
Website: www.gegevensbeschermingsautoriteit.be

8 WAT ZIJN DE RISICO'S EN VERWACHTE VOORDELEN BIJ DEELNAME AAN DEZE STUDIE?

Deelname aan deze studie brengt voor u waarschijnlijk geen voordeel met zich mee. De verkregen resultaten kunnen echter leiden nieuwe inzichten betreffende de specialisatiekeuze na uw 6-jarige opleiding geneeskunde.

9 ZIJN ER KOSTEN VERBONDEN AAN DE DEELNAME AAN DEZE STUDIE?

Deelname aan deze studie brengt geen extra kosten mee voor u, maar biedt ook geen financieel voordeel.

10 IS EEN VERGOEDING VOORZIEN BIJ DEELNAME AAN DEZE STUDIE?

U zal geen financiële compensatie of vergoeding van reiskosten ontvangen voor uw deelname aan deze studie.

11 TOT WIE KUNT U ZICH RICHTEN IN HET GEVAL VAN PROBLEMEN OF INDIEN U VRAGEN HEEFT?

Uw deelname aan deze studie houdt geen enkel gezondheidsrisico in. Als u aanvullende informatie wenst over de studie of over uw rechten en plichten, kan u in de loop van de studie op elk ogenblik contact opnemen met de onderzoekers of een medewerker van zijn of haar team:

Dr. Sandrine Herbelet
Mail: Sandrine.Herbelet@UGent.be

Dr. Janique Lobbestael
Mail: Janique.Lobbestael@UGent.be

Jeroen Preem
Mail: Jeroen.Preem@UGent.be

Emma Demeulenaere
Mail: Emma.Demeulenaere@UGent.be

TOESTEMMINGSFORMULIER VOOR DEELNEMERS AAN EEN EXPERIMENT

Referentienummer van de deelnemer voor deze studie	

Ik heb het document "Informatiebrief voor deelnemers aan een experiment" pagina 1 tot en met 7 gelezen en begrepen en ik heb er een kopij van gekregen. Ik heb uitleg gekregen over de aard, het doel, de duur, de te voorziene effecten van de studie en over wat men van mij verwacht. Ik heb uitleg gekregen over de mogelijke risico's en voordelen van de studie. Men heeft me de gelegenheid en voldoende tijd gegeven om vragen te stellen over de studie en ik heb op al mijn vragen een bevredigend antwoord gekregen.
Ik begrijp dat deelname aan de studie vrijwillig is en dat ik mij op elk ogenblik uit de studie mag terugtrekken zonder een reden voor deze beslissing op te geven en zonder dat dit op enigerlei wijze een invloed zal hebben op mijn verdere relatie met de onderzoekers.
Ik begrijp dat auditors, vertegenwoordigers van de opdrachtgever, de Commissie voor Medische Ethiek of bevoegde overheden, mijn gegevens mogelijks willen inspecteren om de verzamelde informatie te controleren. Te allen tijde zal mijn privacy gerespecteerd worden.
Ik ben me ervan bewust dat deze studie werd goedgekeurd door een onafhankelijke Commissie voor Medische Ethiek de Universiteit Gent. Deze goedkeuring was in geen geval de aanzet om te beslissen om deel te nemen aan deze studie.
Men heeft mij ingelicht dat mijn persoonsgegevens worden verwerkt en bewaard gedurende minstens 10 jaar na het einde van de studie. Ik ben op de hoogte dat ik recht heb op toegang en op verbetering van deze gegevens. Aangezien deze gegevens verwerkt worden in het kader van wetenschappelijke doeleinden, begrijp ik dat de toegang tot mijn gegevens kan uitgesteld worden tot na beëindiging van het onderzoek. Indien ik toegang wil tot mijn gegevens, zal ik mij richten tot de onderzoeker die verantwoordelijk is voor de verwerking ervan.
Ik ben ervan op de hoogte dat mijn gepseudonimiseerde gegevens gebruikt worden voor **huidig** wetenschappelijk onderzoek.
Ik ben ervan op de hoogte dat mijn gepseudonimiseerde gegevens gebruikt kunnen worden voor **toekomstig** academisch wetenschappelijk onderzoek in het kader van hetzelfde/een vergelijkbaar onderzoeksdomein. Dergelijke nieuwe studie dient steeds ingediend en goedgekeurd te worden door het ethisch comité. Indien ik wens dat mijn gegevens niet gebruikt worden voor toekomstig onderzoek, zal ik de DPO contacteren (zie contactgegevens onder sectie 7).

