Check for updates

Original Research Article

Journal of Medical Education and Curricular Development
Volume 13: 1-6
© The Author(s) 2026
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/23821205261416582
journals.sagepub.com/home/mde
Sage

Motivation of Pursuing High-Paying Profession When Entering Medical School May Have an Impact on Postgraduate Education - A Cross-Sectional Survey in Finland

Leila Niemi-Murola[1,2], Piitu Parmanne[3] and Heli Halava[4,5]

Abstract

Purpose: The medical profession has been regarded as a vocation, valued both socially and economically. This study explored the importance of high-paying profession as a motive for applying to medical school between 1988 and 2023, and its relation to physicians' postgraduate training goals.

Material and Methods: The data comprised of eight repeated cross-sectional surveys conducted in five-year intervals from 1988 to 2023. Respondents graduated 2 to 11 years before each survey (total n = 11 638; min 1177–max 1795 per survey; average response rate 55%). The association between valuing high-paying profession and pursuing professional or scientific postgraduate education was analyzed using ordinal logistic regression.

Major Findings: A smaller proportion of those who entered medical studies motivated by the prospect of a high-paying profession engaged in doctoral research (OR 0.93; 95% CI 0.89–0.97) and specialization (OR 0.88; LV 0.78–0.98) compared to those motivated by other reasons. Men were more likely than women to specialize within 2 to 11 years after graduation (OR 1.58; 95% CI 1.47–1.70), and male gender also increased the likelihood of pursuing scientific postgraduate education (OR 1.67; 95% CI 1.53–1.82).

Conclusions: A growing emphasis on income among applicants could increase the shortage of specialists and reduce the number of physicians engaging in scientific research.

Plain Language Summary

The study explores the increasing importance of a high-paying profession as a factor in choosing a career in medicine.

Why was the Study Done?

Traditionally, medicine has been regarded as a vocation, valued both socially and economically. In recent years, however, a good salary has become an increasingly more important motivator. At the same time, public healthcare struggles with financial pressures and workforce shortages.

What did the Researchers do?

The researchers reviewed eight consecutive surveys conducted at five-year intervals and studied the importance of high-paying profession as a motivation for applying to medical school and whether it is related to the physicians' professional or scientific postgraduate education goals.

What did the Researchers Find?

High-paid profession as an important factor in applying to medical school was later associated with decreased interest in scientific postgraduate education and specialization. Male gender increased both the likelihood of postgraduate scientific education and specialization.

What do the Findings Mean?

A growing emphasis on income among applicants for medical school could increase the shortage of specialists and reduce the number of physicians engaging in scientific research.

[1] Clinicum, University of Helsinki, Helsinki, Finland
[2] Department of Anaesthesiology and Intensive Care Medicine, Helsinki University Hospital, Helsinki, Finland
[3] Faculty of Social Sciences, University of Helsinki, Helsinki, Finland
[4] Department of Public Health, University of Turku, Turku, Finland
[5] Coordination of Education and Teaching, Turku University Hospital, Turku, Finland

Corresponding Author:
Leila Niemi-Murola, Clinicum, University of Helsinki, Haartmaninkatu 8, Helsinki 00014, Finland.
Email: leila.niemi-murola@hus.fi

Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (https://creativecommons.org/licenses/by-nc/4.0/) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access page (https://us.sagepub.com/en-us/nam/open-access-at-sage).

