Attitudes of psychiatrists towards people with mental illness: a cross-sectional, multicentre study of stigma in 32 European countries

Dorottya Őri,[a,b,*] Péter Szocsics,[c] Tamás Molnár,[d] Lucie Bankovska Motlova,[e] Olga Kazakova,[f] Sabrina Mörkl,[g] Michael Wallies,[h] Mohamed Abdulhakim,[i] Sylvie Boivin,[j] Krista Bruna,[k] Carolina Cabaços,[l,m,n] Elvira Anna Carbone,[o] Elona Dashi,[p] Giovanni Grech,[q] Stjepan Greguras,[r] Iva Ivanovic,[s] Kaloyan Guevara,[t] Selay Kakar,[u] Konstantinos Kotsis,[v] Ida Maria Ingeholm Klinkby,[w] Jovana Maslak,[x] Shevonne Matheiken,[y] Ana Mirkovic,[z] Nikita Nechepurenko,[aa] Angelis Panayi,[ab] Ana Telma Pereira,[m,n] Edith Pomarol-Clotet,[ac,ad] Shaeraine Raaj,[ae] Polona Rus Prelog,[af] Joan Soler-Vidal,[ac,ad,ag] Robertas Strumila,[ah,ai,aj] Florian Schuster,[ak] Helena Kisand,[al] Ann Reim,[al] Gumru Ahmadova,[am] Matus Vircik,[an] Helin Yilmaz Kafali,[ao] Natalia Grinko,[ap] Zsuzsa Győrffy,[a,ar] and Sándor Rózsa[aq,ar]

[a]Institute of Behavioural Sciences, Semmelweis University, Budapest, Hungary
[b]Department of Mental Health, Heim Pál National Pediatric Institute, Budapest, Hungary
[c]Department of Psychiatry and Psychotherapy, Semmelweis University, Budapest, Hungary
[d]Department of Psychiatry, Aladar Petz County Teaching Hospital, Győr, Hungary
[e]Division of Medical Psychology, 3rd Faculty of Medicine, Charles University, Prague, The Czech Republic
[f]Inpatient Psychiatric Department #2, Psychiatric Clinic of Minsk City, Minsk, Belarus
[g]Division of Medical Psychology, Psychosomatics and Psychotherapeutic Medicine, Medical University of Graz, Graz, Austria
[h]Therapie auf Augenhoehe, Buelach, Switzerland
[i]Department of Psychiatry, Vrije Universiteit Brussel, Brussels, Belgium
[j]Department of Child and Adolescent Psychiatry, EPSM du Finistère Sud, Quimper, France
[k]Admission Ward, State Psychiatric Hospital Gintermuiza, Jelgava, Latvia
[l]Psychiatry Department, Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal
[m]Institute of Psychological Medicine, Faculty of Medicine, Coimbra University, Coimbra, Portugal
[n]Coimbra Institute for Biomedical Imaging and Translational Research, Coimbra, Portugal
[o]Department of Medical and Surgical Sciences, University Magna Græcia of Catanzaro, Catanzaro, Italy
[p]Department of Neuroscience, University Hospital Center "Mother Theresa", Tirane, Albania
[q]Mental Health Services, Mount Carmel Hospital, Attard, Malta
[r]Division of Child and Adolescent Psychiatry and Psychotherapy, Department of Psychiatry and Psychological Medicine, University Hospital Centre Zagreb, Zagreb, Croatia
[s]Department for Child Psychiatry, Institute for Children's Diseases, Clinical Centre of Montenegro, Podgorica, Montenegro
[t]Acute Detoxification Ward, State Psychiatric Hospital for Treatment of Drug Addiction and Alcoholism, Sofia, Bulgaria
[u]Department of Psychiatry, Erasmus University Medical Center, Rotterdam, the Netherlands
[v]Department of Psychiatry, University of Ioannina, Ioannina, Greece
[w]Department of Child and Adolescent Psychiatry, Capital Region of Denmark, Copenhagen, Denmark
[x]Department of Mental Health, Belgrade, Serbia
[y]Pennine Care NHS Foundation Trust, Oldham, United Kingdom
[z]Child Psychiatry Unit, University Children's Hospital, University Medical Centre Ljubljana, Ljubljana, Slovenia
[aa]The Serbsky State Scientific Center for Social and Forensic Psychiatry, Moscow, Russian Federation
[ab]Freelancer, Larnaca, Cyprus
[ac]FIDMAG Germanes Hospitalàries Research Foundation, Barcelona, Spain
[ad]Centro de Investigacion Biomedica en Red de Salud Mental, Instituto de Salud Carlos III, Barcelona, Spain
[ae]Department of General Adult Psychiatry, South Meath Mental Health Service, Co.Meath, Ireland
[af]Centre for Clinical Psychiatry, University Psychiatric Clinic Ljubljana, Ljubljana, Slovenia
[ag]Hospital Benito Menni, Complex Assistencial Salut Mental, Sant Boi de Llobregat, Spain
[ah]Department of Urgent and Post Urgent Psychiatry, CHU Montpellier, Montpellier, France
[ai]Institute of Functional Genomics, University of Montpellier, CNRS, INSERM, Montpellier, France
[aj]Psychiatric Clinic, Faculty of Medicine, Institute of Clinical Medicine, Vilnius University, Vilnius, Lithuania
[ak]Klinikum Rechts der Isar der Technischen Universität München: Klinik und Poliklinik für Psychiatrie und Psychotherapie, Technische Universität München, Munich, Germany
[al]University of Tartu, Tartu, Estonia
[am]Department of Psychiatry, United City Hospital N15, Baku, Azerbaijan

