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TEPPO HEIKKILÄ

ON THE PATH OF A DOCTOR: MOTIVATIONS AND SATISFACTION OF MEDICAL DOCTORS IN THEIR CAREER–RELATED DECISIONS

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ABSTRACT

Recognizing the factors influencing the career decisions of medical doctors enables them to be directed into those careers that are essential for health care and satisfactory for the doctors themselves. The aim of this study was to determine the motives related to the choice of medicine as a career, the medical specialty and the workplace, and to determine whether these motives correlate with satisfaction with the choice. The data were collected via cross-sectional national questionnaires in 1988, 1998, 2008 and 2013.

The most important motives for career choices were closely related to the content of the work. More intrinsic motives such as motives related to the content of the work and work–family balance were more important for female doctors, while males preferred more extrinsic motives such as prestige and income. Furthermore, younger male doctors preferred more intrinsic motives compared to older doctors. The example set by older colleagues influenced the choice of medical specialty. Vocation, professional opportunities, and diversity of work as motives best predicted satisfaction with the medical career and the choice of specialty. A major role of chance correlated with dissatisfaction with the specialty. Differences in career-related motives were found to remain relatively similar in different career decision between genders, generations, doctors in different career stages, and doctors in different areas of medicine.

The medical profession is not homogeneous. Medical educators, employers, and policy- and decision-makers should closely examine the differences found here when developing under- and postgraduate medical education, the working environment of doctors, and health care services.

National Library of Medicine Classification: W 18, W 21, W 76
Medical Subject Headings: Medicine; Physicians; Career Choice; Choice Behavior; Motivation; Personal Satisfaction; Job Satisfaction; Work; Workplace; Family; Income; Male; Female; Age Groups; Education, Medical; Cross-Sectional Studies; Surveys and Questionnaires; Finland

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TIIVISTELMÄ

Lääkärien uravalintoihin vaikuttavien tekijöiden tunnistaminen on tärkeää. Siten heitä voidaan ohjata työuralle, joka on tarpeellinen terveydenhuollolle sekä tyydyttää myös heitä itseään. Tämän tutkimuksen tarkoituksena oli määrittää niitä motiiveja, jotka liittyvät lääkärien päätökseen hakeutua opiskelemaan lääketiedettä, erikoisalan valintaan ja työpaikan valintaan. Kansalliset kyselytutkimukset toteutettiin vuosina 1988, 1998, 2008 ja 2013.

Tärkeimmät uravalintoihin liittyvät motiivit liittyivät työn sisältöön. Naislääkärien motiivitekijät olivat enemmän sisäisiä, kuten työn sisältö ja työn ja perheen yhdistäminen, kun taas mieslääkäreille tärkeämpiä olivat ulkoiset motivaatiotekijät, kuten arvostus ja ansiot. Toisaalta myös nuorempien miesten motivaatiotekijät olivat enemmän sisäisiä vanhempiin lääkäreihin verrattuna. Vanhempien kollegoiden antama esimerkki vaikutti erikoisalan valintaan. Motiiveina kutsumus, ammatilliset mahdollisuudet ja työn monipuolisuus ennustivat parhaiten tyytyväisyyttä lääkärin uraan ja erikoisalan valintaan. Sattuman suuri rooli oli yhteydessä tyytymättömyyteen omaan erikoisalaan. Motiivien erot sukupuolten, sukupolvien, eri uravaiheessa olevien lääkärien ja lääketieteen eri osa-alueilla työskentelevien lääkärien välillä pysyivät suhteellisen samoina eri uravalinnoissa.

Lääkärikunta ei ole homogeeninen. Lääketieteen kouluttajien, työnantajien sekä poliittisten ja muiden päätöksentekijöiden tulisi ottaa tässä tutkimuksessa havaitut erot huomioon kehittäessään lääketieteen perus- ja jatkokoulutusta, lääkärien työolosuhteita ja terveydenhuoltojärjestelmää.

Luokitus: W 18, W 21, W 76
Yleinen suomalainen asiasanasto: lääkärit; urasuunnittelu; uranvalinta; motivaatio; tyytyväisyys; työtyytyväisyys; työpaikat; työ; sukupuolierot; miehet; naiset; ikäryhmät; perhe; tulotaso; koulutuspolitiikka; kyselytutkimus; Suomi

There's so many different worlds, so many different suns
And we have just one world, but we live in different ones

Mark Knopfler (1985)

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This study was carried out at the Unit of Primary Health Care of the Hospital District of Northern Savo in collaboration with the Physician Study Group, which comprises members from the Universities of Tampere and Eastern Finland, and the Finnish Medical Association, during 2007–2016.

The idea for this project arose from my personal interest in the subject. While searching for a topic for my Master's thesis in 2006, I came across the data of the Physician studies, which included some information on the thoughts of medical doctors about their under- and postgraduate studies, as well as their career plans. For me, this was spot on, since I had already been dealing with these topics in medical student and professional unions. There was also another more personal motive: I had little clue as to what medical specialty training program I should apply to after my graduation, and thought that perhaps I could find the answer by studying the motives behind such a decision. During this project, I have in a way found an answer to this. My work in this study and also in professional unions with the same issues has led me into a post in the Ministry for Social Affairs and Health, where I now work in the same field for the Finnish government.

I am deeply grateful to my supervisors, Docent Harri Hyppölä (M.D., Ph.D.) and Professor Pekka Mäntyselkä (M.D., Ph.D.), for all the time and effort they have put into this project. Docent Harri Hyppölä was the first person to suggest this topic to me back in 2006. The support from him during this project has been competent and comprehensive. Especially during the inevitable times of desperation, he has kept me going with his encouragement and belief. Besides being the supervisor of my work, he has also become a dear friend. The role of Professor Pekka Mäntyselkä in this project came in later phases of the work, but has not in any ways been minor. In particular, he has enabled my work by ensuring the administrative and economic conditions, but also guided me through the final stages of this project.

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I have been fortunate to be surrounded by many fine working communities during this project. In particular, I would like to give my warmest thanks to the excellent and supportive superiors as well as to friendly and inspiring colleagues in the Neurocentre and the Emergency Department of Kuopio University Hospital, as well as in my current workplace in the Group of Clients and Personnel and in the Department for Social and Health Services of the Ministry of Social Affairs and Health.

I have had the great honor of working in a number of elected positions in the Association of Medical Students in Kuopio, the Finnish Medical Students' Association, the Finnish Junior Doctors, the Finnish Medical Association, and the Association of Doctors in Public Health Medicine. This work with talented and enthusiastic colleagues and personnel, many of whom have also become my friends, has given me a much wider understanding of the work and life of medical profession. This also greatly helped me when designing this study and interpreting the findings.

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And finally, thanks to my wife, Eeva-Eerika, and our sons, the greatest gifts of my life. I am truly blessed with her love, patience, encouragement, and belief in me. The famous Finnish singing brothers Matti and Teppo have said it best: kaiken takana on nainen (behind everything there is a woman). I would not have achieved much in my life without this wise, bright, kind, and beautiful woman of my life.

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Helsinki, August 2016

Teppo Heikkilä

List of the original publications

This dissertation is based on the following original publications, which are referred to in the text by the Roman numerals I–IV:

I Heikkilä TJ, Hyppölä H, Vänskä J, Aine T, Halila H, Kujala S, Virjo I, Sumanen M, Mattila K. Factors important in the choice of a medical career: a Finnish national study. *BMC Medical Education 15: 169, 2015.* *doi: 10.1186/s12909-015-0451-x.*

II Heikkilä T, Hyppölä H, Kumpusalo E, Halila H, Vänskä J, Kujala S, Virjo I, Mattila K. Choosing a medical specialty – Study of Finnish doctors graduating in 1977–2006. *Medical Teacher 33(8): e440–445, 2011.* *doi: 10.3109/0142159X.2011.586744.*

III Heikkilä TJ, Hyppölä H, Vänskä J, Halila H, Kujala S, Virjo I, Sumanen M, Kosunen E, Mattila K. What predicts doctors' satisfaction with their chosen medical specialty? A Finnish national study. *BMC Medical Education 16: 125, 2016.* *doi: 10.1186/s12909-016-0643-z.*

IV Heikkilä TJ, Hyppölä H, Aine T, Halila H, Vänskä J, Kujala S, Virjo I, Mattila K. How do doctors choose where they want to work? - Motives for choice of current workplace among physicians registered in Finland 1977-2006. *Health Policy 114(2-3): 109–117, 2014.* *doi: 10.1016/j.healthpol.2013.12.001.*

Contents

Abbreviations

ANCOVA	Univariate analysis of covariance
B	Regression coefficient
CGME	Council on Graduate Medical Education (in the United States)
C.I.	Confidence interval
FMA	The Finnish Medical Association
FNBE	Finnish National Board of Education
GDP	Gross domestic product
GP	General practitioner
MSAH	Ministry of Social Affairs and Health (in Finland)
MMI	Multiple mini-interview
n	Number of respondents
NHI	National health insurance
NHS	National Health Service (in Great Britain)
NIHW	National Institute for Health and Welfare (in Finland)
OR	Odds ratio
p	p-value for statistical significance
SII	Social Insurance Institution (in Finland)
STUK	Radiation and Nuclear Safety Authority (in Finland)
Valvira	National Supervisory Authority for Welfare and Health (in Finland)
WHO	World Health Organization

1 Introduction

Choosing a career is not a static process, but part of the developmental process (Kniveton 2004). People are driven by different motives when choosing their career paths (Ryan & Deci 2000). In order to function properly, health care needs enough motivated and appropriately skilled medical doctors and medical specialists in all medical fields and regions. It is important that medical doctors are directed to choose the career paths in which they feel themselves comfortable, since dissatisfaction in practising medicine has implications for the quality of care (Landon et al. 2002).

The decision to become a medical doctor is often made in the early stages of life (Sianou-Kyrgiou & Tsiplakides 2001). Up to one-fourth of clinicians had decided that they would be applying to medical school even before attending high school (Knight & Mattick 2006). It has been found that an interest in people is the most important factor when a young student is entering medicine (Hyppölä et al. 1998).

The choice of medical specialty can be seen as a process evolving during medical training, i.e. it is not constant during undergraduate studies (Mihalynuk et al. 2006, Compton et al. 2008, Maudsley et al. 2010). Even after graduation, the choice of medical specialty is not always stable, and the stability of the choice also varies between specialties, especially during the first years as a medica doctor (Goldacre et al. 2010).

Different factors may guide medical doctors in different stages of their career when they choose their workplaces. For younger doctors, career development motives may be important and the choice of a specialty may be strictly related to the choice of workplace. However, especially in the later stages, other motives such as the salary or family life may have a greater impact.

The difficulties in recruiting especially primary care doctors to remote or rural areas have been a matter of debate for years in several countries (Hingstman & Boon 1989, Richardson et al. 1991, Bolduc et al. 1996, CGME 1998). Furthermore, there has recently been debate on the need for a more specialized work force in view of the rapid progress of social systems and health care (Sheldon 2003, Stitzenberg & Sheldon 2005).

Finland is currently suffering from a medical doctor shortage in the public sector, although the shortage has recently eased (FMA 2014). However, the shortage is not evenly distributed among medical specialties and regions (Parmanne et al. 2013, FMA 2014, Ruskoaho et al. 2015). Since the population is also aging, there are predictions that it will be difficult to meet the increasing need for health care services in the near future, as is the case in many other countries (Watson et al. 2005, McGinnis & Moore 2006, Cohen 2009). Because of this, there are currently plans to implement reforms in both social and health care services and postgraduate medical education in Finland (MSAH 2013, Prime Minister's Office 2015). This sets a great demand to examine the career motivations of Finnish medical doctors so that the future needs and challenges concerning the Finnish physician workforce and health care could be met.

2 Background

2.1 HEALTH CARE IN FINLAND

In practice, Finland has three different health care systems that receive public funding: municipal health care funded by taxes, private health care partly funded by National Health Insurance (NHI) and occupational health care partly funded by NHI (Vuorenkoski 2008, Mattila 2011). The role of the state is to steer the health care system through legislation and financing. Private health care is rather weakly regulated by the state. An overview of Finnish health care system is presented in Figure 1.

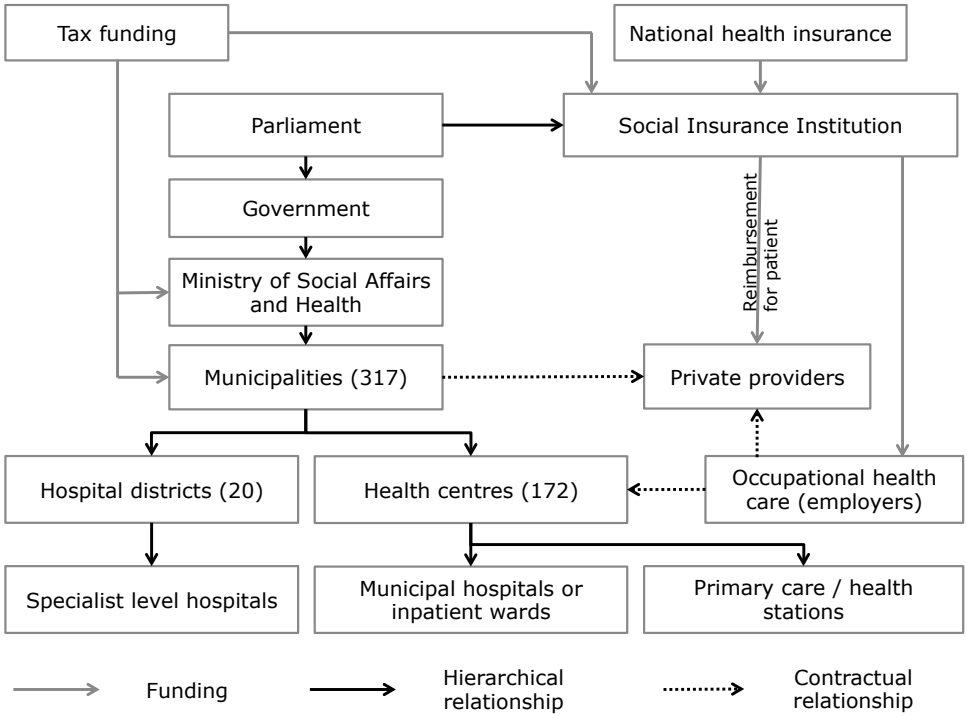

Figure 1. Overview of Finnish health care (Vuorenkoski 2008, Local Finland 2015).

In Finland, health care is mainly financed by the public sector (municipalities and state). In 2013, the proportion of public sector financing was 76% of total health care expenditure (municipalities 38%, state 24% and NHI 14%) (NIHW 2015). Out-of-pocket payments, private insurances and other payments for households financed approximately 18% of costs, and other private expenditure approximately 6% of costs. In 2013, the total health expenditure in Finland was EUR 18.5 billion, which was 9.1% of the gross domestic product (GDP).

2.1.1 Municipalities

At the beginning of 2015 there were 317 municipalities (local authorities) in Finland (Local Finland 2015). Of these, 16 were in the autonomous Åland Islands. According to 2013 population data, the average size of municipalities was 17,035 people and varied between 100 and 612,664 residents. Over a half of municipalities had a population of less than 6,000. Municipalities have the right to levy income and real estate taxes (Vuorenkoski 2008). Over the past four decades, the number of municipalities has decreased by more than 200 through mergers (Local Finland 2015). Most of these municipal mergers have taken place in the 2000s.

Each municipality has a responsibility to organize health care and preventive health care services for its citizens. These services are defined in the Health Care Act, the Primary Health Care Act, and the Specialized Medical Care Act. The municipalities have significant latitude in how the services are implemented (Mattila 2011). The state's role is one of guidance and financial support. The Åland Government is responsible for providing health care services in the region (Vuorenkoski 2008). Services that are not provided in the region are purchased from Finland or Sweden.

In Finnish terminology, legislation and practice, 'primary care' carries the double meaning of primary health care and public health (Vuorenkoski 2008). To provide primary care services, municipalities can either provide these services independently or join with neighbouring municipalities in joint municipality boards that establish a joint health centre (Vuorenkoski 2008). At the beginning of 2015 there were 172 health centres in Finland, 36 of which belonged to joint municipal authorities (Local Finland 2015). The municipalities are also entitled to purchase services from other providers, for example from the private sector or nongovernmental organizations. In some municipalities, the administration of social welfare and primary health care has been combined.

The content of the services provided by health centres is quite large. They include inpatient and outpatient medical care, basic emergency care, maternal, child and school health care, geriatric health care, mental health care, family planning and other reproductive health services, vaccination programmes, and environmental health care. Most of the health centres provide laboratory and X-ray services. In Finland, the job description of a general practitioner (GP) is also quite wide, including many operations performed by specialists elsewhere. For example, wound care and some other small surgical operations, cardiac stress tests, intestinal endoscopies and gynaecological examinations may be carried out by GPs in health centres. In some health centres, specialized medical services are also available, such as gynaecological, paediatric, geriatric, cardiological, neurological and/or otorhinolaryngological services.

According to Finnish legislation, municipalities are also responsible for providing and funding specialized medical care. To do this, each municipality must be a member of one hospital district. Specialized care is in practice mainly provided by hospitals maintained by hospital districts (Vuorenkoski 2008). The hospital districts organize and provide specialist medical services for the population of their member municipalities. At the beginning of 2015 there were 20 hospital districts in Finland, 5 of which had a university hospital (Local Finland 2015). The university hospitals provide tertiary care for their region, but are usually also liable for secondary care in their own hospital district.

Patients need a referral from their health centre, occupational health care or private doctor in order to access the outpatient or inpatient department in specialized care

hospitals, except in emergencies (Vuorenkoski 2008). Hospitals run by joint municipal authorities provide 95% of all specialist medical care in Finland (Local Finland 2015).

2.1.2 Private health care

Private health care in Finland mainly comprises ambulatory care, which is mostly available in the large cities (Vuorenkoski 2008). In 2013, approximately 30% of Finnish citizens visited a private doctor (SII 2013).

If a patient wants to use private services, the patient may choose any private doctor (Vuorenkoski 2008). The patient can go directly to an outpatient specialist provider. Patients are allowed to use private services alongside public services. Usually, the patient first has to pay the full costs of the services and may then receive reimbursement from NHI. Private sector providers can freely price their services, but reimbursements are fixed (Vuorenkoski 2008). On average, the reimbursement covers 22% of expenses (SII 2013). If the patient has voluntary private sickness insurance, after NHI reimbursement he or she can claim part of the out-of-pocket expenses from an insurance company (Vuorenkoski 2008). If the medical doctor in private health care assesses that the patient needs secondary health services, the patient can be referred to the hospital district (municipal system) or to the private system.

In Finland, there is also a special foundation (Finnish Student Health Service) that provides ambulatory health care to university students (Vuorenkoski 2008). This organization is partly funded by the NHI scheme.

2.1.3 Occupational health care

In Finland, employers are obligated to provide occupational health care for their employees (Vuorenkoski 2008). These services are defined in the Occupational Health Care Act. The Act defines compulsory occupational health care as those health services that are necessary to prevent health risks caused by work. Occupational health services can be provided by the employer himself or herself or jointly with other employers, or the employer can purchase services from municipal health centres, from private health care providers or from other sources. NHI reimburses employers 50% of the necessary and appropriate costs of occupational health care, or 60% if the employer has an agreement on the management, monitoring and early support of occupational health care problems with the occupational health care provider (SII 2015).

While providing obligated occupational health care, employers can also provide other medical services for their employees (Vuorenkoski 2008). Employers are free to decide on the scope of these voluntary services and set limits to the available services. Employees are not charged for using these services. About 90% of employees receiving compulsory occupational health care additionally receive voluntary services (Vuorenkoski 2008). NHI also reimburses these voluntary services (SII 2015). In practice, more than half of the health care services provided by employers are included in the voluntary services (Vuorenkoski 2008). Because of this, the occupational health care system largely provides primary health care services for the working-age population in Finland.

2.1.4 Changes and reforms in Finnish health care during the study

In the 1950s and 1960s, the majority of public expenditure on health care in Finland was allocated to hospitals, and a significant imbalance between hospital care and outpatient care developed (Vuorenkoski 2008). At the same time, economic growth was seen to require

the support of better social security, since social redistribution was considered to increase consumer demand (Mattila 2011). This led to new legislation: the Health Insurance Act in 1964 and the Primary Health Care Act in 1972. These Acts had somewhat different goals. The Health Insurance Act was mainly meant to support the use of private outpatient services, while the Primary Health Care Act established an internationally unique network of public sector owned and governed health care centres (Vuorenkoski 2008, Mattila 2011). The building of the first municipal health services was especially focused on rural areas around local small GP-run hospitals and GPs' offices. At the same time, the number of medical doctors in primary health care tripled during a few years in the 1970s (Vuorenkoski 2008, Mattila 2011).

The introduction of health centres has given a special stamp to Finnish health care that is still present. The development of primary health care was a success story, and up until the end of the 1980s, the development of Finnish services was marked by continuous growth (Vuorenkoski 2008, Mattila 2011). Regional differences in the supply and availability of services diminished and the quality of services improved. At present, primary care in Finland is mainly provided by the public sector with complementary private services. However, these also represent two separate service systems, which has influenced the evolution of Finnish health care and to some degree complicated the further development of primary health care services in particular.

At the beginning of the 1990s, Finland went into economic recession. As a result of this, some reforms were introduced, leading to the decentralization of detailed planning health services to the municipalities and to municipal federations (Vuorenkoski 2008, Mattila 2011). The state gave up its earlier regulatory power and concentrated on setting general policy objectives and also what is known as "guidance by information". Following this, the municipalities have had strong autonomy in managing their own health services. In addition, there was also unemployment among medical doctors and other health care personnel.

By the end of 1990s and at the beginning of 2000s, the national economy turned towards rapid growth. At the same time, the unemployment of medical doctors of the early 1990s changed into a shortage of doctors, especially in primary health care. Partly as a result of this, but also because of the anticipated aging of the population, the Government initiated the National Project to Ensure the Future of Health Care in 2001 (MSAH 2002, Vuorenkoski 2008).

In 2005, a system of waiting-time guarantee was introduced (Vuorenkoski 2008, Mattila 2011). It ensures that a client can make immediate contact with a health centre on weekdays during office hours. (Local Finland 2015). Patients' needs for treatment must be assessed within three days of their contacting a health centre. Treatments and examinations that are not available at the health centre must be provided within three months. The need for hospital treatment must be assessed within three weeks of receiving a referral. If the doctor decides that the patient needs hospital care, treatment must be provided within six months.