Keywords
postgraduate medical education, healthcare and social welfare, educational needs, workforce, pay

Received: 30 September 2025; accepted: 24 December 2025

Introduction

The medical profession has traditionally been regarded as a vocation, valued both socially and economically.[1] The motivation for applying to medical school includes an interest in helping people, opportunity to gain good income, and good prospects of employment.[2,3] Personal interest in the field helps students cope better, while merely seeking recognition can lead to burnout.[4]

In Finland, admission to medical school has been based on either high-school grade point average and admission examination or solely on admission examination. Only 10%−12% of applicants are accepted to study medicine.[5] The most common motivation for applying to medical school has for 25 years been an interest in people (81%−83%).[4,6] In recent years, a high-paying profession has increasingly become a significant motivation, particularly among men and those under 40 years of age.[6] Among women, vocation has been a more common motivation which may increase job satisfaction and reduce dissatisfaction.[6] According to an earlier study, both admission examination and high-school grade point average were well suited as selection criteria in the admission process.[7] However, medical schools should take into consideration that different selection tools might facilitate to select applicants with suitable personalities.[8] In addition to academic abilities, medical students should also possess traits like compassion and interpersonal skills throughout their studies.[9]

Young physicians are mostly employed as locum doctors in the public sector. Experienced specialists have an option to run private practice in addition to the public sector work, which has provided opportunities for additional income as well as maintaining longer-term patient relationships. In the 2000s, workforce shortages[10] have expanded private employment opportunities also for younger physicians as general practitioners in private practices. However, having a specialist degree has provided better earnings. Scientific postgraduate education, in turn, has enabled career advancement, especially in university hospitals.

In recent decades, medicine has undergone significant changes: treatment options have improved, and patients actively seek information about their care. Public healthcare is struggling with budget cuts and workforce shortages, while the private sector offers physicians better opportunities in work-life balance. The popularity of part-time work has increased,[11,12] and the values of young physicians may differ from those of the older, policy-making generation. The service system must anticipate future developments to prepare for upcoming changes. Scholarly attention to financial motivation in the context of medical career pathways remains limited. This study examines how the significance of a high-paying profession as a motivation for applying to medical school has varied from 1988 to 2023 and whether it is related to physicians' professional or scientific postgraduate education goals.

Methodology

Place: This Study Represents a Series of Cohort Studies in Finland

Period: The data comprised eight cross-sectional surveys conducted in 1988, 1993, 1998, 2003, 2008, 2013, 2018 and 2023. These surveys have studied physicians' experiences in undergraduate and postgraduate education and their career plans.[6] The data was collected using uniform methods of a posted or e-mail survey. Participants for cross-sectional surveys were randomly selected. A sample representing 50% of the study population was drawn from the register of the Finnish Medical Association. For this study, we analyzed the cohort of respondents who graduated 2−11 years before each survey (n = 11 638) (Table 1).

The Ethics Committee of the University of Turku stated that, according to the guidelines by the Finnish National Advisory Board on Research Ethics, an ethical pre-evaluation for this type of research is not necessary. Participants have given their informed consent as a mandatory part of the survey.

We studied the question of "To what extent did the prospect of a high-paying profession influence your decision to apply to medical school?" on a five-step ordinal scale (1 = not at all, 2 = slightly, 3 = a fair amount, 4 = considerably, 5 = very much). Other motivational aspects studied included e.g. vocation, interest in people, status of the profession, and interest in research.[4]

Physicians' professional development plans were studied with the question of intentions to specialize or to apply to scientific postgraduate education. Respondents were divided into three groups according to the stage of specialization (specialist, specializing, not specialist or not specializing) and the stage of doctoral research (PhD, working on doctoral thesis, not PhD or not working on doctoral thesis) (Appendix 1). The relationship between motivation for applying to medical school and professional or scientific postgraduate education was studied with ordinal logistic regression.

Statistical Analysis

Descriptive statistics of variables and cross-tabulations were performed. The non-parametric Mann-Whitney U-test was used to test differences in the ordinal variable between two independent groups.

Variations in the ordinal variable were analyzed using ordinal logistic regression, which can be used to model an order-scale variable without the assumption of scale equivalency.[13] The ordinal dependent variable was a motivation to apply to medical school due to the prospect of high-paying profession. The independent variables were the survey year and the respondent's gender. The interaction effect between survey year and gender was examined.

The relationship between motivation for applying to medical school and professional or scientific postgraduate education was studied with ordinal logistic regression model.