*Corresponding author. Institute of Behavioural Sciences, Semmelweis University, Budapest, Hungary.
E-mail address: oridorottya@gmail.com (D. Őri).
[ar]These authors contributed equally.

[an]Acute Psychiatric Department 1, Psychiatric Hospital Michalovce, Michalovce, Slovak Republic
[ao]Department of Psychology, Fevziye School Fundatitions, Işık University, Istanbul, Turkey
[ap]Department of Clinical Psychology, Ukrainian Catholic University, Lviv, Ukraine
[aq]Department of Personality and Health Psychology, Károli Gáspár University of the Reformed Church, Budapest, Hungary

Summary

Background Mental health-related stigma occurs among the public and professionals alike. The lived experience of mental illness has been linked to less stigmatising attitudes. However, data on psychiatrists and the relationship between stigmatising attitudes and psychotherapeutic activity or case discussion groups remains scarce.

Methods A cross-sectional multicentre study was performed in 32 European countries to investigate the lived experiences and attitudes of psychiatrists toward patients with mental illness as well as the relationship between stigma, psychosocial and professional factors. The self-reported, anonymous, internet-based Opening Minds Stigma Scale for Health Care Providers was used to measure the stigmatising attitudes. The survey was translated into the local language of each participating country. All participants were practising specialists and trainees in general adult or child and adolescent psychiatry. The study took place between 2nd October, 2019 and 9th July, 2021 and was preregistered at ClinicalTrial.gov (NCT04644978).

Findings A total of 4245 psychiatrists completed the survey. The majority, 2797 (66%), had completed training in psychiatry, and 3320 (78%) worked in adult psychiatry. The final regression model showed that across European countries more favourable attitudes toward people with mental illness were statistically significantly associated with the lived experience of participants (including seeking help for their own mental health conditions ($d = -0.92$, 95% confidence interval (CI) = -1.68 to -0.15, $p = 0.019$), receiving medical treatment for a mental illness ($d = -0.88$, 95% CI = -1.71 to -0.04, $p = 0.040$), as well as having a friend or a family member similarly affected ($d = -0.68$, 95% CI = -1.14 to -0.22, $p = 0.004$)), being surrounded by colleagues who are less stigmatising ($d = -0.98$, 95% CI = -1.26 to -0.70, $p < 0.001$), providing psychotherapy to patients ($d = -1.14$, 95% CI = -1.63 to -0.65 $p < 0.001$), and being open to ($d = -1.69$, 95% CI = -2.53 to -0.85, $p < 0.001$) and actively participating in ($d = -0.94$, 95% CI = -1.45 to -0.42, $p < 0.001$) case discussion, supervision, or Balint groups.

Interpretation Our study highlights the importance of psychotherapy training, supervision, case discussions and Balint groups in reducing the stigmatising attitudes of psychiatrists toward patients. As the findings represent cross-national predictors, Europe-wide policy interventions, national psychiatric education systems and the management of psychiatric institutions should take these findings into consideration.