Following changes to the Health Care Act in 2011 and in 2014, a patient has a free right to choose the unit of primary health care or the specialist hospital in collaboration with the referring clinician. The patient also has a right to choose the medical doctor he or she prefers, if the provider has a possibility to arrange it.

In the 2010s, the Government started to plan a new reform of Finnish health care. The main goal was to meet the challenges of rapid growth in the need for social and health care

services by having "vertical and horizontal integration". This means better organizational cooperation, or even common organizations, both between primary and secondary health care and between social welfare and health care, and better national control of social and health services. The first attempt to do this was rejected in 2015 by the Constitutional Law Committee because the proposed new legislation would have violated the autonomy of municipalities guaranteed in the Constitution (Perustuslakivaliokunta 2015). The new Government formed after the election in the spring of 2015 has continued to plan the reform (Prime Minister's Office 2015). The main goal of the reform is still the horizontal and vertical integration of social and health services at both primary and secondary levels, as well as better national control. The organization and provision of social and health services is planned to be fully separated. The freedom of clients to choose the provider of the services has been planned to be increased. This would also mean the corporatisation of social and health care providers within the discretion of the services.

2.2 FINNISH MEDICAL DOCTORS

Working as a medical doctor in Finland is restricted to licenced doctors only (Valvira 2015). Licencing and working as a medical doctor in Finland is regulated in the Act on Health Care Professionals. The licence is permanent and can only be cancelled or limited as a result of supervision or at the request of a doctor himself/herself. According to Finnish legislation, health care professionals are obligated to participate in continuous professional education.

In Finland, medical students are entitled to work as doctors on a temporary basis under the supervision of a licenced doctor. After completing the 4th curriculum year, students are entitled to work in hospitals or in primary health care inpatient wards in the medical fields that they have completed at this stage. After completing the 5th curriculum year, students are entitled to work in all medical fields in the public sector.

The number of Finnish medical doctors has increased rapidly since the 1970s, as well as the proportion of female doctors (Table 1). At the beginning of 2015 there were 20,403 working-age (under 65 years old) licenced doctors living in Finland, of whom 863 had another nationality than Finnish and 1,436 spoke another native language than Finnish or Swedish (FMA 2015). In 2015, 59% of all working-age medical doctors were females (FMA 2015). Part-time working has recently increased, and 19% of medical doctors were working part-time in 2014 (FMA 2014). Part-time working is more common among female doctors. At the same time, medical doctors are aging, and in 2014 approximately one-fourth of doctors were over 55 years old (FMA 2014). An average of 300 public sector medical doctors are going to retire annually between 2013 and 2030. However, almost a half of retired doctors continue working, although mostly part-time in the private sector (Elovainio et al. 2012). Nevertheless, the number of working-age doctors has been predicted to increase in the future (FMA 2014).

Table 1. Number of licenced medical doctors and the proportion of female doctors living in Finland in 1970-2015 (FMA 2015).

Year	Number of doctors	Proportion of females (%)
1970	4,965	27
1980	9,517	33
1990	13,894	42
2000	18,590	48
2005	20,717	50
2010	23,609	53
2015	27,433	54

In 2014, approximately 60% of Finnish medical doctors were specialists, and 11% of working-age doctors were not medical specialists or in specialist training (FMA 2014). On the other hand, a little over 80% of medical doctors older than 45 years were specialists (FMA 2015). Of all medical specialists, 24% had two or more specialties (FMA, unpublished information). The largest specialties in 2014 in terms of the number of specialists were general practice, psychiatry, occupational health, anaesthesiology and intensive care medicine, obstetrics and gynaecology, radiology, and paediatrics (Table 2). Altogether, 55% of specialists were females (FMA 2014). Furthermore, 95% of young medical graduates intend to specialize (Sumanen et al. 2015a).

Table 2. Working-age Finnish medical specialists in 2014 listed according to their most recent licence and the proportion of female specialists in each specialty (FMA 2014).

Specialty	**Number of specialists**	**Proportion of females (%)**
Adolescent Psychiatry	160	74
Anaesthesiology and Intensive Care Medicine	786	49
Cardiology	241	29
Cardiothoracic Surgery	106	9
Child Neurology	93	85
Child Psychiatry	225	91
Clinical Chemistry	78	53
Clinical Genetics	26	88
Clinical Haematology	70	66
Clinical Microbiology	79	41
Clinical Neurophysiology	73	44
Clinical Pharmacology and Pharmacotherapy	32	41
Clinical Physiology and Nuclear Medicine	73	30
Dermatology and Allergology	197	77
Emergency Medicine	52	42
Endocrinology	50	60
Forensic Medicine	26	58
Forensic Psychiatry	54	48
Gastroenterological Surgery	237	38
Gastroenterology	107	30
General Practice	1,762	61
General Surgery	111	40
Geriatrics	235	74
Hand Surgery	51	35
Infectious Diseases	97	57
Internal Medicine	459	50
Nephrology	81	57
Neurology	316	61
Neurosurgery	67	25
Obstetrics and Gynaecology	660	80
Occupational Health	795	65
Oncology	162	78
Ophthalmology	468	53
Oral and Maxillofacial Surgery	17	29
Orthopaedics and Traumatology	473	13
Otorhinolaryngology	326	37
Paediatric Surgery	52	52
Paediatrics	575	69
Pathology	159	47
Phoniatrics	22	77
Physical and Rehabilitation Medicine	171	43
Plastic Surgery	100	52
Psychiatry	917	63
Public Health	76	61
Radiology	608	45
Respiratory Medicine and Allergology	204	66
Rheumatology	103	51
Sports Medicine	31	19
Urology	127	17
Vascular Surgery	42	33
All medical specialities	12,032	55
All working-age medical doctors	20,110	59

Approximately 70% of Finnish medical doctors were mainly working in the public and 30% in the private sector in 2014 (Figure 2). Of unspecialized medical doctors who were not in specialist training, 34% were mainly working in health centres and 22% in private practices, while only 8% were working in hospitals (FMA 2014). In Finland, medical doctors are permitted to work in both the public and private sector at the same time. In 2014, approximately 20% of Finnish medical doctors worked in private practice as a secondary option (FMA 2014).

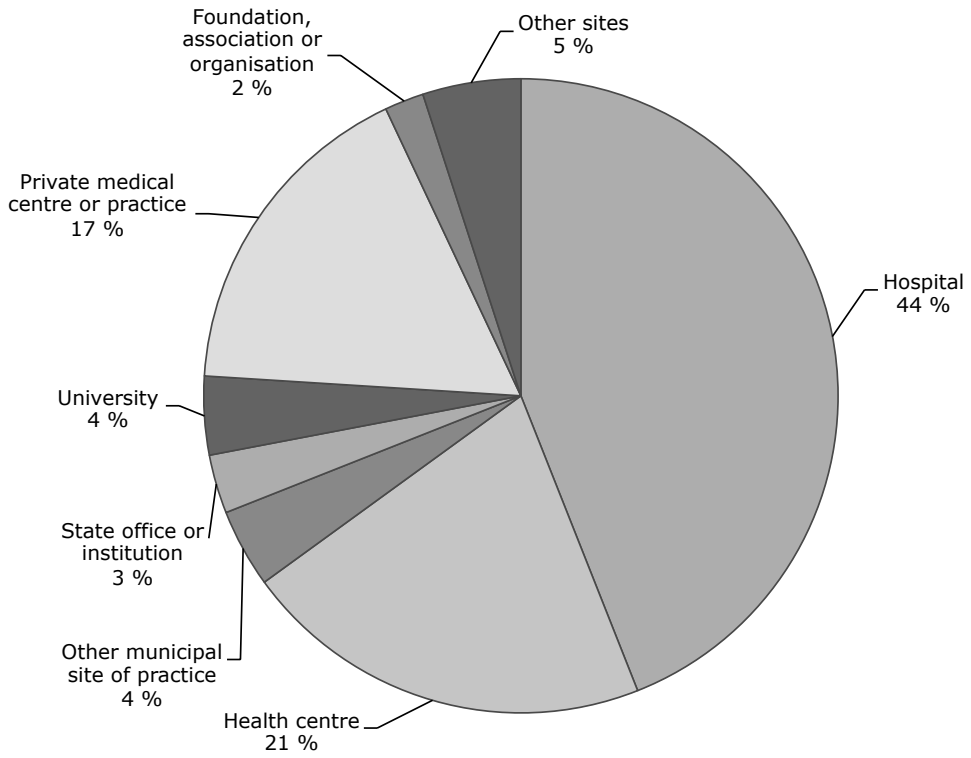

Figure 2. Currently working Finnish medical doctors in different working sectors in 2014 according to their main site of practice (FMA 2014).

At the moment, Finland is suffering from a shortage of medical doctors in the public sector, although the shortage has recently decreased (FMA 2014). The shortage of doctors was 5% in health centres in 2014 and 8% in hospitals in 2013. However, at the same time, the doctor workforce is quite unevenly distributed. The shortage mostly concerns smaller hospital districts in which there are no larger cities. For example, in 2014 there were 4 hospital districts in which the shortage of medical doctors in health centres was over 17%, while in 9 hospital districts, including all 5 university hospital districts, the shortage was 4% or less (FMA 2014). The ratio of medical doctors to inhabitants also differs. In 2014, there were over 4 medical doctors per 1,000 inhabitants in all university hospital districts, while in all other hospital districts there were less than 3 medical doctors per 1,000 inhabitants (FMA 2014).

The shortage of medical doctors also differs between specialties (Parmanne et al. 2013, FMA 2014, Ruskoaho et al. 2015). In 2013, the worst situation was within the psychiatric specialties, with a shortage of 13–16% (FMA 2014). In otorhinolaryngology, paediatrics, anaesthesiology and intensive care medicine, as well as obstetrics and gynaecology, the shortage was less than 4%. It has been predicted that while in some medical specialties the doctor shortage is going to get worse, in some others there is going to be a risk of overproduction in the near future (Parmanne et al. 2013).

2.3 UNDERGRADUATE AND POSTGRADUATE MEDICAL EDUCATION IN FINLAND

Both undergraduate and postgraduate medical education in Finland takes place in universities. According to Finnish legislation, the purpose of universities is to promote free research and scientific and artistic education, provide higher education based on research, and educate students to serve their country and humanity (Eurydice 2015). The universities have a large degree of autonomy in organising their instruction and education with a view to securing the freedom of higher academic and art education. The universities also decide on the selection criteria for higher education students, as long as the criteria are equal for all applicants. However, the government enacts the provisions pertaining to the degrees awarded by the universities, the objectives of the degrees, the structure of the studies and other study requirements, and the degrees to be conferred by each university (educational responsibility). Equal access to higher education is ensured by the wide institutional network, free education and student financial aid (Eurydice 2015). In the field of medical education, the only exception to the autonomy of the universities is radiation protection training, the content of which is regulated in the Regulatory Guides on radiation safety (ST) provided by the Radiation and Nuclear Safety Authority (STUK) (STUK 2016).

In Finland, there are five universities with medical schools: the University of Eastern Finland (formerly known as the Universities of Kuopio and Joensuu, of which the medical school is located in Kuopio), University of Helsinki, University of Oulu, University of Tampere and University of Turku. Of these, the University of Helsinki was established 1640 as the Royal Academy of Turku and moved to the new capital of Finland, Helsinki, in 1828. The existing University of Turku was established in 1920, and the medical school in 1943. The University of Oulu was established in 1958 and the medical school in 1960, and the University of Tampere was established in 1925 and the medical school in 1972. Finally, the university of Kuopio was established in 1966 and its medical school in 1972.

In connection with each medical school there is a university hospital, in which the actual medical training mostly takes place. Despite close collaboration, the organizations of medical schools and university hospitals are separated. The universities are independent public corporations or foundations, while the university hospitals are run by hospital districts and owned by the municipalities of the region (Vuorenkoski 2008, Eurydice 2015). However, most of the professors and clinical teachers of medical schools have a joint post in both the university and the university hospital.

The Ministry of Social Affairs and Health compensates some of the expenses caused by medical and dental undergraduate and postgraduate training for the university hospitals, and also for the municipalities and hospital districts (MSAH 2013).

2.3.1 Undergraduate medical education

Applying to medical school in Finland is arranged via an entrance exam held once a year. The exam is the same for all five medical schools, and an applicant may apply to only one medical school at a time (Studyinfo 2016). Some grades in the national final examinations from secondary school are also taken into account in the selection. Aptitude or personality tests are not used.

In recent years, the number of applicants has been increasing (KOTA 2016, Vipunen 2016). The intake of medical students was reduced at the beginning of 1990s and was increased at turn of the millennium and again in the mid-2010s (Figure 3). The changes were based on the current employment and the predicted future need for Finnish doctors. In 2014, approximately 15% of applicants were accepted (FNBE 2014). Approximately 95% of those accepted into medical school also graduate (Vipunen 2016).

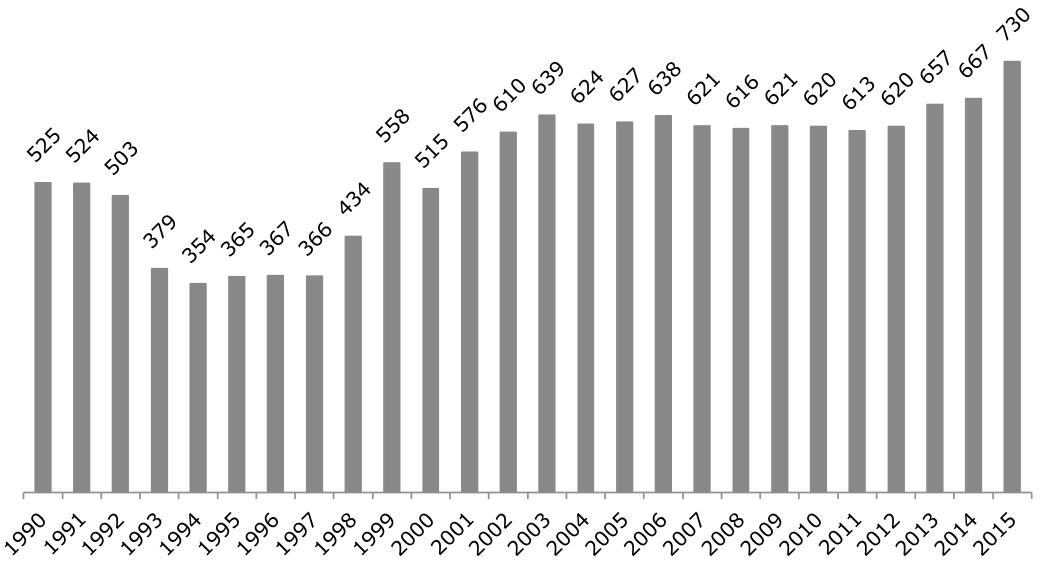

Figure 3. Accepted new medical students in 1990-2015 (KOTA 2016, Vipunen 2016).

In Finland, undergraduate medical education lasts six years at minimum. The curriculums of medical schools are somewhat different. In the medical schools of Kuopio, Oulu and Turku there is a more traditional curriculum in place with separated pre-clinical and clinical studies. The medical schools of Helsinki and Tampere have introduced a new curriculum based on problem-based learning, in which the difference between pre-clinical and clinical studies is not so prominent. On the other hand, the medical schools in Kuopio and Tampere are characterized by the fact that they were established to meet the needs of the Primary Health Care Act in 1972. Because of this, the curricula of these medical schools have been more oriented towards primary health care (Hyppölä & Mattila 2004). This has also been seen in studies examining the satisfaction of medical graduates with their primary health care education (Kataja et al. 1989a, Virjo et al. 1995, Hyppölä et al. 2000, Vänskä et al. 2005, Heikkilä et al. 2009, Sumanen et al. 2015a, Hyppölä et al. 2016). Nevertheless, all Finnish medical schools have a very pragmatic approach to medical

education, and, for example, practical training with real patients frequently already occurs in the first curriculum year.

2.3.2 Postgraduate medical education

Before 1986, the National Board of Health had the responsibility for national guidance in medical specialist training (MSAH 1993). The number of both specialties and subspecialties had steadily increased, despite the introduction of 43 new subspecialties in 1978. In 1986, new legislation was introduced, under which medical specialist training became a university degree. At the same time, the national guidance was transferred to the Ministry of Education. At this point, there were 32 medical specialties with five-year training. In addition, there were 60 medical subspecialties with two-year training, which could be carried out after the completion of specialist training. In 1994, Finland joined the European Economic Area, and in 1995 the European Union. Therefore, the European Union Directive on the Recognition of Professional Qualifications also came into force. Because of this, former medical subspecialties were defined as medical specialties. However, at this point no changes were made to the content of training programmes. A larger reform was introduced in 1998, when all former subspecialties were discontinued. Some of them were defined as their own specialties, some as additional university training programmes, and some were ended. After this, there were 49 medical specialties with five- or six-year training programmes. In 2013, emergency medicine was introduced as a new specialty, increasing the current number of medical specialties to 50 (Table 2). The University of Helsinki maintains nationwide statistics on the numbers of graduates from postgraduate medical training programmes (University of Helsinki 2016).

At the beginning of 2015, as a result of almost a decade long debate on the development of specialist education, national guidance on medical and dental specialist training was transferred from the Ministry of Education and Culture to the Ministry of Social Affairs and Health, and the new Decree on Medical and Dental Specialist Training and Specific Training in General Medical Practice was introduced (Puolijoki & Tuulonen 2007, MSAH 2010, MSAH 2011, MSAH 2013). Following this, specialist training is no longer a part of the university degree but is considered as postgraduate professional training. However, the universities are still responsible for the content of the training. The Ministry of Social Affairs and Health has established a National Section of Medical and Dental Specialist Training and Specific Training in General Medical Practice to guide and develop postgraduate medical and dental education. As a first task, the new section is now planning a national reform based on the recommendations made.

The changes made in the responsibility for national guidance and the numbers of medical specialties are described in Figure 4.

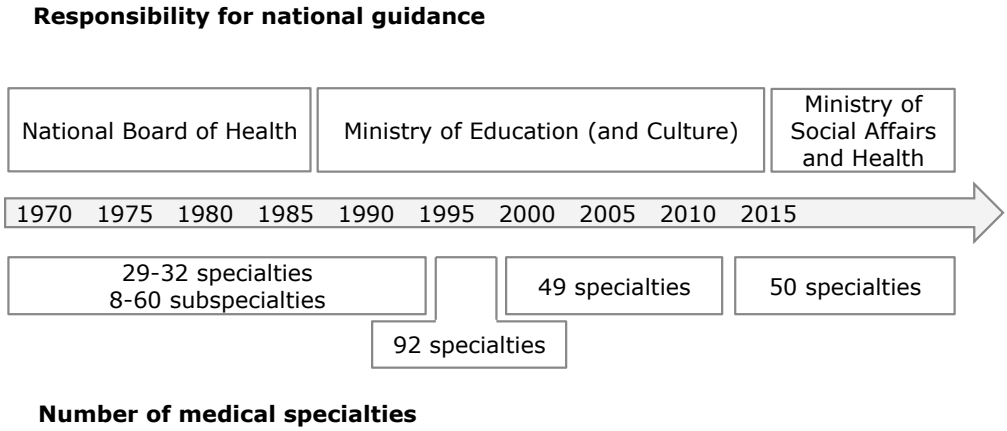

Figure 4. Responsibility for national guidance and number of medical specialties in 1970-2015.

Compared to some other European countries, there is in practice no process for selection onto postgraduate medical training programmes in Finland. In European countries, there are basically three different approaches to postgraduate medical student selection (Vermeulen et al. 2012). Some countries do not have any additional criteria to the minimum criteria of being a licensed medical doctor (e.g. Finland and Norway). Discipline-based assessment procedures can be divided into procedures in which all candidates are admitted in the case of sufficient vacancies (e.g. Switzerland) and procedures in which threshold scores for knowledge and/or personal qualities are in use (e.g. Iceland, the Netherlands and Sweden). The competency-based assessment procedure is one in which threshold scores for competencies and knowledge tests are in use (Denmark and the United Kingdom).

In Finland, the universities are responsible for the content of postgraduate medical training. However, the actual training mostly takes place in health care units. The postgraduate training programmes last five or six years, although in practice it usually takes approximately eight to ten years to graduate as a specialist after graduation from medical school. Internal and also surgical specialties have a common three-year basic training period (common trunk). The content of the training mainly involves working as employees for health care providers in different tasks in the medical specialty under the guidance of the professor and other specialists. According to the legislation, all trainees must work at least 9 months in primary health care. With a few exceptions, at least a half of the training must take place outside the university hospital. A trainee must also participate in some theoretical education in the specialty and in multi-professional management and leadership training. In addition to this, medical schools and professors may also set some other requirements. However, under these requirements, a trainee is able to plan the training quite freely with the professor.

At the moment, the numbers of students in postgraduate medical training programmes are not limited in any respect. However, the employers may limit the number of medical

trainees at work, and in some specialties trainees need to queue up, especially for the required period of university hospital training.

It has recently been found in Finland that future problems concerning the availability of a sufficient number of medical specialists are going to vary greatly between different medical specialties and also different regions (Parmanne et al. 2013, Ruskoaho et al. 2015). One of the main reasons for this workforce imbalance is that postgraduate doctors in Finland have in practice been able to choose the specialty they prefer without restrictions. There are now plans to develop a new selection process for postgraduate medical training, so that this imbalance could be corrected (MSAH 2013).

3 Review of the literature

3.1 CHOOSING A CAREER

Choosing a career is not a static process but part of the developmental process (Kniveton 2004). According to theories in sociology, the process advances with age. The initial *fantasy* stage of early to mid-childhood is followed through the early teenage years by the *tentative* stage, when individuals begin to think about their interests, capacities and values. In the *realistic* stage, in late adolescence, the individual shifts from a focus on subjective needs and interests to an appraisal of what the world has to offer (Ginzburg et al. 1951, as cited in Kniveton 2004). In high school, the influence of schoolteachers on career choice is far less than that of parents (Kniveton 2004). Of the parents, the one with the same gender as the adolescent has the greater impact on career choice. However, younger children are even more influenced by their elder siblings than by their parents (Kniveton 2004).