Aankruisen door de deelnemer indien akkoord

Ik stem in om deel te nemen aan deze studie bestaande uit volgende **verplichte interventies** zoals toegelicht onder hoofdstuk 6 van de informatiebrief: - Aanmeldingsformulier - Algemene vragenlijst - LOLA-vragenlijst - Beslissingsboom - Nabespreking - Korte feedback - Gebruik van e-mailadres voor het versturen van vragenlijsten en een afspraak voor de nabespreking vast te leggen.	

Naam en voornaam van de deelnemer	Handtekening	Datum
Naam en voornaam van de arts-onderzoeker*	Handtekening	Datum

2 kopieën dienen te worden vervolledigd. Het origineel wordt door de onderzoeker bewaard gedurende minstens 10 jaar, de kopie wordt aan de deelnemer gegeven.

*Aankruisen door de onderzoeker indien akkoord

Ik verklaar de benodigde informatie inzake deze studie (de aard, het doel, en de te voorziene effecten) mondeling te hebben verstrekt evenals een exemplaar van het informatiedocument aan de deelnemer te hebben verstrekt.	
Ik bevestig dat geen enkele druk op de deelnemer is uitgeoefend om hem/haar te doen toestemmen tot deelname aan de studie en ik ben bereid om op alle eventuele bijkomende vragen te antwoorden.	

5. General questionnaire

Each statement should be rated on a scale from 1 (strongly disagree) to 5 (strongly agree).

Degree of self-knowledge regarding specialty choice

- I have a lack of knowledge about my skills and want to learn more about them.
- I have a lack of knowledge about my interests and want to learn more about them.
- I have enough self-knowledge to be able to make a specialty choice.
- I don't know where my strengths and weaknesses lie within medicine.
- I have a clear picture of how I see myself in my future workplace.

Degree of engagement in and knowledge on the specialty choice.

- I know what skills each specialty requires.
- I have a good understanding of what the different specialties and their fields of work entail.
- I have not yet spent much time thinking about my specialty choice.
- It is still too early for me to choose a specialty.
- I have already reduced the number of specialty choices that interest me to a limited number.

Degree of doubt regarding specialty choice.

- I find it difficult to choose a specialty: there are many things that fascinate me.
- Making important decisions is always difficult for me.
- I have a clear idea about which specialty I would like practice later.
- I am interested in several specialties, but I cannot choose between them.
- My preferred specialty choice keeps changing.

Degree of uncertainty and anxiety experienced during the decision-making process

- I am confident that I will make the right choice.
- Thinking about the specialty choice makes me anxious.
- I don't know who or what can help me in this decision making process
- I feel under pressure to choose a specialty as soon as possible.
- The doubt about my specialty choice has a great impact on my mental well-being.

6. Decision table specialty characteristics

Specialty characteristics	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	R	C	R + C
1. Hospital environment																				0	0	0
2. Great importance of communication skills																				0	0	0
3. Performing many technical interventions																				0	0	0
4. Job security																				0	0	0
5. Highly specialized, intellectually challenging																				0	0	0
6. Family or friends' opinion/choice																				0	0	0
7. Income																				0	0	0
8. Working with the elderly																				0	0	0
9. Great attention to prevention																				0	0	0
10. Work-life balance																				0	0	0
11. Acute pathology																				0	0	0
12. Long-term doctor-patient relationship																				0	0	0
13. Teamwork / multidisciplinary																				0	0	0
14. Image of the specialty																				0	0	0
15. Possibility of setting up your own practice																				0	0	0
16. Duration of the training																				0	0	0
17. One on one patient contact																				0	0	0
18. Opportunity to work abroad or to do research																				0	0	0
19. Little competiton																				0	0	0
20. Working with children																				0	0	0

7. Feedback questionnaire

Each statement should be rated on a scale from 1 (strongly disagree) to 5 (strongly agree).

- Overall, the guidance programme had a positive effect on me.
- I learnt something about myself (strengths, weaknesses, interests or factors I consider important in my future profession) thanks to this guidance programme.
- The guidance programme made me think more about my specialty choice.
- Because of this guidance programme, I have started to have even more doubts about my specialty choice.
- This guidance programme has provided me with new insights that I would not have gained otherwise.
- The guidance programme has provided me with a clearer understanding of which specialty choice(s) would suit me best.
- I feel more confident in my ability to make an appropriate specialty choice.
- I would recommend this guidance programme to my fellow students.
- The implementation of this guidance programme (or a similar one) would enhance the medical programme's value.
- I was in need for this guidance programme.