Introduction

Stigmatisation and discrimination against people with mental illness remain a persistent concern in everyday life and when seeking medical help.[1,2] It is increasingly recognised that people with mental illness experience stigma from health care staff, which results in poorer physical and mental health for the affected person.[3] Moreover, perceptions of stigma at the start of treatment have an impact on the future willingness to seek help and adhere to treatment, leading to unfavourable clinical outcomes.[4] Furthermore, stigmatisation impairs quality of life, including decreased self-esteem and limited social opportunities.[5] It also reduces life expectancy and acts as a predictor of internalised stigma and the consequent disempowerment of the person.[6] When physicians hold stigmatising attitudes, it can significantly affect their interactions with patients, the care they provide, and ultimately, the well-being and recovery of individuals with mental illness.[7] For these reasons, combating stigma in health-care is of utmost importance. Mental health providers, including psychiatrists, are in a privileged position as people with mental health illness turn to them for help, relief, and understanding; however, they can also be sources of stigma.[3] Few investigations have been conducted on the stigmatising attitudes of psychiatrists, and even fewer on

factors that influence their attitudes, which help understand who is most affected and may be worth targeting with anti-stigma programs. The lived experience of mental health illness is one of the factors that is usually associated with more favourable attitudes. In fact, in two recent studies, psychiatrists diagnosed with or treated for any kind of psychiatric disorder exhibited significantly less stigmatising attitudes than those who did not suffer from mental illness.[8,9] However, this is not supported universally, as in one study, lifetime help-seeking behaviour was associated with an increase in negative stereotypes, but getting treatment for a psychiatric condition was not significantly associated with stigma.[10] Psychiatrists who had regular contact with people with mental illness in their community showed more favourable attitudes toward them.[8,11] However, a large study among psychiatrists showed that close relationships or frequent contact with affected family members could result in more stigma than infrequent contact.[11]

Burnout and the demand for personal accomplishment have also been found to be predictors of stigma among psychiatrists[8]; thus, supportive opportunities such as case discussion groups, supervision, or intervision, may also affect stigmatising attitudes. Balint groups are relationship-centred approaches that help view a case from multiple perspectives, delivering a more profound understanding of the emotional content. Participation in such groups has a beneficial effect on the doctor-patient relationship while improving burnout and effectively increasing communication skills.[12]

There are only a handful of studies in the literature on the stigmatising attitudes of psychiatrists toward patients. Thus far, no multicentre study has investigated this issue by using the same measurement tool. For this reason, we aimed to investigate mental health-related stigma in a sample of practising psychiatrists in 32 European countries. First, we sought to assess the lived experiences of participants with mental health conditions, including their own experiences and experiences in their close contacts. On the basis of the current literature, we hypothesised that the lived experience of professionals and participation in case discussions and supervision or Balint groups would be associated with more favourable attitudes toward people with mental illness. We measured the stigma using the Opening Minds Stigma Scale for Health Care Providers, which includes the attitude of participants towards individuals with mental illness, their social distance preferences, and their willingness to seek help for their own mental illness.

Methods
Study overview
This was a cross-sectional, multicentre study that used an anonymous online survey designed to measure the stigmatising attitudes of trainees and specialists in adult, as well as in child and adolescent psychiatry across Europe. The study took place between October 2, 2019 and July 9, 2021 at the institutes listed below: Semmelweis University Institute of Behavioural Sciences, Budapest, Hungary; Research Unit for Child and

Adolescent Psychiatry, Psychiatry- Aalborg University Hospital, Aalborg, Denmark; Vilnius University, Facutly of Medicine, Psychaitric Clinic, Vilnius, Lithuania; Department of Psychiatry and Psychotherapeutic Medicine, Medical University of Graz, Graz, Austria; Ankara City Hospital Bilkent, Ankara, Turkey; Xhavit Gjata Hospital, Tirane, Albania; City Hospital N15, Baku, Azerbaijan; Bukovian State Medical University, Chernivtsi, Ukraine; Children's hospital Ljubljana, Ljubljana, Slovenia; Centre for Clinical Psychiatry, University Psychiatric Clinic Ljubljana, Ljubljana, Slovenia; University Hospital Centre Zagreb, Zagreb, Croatia; Institute for Mental Health, Belgrade, Serbia; The Serbsky State Scientific Center for Social and Frensic Psychiatry, Moscow, Russia; University of Tartu, Tartu, Estonia; EPSM Étienne Gourmelen, Quimper, France, 3rd Faculty of Medicine, Charles University, Prague, Czech Republic; Department of Liasion Psychiatry, Mater University Hospital, Dublin, Ireland; Department of Psychiatry, Faculty of Medicine, School of Health Sciences, University of Ioannina, Ioannina, Greece; Clinical Centre of Montenegro, Podgorica, Montenegro; Psychiatric Hospital Michalovce, Michalovce, Slovakia; Psychiatric Hospital Gintermuiza, Jelgava, Latvia; Mount Carmel Hospital, Attard, Malta; Military Medical Academy, Department of Psychiatry, Sofia, Bulgaria; Psychiatric Clinic of Minsk City, Minsk, Belarus; University Magna Graecia of Catanzaro, Catanzaro, Italy; Psychiatrische Klinik Clienia Littenheid, Sirnach, Switzerland; Institute of Psychological Medicine, Faculty of Medicine of University of Coimbra, Coimbra, Portugal; Klinikum rechts der Isar der Technischen Universität München, München, Germany; Erasmus University, Rotterdam, Netherlands; Pennine Care NHS Foundation Trust, Oldham, United Kingdom; Vrije Universiteit Brussel, Brussels, Belgium; and FIDMAG Germanes Hospitalàries Research Foundation, Barcelona, Spain. All surveys were translated into the local language of the country by two forward- and one back-translation to ensure accessibility to everyone and avoid English language proficiency bias. In multilingual countries, such as Belgium and Switzerland, surveys were used both in Flemish and French, as well as German, French, and Italian. The translation procedure and methods are described in more detail in the article on the psychometric properties of the scale.[13]