The stage of specialization (specialist, specializing, other) and doctoral research status (PhD, working on a doctoral thesis, other) were analyzed separately. In both models, the independent variables were the influence of 'a high-paying profession' on applying to medical school, the survey year and the respondent's gender.

Odds ratios (OR) and their confidence intervals (CI) are reported for the models. Interactions between variables were tested, and statistically significant interactions are reported. Proportional odds assumption was tested and model sensitivity analysis was performed. The analyses were conducted using IBM SPSS Statistics, version 29. The reporting of this study conforms to the STROBE statement (Supplemental material).[14]

Results

The prospect of a high-paying profession influenced the motivation for applying to medical school very much for 8% of respondents (varying between 5%–14% in different study years), considerably for 39% (33%–45%), a fair amount for 34% (30%–40%), slightly for 13% (9%–15%), and not at all for 6% (3%–9%). A total of 60 respondents (0.5%) did not answer the question.

The significance of a high-paying profession in applying to medical school was at its highest level in 2023 (*very much or considerably* 57%) and lowest in 2008 (*very much or considerably* 40%) (Figure 1). The level decreased between 1993 and 1998 (Mann-Whitney U test $P < .01$) and between 2003 and 2008 ($P < .01$). The level increased between 1998 and 2003 ($P = .04$) and between 2018 and 2023 ($P < .01$).

Men emphasized a high-paying profession more than women (U test $P < .01$). For men, it was more often very much or considerably important (59% vs women 46%), while among women, the proportion of those who had selected no importance, or slightly (19%) was higher than among men (10%). Information about gender was missing for 93 respondents (0.8%).

The importance of a high-paying profession in applying to medical school was more likely in 2023 (Table 2) compared to other years. Emphasizing high-paying profession was more likely for men than women, although the difference narrowed significantly in 1998. The proportional odds assumption was met for data of each individual year except for 2013 and dataset in total. In model sensitivity analysis, ordinal logistic models were run separately for each year.

Table 1. Sample Size, Number of Respondents by Year of Graduation, and Response Rate in the Doctor Survey Sub-Dataset from 1988 to 2023.

Year	Sample (N)	Year of Graduation	Number of Respondents	Response Rate (%)
1988	2632	1977–1986	1718	66
1993	2332	1982–1991	1771	78
1998	2492	1987–1996	1795	73
2003	2415	1992–2001	1521	64
2008	2401	1997–2006	1198	50
2013	2978	2002–2011	1177	40
2018	3148	2007–2016	1233	39
2023	2889	2012–2021	1225	42
Total	21 287	1977–2021	11 638	55

Table 2. The Association Between Gender and Study Year with Choosing Medicine Due to the Prospect of a High-Paying Profession Was Examined. The Explanatory Variables in the Ordinal Logistic Regression Model Were Gender and Study Year. The Table Presents the Odds Ratios of Statistically Significant Interactions.

Variable	N	Odds Ratio	95% CI	*P*
Main effect of gender				
Female	7338	1.00		
Male	4149	1.67	1.35–2.07	<.01
Main effect of year				
1988	1711	0.74	0.61–0.88	<.01
1993	1760	0.74	0.62–0.88	<.01
1998	1790	0.62	0.52–0.73	<.01
2003	1513	0.67	0.56–0.80	<.01
2008	1190	0.50	0.42–0.60	<.01
2013	1171	0.52	0.43–0.63	<.01
2018	1223	0.58	0.49–0.70	<.01
2023	1220	1.00		
Interaction				
Male*1998		0.74	0.56–0.99	.04

N = 11 578.