People are driven by different motivations when choosing their career paths. The most basic distinction between these motivations is between *intrinsic* motivation, which refers to doing something because it is inherently interesting or enjoyable, and *extrinsic* motivation, which refers to doing something because it leads to a separable outcome (Ryan & Deci 2000). In other words, intrinsic motivations are those that are performed out of interest and satisfy the innate psychological needs for competence and autonomy, such as learning and exploring and other basic human needs. Meanwhile, extrinsic motivations are those that are instrumental, thus leading to a separable reward such as fine grades, a good income or prestigious position. In the situation involving career decisions, both intrinsic and extrinsic motivations exist and the different types of motivation appear to blend within the same individual, with one type of motivation being more dominant than the others (Covington & Mueller 2001, Thomson et al. 2012).

Recently, several studies have noted a change in the work values and expectations of students and graduates compared to earlier generations (Loughlin & Barling 2001, Smola & Sutton 2002, Ng & Burke 2006). For example, in the 1950s, graduates focused on promotional opportunities, a high income and job security, while in the 1960s, students concentrated on the meaning of life, and students of the 1970s and 1980s wanted individual achievement and reward from their careers. In the 1980s, students indicated that the primary concerns when choosing a career were the potential future income, promotional opportunities and location of the work (Parmley et al. 1987). In the 1990s, students' concerns for choosing a career path included promotion, challenge and responsibility, working conditions and the type of work (Devlin & Peterson 1994). At the turn of the millennium, job attributes such as the work itself, the compensation and the employer or working environment were the most important factors for students when choosing a career (Moy & Lee 2002). Good people to work with, the reputation of the employer, challenging work and job security were also critical factors for students (Ng & Burke 2006). Students of the new millennium are choosing their workplaces based on the working conditions and flexibility of work in terms of location, technology, workspace and human resource policies. The five most important work-related attributes for students are employers who care about

their employees as individuals and who invest in their employees, daily work variety, a dynamic approach, and clear opportunities for promotion (Terjesen et al. 2007).

Income is not the most important motivator an employee derives from a job. However, it is an important motivator for most people (Rynes et al. 2004). While employers should consider both financial and nonfinancial tools for attracting, motivating and retaining employees, it would be a mistake to conclude that monetary rewards are not highly important.

Studies have also explored the differences between men and women in career selection. In the 1980s, women limited their career expectations because of issues related to supposed gender-related roles (Hesse-Biber 1985). When coming into the new millennium, differences between males and females still existed in the importance of organizational attributes (Terjesen et al. 2007). For females, daily work variety, a friendly informal culture, commonalities amongst co-workers, the degree of skill utilization, a stress-free working environment, a diverse mix of co-workers and standardized work hours were issues of importance. However, there have lately also been studies in which differences in factors affecting career choice between males and females were not evident (Ng et al. 2008).

3.2 CAREER-RELATED MOTIVATIONAL FACTORS OF MEDICAL DOCTORS

3.2.1 Choosing a medical career

The decision to become a medical doctor is often made in the early stages of life (Sianou-Kyrgiou & Tsiplakides 2001). Up to a quarter of clinicians had decided that they would be applying for medical school even before attending high school (Knight & Mattick 2006). The decision to seek a place in a medical school, or any other form of higher education, is often affected by the applicant's social background (Sianou-Kyrgiou & Tsiplakides 2001). For example, it has been claimed that working-class students simply do not see themselves as potential members of a profession that they perceive as intellectually and culturally elite (Mathers & Parry 2009). For these students, support from teachers or parents, in particular, is essential to encourage them towards applying to medical school (McHarg et al. 2007, Mathers & Parry 2009). In Finland, the proportion of medical doctors with parents in the same profession has increased during recent decades (Sumanen et al. 2015a). Environmental factors, such as popular TV shows, also have an influence (McHugh et al. 2011). On the other hand, there have recently been attempts to widen access to medical schools to students from disadvantaged communities and those with broader backgrounds of experience (Powis et al. 2004, Powis et al. 2007, James et al. 2008). These include better and more equal selection criteria and graduate entry programmes.

The opportunity to help others has been cited by medical students as the most influential factor in applying to medical school (McHugh et al. 2011). Other motives related to humans and the content of the work have also been found to be important for medical students and doctors when choosing a career in medicine (Hyppölä et al. 1998, Vaglum et al. 1999, Crossley & Mubarik 2002, Wierenga et al. 2003).

There appear to be some gender differences in motives for students to apply to medical school. Female students have a greater concern for dealing with the long hours involved in medical training than their male counterparts (Wierenga et al. 2003). On the other hand, male students are more likely to have an interest in a career in surgery and are more

interested in financial compensation (McHugh et al. 2011). Female students appear to be more sensitive and less imaginative than male students, who are more utilitarian and less grounded (Millan et al. 2005). According to the same study, female students also tend to present greater emotional maturity, while male students present a greater tendency towards competition, and are more ambitious.

3.2.2 Choosing a medical specialty

The content of the work and first clinical experiences during undergraduate medical studies and immediately after graduation direct the choice of a medical specialty and are especially important for the majority of students, who are uncertain as to their career choice when entering medical school (Mihalynuk et al 2006, Mayorova et al. 2008, Woolf et al. 2015). There is also some evidence to suggest that the medical school and its teachers' attitudes have a significant role in the choice of specialty by medical students and young doctors (Goldacre et al. 2004, Phillips & Clarke 2012, Stahn & Harendza 2014). It has also been noted that those specialties ranked as prestigious by medical students (e.g. surgery, internal medicine, intensive care medicine) differ from the ones ranked as life-style friendly (e.g. dermatology, general practice, public health medicine) (Creed et al. 2010).

The motives for choosing a career in medicine appear to remain relatively stable during medical school (Scott et al. 2012). The changes in plans made during the studies also appear to occur between the same types of medical specialties. However, it might be difficult to extrapolate the future medical specialty of the new medical students simply by evaluating their motives for choosing medicine or by changing the entry profile of medical students (Lambert et al. 2001). Moreover, no association has been found between age at entry to medical school and the eventual choice of career. The choice of specialty often changes in the early years after graduation (Mahoney et al. 2004). Furthermore, the stability of the choice increases following the first years after graduation, but still varies between specialties (Goldacre et al. 2010).

The personality, temperament and character of a student influence the choice of medical specialty. First of all, there appear to be large variations in personality among medical students, and these differences also affect student performance during studies, even if medical students overall seem to be more social and empathic than other students (Lievens et al. 2002). Furthermore, medical students choosing procedure-oriented specialties such as surgery are especially more likely to have a personality related to novelty or impulsive sensation seeking (Vaidya et al. 2004, Hojat & Zuckerman 2008). On the other hand, students interested in hospital-based specialties tend to score lower on sociability, whereas those interested in primary care score higher in this measure (Hojat & Zuckerman 2008).

3.2.3 Seeking a workplace

While many studies have examined the career choices of medical doctors, few have investigated the choice of workplace. Since the population is rapidly aging, it might be difficult to fulfil the increasing need for health care services in the near future (Watson et al. 2005, McGinnis & Moore 2006, Cohen 2009, FMA 2014). This will make it essential to also determine the best possible ways to recruit medical doctors especially in the areas where there is a labour shortage.

The *inverse care law* states that the availability of good medical care tends to vary inversely with the need for it in the population served (Hart 1971, Watt 2002). This means that the availability of primary care is especially poor in declining areas. A range of factors has been found to lie behind the difficulties in recruiting medical personnel in the most deprived areas, such as a low doctor per population ratio, populations with a greater workload, a low workload-adjusted income and a lack of amenities in the area (Gravelle & Sutton 2001). It has also been suggested that many deprived practices appear to have a better match between the need and supply than practices serving affluent but aging populations, and practices serving the oldest and most deprived populations have the worst availability of all, because of the heavy workload imposed on their doctors (Asthana 2008). Thus, it is very challenging for policy-makers who must try to maintain a health care system that provides equal access to health services to all citizens. If this policy is to be a reality, then it is essential to attract medical doctors to work in more deprived locations. It is also important to note that an increase in the supply of doctors will not necessarily reduce the geographical inequality in doctor distribution (Gravelle & Sutton 2001).

The difficulties in recruiting particularly primary care doctors to remote or rural areas have been a matter of debate for years in several countries (Hingstman & Boon 1989, Richardson et al. 1991, Bolduc et al. 1996, CGME 1998, WHO 2010). Finland has also been suffering from a doctor shortage in the public sector, although the situation has become better in recent years (FMA 2014). There have been studies reporting that the distance from friends and family and the limited educational possibilities for children were common reasons for leaving a rural practice (Szafran et al. 2001, Yang 2003, Mayo & Mathews 2006). Some GPs also appear to avoid being recognized or considered as medical doctors in their spare time, which may prevent them from working in more remote areas (Aira et al. 2016). Reasonable on-call hours, flexible working, the workforce supply, satisfying salaries, access to specialists and referral networks, and career opportunities for spouses have been stated by medical doctors as reasons for seeking and staying in rural areas (Holmes & Miller 1986, MacIsaac et al. 2000, Janes & Dowell 2004, Jones et al. 2004).

Working part-time has become more popular among Finnish medical doctors. The transition to part-time work appears to be primarily an accommodating strategy with regard to family responsibilities (Gjerberg 2003). However, it is also clearly influenced by variations in the work flexibility structure in the different specialties.

The choice of working sector by medical doctors, i.e. public or private, is influenced by factors such as the wage levels, personal characteristics, and whether the doctor knew his or her place of work before graduation (Kankaanranta et al. 2006). Medical doctors for whom wages are important or who regard themselves as entrepreneurial are less likely to choose the public sector. If a doctor has worked in the public sector during his or her medical training before graduation, the probability of applying for a vacancy in the public sector is higher (Kankaanranta et al. 2006).

3.2.4 Differences between genders and generations

More women have entered medicine in recent years (Reichenbach & Brown 2004). At the moment, women comprise approximately half of medical students worldwide (Levitt et al. 2008). In Finland, the proportion of female doctors exceeded 50 per cent at the beginning of the 2000s (FMA 2014). This has led to a discussion about the "feminisation of medicine" (Reichenbach & Brown 2004). On the other hand, there is some evidence indicating that the

differences between genders in career-related motives have diminished among younger generations of medical doctors (Lambert & Holmboe 2005).

Feminisation of medicine

Several studies have shown that female medical students and doctors are more likely to choose different specialities from males. Females tend to choose primary care specialties such as general practice and paediatrics, whereas males are more interested in surgery and internal medicine (Bickel & Ruffin 1995, Xu et al. 1995, Bickel 2001, Gjerberg 2002, McMurray et al. 2002, Neumayer et al. 2002). However, while medical doctors of both genders are equally likely to start their career in surgery or internal medicine, males are more likely to complete their specialist training (Gjerberg 2002). It appears that this is due to problems in combining the workload during postgraduate medical training and the work–family balance in these specialties (Bickel & Ruffin 1995, Gjerberg 2002).

Some differences have also been found between genders in motives related to career decisions. Males appear to be more affected by income, role models prior to medical school, medicine as a prestigious profession and career development (Neittaanmäki et al 1993, Xu et al. 1995, Bickel & Ruffin 1995). On the other hand, female medical students and doctors appear to appreciate flexibility and quality of life and are influenced by personal issues such as family-related motives, personal values and opportunities for clinical experience with the community, even when it means compromising professional achievements (Neittaanmäki et al. 1993, Xu et al. 1995, Bickel & Ruffin 1995, NHS 2001, Lambert et al. 2003, Lawrence et al. 2003, Drinkwater et al. 2008, Taylor et al. 2009, Van der Horst et al. 2010). These differences may also explain why more males are entering medical specialties considered more prestigious such as surgery and internal medicine, while females are choosing specialities with a better possibility for direct interaction with the community and allowing personal flexibility, such as general practice (Levitt et al. 2008).

Differences between generations of medical doctors

In addition to the differences found between male and female medical doctors, differences in flexible working, a controllable lifestyle, on-call work and the work–family balance also appear to play a more significant role than formerly in the career decisions of younger doctors, including young male doctors (Blades et al. 2000, Heiligers & Hingstman 2000, Dorsey et al. 2005, Lambert & Holmboe 2005). These are indications of changes in attitudes towards working patterns in society, meaning that the younger generation, including younger males, would appear to prefer more flexible work and part-time working as compared to earlier generations (Heiligers & Hingstman 2000, Lind & Cendan 2003). Younger generations also appear to have a different attitude towards work, i.e. younger doctors place more emphasis on meaningful work (Schwartz et al. 2001).

There has also been discussion about the better use of the talents of younger staff in hospitals when improving the quality of care (Keogh 2013). For example, allowing greater involvement in clinical decision-making and management for junior doctors could attract them to work in places where they gain more responsibility, while also motivating and enabling them to gain greater experience.

3.3 CAREER SATISFACTION OF MEDICAL DOCTORS

The career satisfaction of a medical doctor can be influenced by factors such as the workload, workplace stress, organization of the work, quality of care and ability to access quality services for patients, and the fair distribution of rewards (Witt & Nye 1992, Burke 1996, Shugarman et al. 2001, Wettermeck et al. 2002, Williams et al. 2002, Bovier & Perneger 2003, Landon et al 2003, Robinson 2003, Garfinkel et al. 2005). To be satisfied with their careers, medical doctors should find the most suitable specialty for their personality (Borges et al. 2005).

The career satisfaction of medical doctors can be divided into four dimensions: personal, professional, inherent and performance (Lepnurm et al. 2006). Of these, the most important dimension for all specializations is inherent satisfaction. Satisfaction varies between specialties to some extent: in some studies, for example, geriatricians, paediatricians and dermatologists have seemed to be quite satisfied and gynaecologists dissatisfied with their careers (Leigh et al. 2002, Leigh et al. 2009). There may also be some differences between medical specialties in the importance of different factors explaining job satisfaction (Lepnurm et al. 2006, Leigh et al. 2009). For example, the discrepancy between high expectations and the current realities may explain dissatisfaction in some specialties that are considered more prestigious.

Dissatisfaction in practising medicine is a significant predictor of how doctors perceive their professional responsibilities and in medical decision-making, and also has significant implications for the quality of care (O'Donnell et al. 2015, Landon et al. 2002, Quinn et al. 2009). Vice versa, quality problems in practises are correlated with the career dissatisfaction (Quinn et al. 2009). Furthermore, job satisfaction and dissatisfaction also play a role in the intentions of medical doctors to switch their working sector (Kankaanranta et al. 2007).

4 Aims of the study

The aims of this study were to:

1. Determine the main motives behind the choice of medicine as a career by Finnish medical doctors, to identify the reasons for dissatisfaction with the chosen profession, and to compare the responses in 1988, 1998 and 2008 to examine whether there were any changes in these motives over the twenty years;

2. Establish the motives affecting the choice of medical specialty by Finnish medical doctors in 2008 and 2013, and determine whether there were any differences in these motives between different groups of doctors, and any correlations between the motives and dissatisfaction with the chosen specialty;

3. Clarify the motives of Finnish medical doctors related to the choice of the current workplace in 2008 and to identify possible differences between different groups of doctors in this matter.

5 Methods

The methods are presented here in an abridged form. The full methods are presented in articles I, II, III and IV.

5.1 DATA COLLECTION

The Junior Physician 88, Physician 98, Physician 2008 and Physician 2013 studies were undertaken in collaboration with the University of Kuopio (now the University of Eastern Finland), the University of Tampere and the Finnish Medical Association. The cross-sectional questionnaires collected data on the social background, work history, employment and career plans of those in the medical profession in Finland. The studies also examined doctors' views concerning basic and postgraduate education, their values and professional identity. In the series of Physician questionnaires, Physician 93 and Physician 2003 studies were also carried out. However, the data from these studies were not used in the present study.

In the Physician 1988 study, the basic study population consisted of all medical doctors licensed in Finland 2–11 years before the study. In the later studies, this is referred to as the *Junior cohort*. In addition, in the later studies, the *Senior cohort* was also added with a partly different questionnaire. In the 1998 study, the study population of the *Senior cohort* consisted doctors licensed 12–21 years before the study, and in the 2008 study, 12–31 years before the study. In the Physician 2013 study, the study population of the *Junior cohort* consisted all doctors licensed 11 years before the study and the study population of the *Senior cohort* all doctors under 70 years old licensed 12 or more years before the study. Each study included a random sample of approximately half of Finnish doctors based on their date of birth (odd numbered or even-numbered days).

Data for the 1988 and 1998 studies were collected by postal questionnaire. In the 2008 and 2013 studies, both postal and online questionnaires were used (Ruskoaho 2010). The basic characteristics of the data used in this study are presented in Table 3.

Table 3. Formation of the data of the Junior Physician 88, Physician 1998, Physician 2008 and Physician 2013 studies.

	1988	**1998**	**2008**	**2013**
Study population	5,208	10,628	16,192	21,501
Study sample	2,632	5,357	7,758	10,600
Returned questionnaires	1,745	3,939	4,167	5,350
- Email			2,057	2,148
- Posted			2,110	3,202
Response rate (%)	66.3	73.5	53.7	50.5

In the 1988 and 1998 studies, medical doctors licensed in Finland were well represented in the data in terms of age and gender. The 2008 data were weighted by age and gender, and the 2013 data were weighted by age, gender and specialization status. People in under-

represented groups were given a weight greater than 1 and those in over-represented groups were given a weight smaller than 1, with the weighting being proportionate to the degree of over- or under-representation.

The study reports of the *Junior cohorts* in Junior physicians 88, Physician 1998, Physician 2008 and Physician 2013 studies have been published by the Finnish Ministry of Social Affairs and Health (Kataja et al. 1989a, Hyppölä et al. 2000, Heikkilä et al. 2009, Sumanen et al. 2015a). Reports based on both cohorts, including the study methods and the main findings, have been published in the Finnish Medical Journal (Kataja et al. 1989b, Virjo et al. 1999, Heikkilä et al. 2010, Sumanen et al. 2015b).

The use of the data of different Physician studies in this study is presented in Table 4.

Table 4. The use of the data from different Physician studies in this study.

	Young Physician 88	**Physician 1998**	**Physician 2008**	**Physician 2013**
Motives for choosing a medical career	X	X	X	
Satisfaction with the choice of a medical career		X	X	
Motives for choosing a medical specialty			X	X
Satisfaction with the choice of a medical specialty				X
Motives for choosing the current workplace			X	

5.2 STATISTICAL ANALYSES

5.2.1 Motives and satisfaction for choosing a medical career (I)

When examining the reasons for applying to medical school, *Junior cohorts* of the Physician 88, 98 and 2008 studies were selected. Respondents were asked: *To what extent did the following factors influence your decision to apply to medical school?* They were presented a total of eleven items that could have affected their choice. The data were obtained by means of a five-point Likert scale (*not at all*, *slightly*, *to some extent*, *quite a lot*, *very much*). For this study, *quite a lot* and *very much* were defined as important motives (*a lot*), and *not at all* and *slightly* as unimportant motives (*hardly at all*). In the 2008 and 1998 studies, the respondents were also asked: *If you were starting your studies now, would you start studying medicine?* The response alternatives were *Yes* or *No*.

The motives behind the choice of medicine were compared between respondents. The answers and the differences between genders were also compared. Differences between those who would start studying medicine again and those who would not, in terms of their motives to start studying medicine were examined.

Finally, the odds ratios for the answer *No* to the question *If you were starting your studies now, would you start studying medicine?* were tested using logistic regression models. The models included the independent variables gender, age and time elapsing since being licensed as a doctor. The six most frequent motives for applying to medical school (*Interest in people*, *Prestigious profession*, *Wide range of professional opportunities*, *Vocation*, *Good salary*, and *Achievements at school*) were also added as independent variables.

5.2.2 Motives and satisfaction for choosing a medical specialty (II and III)

When examining the motives for choosing a medical specialty, data from both 2008 and 2013 were used. First, when using the 2008 data, medical specialists and doctors in specialist training were selected. When using the 2013 data, medical specialists of working age were selected. Respondents in the Physician 2008 study were grouped based on gender, age and medical specialty. In the 2013 study, groups based on working sector and the university of specialist training were also examined. The specialty groups used in these studies are presented in Table 5.

Respondents were asked: *If you are a specialist or specializing, to what extent did the following items affect your choice of specialty?* They were presented with items that could have affected their choice. The responses were classified by means of a five-point Likert scale (*not at all*, *slightly*, *to some extent*, *quite a lot*, *very much*). For this study, *quite a lot* and *very much* were defined as *important* motives (*a lot*), and *not at all* and *slightly* as *not important* motives (*hardly at all*). Respondents in 2013 study were also asked: *If you were making the choice again, would you still choose the same medical specialty?*

The data were analysed using cross-tabulation and the *chi-squared* test to examine differences between male and female doctors, doctors in different age groups and doctors in the different groups of medical specialties. To calculate odds ratios in the 2013 data for answering *No* to the question: *If you were making the choice again, would you still choose the same medical specialty?* a binary logistic regression model was constructed with gender, age, items named by more than 25% of the respondents as important motives to choose a specialty, correspondence of the specialist training to the current work, working sector, and specialty as independent variables.

5.2.3 Motives for choosing the current workplace (IV)

When examining the motives for choosing the current workplace, the medical doctors currently working in 2008 data were selected. Respondents were asked: *To what extent did the following motives affect the choice of your current workplace?* They were given seventeen items that could have affected their choice. The data were classified by means of a five-point Likert scale (*not at all*, *slightly*, *to some extent*, *quite a lot*, *very much*).

Respondents were grouped based on gender, marital status, the number of children, career status, working sector, hospital district and medical specialty. The specialty groups used in this study are presented in Table 5.

Exploratory factor analysis was carried out on the 16 items to establish the structure and number of motives for seeking a workplace. The variable *Being near a central hospital* was omitted because there were considerably fewer respondents who had selected this response. This also clarified the structure of the factor analysis. Principal axis factoring with varimax rotation was used. Scores for each factor were used, furthering the subsequent analysis. An *Eigenvalue* of 1.00 or more was used as the criterion in selecting the number of factors.

Univariate analysis of covariance (ANCOVA) was carried out to ascertain whether there were differences in doctors' motives for choosing the current workplace in terms of age, gender, marital status, number of children, career status, working sector, hospital district and specialty group. The model considered age as a covariate, and gender, marital status, number of children, career status, working sector, hospital district and specialty

group as independent variables, with scores for factors in the factor analysis as dependent variables.

Table 5. The contents of the groups used in the analyses of the data.