In each participating country, a dedicated psychiatrist investigator undertook the following activities: 1. provided the number of adult and child psychiatrists practising in the given country from official registers (if non existing in the country, estimated numbers were provided), 2. contacted the local research ethics committee and submitted the study protocol for review according to the local regulations, 3. arranged for the survey questions to be translated in the local language(s), and 4. enrolled local child and adult psychiatrists in the study by providing the link to the questionnaire to the national

psychiatric associations and the association of psychiatric trainees, so that all practising practitioners could be reached. The survey link was also shared through social media platforms to enhance reachability. The first page of the survey described the aims and asked for informed consent to participate. Medical student status and not working as a psychiatrist were exclusion criteria.

Ethics
The study was preregistered at ClinicalTrial.gov (NCT04644978) and conducted in accordance with the principles of the Declaration of Helsinki. Prior to the enrolment, all participants provided their informed consent via the online survey. The Hungarian core study was approved by the Regional and Institutional Committee of Science and Research Ethics of the Semmelweis University, Budapest, Hungary (SE-RKEB: 189/2019). The ethics revision process for online survey projects was required in the following countries based on the written statement of the local investigators. Albania: Albanian Medical Ethics Committee (Nr. 303/13). Austria: Ethics Committee of the Medical University of Graz (32-619 ex 19/20). Belarus: Ethical Committee of the Belarusian Psychiatric Association (1/2020), Belgium: Ethics committee of the University Hospital Brussels (2021/011), Croatia: Ethics Committee of the University Hospital Center Zagreb (8.1.-21/120-2, 02/21 JG), Cyprus: Cyprus National Bioethics Committee (2020.01.172.), the Czech Republic: The Ethical Committee of the Third Medical Faculty, Charles University (11/2020), Estonia: Tartu University Ethics Committee, Tartu, Estonia (322/T-9), Germany: Ethikkommission der Technischen Universität München (679/20 S), Greece: University of Ioannina, (2638/16-7-2020), Ireland: Royal College of Physicians of Ireland Research Ethics Committee (RCPI RECSAF 134), Malta: Health Ethics Committee (HEC13/2020) the Netherlands: Medical Ethics Review Committee of Erasmus Medical Center (MEC-2021-0151), Portugal: Ethical Committee of the Faculty of Medicine, University of Coimbra (CE-136/2020), Serbia: Ethics Committee of the Institute of Mental Health, Belgrade (1060/2094/1), Turkey: Research Ethics Committee of the Ministry of Health Ankara City Hospital (E1/928/2020), and the United Kingdom: Pennine Care NHS Foundation Trust Research & Innovation Department (100,524).

Measures
The following information was gathered using direct questions: 1. sociodemographic data: age range, gender; 2. professional data: years of experience in psychiatry, qualification status (trainee or specialist), field of psychiatry (child or adult), type (Inpatient hospital, Psychiatric outpatient service, Other outpatient service where psychiatric patients are also treated, Day-care service, Exclusively private practice, I do not work in patient

care, Other) and location of workplace, active psychotherapeutic practice (yes or no), attitude of close colleagues (response options were: not at all, to small extent, to some extent, to great extent stigmatising); 3. lived experience: friends or family members with mental illness, lifetime help-seeking behavior related to own mental health conditions, participation in psychotherapy for any reason, and medical treatment for any psychiatric problems (yes or no answer choices), hours spent in psychotherapy (open-ended question result in a continuous variable); 4. attitudes toward and accessibility of case discussion, supervision or Balint groups for the professionals (yes or no answer choies). For lived experience-related questions, prefer not to answer was an answer choice. Those who chose this answer were excluded from the analyses.