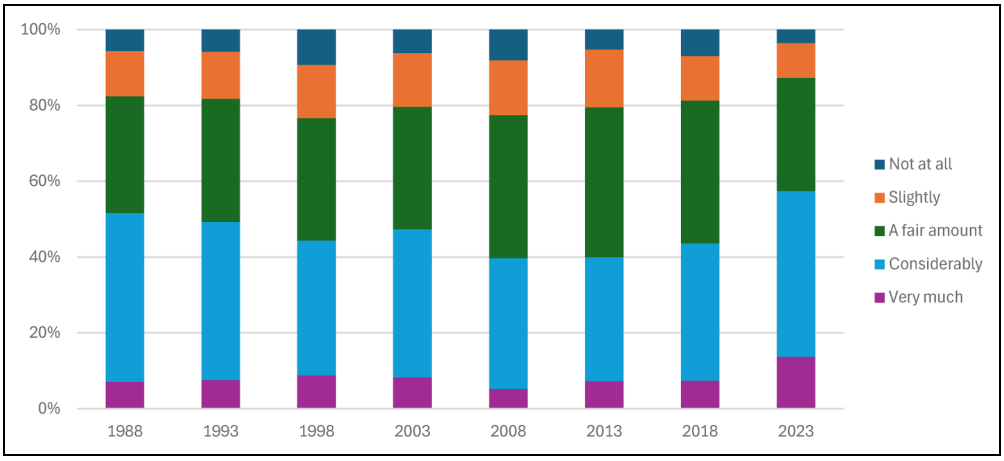

Figure 1. The importance of high-paying profession as a motive for applying medical school, 1988 to 2023.

Table 3. The Association Between Specialization and Emphasizing High-Paying Profession as a Motive for Applying to Medical School Was Examined. The Explanatory Variables in the Ordinal Logistic Regression Model Were High-Paying Profession, Year, and Gender. The Table Presents the Odds Ratios for Statistically Significant Interactions.

Variable	N	Odds Ratio	95% CI	*P*
Main effect of gender				
Female	7285	1.00		
Male	4134	1.58	1.47–1.70	<.01
Main effect of year				
1988	1706	0.28	0.17–0.48	<.01
1993	1754	0.28	0.17–0.46	<.01
1998	1776	0.34	0.21–0.56	<.01
2003	1506	0.59	0.35–1.00	.05
2008	1180	0.53	0.31–0.91	.02
2013	1145	0.96	0.55–1.67	.87
2018	1220	0.95	0.55–1.64	.85
2023	1219	1.00		
Main effect of High-paying profession		0.88	0.78–0.98	.02
Interaction				
1993*High-paying profession		1.29	1.12–1.49	<.01
1998* High-paying profession		1.18	1.03–1.35	.02
2003* High-paying profession		1.18	1.02–1.36	.03
2008* High-paying profession		1.24	1.07–1.45	.01

N = 11 506.

These models were robust and produced similar results as reported in Table 2.

Respondents who graduated as specialists during the study period considered a high-paying profession to be a more important motivator for applying to medical school (U test $P < .01$) than those who were in specialist training at the time of the survey. Among specialists, high-paying profession was very much or considerably important for 49% (vs those in specializing 45%), while among specializing respondents, the proportion of those who considered it not at all important or only slightly important (20%) was higher than among specialists (17%). Information about the specialization status was missing for 77 respondents (0.7%).

Emphasizing high-paying profession in applying to medical school decreased the likelihood of specialization (OR 0.88; 95% CI 0.78–0.98) (Table 3). In 2023, specialization was generally more likely compared to 1988, 1993, 1998, and 2008. The probability of specialization within 2–11 years after graduating as a physician was higher for men when compared to women (OR 1.58; 95% CI 1.47–1.70).

When examining the combined effect of survey year and motivation to study medicine for a high-paying profession on specialization, it was found that in 1993, 1998, 2003, and 2008, the effect of high-paying profession on specialization was weaker compared to 2023. There was no statistically significant difference in the annual effect of a high-paying profession in 1988, 2013, or 2018 compared to 2023. Proportional odds assumption was met for the data of each individual year except for 2013 and 2018 and for the overall dataset. Model sensitivity analysis was run separately for each year. In analyses of individual year, motivation for high-paying profession increased likelihood of specialization in 1993–2008 but decreased it in 1988 and 2013–2023. However, the odds ratio for high-paying profession reached statistical significance ($P < .05$) in single-year models only for 1993 and 2013.