Specialized medical care:	University hospital, other public hospital
Primary health care:	Health centre, public occupational health care
Public institutions:	Government agency or institution, university
Single:	Single, divorced, a widow
Married:	Married, in a common-law marriage
Specialties in II *and* IV:	
Operative specialties:	Anaesthesiology and intensive care medicine, cardiothoracic surgery, gastroenterological surgery, general surgery, hand surgery, neurosurgery, obstetrics and gynaecology, ophthalmology, oral and maxillofacial surgery, orthopaedics and traumatology, otorhinolaryngology, paediatric surgery, plastic surgery, urology, vascular surgery
Non-operative specialties:	Cardiology, child neurology, clinical haematology, clinical pharmacology and pharmacotherapy, dermatology and allergology, endocrinology, gastroenterology, geriatrics, infectious diseases, internal medicine, nephrology, neurology, oncology, paediatrics, phoniatrics, physical and rehabilitation medicine, public health, respiratory medicine and allergology, rheumatology, sports medicine
Diagnostic specialties:	Clinical chemistry, clinical genetics, clinical microbiology, clinical neurophysiology, clinical physiology and nuclear medicine, forensic medicine, pathology, radiology
Psychiatric specialties:	Adolescent psychiatry, child psychiatry, forensic psychiatry, psychiatry
General practice:	General practice, occupational health
Specialties in III:	
Internal medicine:	Cardiology, clinical haematology, endocrinology, gastroenterology, infectious diseases, internal medicine, nephrology, rheumatology
Surgery:	Cardiothoracic surgery, gastroenterological surgery, general surgery, hand surgery, neurosurgery, oral and maxillofacial surgery, orthopaedics and traumatology, paediatric surgery, plastic surgery, urology, vascular surgery
Psychiatry:	Adolescent psychiatry, child psychiatry, forensic psychiatry, psychiatry
Other specialities:	Child neurology, clinical chemistry, clinical genetics, clinical microbiology, clinical neurophysiology, clinical pharmacology and pharmacotherapy, clinical physiology and nuclear medicine, dermatology and allergology, forensic medicine, geriatrics, oncology, pathology, phoniatrics, physical and rehabilitation medicine, public health, respiratory medicine and allergology, sports medicine

6 Results

The results are presented here in an abridged form. The full results are presented in articles I, II, III and IV.

6.1 MOTIVES AND SATISFACTION FOR CHOOSING A MEDICAL CAREER (I)

Interest in people was the main motive for making the decision to apply to medical school in the 1988, 1998 and 2008 studies. (Figure 5). The relative importance of *Vocation* increased between 1988 and 2008. At the same time, there were declines in *Wide range of professional opportunities*, *Good salary* and *Achievements at school*.

There were considerable differences between males and females in their motives (Table 6). *Good salary* and *Prestigious profession* were significantly more important motives for males, whereas *Vocation*, *Interest in people*, *Achievements at school* and *Career guidance* were significantly more important for females in all three studies.

In the Physician 2008 study, 17% of respondents reported that they would not choose to study medicine if making their decision again. This proportion had decreased from 25% in the 1998 study. The question was not asked in the 1988 study. Of male respondents, 13% asked in 2008 would not choose to study medicine again, compared with 26% in 1998. For female doctors, the corresponding proportions were 18% in 2008 and 25% in 1998. All changes were statistically significant (p <0.05).

In both 1998 and 2008 studies, *Vocation*, *Wide range of professional opportunities* and *Interest in people* were significantly more important reasons to start studying medicine for those who would still choose medicine if they were starting their studies now, compared to those who would not (Table 7).

In the 2008 study, female doctors had a significantly higher odds ratio for answering *No* to the question: *If you were starting your studies now, would you start studying medicine?* (Table 8). In the 1998 study, the odds ratio for the 30–34-year-old respondents was significantly higher than for those under 30. In the 2008 study, there were no significant differences between age groups. The time since receiving the license as a doctor had no significance.

In both studies, those who answered that the motives *Wide range of professional opportunities* and *Vocation* greatly affected their choice were found to have a significantly lower odds ratio for the answer *No* to the question: *If you were starting your studies now, would you start studying medicine?*

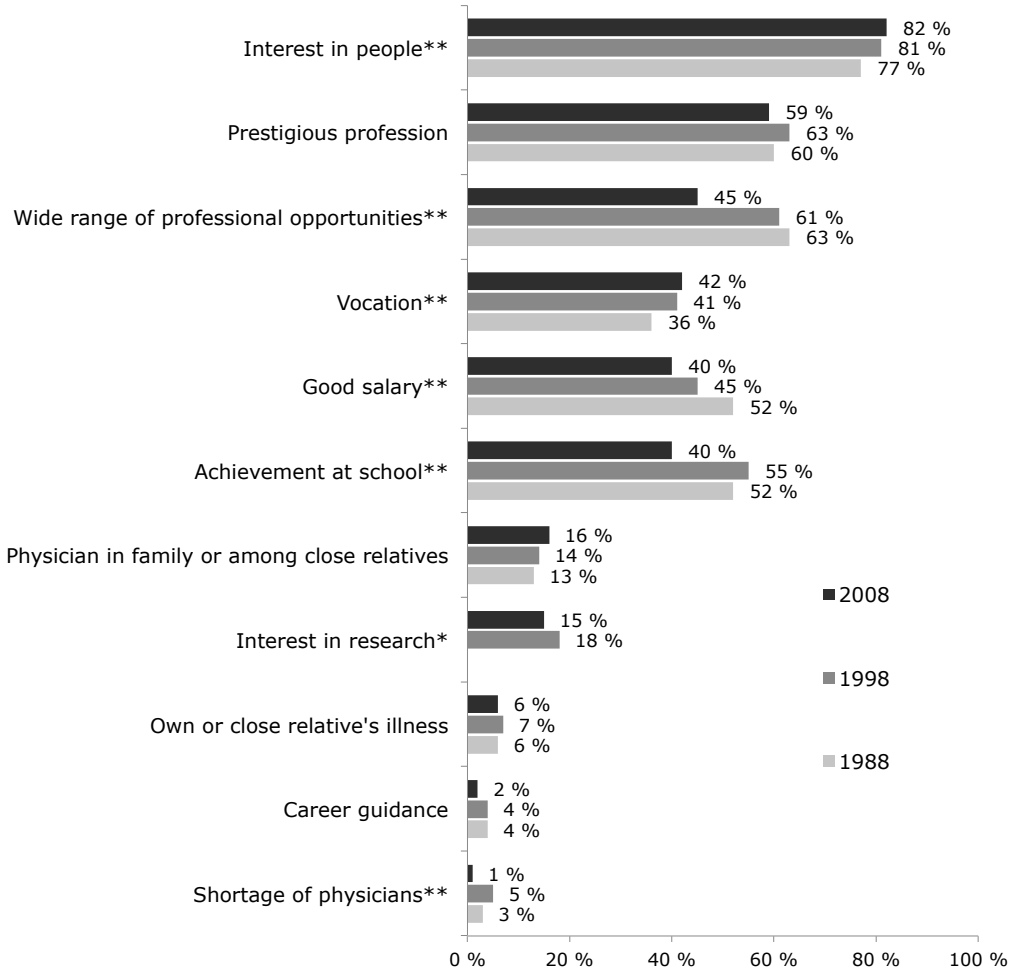

Figure 5. Proportions (%) of respondents answering *Quite a lot* or *Very much* to the question: *To what extend did the following motives influence your decision to apply for medical school?* in the Young Physician 88, Physician 1998 and Physician 2008 studies. *Interest in research* was not included in the Young Physician 88 study. *Note* ***p* <0.01, **p* <0.05.

Table 6. Differences in proportions of male and female respondents who answered *Quite a lot* or *Very much* to the question: *To what extent did the following factors influence your decision to apply to medical school?* in the Junior Physician 88, Physician 1998 and Physician 2008 studies. The items are sorted according to the difference between genders in 2008. For full table please see I Table 2.

		Differences between genders		
Study year		**1988**	**1998**	**2008**
		%-units	%-units	%-units
More important for males	Good salary	**9**	**6**	**13**
	Prestigious profession	**8**	**5**	**9**
	A doctor in family or among close relatives	4	**5**	**7**
	Interest in research		2	3
	Shortage of doctors	0	1	1
	Wide range of professional opportunities	-3	**-5**	-2
	Own or close relative's illness	-1	**-3**	-2
	Career guidance	-1	**-2**	**-2**
	Achievements at school	**-11**	**-14**	**-7**
More important for females	Interest in people	**-12**	**-13**	**-10**
	Vocation	**-12**	**-13**	**-10**

*Note. Statistically significant differences (p <0.05) are in **bold**. Interest in research was not included in the Junior Physician 88 study.*

Table 7. Differences in motives for applying to medical school (answers *Quite a lot* and *Very much* to the question: *To what extent did the following factors influence your decision to apply to medical school?*) of those who answered *Yes* or *No* to the question: *If you were starting your studies now, would you start studying medicine?* in the Physician 1998 and Physician 2008 studies. The items are sorted according to the difference in 2008. For full table please see I Table 3.

		Differences between those who answered YES or NO	
Study year		**1998**	**2008**
		%-units	%-units
More important for YES-group	Vocation	**20**	**19**
	Wide range of professional opportunities	**11**	**16**
	Interest in people	**11**	**12**
	Prestigious profession	5	2
	A doctor in family or among close relatives	2	3
	Good salary	-4	0
	Own or close relative's illness	-2	0
	Career guidance	-2	0
More important for NO-group	Shortage of doctors	**-5**	-**2**
	Achievements at school	0	-5
	Interest in research	0	**-7**

*Note. Statistically significant differences (p <0.05) are in **bold**. The question was not included in the Junior Physician 88 study.*

Table 8. The odds ratios with 95% confidence intervals in a binary logistic regression model for answering *No* to the question: *If you were starting your studies now, would you choose to be a physician?* in the Physician 1998 and Physician 2008 studies. For full table please see I Table 4.

Study year		**1998**	**2008**
		Odds ratio	Odds ratio
Gender	Males	1	1
	Females	1.16	**1.92**
Age	Under 30	1	1
	30-34	**1.62**	1.25
	35-39	1.14	1.25
	40 or older	1.28	1.18
Time elapsed from qualification as a doctor	2-6 years	1	1
	7-11 years	0.92	1.17
Motives affecting the decision to apply for a medical school:			
Interest in people	A lot	1	1
	To some extent	1.22	**1.57**
	Hardly at all	**1.91**	1.53
Prestigious profession	A lot	1	1
	To some extent	1.21	1.00
	Hardly at all	**1.76**	1.29
Wide range of professional opportunities	A lot	1	1
	To some extent	**1.51**	**1.70**
	Hardly at all	**1.46**	**2.44**
Vocation	A lot	1	1
	To some extent	**1.45**	**1.84**
	Hardly at all	**2.57**	**2.64**
Good salary	A lot	1	1
	To some extent	0.75	0.88
	Hardly at all	**0.59**	0.76
Achievements at school	A lot	1	1
	To some extent	0.79	1.00
	Hardly at all	1.00	0.99

*Note. Statistically significant values (p <0.05) are in **bold**. The question was not included in the Junior Physician 88 study.*

6.2 MOTIVES AND SATISFACTION FOR CHOOSING A MEDICAL SPECIALTY

6.2.1 Motives for choosing a medical specialty in the Physician 2008 study (II)

In the Physician 2008 study, male doctors more often preferred operative medical specialties compared to females (Table 9). On the other hand, female doctors chose general practice and psychiatric specialties more often compared to males. In non-operative specialties, the proportions were relatively similar.

Operative and non-operative medical specialties were more popular in younger compared to older age groups (Table 10). On the other hand, the oldest medical doctors had more often chosen a psychiatric specialty and general practice compared to the youngest doctors. In diagnostic specialties, the differences between age groups were rather small.

In the Physician 2008 study, *Diversity of work* was the most significant motive in medical doctors' choices of specialty, followed by *Good prospects of employment*, *Positive experiences in the specialty during undergraduate training* and *Good example set by colleagues* (Table 11). Altogether, 29% of respondents replied that they had chosen their specialty *By chance*. The *Opportunity to carry out research* and *High quality specialization programmes* were the least frequently selected motives for the choice of specialty.

There were some significant differences between genders (Table 11). *Opportunities for career development*, *Opportunity to gain a good income* and *Opportunity to carry out research* were significantly more important motives for males compared to females. On the other hand, *Reasonable on-call load* was a significantly more important motive for females.

When examining differences in motives between medical doctors in different age groups, *Diversity of work*, *Positive experiences in the specialty during undergraduate training*, *Good example set by the colleagues in the specialty*, *Reasonable on-call load*, *Opportunities for career development* and *High-quality specialization programme* were all significantly more important motives for the youngest age group when choosing a specialty (Table 12). On the other hand, *By chance* was less important for the youngest age group compared to others. There was no significant difference between groups in *Opportunity to gain a good income*.

When examining the answers from medical doctors in different groups of medical specialties, several differences emerged (Figure 6). *Diversity of work* was the most important motive for medical doctors in most of the groups when choosing a specialty, doctors in diagnostic specialties being the only exception. Of the doctors in diagnostic specialties the most important motive was *Reasonable on-call load*. It was also a significantly more important motive for general practitioners and doctors in psychiatric specialties compared to those in operative and non-operative specialties. *Positive experiences in the specialty during undergraduate training* and *Good example set by colleagues in the specialty* were more significant motives for doctors in operative and in non-operative specialities compared to those in psychiatric specialties and in general practice.

Of the other motives, only 4% of general practitioners thought that *Opportunity to carry out research* was an important motive when choosing a specialty, while 39% of those in diagnostic specialties, 27% of those in non-operative specialties, 17% in operative specialties and 12% in psychiatric specialties considered this to be an important motive.

Table 9. Choices of specialty groups of Finnish male and female medical doctors in the Physician 2008 study. For full table please see II Table 1.

	Males	**Females**	**All**
	%	%	%
Operative specialties	31	24	26
Non-operative specialties	28	28	28
Diagnostic specialties	10	7	8
Psychiatric specialties	10	14	12
General practice	22	28	26

Table 10. Choices of medical specialty groups in different age groups in the Physician 2008 study. For full table please see II Table 2.

Age	**Under 35**	**35–44**	**45–54**	**55 and older**
	%	%	%	%
Operative specialties	33	26	25	23
Non-operative specialties	31	31	26	24
Diagnostic specialties	8	7	8	9
Psychiatric specialties	5	11	14	18
General practice	23	25	28	27

Table 11. Proportions (%) of male and female respondents and differences in proportions (%-units) who answered *Considerably* or *Very much* to the question: *If you are a specialist or specializing, to what extent did the following items affect your choice of specialty?* in the Physician 2008 study. The items are sorted according to the differences between genders. For full table please see II Table 3.

	All doctors	**Males**	**Females**	**Difference**
	%	%	%	%-units
Opportunities for career development	**25**	**33**	**21**	**12**
Opportunity to gain a good income	**29**	**34**	**27**	**7**
Opportunity to carry out research	**18**	**22**	**15**	**7**
Positive experiences in the specialty during my undergraduate training	**44**	**48**	**43**	**5**
Good example set by colleagues in the specialty	**42**	**45**	**41**	**4**
Opportunities to work in the private sector	**27**	**30**	**26**	**4**
Good prospects of employment	47	49	46	3
High-quality specialization programme	15	15	14	1
By chance	29	28	29	-1
Diversity of work	76	75	77	-2
Reasonable on-call load	**38**	**32**	**42**	**-10**

Note. Motives where the difference is statistically significant (p <0.05) are in ***bold****.*

Table 12. Proportions of respondents in different age groups who answered *Considerably* or *Very much* to the question: *If you are a specialist or specializing, to what extent did the following items affect your choice of specialty?* in the Physician 2008 study. The items are sorted according the answers of the youngest age group. For full table please see II Table 4.

Age	**Under 35**	**35–44**	**45–54**	**Over 54**
	%	%	%	%
Diversity of work	**84**	**75**	**75**	**74**
Positive experiences in the specialty during my undergraduate training	**52**	**43**	**43**	**44**
Good prospects of employment	52	46	46	48
Good example set by colleagues in the specialty	**48**	**45**	**39**	**37**
Reasonable on-call load	**43**	**42**	**35**	**33**
Opportunities for career development	**39**	**23**	**22**	**25**
Opportunity to gain a good income	33	29	29	30
Opportunities to work in the private sector	**33**	**27**	**25**	**28**
High-quality specialization programme	**21**	**15**	**12**	**14**
By chance	**20**	**29**	**33**	**26**
Opportunity to carry out research	19	18	17	18

*Note. Motives where the differences are statistically significant ($p < 0.05$) are in **bold**.*

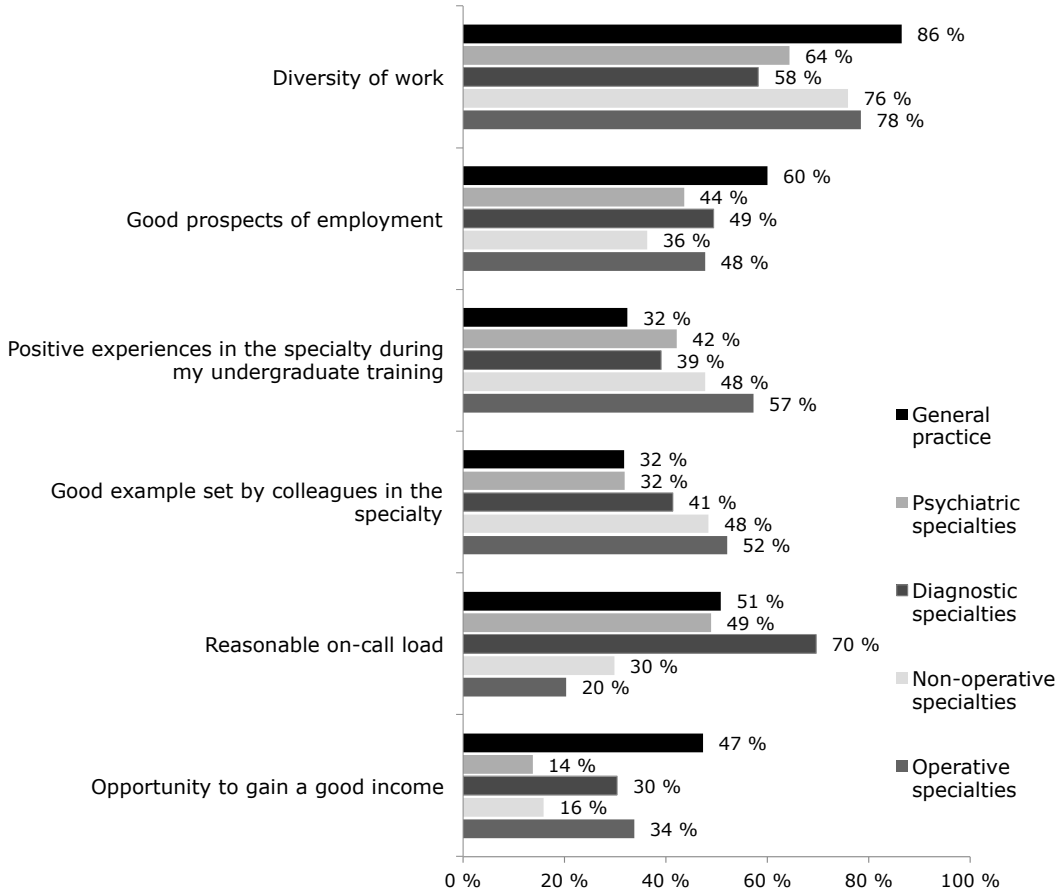

Figure 6. Proportions (%) of respondents in the Physician 2008 study in different specialty groups who answered *Considerably* or *Very much* to the question: *If you are a specialist or specializing, to what extent did the following items affect your choice of specialty?* The six most frequently chosen items.

6.2.2 Motives for and satisfaction with the choice of a medical specialty in the Physician 2013 study (III)

In the Physician 2013 study, the most frequently selected motive for choosing a medical specialty was *Diversity of work*, followed by *Good example set by colleagues in the specialty*, *Positive experiences in the specialty during undergraduate training*, and *Good prospects of employment* (Figure 7).

There were some significant differences between male and female respondents in the motives for choosing a medical specialty (Figure 8). *Prestigious field*, *Opportunities for career development*, *Opportunity to gain a good income*, *Opportunity to carry out research*, *Opportunities to work in the private sector* and *Positive experiences in the specialty during undergraduate training* were significantly more important motives for males. On the other hand, *Good opportunity to balance family and work*, *Reasonable on-call load* and *Opportunity to control the amount of work* were significantly more important for females.

Of all the respondents, 12% would not have chosen the same medical specialty if making the choice again (Table 13). There was no significant difference between genders. Older specialists more often responded that they would not choose the same specialty compared to the younger specialists. The differences between medical doctors in different working sectors were quite small, but statistically significant. A smaller proportion of doctors working in *Specialized medical care* would not have chosen the same medical specialty again compared to the doctors in *Primary health care*, the *Private sector* and *Public institutions*.

Of general practitioners and anaesthesiologists, almost one-fifth would have chosen a different medical specialty if making the choice again. At the same time, fewer than 5% of paediatricians and a little over 2% of ophthalmologists were not satisfied with their choice of specialty. There were no statistically significant differences between universities of specialist training in those who would not choose the same specialty again.

In a binary logistic regression model calculating the odds ratios for the risk of not choosing the same medical specialty again, there was no statistically significant difference between genders (Table 14). The age groups of 45–54-year-old and 55–64-year-old respondents had a higher odds ratio for answering *No* compared to the respondents under 45 years old.

When looking into the different motives affecting the choice of a medical specialty, the only differences came in *Diversity of work*, *By chance* and *Prestigious field*. Respondents regarding *Diversity of work* and *Prestigious field* as important motives to choose a specialty had a lower odds ratio for not choosing the same medical specialty again compared to the respondents regarding these motives as less important. Respondents regarding *By chance* as an important motive had a higher odds ratio for answering *No* compared to the others.

Respondents who reported a good *Correspondence of the specialist training to the current work* had significantly a lower odds ratio for not choosing the same medical specialty again compared to the other respondents. Medical doctors working in *Primary health care* had a significantly lower odds ratio for answering *No* compared to doctors working in *Specialized medical care*.

Among specialists in general practice, the odds ratio for not choosing the same medical specialty again was significantly higher compared to internists, ophthalmologists and paediatricians.

Figure 7. Proportions of working-age medical specialists who answered *Considerably* or *Very much* to the question: *If you are a specialist or specializing, to what extent did the following items affect your choice of specialty?* in the Physician 2013 study.