Choice of the primary measure
Developed for evaluating anti-stigma programs for health-care workers, the Opening Minds Stigma Scale for Health Care Providers (OMS-HC) is a widely used self-report measure of stigmatising attitudes. It is a 15-item questionnaire describing feelings and opinions about people with mental illness on a 5-point Likert scale from "strongly disagree" to "strongly agree".[14] Based on the results of exploratory factor analysis, the total score sums up the overall stigmatising attitudes of participants, and three subscales measure the following dimensions: Attitude (for example, "Despite my professional beliefs, I have negative reactions towards people who have mental illness."), Disclosure and help-seeking (e.g., "I would see myself as weak if I had a mental illness and could not fix it myself."), and Social distance (e.g., "I would still go to a physician if I knew that the physician had been treated for a mental illness.").[14] The total score ranges between 15 and 75 points. Higher scores indicate a more stigmatising attitude.

Before interpreting the study results, the psychometric properties of the OMS-HC were investigated in all participating countries by conducting a series of confirmatory factor analyses to examine the model fit of the possible unidimensional, correlated factor and the bifactor exploratory structural equation models.[13] The latter approach yielded the best-fitting model in each country, providing us with a hierarchical structure of the scale with a general factor (total score) and three specific factors (Attitude, Disclosure and help-seeking, and Social distance).[13] The model fit was excellent or acceptable in the majority of the countries (29/32 countries had RMSEA <0.08, CFI >0.90). As the model-based reliability was good for the general factor and the specific disclosure and help-seeking factor of the scale, the total score and the disclosure and help-seeking subscale scores were recommended for further usage. The model validation failed in Albania and on the Swiss-French and Swiss-Italian samples due to negative covariance matrices, and the fit indices were found to be poor in

Azerbaijan and Slovakia. Therefore, we excluded these countries from the regression analysis.

Statistical analysis
Sample sizes (n) and percentages (%) were used to express sociodemographic data. Scores are indicated by standard deviations. Independent samples t-test was used to compare two groups, and analysis of variance was used for more than two groups. Effect sizes were measured by Cohen's d and eta-squared (η^2). To investigate how personal and professional factors affect stigmatising attitudes we chose the 2-step meta-analytical multilevel approach that enables the exploration of cross-national variation in the relationship between individual-level variables and cross-level interactions.[15] There is no clear guidance in the literature regarding the required minimum number of groups to avoid biased estimates of random parameter variances that can occur even if the group sizes are large,[16,17] however, the literature suggests having a minimum of 10–50 groups.[18] The two-step exploratory approach serves as an alternative to multilevel modeling when the number of level-2 units (countries) is small. It assigns weights to country data to ensure that the analysis is not dominated by large countries and does not overlook smaller countries.[15] Moreover, in instances when there are only a few countries, metaregression approaches accurately determine the statistical significance of an effect.[15] These characteristics render the method well-suited for examining the country-level variables that could clarify cross-national differences in relationships of interest.

As a first step, we performed separate linear regression models with enter method for each country leading to the development of 29 models with similar specifications. The outcome variable was the total OMS-HC score, and the explanatory variables were the sociodemographic data, professional data, lived experience, and attitudes toward case discussion groups. In the next step, we conducted meta-analyses on the set of country-specific estimates for each variable using mixed-effects analysis with the restricted maximum likelihood method. This analytic method is considered an appropriate assumption in most country-effect studies and allows a more balanced weighting between studies.[19] Additionally, the random effect separates real differences in the effect of the predictor on the outcome from chance-related sampling variability.[15] The results are expressed as p-values and 95% confidence intervals. Statistical significance was reported at p < 0.05. All metaregression analyses were performed in JASP (0.17.3.0.)[20] and SPSS software (IMB Corporation 26.0.0.0) was used for the linear regression model and other statistical analyses.

Role of the funding source

It had no role in designing, collecting, analysing or interpreting data, in preparing this report, or in deciding to submit it for publication. The article processing charge was covered by the Semmelweis University, Budapest. All authors had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Results

The combined sample (n = 4245) consisted of practising general adult and child and adolescent psychiatrists from 32 European countries. Table 1 shows the characteristics of the sample by country, including the estimated total number of practitioners per country. Of the respondents, 63% reported having a close friend or family member with mental illness, 39% had sought help for their own mental health conditions, and nearly one in four psychiatrists (23%) had ever received medical treatment for a mental illness (see Table 2, for data broken down by gender and age see Supplementary Material (S1)).

Table 3 presents the total scores by country, as well as the scores for Attitude, Disclosure and help-seeking, and Social distance. The average total score for each country is shown on a map in Fig. 1 as well. We did not include the results of Albania, Azerbaijan, and Slovakia, as well as the Swiss French and Swiss Italian samples neither in Table 3 and Fig. 1, nor the subsequent analyses due to the different factor structure of the stigma scale. For separate reporting of the OMS-HC scores by gender and age, see Supplementary Material (S2 and S3).