Table 4. Association Between Scientific Postgraduate Education and Emphasizing High-Paying Profession as a Motive for Applying to Medical School Was Examined. Explanatory Variables in the Ordinal Logistic Regression Model Were High-Paying Profession, Year, and Gender. The Table Presents the Odds Ratios for Statistically Significant Interactions.

Variable	N	Odds Ratio	95% CI	*P*
Main effect of gender				
Female	7144	1.00		
Male	4084	1.67	1.53–1.82	<.01
Main effect of year				
1988	1704	0.57	0.47–0.68	<.01
1993	1745	0.72	0.61–0.85	<.01
1998	1761	1.07	0.91–1.26	.43
2003	1366	1.32	1.11–1.56	<.01
2008	1164	1.31	1.09–1.56	<.01
2013	1139	1.23	1.03–1.48	.02
2018	1221	1.03	0.86–1.23	.78
2023	1211	1.00		
Main effect of high-paying profession		0.93	0.89–0.97	<.01

N = 11 311.

Emphasizing the prospect of a high-paying profession in applying to medical school decreased the likelihood of scientific postgraduate education (OR 0.93; 95% CI 0.89–0.97) (Table 4). For physicians working on their doctoral thesis, the importance of a high-paying profession was less pronounced than among respondents who had not yet started their doctoral work or did not intend to pursue it (U test $P = .02$). Among those having their PhD, 45% reported that a high-paying profession was a very much or considerably important in their decision to apply to medical school, while 44% of those pursuing their thesis and 48% of other respondents reported the same. Information on doctoral status was missing for 271 respondents (2%).

Having completed doctoral degree or conducting doctoral research was less likely in 2023 compared to 1988 and 1993, and more likely in 2003, 2008, and 2013 compared to 2023 (Table 4). Emphasizing a high-paying profession as a motivation for applying to medical school decreased the likelihood of pursuing scientific postgraduate education, whereas male gender increased it. When modelling the outcome of having a PhD or conducting doctoral research, no statistically significant interactions were found between gender or year of study with a prospect of high-paying profession. Proportional odds assumption was met for data of 1988 and from 1998 to 2013. Sensitivity analysis of the model was conducted separately for each year. In analyses of single-year data, high-paying profession significantly decreased likelihood of scientific postgraduate education ($P < .05$) in 1988, 1998 and 2018.

Discussion

The significance of a high-paying profession in applying to medical school has varied significantly from 1988 to 2023,

particularly increasing in 2023. According to previous studies, a high-paying profession is a more important motivation for men than for women.[11] However, the motivation gap between genders narrowed during the recession of the 1990s and grew again after the doctors' strike in 2001.

The aim of undergraduate medical education is to train physicians for primary healthcare. However, the goal should also be to graduate specialists in primary healthcare as well as in hospital specialties. Thus, specialization in family medicine is strongly recommended.

In Finland, public health care has suffered from a shortage of physicians, even though the number of admissions to medical school has increased by 37% since 2012.[4] In our study, high-paying profession increased likelihood to specialize in 1993−2008 and decreased it in 1988 and 2013−2023. In economically good times, there are many well-paid job opportunities available to physicians in the private sector. Previously, part-time private practice in Finland was held by specialists who were also employed in public healthcare and had academic credentials. Currently, it is possible to start a well-paying day job in the private sector without professional or scientific postgraduate education. This may attract younger generations who value work-life balance.[11,15,16]

Working conditions in the private sector, such as remote consultations and temporary jobs, offer more attractive short-term earning opportunities compared to the less paid 5- to 6-year-long postgraduate education and the burdensome on-call duties in specialized healthcare, which offer only a limited possibility to work-life balance.[3] It is challenging to resolve this contradiction in other ways than by improving the working conditions in specialization training.