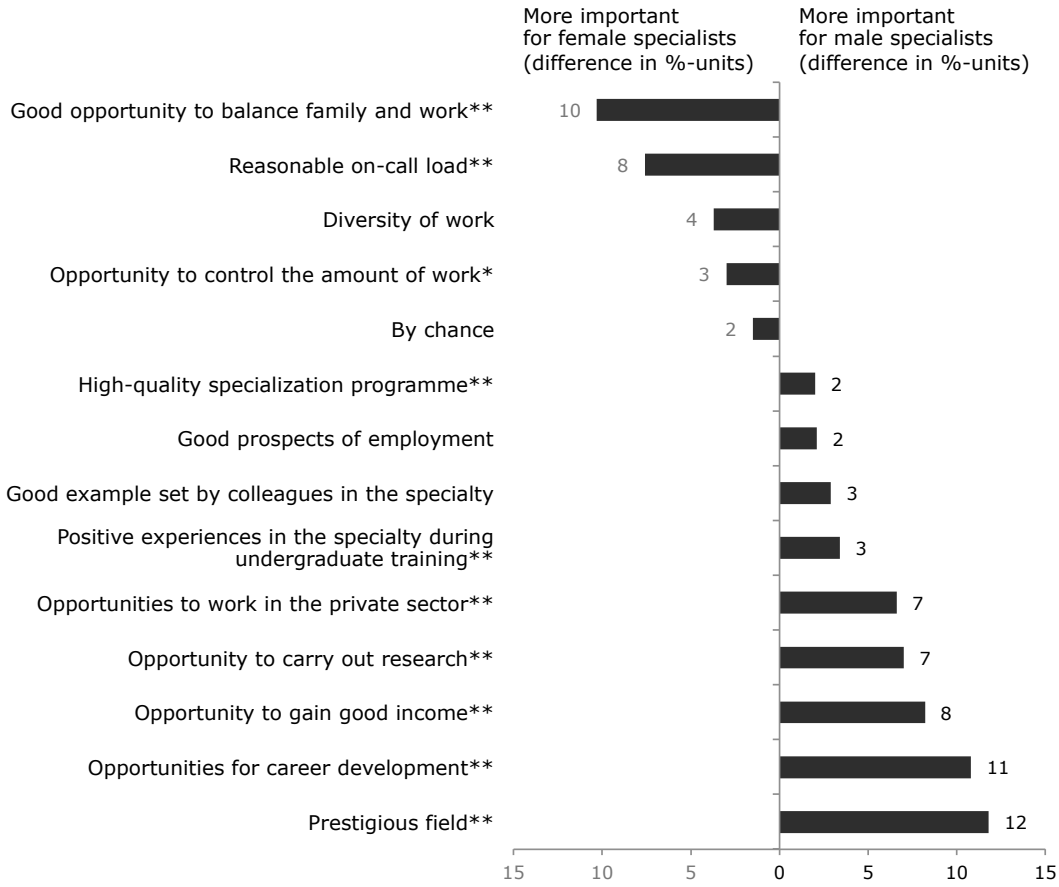

Figure 8. Differences in the proportions of working-age male and female medical specialists who answered *Considerably* or *Very much* to the question *If you are a specialist or specializing, to what extent did the following items affect your choice of specialty?* in the Physician 2013 study. *Note **p <0.01, *p <0.05.*

Table 13. Proportions of working-age medical specialists answering *No* to the question *If you were making the choice again, would you still choose the same medical specialty?* by gender, age, working sector, specialty and university of specialist training in the Physician 2013 study. For full table please see III Table 2.

		Answered *No* %
Gender	Males	12
	Females	12
Age	**Under 45**	**7**
	45–54	**13**
	55–64	**15**
Working sector	**Specialized medical care**	**11**
	Primary health care	**12**
	Public institutions	**14**
	Private sector	**13**
University of specialist training	Helsinki	13
	Kuopio	12
	Oulu	14
	Tampere	10
	Turku	10
	Foreign	11
Specialty	**General Practice**	**17**
	Anaesthesiology and intensive care medicine	**16**
	Other Specialties	**15**
	Psychiatry	**14**
	Occupational Health	**13**
	Otorhinolaryngology	**10**
	Obstetrics and gynaecology	**9**
	Radiology	**9**
	Internal medicine	**9**
	Surgery	**9**
	Neurology	**7**
	Paediatrics	**5**
	Ophthalmology	**2**
All together		12

*Note. Divisions of doctors where the differences are statistically significant (p <0.05) are in **bold**.*

Table 14. Odds ratios in a binary logistic regression model for working-age medical specialists answering *No* to the question: *If you were making the choice again, would you still choose the same medical specialty?* in the Physician 2013 study. For full table please see III Table 3.

		Odds ratio
Gender	Males	1
	Females	0.98
Age	Under 45	1
	45–54	**1.75**
	55–64	**1.74**
Motives affecting the choice of a medical specialty:		
Diversity of work	A lot	1
	To some extent	**1.58**
	Hardly at all	**3.41**
Good example set by colleagues in the specialty	A lot	1
	To some extent	1.09
	Hardly at all	1.37
Positive experiences in the specialty during my undergraduate training	A lot	1
	To some extent	1.09
	Hardly at all	1.06
Good prospects of employment	A lot	1
	To some extent	0.83
	Hardly at all	0.73
Reasonable on-call load	A lot	1
	To some extent	1.47
	Hardly at all	1.41
By chance	A lot	1
	To some extent	**0.53**
	Hardly at all	**0.38**
Good opportunity to balance family and work	A lot	1
	To some extent	0.99
	Hardly at all	1.34
Prestigious field	A lot	1
	To some extent	1.48
	Hardly at all	**1.60**
Opportunity to gain a good income	A lot	1
	To some extent	1.04
	Hardly at all	0.86
Correspondence of the specialist training to the current work	Good	1
	Moderate	**2.31**
	Poor	**3.24**
Working sector	Specialized medical care	1
	Primary health care	**0.55**
	Public institutions	1.01
	Private sector	0.95
Specialty	Internal medicine	1
	Ophthalmology	0.24
	Neurology	0.66
	Obstetrics and gynaecology	1.23
	Paediatrics	0.63
	Surgery	1.00
	Radiology	0.93
	Psychiatry	1.37
	Other Specialties	1.57
	Anaesthesiology and intensive care medicine	1.64
	Otorhinolaryngology	1.62
	Occupational Health	1.93
	General practice	**3.08**

*Note. Statistically significant values (p <0.05) are in **bold**.*

6.3 MOTIVES FOR CHOOSING THE CURRENT WORKPLACE (IV)

Interesting work from a professional point of a view was the most important motive for choosing a workplace (Table 15). *Location of the workplace* was the second, and *Family reasons or other personal reasons* was the third most important motive. *Only prospects of finding work* and *I had the right contacts* were the least important motives.

The first factor in the factor analysis reflected a *Good workplace (GW)*, the second *Career and professional development (CAPD*), the third *Non-work related issues (NWRI)*, the fourth *Personal contacts (PC)* and the fifth *Salary (S)* (Table 16). *Prospect of finding work at the time* was not strongly loaded into any of the factors. Because it did not have any noticeable effect when choosing a workplace, it was left out from the subsequent analysis.

Females had significantly more positive correlations with *Career and professional development* and *Non-work related issues*, and males had significantly more positive correlations with *Personal contacts* and *Salary* compared to the other gender when choosing a workplace (Table 17). The associations of *Good workplace*, *Career and professional development* and *Non-work related issues* with age changed significantly to a more negative value when respondents aged. The factor *Non-work related issues* was significantly more positively associated with medical doctors with children compared to those with no children.

The choice of workplace had a correlation with the career status of medical doctors. The correlations of specialists with *Good workplace* and *Career and professional development* were significantly more negative, and the correlations of specialists with *Non-work related issues*, *Personal contacts* and *Salary* significantly more positive compared to doctors in training.

The choice of the current workplace by medical doctors was also significantly influenced by the working sector. The correlations between *Career and professional development* and doctors in *Specialized medical care* and in *Public institutions* were highly more positive compared to the doctors working in *Primary health care*. The correlation between *Salary* and doctors in the *Private sector* was the most positive, and the correlation between *Non-work related issues* and doctors in *Public institutions* was the most negative when compared to doctors in the other sectors.

When comparing medical doctors in different specialty groups, *Good workplace* was more negatively correlated with other doctors than GPs and psychiatrists. Furthermore, the correlations between *Salary* and GPs were significantly more positive compared to operative, non-operative and unspecialized doctors, and also for diagnostic specialists. The factor *Non-work related issues* was significantly more positively correlated with doctors in the diagnostic specialties compared to the others.

Table 15. Proportions of currently working medical doctors who answered *Quite a lot* or *Very much* to the question: *To what extent did the following motives affect the choice of your current workplace?* in the Physician 2008 study. For full table please see IV Table 2.

	%
Interesting work from a professional point of view	81
Location of the workplace	75
Family reasons or other personal reasons	61
Specialisation	38
Opportunities for free time activities	34
I was asked to join	32
Career development	31
Being near a central hospital	30
Good reputation as a place of work	29
Salary	27
Good medical director	21
Familiar place from my time as a student	20
Good doctor in charge of training	14
Opportunities to do a thesis	9
Organised work counselling	7
Only prospect of finding work at the time	5
"I had the right contacts"	4

Table 16. Loadings for the five factor-solution and correlations between five factors in the factor analysis of the question: *To what extent did the following motives affect the choice of your current workplace?* in the Physician 2008 study. For full table please see IV Table 3.

Factors:	**Good workplace (GW)**	**Career and professional development (CAPD)**	**Non-work related issues (NWRI)**	**Personal contacts (PC)**	**Salary (S)**
Good doctor in charge of training	**0.78**	0.29	0.05	0.03	-0.10
Organised work counselling	**0.70**	0.13	0.01	0.05	0.04
Good medical director	**0.65**	0.04	0.04	0.20	0.11
Good reputation as a place of work	**0.47**	0.15	0.01	0.23	**0.30**
Career development	0.16	**0.68**	-0.08	0.10	0.29
Specialisation	0.19	**0.63**	0.08	-0.12	-0.06
Opportunities to do a thesis	0.08	**0.48**	0.11	0.11	-0.03
Familiar place from my time as a student	0.06	**0.41**	0.26	0.09	-0.13
Interesting work from a professional point of view	0.14	**0.39**	0.03	0.09	**0.33**
Family reasons or other personal reasons	-0.02	0.08	**0.64**	-0.02	-0.07
Location of the workplace	0.01	0.13	**0.56**	-0.03	0.10
Opportunities for free time activities	0.08	-0.02	**0.47**	0.08	0.23
I was asked to join	0.12	0.07	-0.04	**0.60**	0.09
"I had the right contacts"	0.12	0.06	0.06	**0.51**	-0.12
Salary	0.07	-0.29	0.17	0.24	**0.39**
Only prospect of finding work at the time	-0.01	-0.02	-0.04	0.06	-0.23

*Note. Loadings are given in **bold** if they exceeded 0.30.*

Table 17. Univariate analysis of covariance (ANCOVA) of factors affecting the choice of workplace of currently working medical doctors in the Physician 2008 study. Differences in the estimated marginal means. Factor scores of the factor analysis are used as dependent variables and age as a covariate. For full table please see IV Table 4.

		GW B	**CAPD** B	**NWRI** B	**PC** B	**S** B
Age		**-0.01**	**-0.01**	**-0.01**	0.00	0.00
Gender	Female	0	0	0	0	0
	Male	0.03	**-0.05**	**-0.15**	**0.11**	**0.07**
Marital status	Single	0	0	0	0	0
	Married	0.01	0.03	0.02	-0.04	-0.03
Children	None	0	0	0	0	0
	1-2	0.02	-0.02	**0.22**	0.05	0.04
	3 or more	0.03	-0.03	**0.22**	0.04	-0.01
Career status	Specializing	0	0	0	0	0
	Specialist	**-0.27**	**-0.22**	**0.17**	**0.33**	**0.15**
	Unspecialized	-0.04	**-0.34**	0.08	**0.24**	0.04
Working sector	Primary health care	0	0	0	0	0
	Specialized medical care	**0.17**	**0.83**	-0.08	0.01	**0.08**
	Public institutions	-0.03	**0.71**	**-0.39**	**0.26**	**0.23**
	Private sector	0.02	0.07	**-0.08**	**0.24**	**0.45**
Hospital district	No university	0	0	0	0	0
	University	-0.01	**0.26**	**0.06**	0.02	-0.03
Specialty group	GP	0	0	0	0	0
	Operative	**-0.19**	0.07	-0.02	0.04	**-0.18**
	Non-operative	**-0.16**	0.08	-0.03	0.01	**-0.14**
	Diagnostic	-0.12	0.05	**0.15**	0.11	**-0.24**
	Psychiatry	0.06	-0.08	-0.06	-0.02	-0.06
	Unspecialized	**-0.17**	-0.04	0.01	0.02	**-0.17**

*Note. Statistically significant values (p <0.05) are in **bold**.*

7 Discussion

7.1 METHODOLOGICAL AND ETHICAL CONSIDERATIONS

7.1.1 Methodological considerations

The strength of this study is that it provides national data on Finnish medical doctors from a period of over 20 years. However, there are obviously some limitations. First of all, the quantitative study methods used here, although giving a broad picture of the subject, do not necessarily catch all possible motives related to the issues examined in this study. Secondly, when the first study in this series was conducted in 1988, only a few other studies had addressed this issue or fulfilled the requirements to validate the questionnaire. Since then, the questionnaires have largely been the same in order to achieve comparability. In addition, it needs to be noted that these studies do not offer any longitudinal study cohorts. Therefore, comparisons between the different study years need to be conducted with caution.

With questionnaires of this kind, one needs to recognize the possible bias ensuing from the respondents' self-reporting. Respondents may in some cases complete the questionnaire differently when they know the results are going to be made known. For example, some reasons for entering medical school might be more socially acceptable than others, and for this reason, some respondents might give more acceptable answers than others.

In II and IV, the medical specialities of general practice and occupational health were treated in the same group. This is because work in occupational health in Finland is largely comparable to general practice, since it mainly consists of regular office visits by patients in working life and all of their health problems. However, this needs to be noted when interpreting the findings.

Answering *No* to the question about whether the respondent would apply to medical school or choose the same medical specialty again does not indicate the intention to seek another occupation or specialty. No assumptions can therefore be made on this issue. Instead, our interpretation is that it indicates dissatisfaction with the chosen medical career or specialty, and has been used as such in this study.

The terms used in the study were not explained in the questionnaires. Because of this, we cannot be absolutely sure how the respondents understood the meaning of, for example, *Vocation* as a reason to apply for a medical school. Nevertheless, this should not have any major impact on the conclusions of this study.

Due to technical reasons, three response items for the question: *If you are a specialist or specializing, to what extent did the following items affect your choice of specialty?* in the Physician 2008 study were unintentionally omitted. These items were: *Good opportunity to balance family and work*, *Opportunity to control the amount of work*, and *Prestigious field*. The items were added again to the Physician 2013 study. This fact may have had some effect, especially when comparing the differences between male and female doctors in the 2008 and 2013 studies, but obviously does not significantly affect the interpretation of the findings of these studies.

In the studies comparing the answers between different age groups, the proportion of medical doctors responding *Considerably* or *Very much* among younger doctors was higher

in a fairly large proportion of issues compared to older doctors. This may be caused by the shorter time elapsed from the decisions, when thoughts about them are still quite current. In addition, it might also be due to the different approach to answering questionnaires of this type among younger generations. Because of this, the differences between age groups may not be as great as would appear from this study.

The response rates in the Physician 2008 and Physician 2013 studies were lower than in the earlier studies. Nevertheless, they were still reasonably comparable to other similar studies (Leigh et al. 2009, Lambert et al. 2015). Weighting of the data was not used when examining the motives for choosing the medical specialty in the Physician 2008 study. This might have had a minor impact when generalizing the results. Comparisons with the results of the Physician 2013 study in this matter also need to be carried out with extra caution. Otherwise, with the response rates of the study and weighting of the 2008 and 2013 data, the findings presented here may be well generalized to Finnish medical doctors.

Considering the questions about the current workplace, we do not know when the choice of workplace had taken place. This might cause some challenges in the interpretation of the findings. This especially concerns the older medical doctors, since the move to their current workplace might have happened several years previously and in a different social and financial situation. On the other hand, the motives for choosing the current workplace have not notably changed between the Physician studies, so it can be assumed that the findings are relevant to present day Finnish medical doctors (Heikkilä et al. 2009). Furthermore, at the time of the Physician 2008 study, Finnish medical doctors had for several years been in a situation where they were mainly able to choose the workplace they preferred because of the shortage of doctors. This enabled the possibility to relatively reliably examine the true motives of medical doctors when seeking a job. Some of the variables, such as *I was asked to join*, were not really a workplace characteristic. However, they did reveal something about doctors' personal characteristics and motives for selecting a workplace and were therefore relevant to this study.

When examining the motives of medical doctors in seeking a workplace, five clear factors were found. *Good workplace (GW)* reveals that doctors seek support from their colleagues and superiors. *Career and professional development (CAPD)* expresses motives related to the career path of doctors. *Non-work related issues (NWRI)* reveals motives outside of working life. *Personal contacts (PC)* tells something about previous contacts with employers, as well as the personal reputation of the doctor seeking work. In *Salary (S)*, the main focus is on financial issues. For the fifth factor (*Salary*), one has to take into account the fact that there were also nearby loadings in some other variables. The factor was named as *Salary* because this was the strongest loading term and also because in all other variables there was a stronger loading on some other factor.

In this study, the respondents had to think back possibly for several years and try to remember their reasons at the time when they were deciding why they would apply to medical school, which specialty training programme they would seek, and why they would choose to work in their current workplace. However, it has been reported that important life events remain fairly well fixed in the memory (Dex 1991). Since the main choices related to the professional career can be considered as such events, one can assume that items related to it are well recalled.

The values of *Nagelkerke R-squared* tests for the logistic regression models were rather low. However, the main objective of the logistic regression models used in this study was to

estimate the contribution of the independent variables presented. In this respect, the models worked well. In the ANCOVA model, the effect sizes were rather small. Only *Working sector* had a large effect size in *Career and professional development*, and a medium effect size in *Salary*. This means that there might be some other explanatory elements for the differences in the presented factors that were not identified in this study.

7.1.2 Ethical considerations

According to the Ethics Committee and based on the Finnish Medical Research Act and Personal Data Act, studies of this kind do not require ethical approval, since they do not affect the personal integrity of the respondents and they are free to choose whether to respond. Respondents were fully informed about the use of the questionnaires in the cover letters. Because of this, it was presumed that respondents gave informed consent when choosing to answer the questionnaire. Responses to the questionnaire were anonymous, and all answers were treated confidentially.

7.2 MAIN FINDINGS

7.2.1 Gender-related differences in the career motives of medical doctors

There appear to be some differences in motives between genders concerning why students choose to apply to medical school. Overall, the findings here suggest that female doctors seem to be more intrinsically motivated than men when making career-related decisions. For example, motives such as *Vocation* and *Interest in people* were more important for female doctors and motives such as *Good salary* and *Prestigious profession* for male doctors when making the decision to start a medical career. Similar differences between genders have also been found in some previous studies (Wierenga et al. 2003, Millan et al. 2005, McHugh et al. 2011).

In the 2008 study, the risk of female doctors not choosing medicine if starting to study again was almost double that among males, while in the 1998 study there was no significant gender difference. The reasons for this are unclear, but might arise from changes in working life. The main difference in the working life of medical doctors in Finland between these study years was the inverted employment situation. After a period of doctor unemployment in the 1990s, there was a prominent shortage of medical doctors in the 2000s. While giving excellent working opportunities, this situation might also have increased the demands of working life in some workplaces. This might have had a more negative impact on female doctors with, for instance, greater family responsibilities compared to male doctors. In any case, this is an important question that requires further study.

The motives of males and females for choosing a medical specialty were significantly different. For females, motives related to the work–family balance were more important, while male respondents preferred motives related to the external factors of working life, such as the career, professional appreciation and income. This is equivalent to the findings elsewhere (Neittaanmäki et al. 1993, Xu et al. 1995, Bickel & Ruffin 1995, Lambert et al. 2003, Lawrence et al. 2003, Drinkwater et al. 2008, Taylor et al. 2009, Van der Horst et al. 2010). However, according to the findings in this study, gender or motives related to a controllable lifestyle do not seem to predict satisfaction with the chosen specialty.

When choosing the current workplace, life outside work was also more important for female doctors than males, which additionally corresponds to previous studies (Mayorova et al. 2005, Van der Horst et al. 2010). The findings of this study appear to indicate that when choosing a workplace, female doctors are more interested in the quality of postgraduate training and professional development, as well as family circumstances, and want a domestic lifestyle that is pleasing. They are less concerned about income and are less likely to rely on connections or to be headhunted.

According to some previous studies, the reasons for the gender differences in career-related decisions may arise, for example, from the lack of social support and role models of the same sex (Gjenberg et al. 2002, Diderichsen et al. 2013). Male and female doctors appear to have similar preferences, but have different opportunities to enter into and complete particular specialist training (Gjenberg et al. 2002, Creed et al. 2010). However, in a recent study conducted in Sweden, where the work environment is quite comparable with Finland regarding, for example, the possibility to take parental leave, no major differences were found between male and female medical students in their career motives or specialty preferences (Diderichsen et al. 2013). It has also been found that the type distribution of medical doctors has remained fairly stable, despite the increased number of female students (Stilwell et al. 2000). The present study was unable to provide much explanation for the observed difference between genders. However, some of the findings, especially the difference in *Vocation* as a motive to start a medical career, may suggest that the gender differences might not be fully explained by the social and cultural default. In addition, it is also noteworthy that factors other than gender may be more essential when choosing a medical specialty (Mayorova et al. 2008).

7.2.2 Age- and generation-related differences in the career motives of medical doctors

For over twenty years, the main motive for applying to medical school has been *Interest in people*, even though changes have been evident between generations (Hyppölä et al 1998, Smola & Sutton 2002). However, other motives affecting the decision to start studying medicine significantly changed over this period. *Good Salary* and *Achievements at school* as motives for entering medicine were less important in later studies. At the same time, the importance of *Interest in people* and *Vocation* had increased. This may also explain the significantly smaller proportion of respondents not willing to apply for medical school again in later study, especially among male respondents. However, other reasons for this may originate from changes in working life, especially the employment situation. The relative importance of a *Wide range of professional opportunities* had also decreased, indicating, for example, that younger doctors may already be more oriented towards a particular medical career when entering medical school.