Country	n Total number of psychiatrists in the country	n Enrolled participants (%)	n Males (%)	n Females (%)	n Adult psychiatrists (%)	n young professionals between 24 and 35 years of age (%)	n participants work in inpatient services (%)
Albania	83	59 (71.1)	16 (27.1)	43 (72.9)	35 (59.3)	30 (50.8)	44 (74.6)
Austria	2532	133 (5.3)	51 (38.3)	81 (61.4)	125 (94.0)	33 (24.8)	93 (69.9)
Azerbaijan	314	35 (11.1)	6 (17.1)	29 (82.9)	29 (82.9)	31 (88.6)	13 (37.1)
Belarus	1090	319 (29.3)	93 (29.2)	224 (70.7)	289 (90.6)	193 (60.5)	104 (32.6)
Belgium	2698	106 (3.9)	38 (35.8)	68 (64.2)	77 (72.6)	63 (59.4)	60 (56.6)
Bulgaria	430	65 (15.1)	28 (43.1)	37 (56.9)	57 (87.5)	27 (41.5)	43 (66.2)
Croatia	710	87 (12.3)	22 (25.3)	65 (74.7)	58 (66.7)	37 (42.5)	43 (49.4)
Cyprus	92	43 (46.7)	15 (34.9)	28 (65.1)	35 (81.4)	13 (30.2)	13 (30.2)
the Czech Republic	998	222 (22.2)	79 (35.6)	142 (64.3)	191 (86.0)	71 (32.0)	119 (53.6)
Denmark	1574	199 (12.6)	50 (25.1)	148 (74.7)	137 (68.8)	60 (30.2)	73 (36.7)
Estonia	368	60 (16.3)	19 (31.7)	41 (68.3)	49 (81.7)	24 (40.0)	35 (58.3)
France	17,333	196 (1.1)	68 (34.7)	127 (65.1)	134 (68.4)	87 (44.4)	78 (39.8)
Germany	20,317	132 (0.6)	52 (39.4)	80 (60.6)	129 (97.7)	40 (30.3)	80 (60.6)
Greece	2348	154 (6.6)	55 (35.7)	96 (63.6)	46 (29.9)	17 (11.0)	27 (17.5)
Hungary	972	211 (21.7)	50 (23.7)	161 (76.3)	135 (64.0)	114 (54.0)	139 (65.9)
Ireland	322	75 (23.3)	32 (42.7)	38 (54.3)	59 (78.7)	43 (57.3)	31 (41.3)
Italy	9150	170 (1.9)	71 (41.8)	98 (58.0)	141 (82.9)	69 (40.6)	74 (43.5)
Latvia	312	101 (32.4)	27 (26.7)	74 (73.3)	90 (89.1)	46 (45.5)	97 (66.3)
Lithuania	839	77 (9.2)	15 (19.5)	61 (80.3)	63 (81.8)	27 (35.1)	37 (48.1)
Malta	58	44 (75.9)	19 (43.2)	24 (55.8)	38 (86.4)	26 (59.1)	21 (47.7)
Montenegro	65	35 (53.8)	11 (31.4)	24 (68.6)	33 (94.3)	6 (17.1)	23 (65.7)
the Netherlands	4517	170 (3.8)	45 (26.5)	124 (73.4)	128 (75.3)	50 (29.4)	36 (21.2)
Portugal	1393	148 (10.6)	34 (23.0)	114 (77.0)	122 (82.4)	106 (71.6)	57 (38.5)
Russia	16,000	206 (1.3)	86 (41.7)	116 (57.4)	188 (91.3)	152 (73.8)	113 (54.9)
Serbia	210	52 (24.8)	14 (26.9)	37 (72.5)	44 (84.6)	25 (48.1)	30 (57.7)
Slovakia	830	77 (9.3)	21 (27.3)	55 (72.4)	54 (70.1)	34 (44.2)	48 (62.3)
Slovenia	389	90 (23.1)	18 (20.0)	72 (80.0)	59 (65.6)	45 (50.0)	63 (70.0)
Spain	5600	159 (2.8)	53 (33.3)	106 (66.7)	138 (86.8)	38 (23.9)	54 (34.0)
Switzerland	6045	453 (7.5)	194 (42.8)	259 (57.2)	387 (85.4)	163 (36.0)	154 (34.0)
Turkey	4450	146 (3.3)	47 (32.2)	97 (67.4)	58 (39.7)	91 (62.3)	11 (7.5)
Ukraine	3258	52 (1.6)	5 (9.6)	45 (90)	45 (86.5)	26 (50.0)	29 (55.8)
the United Kingdom	8256	169 (2.0)	55 (32.5)	112 (67.1)	147 (87.0)	69 (40.8)	72 (42.6)
Total	113,111	4245 (3.8)	1389 (32.7)	2826 (66.6)	3320 (78.2)	1856 (43.7)	1884 (44.4)

The total number of psychiatrists in each country is the sum of the number of specialists and trainees in general adult psychiatry as well as child and adolescent psychiatry (and, where appropriate, in older age and forensic psychiatry). The numbers are provided based on official registers, and estimated numbers are given for countries where there are no adequate registers of such data.