Scientific postgraduate education promotes career development in hospital specialties and increases income.[17,18] The decrease in scientific postgraduate education may be due to reduced research funding[19] or time management requirements. Based on our research, it may also be influenced by the motivation for applying to medical school. The attractiveness of an academic career partly ensures the high quality of undergraduate medical education. Academically qualified physicians: clinical teachers and professors, are, alongside with research work, responsible for undergraduate medical education in Finland.

The strengths of our study include a large dataset, a good response rate, and a long time span of data collection.[20,21] Also, the data represents a well-defined sample. One limitation is that the data was collected solely through a questionnaire (Appendix 2). Since we did not have other variables measuring the same issue, there is a possibility of information bias arising during the measurement or interpretation of the data. The responses reflect the interpretation of the situation at the time of answering. All respondents in this study graduated between 2 and 11 years before each survey year, making the recall of motivations credible, although personal differences in memory do exist. However, based on previous studies, memories related to significant events can be reliable.[22–24] Shortly after graduation, women are more typically on family leave, which may cause bias in assessing the intention to specialize. Also, the impact of specialization on income may differ in short-term and long-term examinations.

The most important factors influencing the choice of specialty are the diversity of the specialty and how it aligns with one's skills and personality traits.[6] Since personal skills and personality significantly influence the choice of specialization, it is essential to consider the motivations of the students selected, rather than just increase the number of admissions.

A growing emphasis on income among applicants for medical school may increase the shortage of specialists and reduce the number of physicians engaging in scientific research.

Conclusion

The importance of a high-paying profession as a motivator for applying to medical school has increased recently and may be one of the factors reducing further education, although this can also be explained by changes of working conditions in healthcare, earning opportunities, or the overall economic situation. The shortage of specialists can increase, and scientific postgraduate education can decrease if an even larger part of applicants is motivated by the prospect of a high-paying profession.

Acknowledgements

None.

ORCID iDs

Leila Niemi-Murola https://orcid.org/0000-0003-1214-6747
Piitu Parmanne https://orcid.org/0009-0003-5303-4597
Heli Halava https://orcid.org/0009-0000-3595-5665

Author Contribution

HH, LNM and PP wrote the manuscript. PP conducted statistical analysis and HH, LNM and PP interpreted and further analyzed the data. All co-authors commented on the manuscript and approved the last version.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Data Availability Statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Supplemental Material

Supplemental material for this article is available online.

References

1. Holzer BM, Ramuz O, Minder CE, Zimmerli L. Motivation and personality factors of Generation Z high school students aspiring to study human medicine. *BMC Med Educ.* 2022;22:31. doi:10.1186/s12909-021-03099-4
2. Ho C, Hu W, Griffin B. Cultures of success: how elite students develop and realize aspirations to study medicine. *Aust Educ Res*. 2023;50:1127-1147. doi:10.1007/s13384-022-00548-x
3. Halava H, Parmanne P, Mattila P, et al. Vocation and employment opportunities increase physicians' satisfaction with their