Open-ended questions

- How was your experience with the guidance programme in general?
- Did your specialty choice change as a result of this guidance programme? Why? If yes, from which specialty choice to which other?
- Suggestions/comments/feedback.

8. Ethics committee approval

Afzender : Commissie voor medische ethiek

Dr. Sandrine Herbelet
Vakgroep Hoofd en Huid
UGent

contact	telefoon	e-mail
Commissie voor medische ethiek	+32 (0)9 332 33 36	Ethisch.comite@uzgent.be
Aanvrager	**datum**	**pagina**
Emma Demeulenaere	06/02/2024	1/6
Onze referentie:	**EudraCT-nr:**	**Belg. Regnr:**
ONZ-2023-0636		

Betreft:
Twijfel over specialisatiekeuze bij studenten geneeskunde: biedt een kortdurende begeleiding met behulp van een interessevragenlijst een meerwaarde?

Beste collega

De Commissie Medische Ethiek (CME) verbonden aan de Universiteit Gent (Ugent) en het Universitair Ziekenhuis Gent (UZ Gent) heeft het bovenvermelde dossier onderzocht en besproken op haar vergadering van 16/01/2024.

Dit project valt niet onder de bevoegdheid van de wet van 7/5/2004.

De CME heeft geen bezwaar tegen het project op voorwaarde dat de gegevens vertrouwelijk worden beheerd en in overeenstemming met de Belgische wetgeving inzake privacy.

Voor de beoordeling van dit dossier is rekening gehouden met documenten/antwoorden ingediend op 03/01/2024 en 30/01/2024

De studie kan vanaf nu (01/02/2024) starten in ons centrum.

Ingediende documenten: zie bijlage 1
Ledenlijst: zie Bijlage 2
Aandachtspunten: zie Bijlage 3a

ALGEMENE DIRECTIE
Commissie voor Medische Ethiek

VOORZITTER:
Prof. dr. R. Peleman

SECRETARIS:
Dr. L. Goossens

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ROUTE 7522

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UNIVERSITEIT GENT
Universitair Ziekenhuis Gent
C. Heymanslaan 10 | B 9000 Gent
www.uzgent.be

Met vriendelijke groeten,
Prof. dr. Renaat Peleman
Voorzitter
Commissie voor Medische Ethiek U(Z) Gent



CC: FAGG
Cc: HIRUZ_CTU (Clinical Trial Center UZ Gent)

Unofficial translation in English:

The Ethics committee (EC) of University Ghent and Ghent University Hospital (UZ Gent) has examined and discussed the above mentioned dossier at its meeting of 16/01/2024.

The EC has no objection to the project provided that the data is managed confidentially and in compliance with the Belgian legislation on privacy.
This project does not fall within the scope of the Law of 7/5/2004.

For the assessment of this dossier, documents/answers submitted on 03/01/2024 and 30/01/2024, have been taken into account.

The study can now (01/02/2024) start on our site.

Submitted documents: see Annex 1
List of members: see appendix 2
Points of concern: see appendix 3b

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9. Results LOLA questionnaire

Average interest profile of the participating students

Interest domains and components	Mean (%)	Std. Deviation (%)
Realistic	**31.70**	**8.65**
Hands on / Physical Activities	42.45	10.90
Outdoors, flora & fauna	31.00	15.86
Engineering, tools and machinery	22.65	11.90
Investigative	**48.90**	**11.47**
Natural science, STEM subjects	53.95	13.38
Information and communication technology	15.00	15.22
Theory, thinking, investigating, research	68.60	12.57
Artistic	**31.90**	**12.13**
Art	25.30	18.64
Creativity	36.85	16.11
Social	**62.65**	**12.86**
Caring, helpfulness, altruism	70.25	12.41
Education	55.75	14.55
Enterprising	**45.40**	**8.98**
Leadership	53.85	18.22
Organizing	63.85	18.73
Targets / Competition	31.40	10.67
Politics / Power	31.80	14.11
Conventional	**45.75**	**10.36**
Structure	53.70	13.46
Cost-conscious	38.90	12.25