Table 1: Characteristics of participants in the study samples in each country.

Variables	Total	
	n	%
Having friends or family members with a mental illness		
Yes	2677	63
No	1368	32
I do not know	199	5
Ever sought help for their own mental health conditions		
Yes	1659	39
No	2478	58
Prefer not to answer	108	3
Ever been participating in psychotherapy for any reason		
Yes	1571	37
No	2595	61
Prefer not to answer	79	2
Ever been medically treated for a mental illness		
Yes	953	23
No	3196	75
Prefer not to answer	96	2

Table 2: Lived experience of the participants with mental illness.

Statistically significant differences were found in the total score of the OMS-HC between males and females (p = 0.007, Cohen's d = 0.088), as well as among age ranges (p = 0.022, η^2 = 0.003); however, the effect sizes were very small. The skewness and kurtosis of the OMS-HC total score were 0.379 and 0.278, respectively,

suggesting that the distribution of the data can be considered as Gaussian.

To investigate the relationship between the total scores of the OMS-HC and the characteristics of the sample, a two-step metanalytical approach was performed. As shown in the final regression model in Table 4, the following variables showed statistically significant association with more favourable attitudes: age ranges, providing psychotherapy to patients, working together with less stigmatising colleagues, spending more hours a day caring for patients, never experiencing discrimination for working as a psychiatrist, having ever sought help for any mental health condition of their own, having friends or family members with mental illness, being open to and having a possibility to attend supervision, case discussion, or Balint-groups. The openness to participation in case discussion groups and the current psychotherapeutic activity scored the highest among the variables.

Discussion

This study expands on the neglected area of stigmatising attitudes of psychiatrists toward people with mental illness, and draws attention to the fact that mental health professionals could also be affected by mental illness and develop stigmatising views. We presented the main findings of a European survey study on stigma among psychiatrists in 32 countries.

Fig. 1: Total score of the Opening Minds Stigma Scale for Health Care Providers for each participating country.

Country	Language	Total score		Attitude		Disclosure and help-seeking		Social distance	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Austria	German	27.83	6.35	9.74	2.68	9.27	2.76	8.82	2.40
Belarus	Russian	35.01	6.91	12.50	3.20	11.31	2.83	11.20	3.17
Belgium	Belgian French	28.16	6.44	8.74	2.13	11.05	3.41	8.37	2.73
	Flemish	27.93	5.30	10.25	2.49	9.89	2.46	7.79	2.25
Bulgaria	Bulgarian	33.09	6.93	12.22	3.51	10.75	2.93	10.12	3.05
Croatia	Croatian	31.48	6.29	11.72	2.83	9.82	2.48	9.94	2.51
Cyprus	Cypriot Greek	28.60	5.98	10.40	2.41	8.86	2.07	9.35	2.79
the Czech Republic	Czech	32.82	5.93	12.41	2.91	10.25	2.55	10.16	2.43
Denmark	Danish	28.46	6.30	10.54	3.03	9.43	2.78	8.49	2.48
Estonia	Estonian	29.44	5.69	11.31	2.63	8.98	2.43	9.15	2.47
France	French	28.92	6.07	9.29	2.63	10.52	2.82	9.12	2.95
Germany	German	29.00	6.08	10.30	2.59	9.63	2.91	9.08	2.36
Greece	Greek	30.55	6.27	11.23	3.05	8.88	2.36	10.44	2.67
Hungary	Hungarian	31.73	5.68	11.32	2.48	9.95	2.63	10.47	2.68
Ireland	English	28.79	7.98	10.12	4.19	10.37	2.99	8.29	2.78
Italy	Italian	31.99	7.23	12.30	3.05	9.11	2.32	10.58	3.20
Latvia	Latvian	35.98	5.83	13.27	2.76	11.00	2.29	11.71	2.90
Lithuania	Lithuanian	32.00	6.15	11.58	2.63	10.03	2.88	10.39	2.99
Malta	English	28.82	6.27	9.57	2.88	10.55	2.64	8.70	2.47
Montenegro	Montenegrin	27.26	4.14	10.94	2.35	7.51	1.69	8.80	1.71
the Netherlands	Dutch	27.39	5.48	9.52	2.69	10.01	2.54	7.86	2.45
Portugal	Portugal	32.47	6.86	11.32	3.00	10.73	2.86	10.42	3.24
Russia	Russian	27.98	5.93	11.60	2.95	7.48	2.12	8.90	2.72
Serbia	Serbian	31.73	5.46	12.82	3.13	8.94	2.23	9.97	2.16
Slovenia	Slovenian	27.90	5.15	10.30	2.50	8.91	2.35	8.69	2.45
Spain	Spanish	28.92	6.07	9.29	2.63	10.52	2.82	9.12	2.95
Switzerland	Swiss German	28.18	6.24	10.31	2.90	8.93	2.65	8.94	2.60
Turkey	Turkish	31.55	6.58	12.54	3.13	9.08	2.50	9.93	2.76
Ukraine	Ukrainian	35.02	5.64	12.31	3.18	11.08	2.46	11.63	2.67
the United Kingdom	English	27.54	6.85	9.73	3.15	9.99	3.26	7.82	2.64
Total	–	30.47	6.73	11.11	3.13	9.78	2.78	9.58	2.91