When examining the motives for choosing a medical speciality in the 2008 study, *Reasonable on-call load* was a significantly more important motive for the two youngest age groups, and *Opportunity for career development*, *Diversity of the work* and *Positive experiences in the specialty during studies* for the youngest age group, compared to those of older age groups. This indicates that younger doctors give more thought to the content and flexibility in work. In the 2013 study, the youngest group of respondents appeared to be the most satisfied with their specialty. The reasons for this are not clear. It is possible that the younger generation of doctors have chosen their career more carefully and they are truly

more satisfied with their medical specialty. However, this may also indicate, for example, that one becomes more critical towards one's own choices in later stages of the career.

When looking into the motives for choosing the current workplace, the significance of *Good workplace*, *Career and professional development* and *Non-work related issues* decreased significantly with age, which corresponds to previous studies (Neittaanmäki et al. 1993, Blades et al. 2000, Dumelow et al. 2000, Heiligers & Hingstman 2000, Lind et al. 2003, Lambert & Holmboe 2005). In this study, the only exception to this generalization was among doctors in specialist training, where other motives, such as *Good workplace* and *Career and professional development*, seemed to be more important than *Non-work related issues*. It is obvious why *Career and professional development* is important for postgraduate medical students, as most them are specializing and developing their career. However, *Good workplace* was also somewhat more significant for younger doctors.

According to the present findings, it seems likely that extrinsic factors, such as the salary and other people's expectations, are less important incentives for the younger generation of medical doctors (Dorsey et al. 2005). Younger doctors seem to place more emphasis on meaningful work (Schwartz et al. 2001). It has also been found elsewhere that a controllable lifestyle, on-call work and the work–family balance play a more significant role than previously in career choices by medical students and young doctors, including young males (Blades et al. 2000, Heiligers & Hingstman 2000, Dorsey et al. 2005, Lambert & Holmboe 2005). On the other hand, in this study there were also some differences in the choices of medical specialties between age groups. In younger age groups, a larger proportion had chosen operative or non-operative specialties, despite the fairly heavy on-call duties of these specialties. It seems that while for some of the younger doctors the on-call duties have a major impact when choosing a medical specialty, for others, other reasons override the pressure of on-call duties in that particular specialty.

7.2.3 Specialty-related differences in the career-related motives of medical doctors

In this study, several differences were noted in the motives for choosing a medical specialty and a workplace between doctors in different medical specialties. The important factors in the career choices of medical students and young specialists have also been found to differ in some previous studies (Van der Horst et al. 2010, Irish & Lake 2011, Diderichsen et al. 2013, Boyle et al. 2014). Patient orientation and the flexibility of work life, in particular, seem to be more important for general practitioners and psychiatrists compared to surgeons, for whom career-related aspects appear to be more important.

According to this study, for doctors working in operative and non-operative specialties, the interest in their work and the example set by older colleagues seemed to exceed the importance of, for instance, a good workplace, reasonable on-call duties and salary in their career-related decisions. For general practitioners, the diversity of work as an important motive was quite obvious, since their work includes all fields of medicine. However, the reason for the importance of a good income for them is not so evident. One of the reasons for this might be that GPs more often work in more remote areas. Psychiatrists did not significantly differ from the GPs when seeking a workplace, but when choosing a medical specialty, a good income as a motive was far less important for them. For doctors in diagnostic specialties, issues concerning the work–family balance appeared to exceed all the other career-related motives.

According to the present findings, it seems probable that medical doctors in different medical specialties have, for example, different personalities, which affect their choices (Vaidya et al. 2004, Hojat & Zuckerman 2008).

7.2.4 Satisfaction of medical doctors with their career choices

Vocation, *Wide range of professional opportunities* and *Diversity of work* best predicted that respondents would still have chosen medicine as a profession or the same medical specialty. This may demonstrate that those who have a strong inner motivation to work in the medical profession are also able to readjust themselves to the sometimes challenging conditions faced by medical doctors. Conversely, those who thought these motives were less important might more often have preferred to pursue a different career. On the other hand, a major role of *Chance* in the selection of the medical specialty predicted dissatisfaction with the choice. This finding strengthens the importance of inner motivation behind the satisfaction with the particular medical career, but also indicates that the choice of medical specialty should be carefully made.

If making the choice again, 12% of respondents would not have chosen the same medical specialty. This is a somewhat smaller proportion than found elsewhere (Leigh et al. 2002). However, the proportion of dissatisfied medical specialists was still notable. In addition, it is notable that despite the relatively good overall situation, certain specialties would need some attention. In particular, specialists in general practice had a significant odds ratio for being dissatisfied with their medical specialty compared to some other specialties.

However, at the same time, in the same logistic regression model working in primary health care reduced the risk of dissatisfaction. At first sight, there appears to be a discrepancy in these findings, especially complemented with the finding that when examined independently, respondents working in primary health care were somewhat more dissatisfied with their specialty compared to those working in specialized medical care. One possible explanation for this might be that approximately 30% of Finnish specialists in general practise work outside primary health care and approximately 25–30% of specialists working in primary health care have a specialty other than general practice (FMA, unpublished information). This may indicate that other specialists working in primary health care are very satisfied with their choice. Nevertheless, the reasons behind this finding would definitely need some further examination.

7.3 PROPOSALS BASED ON THE FINDINGS

7.3.1 Undergraduate medical education

In this study, *Interest in people* was the most important motive to choose a career in medicine. It has also been found earlier that motives related to people and the content of the work are important for medical doctors (Vaglum 1999, Crossley 2002, Wierenga 2003). The opportunity to help others has also been cited as one of the most influential factors for choosing medicine (McHugh et al. 2011). Therefore, it seems that the most important motive for choosing a medical career is still the content of the work and the profession itself. This represents a solid basis for undertaking a medical education and for subsequent success in this profession.

There are more candidates applying to study medicine than there are places available. Because of this, the selection procedure needs to be relevant, reliable and fair (Schwartz 2004). It is also important that applicants seeking a place at medical school should do so for the right reasons (Hur & Kim 2009). Choosing medical undergraduates who are more likely to be satisfied with medicine as a career would also most probably lead to longer careers as doctors and a better quality of care (Landon et al. 2006, Fahrenkopf et al. 2008). In addition, selectors also need to assess the ability of applicants to acquire clinical skills and assume the professional attitude appropriate for practice (Turner & Nicholson 2011).

This study suggests that the students with the strongest sense of vocation would be most satisfied with their medical career. The problem, however, is that on the basis of present studies, little is known about the relationship between the admission tests and the eventual practice as a health professional (Prideaux et al. 2011). Furthermore, taking vocation into account in student selection might not be an easy task, since it might be difficult to find selection criteria that are reliable in screening for it. Nevertheless, this inserts a new standpoint into the discussion on the need to develop the selection criteria of medical schools.

7.3.2 Postgraduate medical education

The choice of a medical specialty can be seen as a process evolving during undergraduate medical education (Mihalynuk et al. 2006, Compton et al. 2008, Maudsley et al. 2010). The first experiences of colleagues and the content of a particular specialty appear to have a major impact in the selection of the specialty (Goldacre et al. 2004, Mahoney et al. 2004, Mayorova et al. 2008, Aira et al. 2013, Stahn & Harendza 2015, Woolf et al. 2015). The charm and example set by clinical teachers, mentors and first seniors of medical students and graduates have a critical impact on their career choices. This is something that needs to be observed closely, especially by those medical specialties that are lacking specialists, even though these motives did not correlate with satisfaction with the specialty in this study. It is also noteworthy that doctors want to evaluate the possibilities for future employment when choosing a medical specialty. In the 2008 study, this was even the second most important motive for choosing a specialty.

At the moment, there is an urgent need to more evenly select medical graduates for different postgraduate medical training programmes in Finland than earlier (Parmanne et al. 2013, Ruskoaho et al. 2015). However, according to the findings presented here, the challenge is that under the current situation, most of the medical specialists are satisfied with their choice of specialty. On the other hand, there is a large dispersion in the motives between, for example, genders and different medical specialties on which the decisions to start a particular specialty training programme are based. Medical doctors should also in the future be given the opportunity to choose a specialty that they are interested in, and which is the most suitable for them and their personality (Borges et al. 2005). At the same time, according to the results here, the role of chance in the selection of a medical specialty should be kept to a minimum. Therefore, career guidance should be available during medical school and also after graduation (Woolf et al. 2015). Under- and postgraduate medical students should also be kept informed about the present employment situation of each specialty. In this way, they could take it into consideration and if necessary choose some other specialty than their first choice.

A new selection process for postgraduate medical training should be established, in which the posts for each medical specialty should be estimated and limited. Although selection at the postgraduate level has not been subject to the same scrutiny as that for the undergraduate medical education, for example interviews or multiple mini-interviews (MMI) might help in the selection (Eva et al. 2009, Prideaux et al. 2011, Vermeulen et al. 2013). According to the present findings, the specialist training should also be developed to correspond as well as possible to the content of the work as a medical specialist.

There has recently been some discussion on the need for a more specialized workforce because of the rapid progress of health care (Sheldon 2003, Stitzenberg & Sheldon 2005). According to this study, doctors in all different fields of medicine seem to regard their work as interesting and versatile. However, the diversity of the work is especially emphasized among general practitioners, whose work involves all areas of medicine.

7.3.3 The health care system and working environment of medical doctors

Especially employers and policy-makers should take note of the different motives of females and younger doctors, as more females are currently entering medicine and the younger generation of doctors appear to have a different approach to the medical career. It seems that employers will need to undertake new initiatives if they wish to attract females and younger doctors. These should include more flexible working conditions, more equal and human-centric management and leadership, better workplace-based education programmes, and more opportunities for work counselling.

It has also been suggested that the talents of younger staff should be better utilized when improving the quality of care in hospitals (Keogh 2013). Giving junior doctors more involvement in clinical decision-making and management could also attract them to work in places where they gain more responsibility. There may also be some occupational policies that can improve the work–life balance for medical doctors, such as more flexible working hours (de Jong et al. 2006). The variety of motives for doctors to choose a medical specialty or a workplace sets a major challenge to the health care system. Decision-makers should be able to find the procedures that help to employ enough medical doctors to ensure sufficient health care services. Especially employers in the medical specialties and health care sectors where there is already a lack of doctors should note the differences found in this study. Addressing these concerns will require a reappraisal of policies, organizations and working arrangements in health care so that the personal needs of medical doctors as individuals are also better taken into account. Furthermore, solutions functioning in one place will not necessarily be transferrable to others. Therefore, health care policies and organizations also need to be flexible in this respect.

The working environment and organizational culture are known to be especially important for employing medical doctors in rural areas (Mathews et al. 2012). Enabling flexible teamwork and social and professional support networks are the key issues in solving the problem of occupational isolation, especially of GPs (Aira et al. 2010). On the other hand, there is strong evidence that medical students of rural origin are more likely to return to rural areas after graduation (Bunker & Shadbolt 2009). The geographical location of education and training also has a role when attracting doctors to more remote locations. However, isolated interventions without reinforcing changes in other stages of education and professional development are less likely to bear fruit in this (Bunker & Shadbolt 2009).

In this study, the differences between medical doctors in university hospital districts and other hospital districts were especially apparent in *Career and professional development* and *Non-work related issues*. This indicates that if one wants to invite doctors from more central locations, it would be wise to create more opportunities for career development, education and research in more remote areas. However, it might be difficult to try to improve the conditions outside work for medical doctors, and their families, in rural areas. Because of this, it might be wise to try to organize new and innovative working communities, which combine working in a rural area and living in a bigger city, and also giving an opportunity to be a member of the working community e.g. in a central hospital. Employers could also be more active in making personal contacts with medical doctors when employing them in rural areas, and also pay attention to the conditions of the spouses and children of the doctors. Higher salaries could also tempt doctors to more remote locations, but the importance of income has varied in different studies (Bolduc et al. 1996, Yang 2003, Jones et al. 2004).

8 Conclusions

8.1 SUMMARY OF THE FINDINGS (I–IV)

I
The most important motives for applying to medical school are related to the content of the work as a medical doctor and to the medical profession overall. A lack of these motives correlates with dissatisfaction with a medical career. Female doctors prefer more intrinsic motives such as vocation and the content of the work and male doctors more extrinsic motives such as income and prestige. Overall, the relative importance of intrinsic motives increased and that of extrinsic motives decreased between 1998 and 2008. Dissatisfaction with a career in medicine decreased during the same period.

II and III
Diversity of the work is the main motivating factor affecting the choice of medical specialty by doctors. Younger doctors, in particular, follow the example set by more experienced colleagues. The employment situation also has significance in the choice. Male doctors have a greater preference for motives related to the career and income, and females for work–family balance. Most medical specialists are quite happy with their specialty, although there are notable differences between specialties. Diversity of work and correspondence of the specialist training to the work as specialist best correlate with satisfaction and a major role of chance with dissatisfaction with the chosen medical specialty.

IV
There are significant differences between groups of medical doctors particularly in terms of gender, working sector and specialties when choosing a workplace. The importance of a good workplace, professional development and issues outside working life decrease with age. Female doctors more often prefer professional development and issues outside work. Professional development is important for doctors working in specialized medical care and in public institutions. A good workplace is important especially for general practitioners and doctors in psychiatric specialties.

8.2 CONCLUSIONS AND SIGNIFICANCE OF THE FINDINGS

According to this study, some conclusions about the motives of medical doctors in their career-related decisions could be made. First of all, female doctors have more intrinsic motives when making career-related decisions compared to males. Secondly, younger doctors place more emphasis on intrinsic motives than older doctors. And finally, there are differences between doctors working in different fields of medicine in their career-related motives, and also in their career satisfaction.

The findings of this study are important on four different levels. First of all, secondary school students, medical students and young medical doctors may find these findings important when considering their career options. Secondly, medical educators should

consider the findings of this study when developing student selection and the content of under- and postgraduate medical education. Thirdly, decision-makers in the health care system should pay close attention to the findings presented here when developing the working environment of health care facilities and also when trying to attract younger doctors, especially to the specialties and regions lacking a sufficient workforce. And finally, the government and political decision-makers should take note of the findings of this study when preparing health care reforms.

The findings presented here suggest that medical educators and health care policy- and decision-makers should pay closer attention to the changes in the physician workforce and its characteristics. In particular, the increasingly common intrinsic needs of doctors should be met in all stages of their careers, from student selection to the employment of doctors. The different motivational factors of doctors in different career stages and in different specialties must be taken into account. Student selection processes and career guidance of doctors need to be improved. Furthermore, more human-centric management and leadership, better possibilities for continuous professional development, and more flexible and personalized working arrangements depending on the personal motives of doctors need to be brought into working life. These changes would be necessary to ensure a sufficient, skilled and well-motivated medical workforce to meet the demands of the 21st century.

8.3 PROPOSALS FOR FURTHER RESEARCH

Some proposals can be made for further research arising from this study: First of all, qualitative research methods should be used to deepen understanding of the motives of medical doctors in their different career choices. Secondly, the reasons behind satisfying and successful careers as medical doctors should be investigated in longitudinal follow-up studies on a group of medical doctors throughout their career. Thirdly, in Finland we are currently at the threshold of major reforms in both postgraduate medical education and the health care system. It would be therefore essential to follow the impacts of these reforms on the results presented in this study.

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PHYSICIAN 2013 QUESTIONNAIRES

(In Finnish)

The questions used in this study have been mostly in the same form in the earlier questionnaires. For the earlier questionnaires used, please contact the author of this thesis.

Lääkäri 2013 -tutkimus (JUNIORIT)

1. Minä vuonna valmistuit lääkäriksi (lisensiaattitutkinto)?

_____

2. Minä vuonna aloitit lääketieteen opinnot?

_____

3. Mistä yliopistosta valmistuit lääkäriksi?

☐ Helsingin yliopisto
☐ Kuopion / Itä-Suomen yliopisto
☐ Oulun yliopisto
☐ Tampereen yliopisto
☐ Turun yliopisto
☐ Ulkomailla, missä? _____

4. Missä määrin seuraavat tekijät vaikuttivat hakeutumiseesi opiskelemaan lääketiedettä?

	Ei lainkaan	Hiukan	Jonkin verran	Melko paljon	Erittäin paljon
Kutsumusammatti	☐	☐	☐	☐	☐
Arvostettu ammatti	☐	☐	☐	☐	☐
Hyväpalkkainen ammatti	☐	☐	☐	☐	☐
Perheessä tai lähisuvussa lääkäri	☐	☐	☐	☐	☐
Kiinnostus ihmiseen	☐	☐	☐	☐	☐
Lääkäripula	☐	☐	☐	☐	☐
Koulumenestys	☐	☐	☐	☐	☐
Oma tai lähiomaisen sairaus	☐	☐	☐	☐	☐
Ammatinvalinnan ohjaus	☐	☐	☐	☐	☐
Monipuoliset työmahdollisuudet	☐	☐	☐	☐	☐
Kiinnostus tutkimustyöhön	☐	☐	☐	☐	☐

5. Jos nyt olisit aloittamassa opintojasi, ryhtyisitkö lääkäriksi?

☐ En ☐ Kyllä

6. Oletko tällä hetkellä työssä?

☐ Kyllä, vakituisessa virassa tai toimessa
☐ Kyllä, määräaikaisessa virassa tai toimessa
☐ Kyllä, yksityisenä ammatinharjoittajana
☐ Kyllä, vuokralääkärinä
☐ En

Jos et ole tällä hetkellä työssä, siirry kysymykseen 15.

7. Päätoimen työnantajasektori?

☐ Kunta / kuntayhtymä
☐ Valtio
☐ Yksityinen

8. Päätoimen toimipaikka / työskentelysektori?

- ☐ Yliopistollinen keskussairaala
- ☐ Muu kunnallinen / kuntayhtymän sairaala
- ☐ Terveyskeskus, väestövastuu
- ☐ Terveyskeskus, ei väestövastuu
- ☐ Kunnallinen työterveyshuolto
- ☐ Mielenterveystoimisto, muu avohuollon yksikkö
- ☐ Muu kunnallinen toimipaikka
- ☐ Muu yksityinen työnantaja
- ☐ Yliopisto
- ☐ Muu valtion virasto tai laitos
- ☐ Yksityinen lääkäriasema / -keskus, yksityisvastaanotto
- ☐ Yksityinen työterveyshuolto (esim. yrityksen oma tth tai työterveys ry)
- ☐ Säätiö, yhdistys tai järjestö
- ☐ Lääketeollisuus
- ☐ Työvoimaa välittävä/vuokraava yritys (ns. vuokralääkärit)

9. Ammattinimike päätoimessa?

- ☐ Johtava lääkäri, johtaja, ylilääkäri, osastonylilääkäri, apulaisylilääkäri
- ☐ Erikoislääkäri, osastonlääkäri
- ☐ Erikoistuva lääkäri, sairaalalääkäri, eurolääkäri
- ☐ Terveyskeskuslääkäri
- ☐ Työterveyslääkäri, vastaava työterveyslääkäri
- ☐ Professori
- ☐ Apulaisopettaja, kliininen opettaja, yliassistentti
- ☐ Tutkija, assistentti
- ☐ Yksityislääkäri
- ☐ Muu lääkärin työ
- ☐ Muu kuin lääkärin työ

10. Onko päätoimesi?

- ☐ Kokoaikainen
- ☐ Osa-aikainen

11. Minkä sairaanhoitopiirin alueella nykyinen työpaikkasi sijaitsee?

- ☐ HUS (Uusimaa)
- ☐ HUS (Helsinki)
- ☐ Varsinais-Suomen
- ☐ Satakunnan
- ☐ Kanta-Hämeen
- ☐ Pirkanmaan
- ☐ Päijät-Hämeen
- ☐ Kymenlaakson
- ☐ Etelä-Karjalan
- ☐ Etelä-Savon
- ☐ Itä-Savon
- ☐ Pohjois-Karjalan
- ☐ Pohjois-Savon
- ☐ Keski-Suomen
- ☐ Etelä-Pohjanmaan
- ☐ Vaasan
- ☐ Keski-Pohjanmaan
- ☐ Pohjois-Pohjanmaan
- ☐ Kainuun
- ☐ Länsi-Pohjan
- ☐ Lapin
- ☐ Ahvenanmaan
- ☐ Ulkomailla

12. Missä määrin seuraavat tekijät vaikuttivat hakeutumiseesi nykyiseen työpaikkaasi?

	Ei lainkaan	Hiukan	Jonkin verran	Melko paljon	Erittäin paljon
Sijaintipaikkakunta	☐	☐	☐	☐	☐
Keskussairaalan läheisyys	☐	☐	☐	☐	☐
Työ ammatillisesti kiinnostavaa	☐	☐	☐	☐	☐
Työpaikka tuttu opiskeluajoilta	☐	☐	☐	☐	☐
Perhesuhteet tms. henkilökohtaiset seikat	☐	☐	☐	☐	☐
Palkka	☐	☐	☐	☐	☐
Vapaa-ajan viettomahdollisuudet	☐	☐	☐	☐	☐
Ainoa mahdollisuus saada työtä sillä hetkellä	☐	☐	☐	☐	☐
Erikoistuminen	☐	☐	☐	☐	☐
Urakehitys	☐	☐	☐	☐	☐
Mahdollisuus tehdä väitöskirja	☐	☐	☐	☐	☐
Minua pyydettiin	☐	☐	☐	☐	☐
”Pääsin suhteilla”	☐	☐	☐	☐	☐
Työpaikan hyvä maine	☐	☐	☐	☐	☐
Työnohjaus järjestetty	☐	☐	☐	☐	☐
Hyvä kouluttajalääkäri	☐	☐	☐	☐	☐
Hyvä johtajalääkäri	☐	☐	☐	☐	☐

13. Oletko tyytyväinen valitsemaasi ammattiin?

☐ Erittäin tyytymätön ☐ Melko tyytymätön ☐ Vaikea sanoa ☐ Melko tyytyväinen ☐ Erittäin tyytyväinen

14. Kuinka tyytyväinen yleisesti ottaen olet nykyiseen työhösi?

☐ Erittäin tyytymätön ☐ Melko tyytymätön ☐ Vaikea sanoa ☐ Melko tyytyväinen ☐ Erittäin tyytyväinen