profession (in Finnish with English summary). *Suom Lääkäril*. 2024;79:e42460. www.laakarilehti.fi/e42460
4. Halava H, Parmanne P, Halila H, et al. Physician 2023 – Questionnaire for physicians licensed in 2012–2021 (in Finnish with English summary). http://urn.fi/URN:ISBN:978-952-00-6868-4
5. Education Statistics Vipunen Finland. https://vipunen.fi/en-gb/
6. Heikkilä TJ, Hyppölä H, Vänskä J, et al. Factors important in the choice of a medical career: a Finnish national study. *BMC Med Educ*. 2015;15:169. doi:10.1186/s12909-015-0451-x
7. Jaehn M, Hissbach J, Frickhoeffer M, et al. Predictive validity of admission tests and educational attainment on preclinical academic performance – a multisite study. *BMC Med Educ.* 2025;25:1255. doi:10.1186/s12909-025-07974-2
8. Schripsema NR, van Trigt AM, van der Wal MA, Cohen-Schotanus J. How different medical school selection processes call upon different personality characteristics. *PLoS One*. 2016;11(3):e0150645. doi:10.1371/journal.pone.0150645
9. Patterson F, Cleland J, Cousans F. Selection methods in healthcare professions: where are we now and where next? *Adv in Health Sci Educ*. 2017;22:229-242. doi: 10.1007/s10459-017-9752-7
10. Rellman J, Ruokonen H, Pietilä M, et al. Medical and dental specialist situation and need for training until 2035. http://urn.fi/URN:ISBN:978-952-00-5395-6
11. Mattila P, Hyppölä H, Heikkilä T, et al. Team players and helpers – describing professional identity among Finnish physicians in a cross-sectional study. *BMC Med Educ*. 2024;24:304. doi:10.1186/s12909-024-05268-7
12. Maiorova T, Stevens F, Scherpbier A, van der Zee J. The impact of clerkships on students' specialty preferences: what do undergraduates learn for their profession? *Med Educ*. 2008;42:554-562. doi:10.1111/j.1365-2923.2008.03008.x
13. Agresti A. *Analysis of Ordinal Categorical Data*. 2nd ed. Wiley; 2010.
14. Strobe Checklists - STROBE.
15. Aiken LH, Lasater KB, Sloane DM, et al. Physician and nurse well-being and preferred interventions to address burnout in hospital practice. Factors associated with turnover, outcomes, and patient safety. *JAMA Health Forum*. 2023;4(7):e231809. doi:10.1001/jamahealthforum.2023.1809
16. Wey Smola K, Sutton CD. Generational differences: revisiting generational work values for the new millennium. *J Organ Behav*. 2002;23:363-382. doi:10.1002/job.147
17. Gäddnäs N, Keränen H. Laman jäljet yhä näkyvissä Suomen työmarkkinoilla. https://talouspolitiikanarviointineuvosto.fi/wp-content/uploads/2023/01/Background-Report-4-Beveridge-Henri-Keranen.pdf
18. Russo G, Silva TJ, Gassasse Z, Filippon J, Rotulo A, Kondilis E. The impact of economic recessions on health workers: a systematic review and best-fit framework synthesis of the evidence from the last 50 years. *Health Policy Plan*. 2021;36:542-551. doi:10.1093/heapol/czaa180
19. Ministry of Finance in Finland proposes EUR 40 million reduction in research funding (in Finnish). https://www.aka.fi/tietoa-suomen-akatemiasta/ajankohtaista/tiedotteet-ja-uutiset/2021/vmn-budjettiesitys-40-miljoonan-euron-leikkaus-tutkimusrahoitukseen/
20. Cook JV, Dickinson HO, Eccles MP. Response rates in postal surveys of healthcare professionals between 1996 and 2005: an observational study. *BMC Health Serv Res*. 2009;9:160. doi:10.1186/1472-6963-9-160
21. Lambert TW, Smith F, Goldacre MJ. Career specialty choices of UK medical graduates of 2015 compared with earlier cohorts: questionnaire surveys. *Postgrad Med J*. 2018;94:191-197. doi:10.1136/postgradmedj-2017-135309
22. McLeod CC, Klabunde CN, Willis GB, Stark D. Health care provider surveys in the United States, 2000-2010: a review. *Eval Health Prof*. 2013;36:106-126. doi:10.1177/0163278712474001
23. McGaugh JL. Making lasting memories: remembering the significant. *Proc Natl Acad Sci USA*. 2013;110:10402-7. doi:10.1073/pnas.1301209110
24. Diamond NB, Armson MJ, Levine B. The truth is out there: accuracy in recall of verifiable real-world events. *Psychol Sci*. 2020;31:1544-1556. doi:10.1177/0956797620954812