15. Miten hyvin seuraavat lääkärin työtä kuvaavat ilmaisut vastaavat Sinua lääkärinä?

	Erittäin huonosti	Melko huonosti	Vaikea sanoa	Melko hyvin	Erittäin hyvin
Parantaja	☐	☐	☐	☐	☐
Teknikko	☐	☐	☐	☐	☐
Shamaani	☐	☐	☐	☐	☐
Opettaja	☐	☐	☐	☐	☐
Perhelääkäri	☐	☐	☐	☐	☐
Terveyskasvattaja	☐	☐	☐	☐	☐
Tutkija	☐	☐	☐	☐	☐
Virkamies	☐	☐	☐	☐	☐
Yrittäjä	☐	☐	☐	☐	☐
Johtaja	☐	☐	☐	☐	☐
Terveysasiantuntija	☐	☐	☐	☐	☐
Todistusten kirjoittaja	☐	☐	☐	☐	☐
Lääkkeiden määrääjä	☐	☐	☐	☐	☐
Liukuhihnatyöntekijä	☐	☐	☐	☐	☐
Kutsumuslääkäri	☐	☐	☐	☐	☐
Auttaja	☐	☐	☐	☐	☐
Lohduttaja	☐	☐	☐	☐	☐
Tukipilari	☐	☐	☐	☐	☐
Kuuntelija	☐	☐	☐	☐	☐
Sosiaalisen työn tekijä	☐	☐	☐	☐	☐
Sielunhoitaja	☐	☐	☐	☐	☐
Portinvaritja	☐	☐	☐	☐	☐
Työryhmän jäsen	☐	☐	☐	☐	☐
”Leipäpappi”	☐	☐	☐	☐	☐
Priorisoija	☐	☐	☐	☐	☐

16. Miten seuraavat tahot mielestäsi arvostavat nykyistä työtäsi?

	Erittäin vähän	Melko vähän	Vaikea sanoa	Melko paljon	Erittäin paljon
Oman alan kollegat	☐	☐	☐	☐	☐
Muiden alojen kollegat	☐	☐	☐	☐	☐
Potilaat	☐	☐	☐	☐	☐
Hoitohenkilökunta	☐	☐	☐	☐	☐
Esimiehesi	☐	☐	☐	☐	☐
Paikalliset päätöksentekijät	☐	☐	☐	☐	☐
Valtakunnalliset päätöksentekijät	☐	☐	☐	☐	☐
Lääkäriliitto	☐	☐	☐	☐	☐
Toimipaikkakuntasi väestö	☐	☐	☐	☐	☐
Suuri yleisö	☐	☐	☐	☐	☐
Tiedotusvälineet	☐	☐	☐	☐	☐
Sinä itse	☐	☐	☐	☐	☐
Perheesi, läheisesi	☐	☐	☐	☐	☐

17. Mitä lääkärin työtä mieluiten haluaisit tehdä?

- ☐ Terveyskeskuslääkäri
- ☐ Sairaalassa toimiva lääkäri
- ☐ Työterveyslääkäri
- ☐ Yksityislääkäri
- ☐ Tutkimustyö
- ☐ Opetustyö
- ☐ Hallinto- ja suunnittelutyö
- ☐ Vuokralääkäri
- ☐ Ei väliä

18. Mitä työtä arvelet tekeväsi vuonna 2025?

- ☐ Terveyskeskuslääkäri
- ☐ Sairaalassa toimiva lääkäri
- ☐ Työterveyslääkäri
- ☐ Yksityislääkäri
- ☐ Tutkimustyö
- ☐ Opetustyö
- ☐ Hallinto- ja suunnittelutyö
- ☐ Vuokralääkäri
- ☐ Ei väliä
- ☐ Eläkkeellä

19. Missä määrin sait peruskoulutuksessasi opetusta seuraaviin tehtäviin?

	Aivan liian vähän	Liian vähän	Sopivasti	Liian paljon	Aivan liian paljon
Kliiniseen työhön	☐	☐	☐	☐	☐
Hallinnolliseen työhön	☐	☐	☐	☐	☐
Sairaalalääkärin työhön	☐	☐	☐	☐	☐
Yksityislääkärin työhön	☐	☐	☐	☐	☐
Terveysneuvontaan	☐	☐	☐	☐	☐
Preventioon	☐	☐	☐	☐	☐
Opetustyöhön	☐	☐	☐	☐	☐
Terveyskeskuslääkärin työhön	☐	☐	☐	☐	☐
Sosiaalisiin kysymyksiin	☐	☐	☐	☐	☐
Tutkimustyöhön	☐	☐	☐	☐	☐
Eettisiin kysymyksiin	☐	☐	☐	☐	☐
Yhteistyöhön eri sektorien välillä	☐	☐	☐	☐	☐
Oman työn kehittämiseen	☐	☐	☐	☐	☐
Monikulttuurisuuteen	☐	☐	☐	☐	☐

20. Miten saamasi peruskoulutus vastaa työtäsi?

☐ Erittäin huonosti ☐ Melko huonosti ☐ Kohtalaisesti ☐ Melko hyvin ☐ Erittäin hyvin

21. Miten tyytyväinen olet peruskoulutukseesi liittyneeseen sairaalatyön opetukseen?

☐ Erittäin tyytymätön ☐ Melko tyytymätön ☐ Vaikea sanoa ☐ Melko tyytyväinen ☐ Erittäin tyytyväinen

22. Miten tyytyväinen olet peruskoulutukseesi liittyneeseen terveyskeskusopetukseen?

☐ Erittäin tyytymätön ☐ Melko tyytymätön ☐ Vaikea sanoa ☐ Melko tyytyväinen ☐ Erittäin tyytyväinen

23. Miten saamasi peruskoulutusvaiheen opetus vastaa lääkärin työtä seuraavien asioiden osalta?

	Erittäin huonosti	Melko huonosti	Kohtalaisesti	Melko hyvin	Erittäin hyvin
Lääkärinä toimiminen yleisesi	☐	☐	☐	☐	☐
Diagnostiset taidot	☐	☐	☐	☐	☐
Tutkimus- ja hoitotoimenpiteet	☐	☐	☐	☐	☐
Konsultointi	☐	☐	☐	☐	☐
Terveysneuvonta	☐	☐	☐	☐	☐
Potilasvastaanotto	☐	☐	☐	☐	☐
Potilas-lääkärisuhde	☐	☐	☐	☐	☐
Vuodeosastotyö	☐	☐	☐	☐	☐
Ryhmätyö	☐	☐	☐	☐	☐
Yhteistyö perusterveydenhuollon ja erikoissairaanhoidon välillä	☐	☐	☐	☐	☐
Erikoisalojen välinen yhteistyö	☐	☐	☐	☐	☐
Kotisairaanhoito	☐	☐	☐	☐	☐
Neuvolatyö	☐	☐	☐	☐	☐
Kouluterveydenhuolto	☐	☐	☐	☐	☐
Kuntoutus	☐	☐	☐	☐	☐
Vanhustenhuolto	☐	☐	☐	☐	☐
Yhteistyö sosiaalitoimen kanssa	☐	☐	☐	☐	☐
Yhteistyö kunnan eri palvelusektorien kanssa	☐	☐	☐	☐	☐
Hallinto ja suunnittelu	☐	☐	☐	☐	☐
Työterveyshuolto	☐	☐	☐	☐	☐
Ympäristöterveydenhuolto	☐	☐	☐	☐	☐
Väestövastuu	☐	☐	☐	☐	☐
Terveyden edistäminen	☐	☐	☐	☐	☐
Terveystalous	☐	☐	☐	☐	☐
Vuorovaikutustaidot	☐	☐	☐	☐	☐
Kivun hoito	☐	☐	☐	☐	☐
Terminaalihoito	☐	☐	☐	☐	☐
Päihdehuolto	☐	☐	☐	☐	☐

24. Erikoistumista koskeva tilanne?

☐ En ole tehnyt päätöstä erikoistumisesta
☐ Olen päättänyt, etten erikoistu
☐ Olen päättänyt erikoistua, mutta en ole vielä varma erikoistumisalasta
☐ Olen päättänyt erikoistua, ja olen jo valinnut erikoistumisalan
☐ Olen erikoistumassa
☐ Olen erikoistunut

Jos olet erikoistunut tai erikoistumassa, vastaa seuraaviin erikoistumista koskeviin kysymyksiin. Muutoin siirry kysymykseen 34.

25. Missä koulutusyksikössä olet erikoistunut tai erikoistumassa?

☐ Helsingin yliopisto
☐ Itä-Suomen / Kuopion yliopisto
☐ Oulun yliopisto
☐ Tampereen yliopisto
☐ Turun yliopisto
☐ Ulkomailla, missä? _____

26. Miten tyytyväinen olet omaan erikoislääkärikoulutukseesi?

☐ Erittäin tyytymätön ☐ Melko tyytymätön ☐ Vaikea sanoa ☐ Melko tyytyväinen ☐ Erittäin tyytyväinen

27. Jos nyt olisit aloittamassa erikoistumistasi, valitsisitko vielä saman erikoisalan?

☐ En ☐ Kyllä

28. Miten saamasi erikoislääkärikoulutus vastaa työtäsi?

☐ Erittäin huonosti ☐ Melko huonosti ☐ Kohtalaisesti ☐ Melko hyvin ☐ Erittäin hyvin

29. Jos olet erikoistunut, minä vuonna valmistuit erikoislääkäriksi

_____

30. Mikä on erikoisalasi?

_____

31. Missä määrin sait erikoislääkärikoulutuksessasi opetusta seuraaviin asioihin?

	Aivan liian vähän	Liian vähän	Sopivasti	Liian paljon	Aivan liian paljon
Kliiniseen työhön	☐	☐	☐	☐	☐
Hallinnolliseen työhön	☐	☐	☐	☐	☐
Johtamiseen	☐	☐	☐	☐	☐
Terveysneuvontaan	☐	☐	☐	☐	☐
Opetustyöhön	☐	☐	☐	☐	☐
Sosiaalisiin kysymyksiin	☐	☐	☐	☐	☐
Tutkimustyöhön	☐	☐	☐	☐	☐
Eettisiin kysymyksiin	☐	☐	☐	☐	☐
Preventioon	☐	☐	☐	☐	☐
Yhteistyöhön eri sektorien välillä	☐	☐	☐	☐	☐
Oman työn kehittämiseen	☐	☐	☐	☐	☐
Yksityislääkärin työhön	☐	☐	☐	☐	☐
Monikulttuurisuuteen	☐	☐	☐	☐	☐

32. Millaisen kouluarvosana (4–10) annat seuraaville tahoille oppimisympäristöinä ajatellessasi omaa erikoislääkärikoulutustasi?

	4	5	6	7	8	9	10
Terveyskeskus	☐	☐	☐	☐	☐	☐	☐
Aluesairaala	☐	☐	☐	☐	☐	☐	☐
Keskussairaala	☐	☐	☐	☐	☐	☐	☐
Yliopistosairaala	☐	☐	☐	☐	☐	☐	☐
Yliopisto	☐	☐	☐	☐	☐	☐	☐

33. Arvioi seuraavat osa-alueet omassa erikoislääkärikoulutuksessasi

	0	1	2	3	4	5	6	7	8	9	10
Toimipaikkakoulutus	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Yliopiston järjestämä teoreettinen kurssimuotoinen koulutus	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Muiden tahojen järjestämä teoreettinen kurssimuotoinen koulutus	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mahdollisuus päästä talon ulkopuoliseen koulutukseen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Erikoisalani diagnostisten taitojen oppiminen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Erikoisalani tutkimus- ja hoitotoimenpiteiden oppiminen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mahdollisuus erikoistumiseeni liittyvään hallinnon koulutukseen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Yhteistyö muiden erikoisalojen kanssa	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Perusterveydenhuollon ja erikoissairaanhoidon yhteistyö	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mahdollisuus tavata henkilökohtainen kouluttaja / ohjaaja	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mahdollisuus tutkimus- ja kehittämistyöhön	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mahdollisuus valmistautua erikoislääkärikuulusteluun	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

34. Missä määrin seuraavat seikat vaikuttavat / vaikuttivat erikoisalasi valintaan?

	Ei lainkaan	Hiukan	Jonkin verran	Melko paljon	Erittäin paljon
Alan kollegojen hyvä esimerkki	☐	☐	☐	☐	☐
Myönteiset työkokemukset alalla opiskeluaikana	☐	☐	☐	☐	☐
Laadukas erikoistumisohjelma	☐	☐	☐	☐	☐
Monipuolinen ala	☐	☐	☐	☐	☐
Työllisyysnäkymät	☐	☐	☐	☐	☐
Ansiomahdollisuudet	☐	☐	☐	☐	☐
Alan arvostus	☐	☐	☐	☐	☐
Mahdollisuudet toimia yksityissektorilla	☐	☐	☐	☐	☐
Mahdollisuudet edetä uralla	☐	☐	☐	☐	☐
Kohtuullinen päivystysrasitus	☐	☐	☐	☐	☐
Mahdollisuudet tutkimustyöhön	☐	☐	☐	☐	☐
Mahdollisuus säädellä oman työn määrää	☐	☐	☐	☐	☐
Hyvä mahdollisuus sovittaa yhteen työ ja perhe	☐	☐	☐	☐	☐
Sattuma	☐	☐	☐	☐	☐

35. Väitöskirjatyötä koskeva tilanne?

☐ En ole tehnyt mitään päätöstä väitöskirjasta
☐ Olen päättänyt, etten tee väitöskirjaa
☐ Aion tehdä väitöskirjan, mutta en ole vielä varma aiheesta
☐ Aion tehdä väitöskirjan, ja olen jo valinnut alan
☐ Väitöskirja tekeillä
☐ Olen väitellyt

36. Miten seuraavat kollegiaalisuuteen yhdistetyt asiat toteutuvat nykyisessä työssäsi?

	Erittäin huonosti	Melko huonosti	Melko hyvin	Erittäin hyvin
Luottamus kollegoiden välillä	☐	☐	☐	☐
Hyvä yhteishenki kollegoiden kesken	☐	☐	☐	☐
Yhdessä toimiminen yhteisen tavoitteen eteen	☐	☐	☐	☐
Toimiva keskusteluyhteys kollegoiden välillä	☐	☐	☐	☐
Ristiriitatilanteiden kollegiaalinen ratkaiseminen	☐	☐	☐	☐
Kokemattomampien kollegoiden tukeminen	☐	☐	☐	☐
Toisten kollegoiden työn arvostaminen	☐	☐	☐	☐
Kollegat arvostavat omaa työtäni	☐	☐	☐	☐
Yhteistyö toisessa klinikassa/työyhteisössä toimivien kollegoiden kanssa	☐	☐	☐	☐
Toisen lääkärin toimintaan puuttuminen kollegiaalisesti	☐	☐	☐	☐
Kollegan hoitoon ohjaaminen tarvittaessa	☐	☐	☐	☐
Rakentavan palautteen saaminen omasta toiminnasta	☐	☐	☐	☐

37. Mikä sinulle on tärkeää elämässäsi? Arvioi jokaisen seuraavassa esitettävän asian kohdalla, kuinka tärkeältä se Sinusta tuntuu? (Valitse vaihtoehto, joka sopii parhaiten Sinuun.)

	Ei ollenkaan tärkeää	Ei ole kovin tärkeää	On melko tärkää	On hyvin tärkeää
1. Suoriutuminen työssä, opiskelussa	☐	☐	☐	☐
2. Läheiset ja turvalliset ystävyyssuhteet	☐	☐	☐	☐
3. Pitkä elämä	☐	☐	☐	☐
4. Korkea elintaso	☐	☐	☐	☐
5. Perhe-elämä	☐	☐	☐	☐
6. Lomailu	☐	☐	☐	☐
7. Terveys	☐	☐	☐	☐
8. Maailmanrauha ja maailman ongelmien ratkaisu	☐	☐	☐	☐
9. Ihmisten välinen tasa-arvo	☐	☐	☐	☐
10. Usko Jumalaan	☐	☐	☐	☐
11. Mahdollisuus solmia uusia tuttavuuksia	☐	☐	☐	☐
12. Lasten menestyminen elämässään	☐	☐	☐	☐
13. Tavata mielenkiintoisia ihmisiä	☐	☐	☐	☐
14. Mahdollisuus harrastuksiin ja itsensä toteuttamiseen	☐	☐	☐	☐
15. Muiden ihmisten osoittama hyväksyminen ja arvostus	☐	☐	☐	☐
16. Hyvä työpaikka	☐	☐	☐	☐
17. Ettei luonto turmellu ja saastu	☐	☐	☐	☐
18. Isänmaa	☐	☐	☐	☐

38. Valitse edellisestä luettelosta (1–18) Sinulle kaikkein tärkein asia.

_____

39. Valitse edellisestä luettelosta (1–18) Sinulle toiseksi tärkein asia.

_____

40. Valitse edellisestä luettelosta (1–18) Sinulle kolmanneksi tärkein asia.

_____

41. Kuinka kiinteästi tunnet kuuluvasi?

	Hyvin heikosti	Melko heikosti	Vaikea sanoa	Melko kiinteästi	Hyvin kiinteästi
Omaan perheeseen	☐	☐	☐	☐	☐
Omaan sukuun	☐	☐	☐	☐	☐
Naapurustoon	☐	☐	☐	☐	☐
Asuinyhteisöön	☐	☐	☐	☐	☐
Kaveriporukkaan	☐	☐	☐	☐	☐
Verkon tai sosiaalisen median yhteisöön	☐	☐	☐	☐	☐
Työyhteisöön	☐	☐	☐	☐	☐
Lääkärikuntaan	☐	☐	☐	☐	☐
Seurakuntaan	☐	☐	☐	☐	☐
Yhdistykseen, seuraan tms.	☐	☐	☐	☐	☐
Omaan kuntaan	☐	☐	☐	☐	☐
Omaan maakuntaan	☐	☐	☐	☐	☐
Suomeen	☐	☐	☐	☐	☐
Pohjoismaihin	☐	☐	☐	☐	☐
Eurooppaan	☐	☐	☐	☐	☐

42. Sukupuoli

☐ Mies
☐ Nainen

43. Syntymävuosi

_____

44. Siviilisääty

☐ Naimaton
☐ Avoliitossa
☐ Avioliitossa
☐ Eronnut, asumuserossa
☐ Leski
☐ Rekisteröidyssä parisuhteessa

45. Puolison ammatti / ammattiala

☐ Lääkäri
☐ Sairaanhoitaja
☐ Muu terveydenhuoltoala
☐ Tekninen ala
☐ Opetusala
☐ Muu ammatti tai ammattiala, mikä? _____

46. Lastesi lukumäärä

_____

47. Äitisi terveydenhuoltoalan koulutus?

☐ Ei ole
☐ Lääkäri
☐ Muu, mikä? _____

48. Isäsi terveydenhuoltoalan koulutus?

☐ Ei ole
☐ Lääkäri
☐ Muu, mikä? _____

49. Mitä on mielestäsi 2000-luvun kollegiaalisuus?

_____

_____

_____

_____

50. Miten kollegiaalisuutta edistetään mielestäsi parhaiten?

_____

_____

_____

_____

Lääkäri 2013 -tutkimus (SENIORIT)

1. Minä vuonna valmistuit lääkäriksi (lisensiaattitutkinto)?

_____

2. Minä vuonna aloitit lääketieteen opinnot?

_____

3. Mistä yliopistosta valmistuit lääkäriksi?

☐ Helsingin yliopisto
☐ Kuopion / Itä-Suomen yliopisto
☐ Oulun yliopisto
☐ Tampereen yliopisto
☐ Turun yliopisto
☐ Ulkomailla, missä? _____

4. Missä määrin seuraavat tekijät vaikuttivat hakeutumiseesi opiskelemaan lääketiedettä?

	Ei lainkaan	Hiukan	Jonkin verran	Melko paljon	Erittäin paljon
Kutsumusammatti	☐	☐	☐	☐	☐
Arvostettu ammatti	☐	☐	☐	☐	☐
Hyväpalkkainen ammatti	☐	☐	☐	☐	☐
Perheessä tai lähisuvussa lääkäri	☐	☐	☐	☐	☐
Kiinnostus ihmiseen	☐	☐	☐	☐	☐
Lääkäripula	☐	☐	☐	☐	☐
Koulumenestys	☐	☐	☐	☐	☐
Oma tai lähiomaisen sairaus	☐	☐	☐	☐	☐
Ammatinvalinnan ohjaus	☐	☐	☐	☐	☐
Monipuoliset työmahdollisuudet	☐	☐	☐	☐	☐
Kiinnostus tutkimustyöhön	☐	☐	☐	☐	☐

5. Jos nyt olisit aloittamassa opintojasi, ryhtyisitkö lääkäriksi?

☐ En ☐ Kyllä

6. Oletko tällä hetkellä työssä?

☐ Kyllä, vakituisessa virassa tai toimessa
☐ Kyllä, määräaikaisessa virassa tai toimessa
☐ Kyllä, yksityisenä ammatinharjoittajana
☐ Kyllä, vuokralääkärinä
☐ En

Jos et ole tällä hetkellä työssä, siirry kysymykseen 15.

7. Päätoimen työnantajasektori?

☐ Kunta / kuntayhtymä
☐ Valtio
☐ Yksityinen

8. Päätoimen toimipaikka / työskentelysektori?

- ☐ Yliopistollinen keskussairaala
- ☐ Muu kunnallinen / kuntayhtymän sairaala
- ☐ Terveyskeskus, väestövastuu
- ☐ Terveyskeskus, ei väestövastuu
- ☐ Kunnallinen työterveyshuolto
- ☐ Mielenterveystoimisto, muu avohuollon yksikkö
- ☐ Muu kunnallinen toimipaikka
- ☐ Yliopisto
- ☐ Muu valtion virasto tai laitos
- ☐ Yksityinen lääkäriasema / -keskus, yksityisvastaanotto
- ☐ Yksityinen työterveyshuolto (esim. yrityksen oma tth tai työterveys ry)
- ☐ Säätiö, yhdistys tai järjestö
- ☐ Lääketeollisuus
- ☐ Työvoimaa välittävä/vuokraava yritys (ns. vuokralääkärit)
- ☐ Muu yksityinen työnantaja

9. Ammattinimike päätoimessa?

- ☐ Johtava lääkäri, johtaja, ylilääkäri, osastonylilääkäri, apulaisylilääkäri
- ☐ Erikoislääkäri, osastonlääkäri
- ☐ Erikoistuva lääkäri, sairaalalääkäri, eurolääkäri
- ☐ Terveyskeskuslääkäri
- ☐ Työterveyslääkäri, vastaava työterveyslääkäri
- ☐ Professori
- ☐ Apulaisopettaja, kliininen opettaja, yliassistentti
- ☐ Tutkija, assistentti
- ☐ Yksityislääkäri
- ☐ Muu lääkärin työ
- ☐ Muu kuin lääkärin työ

10. Onko päätoimesi?

- ☐ Kokoaikainen
- ☐ Osa-aikainen

11. Minkä sairaanhoitopiirin alueella nykyinen työpaikkasi sijaitsee?

- ☐ HUS (Uusimaa)
- ☐ HUS (Helsinki)
- ☐ Varsinais-Suomen
- ☐ Satakunnan
- ☐ Kanta-Hämeen
- ☐ Pirkanmaan
- ☐ Päijät-Hämeen
- ☐ Kymenlaakson
- ☐ Etelä-Karjalan
- ☐ Etelä-Savon
- ☐ Itä-Savon
- ☐ Pohjois-Karjalan
- ☐ Pohjois-Savon
- ☐ Keski-Suomen
- ☐ Etelä-Pohjanmaan
- ☐ Vaasan
- ☐ Keski-Pohjanmaan
- ☐ Pohjois-Pohjanmaan
- ☐ Kainuun
- ☐ Länsi-Pohjan
- ☐ Lapin
- ☐ Ahvenanmaan
- ☐ Ulkomailla

12. Missä määrin seuraavat tekijät vaikuttivat hakeutumiseesi nykyiseen työpaikkaasi?

	Ei lainkaan	Hiukan	Jonkin verran	Melko paljon	Erittäin paljon
Sijaintipaikkakunta	☐	☐	☐	☐	☐
Keskussairaalan läheisyys	☐	☐	☐	☐	☐
Työ ammatillisesti kiinnostavaa	☐	☐	☐	☐	☐
Työpaikka tuttu opiskeluajoilta	☐	☐	☐	☐	☐
Perhesuhteet tms. henkilökohtaiset seikat	☐	☐	☐	☐	☐
Palkka	☐	☐	☐	☐	☐
Vapaa-ajan viettomahdollisuudet	☐	☐	☐	☐	☐
Ainoa mahdollisuus saada työtä sillä hetkellä	☐	☐	☐	☐	☐
Erikoistuminen	☐	☐	☐	☐	☐
Urakehitys	☐	☐	☐	☐	☐
Mahdollisuus tehdä väitöskirja	☐	☐	☐	☐	☐
Minua pyydettiin	☐	☐	☐	☐	☐
”Pääsin suhteilla”	☐	☐	☐	☐	☐
Työpaikan hyvä maine	☐	☐	☐	☐	☐
Työnohjaus järjestetty	☐	☐	☐	☐	☐
Hyvä kouluttajalääkäri	☐	☐	☐	☐	☐
Hyvä johtajalääkäri	☐	☐	☐	☐	☐

13. Oletko tyytyväinen valitsemaasi ammattiin?

☐ Erittäin tyytymätön ☐ Melko tyytymätön ☐ Vaikea sanoa ☐ Melko tyytyväinen ☐ Erittäin tyytyväinen

14. Kuinka tyytyväinen yleisesti ottaen olet nykyiseen työhösi?

☐ Erittäin tyytymätön ☐ Melko tyytymätön ☐ Vaikea sanoa ☐ Melko tyytyväinen ☐ Erittäin tyytyväinen

15. Miten hyvin seuraavat lääkärin työtä kuvaavat ilmaisut vastaavat Sinua lääkärinä?

	Erittäin huonosti	Melko huonosti	Vaikea sanoa	Melko hyvin	Erittäin hyvin
Parantaja	☐	☐	☐	☐	☐
Teknikko	☐	☐	☐	☐	☐
Shamaani	☐	☐	☐	☐	☐
Opettaja	☐	☐	☐	☐	☐
Perhelääkäri	☐	☐	☐	☐	☐
Terveyskasvattaja	☐	☐	☐	☐	☐
Tutkija	☐	☐	☐	☐	☐
Virkamies	☐	☐	☐	☐	☐
Yrittäjä	☐	☐	☐	☐	☐
Johtaja	☐	☐	☐	☐	☐
Terveysasiantuntija	☐	☐	☐	☐	☐
Todistusten kirjoittaja	☐	☐	☐	☐	☐
Lääkkeiden määrääjä	☐	☐	☐	☐	☐
Liukuhihnatyöntekijä	☐	☐	☐	☐	☐
Kutsumuslääkäri	☐	☐	☐	☐	☐
Auttaja	☐	☐	☐	☐	☐
Lohduttaja	☐	☐	☐	☐	☐
Tukipilari	☐	☐	☐	☐	☐
Kuuntelija	☐	☐	☐	☐	☐
Sosiaalisen työn tekijä	☐	☐	☐	☐	☐
Sielunhoitaja	☐	☐	☐	☐	☐
Portinvaritja	☐	☐	☐	☐	☐
Työryhmän jäsen	☐	☐	☐	☐	☐
”Leipäpappi”	☐	☐	☐	☐	☐
Priorisoija	☐	☐	☐	☐	☐

16. Miten seuraavat tahot mielestäsi arvostavat nykyistä työtäsi?

	Erittäin vähän	Melko vähän	Vaikea sanoa	Melko paljon	Erittäin paljon
Oman alan kollegat	☐	☐	☐	☐	☐
Muiden alojen kollegat	☐	☐	☐	☐	☐
Potilaat	☐	☐	☐	☐	☐
Hoitohenkilökunta	☐	☐	☐	☐	☐
Esimiehesi	☐	☐	☐	☐	☐
Paikalliset päätöksentekijät	☐	☐	☐	☐	☐
Valtakunnalliset päätöksentekijät	☐	☐	☐	☐	☐
Lääkäriliitto	☐	☐	☐	☐	☐
Toimipaikkakuntasi väestö	☐	☐	☐	☐	☐
Suuri yleisö	☐	☐	☐	☐	☐
Tiedotusvälineet	☐	☐	☐	☐	☐
Sinä itse	☐	☐	☐	☐	☐
Perheesi, läheisesi	☐	☐	☐	☐	☐

17. Mitä lääkärin työtä mieluiten haluaisit tehdä?

☐ Terveyskeskuslääkäri
☐ Sairaalassa toimiva lääkäri
☐ Työterveyslääkäri
☐ Yksityislääkäri
☐ Tutkimustyö
☐ Opetustyö
☐ Hallinto- ja suunnittelutyö
☐ Vuokralääkäri
☐ Ei väliä

18. Mitä työtä arvelet tekeväsi vuonna 2025?

☐ Terveyskeskuslääkäri
☐ Sairaalassa toimiva lääkäri
☐ Työterveyslääkäri
☐ Yksityislääkäri
☐ Tutkimustyö
☐ Opetustyö
☐ Hallinto- ja suunnittelutyö
☐ Vuokralääkäri
☐ Ei väliä
☐ Eläkkeellä

19. Erikoistumista koskeva tilanne?

☐ En ole tehnyt päätöstä erikoistumisesta
☐ Olen päättänyt, etten erikoistu
☐ Olen päättänyt erikoistua, mutta en ole vielä varma erikoistumisalasta
☐ Olen päättänyt erikoistua, ja olen jo valinnut erikoistumisalan
☐ Olen erikoistumassa
☐ Olen erikoistunut

Jos olet erikoistunut tai erikoistumassa, vastaa erikoistumiskoulutusta koskeviin kysymyksiin. Muutoin siirry kysymykseen 29.

20. Missä koulutusyksikössä olet erikoistunut tai erikoistumassa?

☐ Helsingin yliopisto
☐ Itä-Suomen / Kuopion yliopisto
☐ Oulun yliopisto
☐ Tampereen yliopisto
☐ Turun yliopisto
☐ Ulkomailla, missä? _____

21. Miten tyytyväinen olet omaan erikoislääkärikoulutukseesi?

☐ Erittäin tyytymätön ☐ Melko tyytymätön ☐ Vaikea sanoa ☐ Melko tyytyväinen ☐ Erittäin tyytyväinen

22. Jos nyt olisit aloittamassa erikoistumistasi, valitsisitko vielä saman erikoisalan?

☐ En ☐ Kyllä

23. Miten saamasi erikoislääkärikoulutus vastaa työtäsi?

☐ Erittäin huonosti ☐ Melko huonosti ☐ Kohtalaisesti ☐ Melko hyvin ☐ Erittäin hyvin

24. Jos olet erikoistunut, minä vuonna valmistuit erikoislääkäriksi

_____

25. Mikä on erikoisalasi?

_____

26. Missä määrin sait erikoislääkärikoulutuksessasi opetusta seuraaviin asioihin?

	Aivan liian vähän	Liian vähän	Sopivasti	Liian paljon	Aivan liian paljon
Kliiniseen työhön	☐	☐	☐	☐	☐
Hallinnolliseen työhön	☐	☐	☐	☐	☐
Johtamiseen	☐	☐	☐	☐	☐
Terveysneuvontaan	☐	☐	☐	☐	☐
Opetustyöhön	☐	☐	☐	☐	☐
Sosiaalisiin kysymyksiin	☐	☐	☐	☐	☐
Tutkimustyöhön	☐	☐	☐	☐	☐
Eettisiin kysymyksiin	☐	☐	☐	☐	☐
Preventioon	☐	☐	☐	☐	☐
Yhteistyöhön eri sektorien välillä	☐	☐	☐	☐	☐
Oman työn kehittämiseen	☐	☐	☐	☐	☐
Yksityislääkärin työhön	☐	☐	☐	☐	☐
Monikulttuurisuuteen	☐	☐	☐	☐	☐

27. Millaisen kouluarvosana (4–10) annat seuraaville tahoille oppimisympäristöinä ajatellessasi omaa erikoislääkärikoulutustasi?

	4	5	6	7	8	9	10
Terveyskeskus	☐	☐	☐	☐	☐	☐	☐
Aluesairaala	☐	☐	☐	☐	☐	☐	☐
Keskussairaala	☐	☐	☐	☐	☐	☐	☐
Yliopistosairaala	☐	☐	☐	☐	☐	☐	☐
Yliopisto	☐	☐	☐	☐	☐	☐	☐

28. Arvioi seuraavat osa-alueet omassa erikoislääkärikoulutuksessasi

	0	1	2	3	4	5	6	7	8	9	10
Toimipaikkakoulutus	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Yliopiston järjestämä teoreettinen kurssimuotoinen koulutus	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Muiden tahojen järjestämä teoreettinen kurssimuotoinen koulutus	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mahdollisuus päästä talon ulkopuoliseen koulutukseen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Erikoisalani diagnostisten taitojen oppiminen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Erikoisalani tutkimus- ja hoitotoimenpiteiden oppiminen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mahdollisuus erikoistumiseeni liittyvään hallinnon koulutukseen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Yhteistyö muiden erikoisalojen kanssa	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Perusterveydenhuollon ja erikoissairaanhoidon yhteistyö	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mahdollisuus tavata henkilökohtainen kouluttaja / ohjaaja	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mahdollisuus tutkimus- ja kehittämistyöhön	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mahdollisuus valmistautua erikoislääkäri-kuulusteluun	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

29. Missä määrin seuraavat seikat vaikuttavat / vaikuttivat erikoisalasi valintaan?

	Ei lainkaan	Hiukan	Jonkin verran	Melko paljon	Erittäin paljon
Alan kollegojen hyvä esimerkki	☐	☐	☐	☐	☐
Myönteiset työkokemukset alalla opiskeluaikana	☐	☐	☐	☐	☐
Laadukas erikoistumisohjelma	☐	☐	☐	☐	☐
Monipuolinen ala	☐	☐	☐	☐	☐
Työllisyysnäkymät	☐	☐	☐	☐	☐
Ansiomahdollisuudet	☐	☐	☐	☐	☐
Alan arvostus	☐	☐	☐	☐	☐
Mahdollisuudet toimia yksityissektorilla	☐	☐	☐	☐	☐
Mahdollisuudet edetä uralla	☐	☐	☐	☐	☐
Kohtuullinen päivystysrasitus	☐	☐	☐	☐	☐
Mahdollisuudet tutkimustyöhön	☐	☐	☐	☐	☐
Mahdollisuus säädellä oman työn määrää	☐	☐	☐	☐	☐
Hyvä mahdollisuus sovittaa yhteen työ ja perhe	☐	☐	☐	☐	☐
Sattuma	☐	☐	☐	☐	☐

30. Väitöskirjatyötä koskeva tilanne?

☐ En ole tehnyt mitään päätöstä väitöskirjasta
☐ Olen päättänyt, etten tee väitöskirjaa
☐ Aion tehdä väitöskirjan, mutta en ole vielä varma aiheesta
☐ Aion tehdä väitöskirjan, ja olen jo valinnut alan
☐ Väitöskirja tekeillä
☐ Olen väitellyt

31. Miten seuraavat kollegiaalisuuteen yhdistetyt asiat toteutuvat nykyisessä työssäsi?

	Erittäin huonosti	Melko huonosti	Melko hyvin	Erittäin hyvin
Luottamus kollegoiden välillä	☐	☐	☐	☐
Hyvä yhteishenki kollegoiden kesken	☐	☐	☐	☐
Yhdessä toimiminen yhteisen tavoitteen eteen	☐	☐	☐	☐
Toimiva keskusteluyhteys kollegoiden välillä	☐	☐	☐	☐
Ristiriitatilanteiden kollegiaalinen ratkaiseminen	☐	☐	☐	☐
Kokemattomampien kollegoiden tukeminen	☐	☐	☐	☐
Toisten kollegoiden työn arvostaminen	☐	☐	☐	☐
Kollegat arvostavat omaa työtäni	☐	☐	☐	☐
Yhteistyö toisessa klinikassa/työyhteisössä toimivien kollegoiden kanssa	☐	☐	☐	☐
Virheelliseen toimintaan puuttuminen kollegiaalisesti	☐	☐	☐	☐
Kollegan hoitoon ohjaaminen tarvittaessa	☐	☐	☐	☐
Rakentavan palautteen saaminen omasta toiminnasta	☐	☐	☐	☐

32. Onko lähin esimiehesi?

☐ Lääkäri
☐ Muu
☐ Ei esimiestä

33. Johtaja tarvitsee seuraavia kykyjä ja ominaisuuksia. Millaiseksi arvioit lähimmän esimiehesi johtajan kyvyt? (0 = Erittäin huono, 10 = Erittäin hyvä)

	0	1	2	3	4	5	6	7	8	9	10
Tulevaisuuden visiointi	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Toiminnan suunnittelu	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Organisointi	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Delegointi	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Motivointi	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vuorovaikutus (kommunikointi)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Seuranta ja arviointi	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Palautteen antaminen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Oikeudenmukaisuus	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kehittämiskyky	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kuunteleminen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Empatiakyky	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Johdonmukaisuus	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sosiaaliset taidot	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

34. Toimitko esimiestehtävissä?

☐ En ☐ Kyllä

35. Päätöksentekoon esimiehenä vaikuttaa / vaikuttaisi?

	Erittäin vähän	Melko vähän	Jonkin verran	Melko paljon	Erittäin paljon
Oma ammatillinen kokemus	☐	☐	☐	☐	☐
Oman alan ammattilehdistö	☐	☐	☐	☐	☐
Oman alan tieteelliset tutkimukset	☐	☐	☐	☐	☐
Hoitohenkilökunnalta saatava tieto	☐	☐	☐	☐	☐
Oman ammattikunnan alueellinen ja valtakunnllinen vuorovaikutus	☐	☐	☐	☐	☐
Oman organisaation tilastot ja mittarit	☐	☐	☐	☐	☐
Oman organisaation asiakirjat	☐	☐	☐	☐	☐
Sairaanhoitopiirin koulutus ja muut tilaisuudet	☐	☐	☐	☐	☐
Vastaavien organisaatioiden esimerkki	☐	☐	☐	☐	☐
Potilaiden vaatimukset ja tarpeet	☐	☐	☐	☐	☐
Maksajan (esim. kunta) vaatimukset ja tarpeet	☐	☐	☐	☐	☐
Tiedotusvälineiden kannanotot	☐	☐	☐	☐	☐
Lait ja asetukset	☐	☐	☐	☐	☐
Viranomaisohjeet	☐	☐	☐	☐	☐
Hoitosuositukset	☐	☐	☐	☐	☐

36. Pitäisikö erikoislääkärin toimiluvan olla määräaikainen (ns. resertifikaatio)?

☐ En ☐ Kyllä ☐ En osaa sanoa

37. Jos erikoislääkärin toimilupa olisi määräaikainen, luvan edellytyksenä tulisi olla joku tai jotkut seuraavista?

	Ei	Kyllä
Kirjallinen tentti, kuulustelu	☐	☐
Työnäyte / potilastentti	☐	☐
Osallistuminen täydennyskoulutukseen	☐	☐
Riittävä kliininen työskentely	☐	☐
Kollegojen vertaisarviointi (peer review)	☐	☐

38. Onko työpaikallasi seuraavia laatuun tähtääviä työ- tai toimintamuotoja?

	Kyllä, usein	Kyllä, satunnaisesti	Ei ole
Meeting-toiminta	☐	☐	☐
Työpaikkakoulutus	☐	☐	☐
Mahdollisuus päästä täydennyskoulutukseen	☐	☐	☐
Yhteisesti sovitut ohjeet jonkin ongelman hoitamiseksi	☐	☐	☐
Mahdollisuus oman alan kollegan konsultointiin	☐	☐	☐
Mahdollisuus toisen alan kollegan konsultointiin	☐	☐	☐
Laatupiiritoiminta	☐	☐	☐
Vertaisarviotoiminta	☐	☐	☐
Tietokoneavusteinen oman työn seuranta	☐	☐	☐
Videoavusteinen oman työn kehittäminen	☐	☐	☐
Asiakaskysely	☐	☐	☐
Hoitosuositukset	☐	☐	☐
Työpaikan oma laatuohjelma / laatukäsikirja	☐	☐	☐
Haittatapahtumien ja ”läheltä piti” -tilanteiden seuranta ja analysointi	☐	☐	☐

39. Mikä sinulle on tärkeää elämässäsi? Arvioi jokaisen seuraavassa esitettävän asian kohdalla, kuinka tärkeältä se Sinusta tuntuu? (Valitse vaihtoehto, joka sopii parhaiten Sinuun.)

	Ei ollenkaan tärkeää	Ei ole kovin tärkeää	On melko tärkää	On hyvin tärkeää
1. Suoriutuminen työssä, opiskelussa	☐	☐	☐	☐
2. Läheiset ja turvalliset ystävyyssuhteet	☐	☐	☐	☐
3. Pitkä elämä	☐	☐	☐	☐
4. Korkea elintaso	☐	☐	☐	☐
5. Perhe-elämä	☐	☐	☐	☐
6. Lomailu	☐	☐	☐	☐
7. Terveys	☐	☐	☐	☐
8. Maailmanrauha ja maailman ongelmien ratkaisu	☐	☐	☐	☐
9. Ihmisten välinen tasa-arvo	☐	☐	☐	☐
10. Usko Jumalaan	☐	☐	☐	☐
11. Mahdollisuus solmia uusia tuttavuuksia	☐	☐	☐	☐
12. Lasten menestyminen elämässään	☐	☐	☐	☐
13. Tavata mielenkiintoisia ihmisiä	☐	☐	☐	☐
14. Mahdollisuus harrastuksiin ja itsensä toteuttamiseen	☐	☐	☐	☐
15. Muiden ihmisten osoittama hyväksyminen ja arvostus	☐	☐	☐	☐
16. Hyvä työpaikka	☐	☐	☐	☐
17. Ettei luonto turmellu ja saastu	☐	☐	☐	☐
18. Isänmaa	☐	☐	☐	☐

40. Valitse edellisestä luettelosta (1–18) Sinulle kaikkein tärkein asia.

_____

41. Valitse edellisestä luettelosta (1–18) Sinulle toiseksi tärkein asia.

_____

42. Valitse edellisestä luettelosta (1–18) Sinulle kolmanneksi tärkein asia.

_____

43. Kuinka kiinteästi tunnet kuuluvasi?

	Hyvin heikosti	Melko heikosti	Vaikea sanoa	Melko kiinteästi	Hyvin kiinteästi
Omaan perheeseen	☐	☐	☐	☐	☐
Omaan sukuun	☐	☐	☐	☐	☐
Naapurustoon	☐	☐	☐	☐	☐
Asuinyhteisöön	☐	☐	☐	☐	☐
Kaveriporukkaan	☐	☐	☐	☐	☐
Verkon tai sosiaalisen median yhteisöön	☐	☐	☐	☐	☐
Työyhteisöön	☐	☐	☐	☐	☐
Lääkärikuntaan	☐	☐	☐	☐	☐
Seurakuntaan	☐	☐	☐	☐	☐
Yhdistykseen, seuraan tms.	☐	☐	☐	☐	☐
Omaan kuntaan	☐	☐	☐	☐	☐
Omaan maakuntaan	☐	☐	☐	☐	☐
Suomeen	☐	☐	☐	☐	☐
Pohjoismaihin	☐	☐	☐	☐	☐
Eurooppaan	☐	☐	☐	☐	☐

44. Sukupuoli

☐ Mies
☐ Nainen

45. Syntymävuosi

_____

46. Siviilisääty

☐ Naimaton
☐ Avoliitossa
☐ Avioliitossa
☐ Eronnut, asumuserossa
☐ Leski
☐ Rekisteröidyssä parisuhteessa

47. Puolison ammatti / ammattiala

☐ Lääkäri
☐ Sairaanhoitaja
☐ Muu terveydenhuoltoala
☐ Tekninen ala
☐ Opetusala
☐ Muu ammatti tai ammattiala, mikä? _____

48. Lastesi lukumäärä

_____

49. Äitisi terveydenhuoltoalan koulutus?

☐ Ei ole
☐ Lääkäri
☐ Muu, mikä? _____

50. Isäsi terveydenhuoltoalan koulutus?

☐ Ei ole
☐ Lääkäri
☐ Muu, mikä? _____

49. Mitä on mielestäsi 2000-luvun kollegiaalisuus?

_____

_____

_____

_____

50. Miten kollegiaalisuutta edistetään mielestäsi parhaiten?

_____

_____

_____

_____

TEPPO HEIKKILÄ

Recognizing the factors affecting the career choices of medical doctors enables them to be directed into meaningful and satisfying careers. In this study the most important motives for career choices were related to the work itself. Vocation, professional opportunities, and diversity of work as motives predicted satisfaction with the choices. However, the medical profession is not homogeneous in this respect. Medical educators, employers, and decision-makers should consider these differences.

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