Table 3: **Total and subscale scores for participating countries.**

The scores appreciably show that most participating psychiatrists have a positive perception of people with mental illness, as the average total score of the sample was 30.47 ± 6.73, which is 40% of the maximum available. The average subscale scores were also in the lower half of the scoring range: 37% for attitude, 49% for disclosure and help-seeking, and 38% for social distancing. Similar to a Canadian study among health-care workers, it is also striking that psychiatrists may find it difficult to disclose mental illness and ask for help. In our sample, 39% had sought help, and 23% had ever received medical care for their own mental health conditions in their lifespan. These help-seeking rates are consistent with the results of a study of Brazilian psychiatrists conducted a decade ago, which found that 38% of participants (n = 1414) had sought help, and 25.3% had received a prescription for their own mental illness.[21] The results are somewhat higher than those of Canadian psychiatric residents, 33%

(n = 106) of whom reported a personal history of mental illness.[22]

We performed a two-step meta-analytic approach that is a suitable analytical method for cross-national comparative research and reliable in the analysis of nested data.[15] In the regression model, lived experience of mental illness including both own experience and experience in close contacts was significantly associated with less stigmatising attitudes toward people with mental illness (see Table 4). This is consistent with other research showing that personal history of mental illness or having friends or family members with such reduces mental health-related stigma.[23]

Stigma has several dimensions with various factors impacting one's stigmatising attitude. For example, monotonous work and increased clinical workload are key determinants for burnout,[24] which worsens stigma among mental health professionals and psychiatrists.[3,25] Despite this, our study shows that spending the majority

Variables	Coefficient	95% CI		p-value
		Lower bound	Upper bound	
Sociodemographic details				
Female gender	–0.33	–0.89	0.23	0.248
Age	**0.78**	0.20	1.35	**0.008**
Professional details				
Being a child psychiatrist rather than an adult psychiatrist	–0.19	–0.89	0.51	0.598
Being a specialist rather than a trainee	0.17	–0.58	0.91	0.660
Experience	–0.28	–0.57	0.00	0.051
Currently providing psychotherapy to patients	**–1.14**	–1.63	–0.65	**<0.001**
Working together with less stigmatising colleagues	**–0.98**	–1.26	–0.70	**<0.001**
Working with patients in a higher percentage of working hours	**–0.81**	–1.27	–0.35	**<0.001**
Have ever experienced negative discrimination for working as a psychiatrist	**0.54**	0.09	0.99	**0.019**
Lived experience				
Have ever sought help for their own mental health conditions	**–0.92**	–1.68	–0.15	**0.019**
Having friends or family members who are dealing with mental illness	**–0.68**	–1.14	–0.22	**0.004**
Have ever attended psychotherapy	0.14	–0.46	0.73	0.645
Hours spent in own psychotherapy	0	0	0	0.456
Have ever received medical treatment for a mental illness	**–0.88**	–1.71	–0.04	**0.040**
Attitudes toward case discussion groups				
Being open to case discussion, supervision, or Balint-groups	**–1.69**	–2.53	–0.85	**<0.001**
Having the possibility to participate in case discussion, supervision, or Balint-groups	**–0.94**	–1.45	–0.42	**<0.001**

CI: confidence interval. CIs were calculated based on the unstandardised beta estimates and their standard errors obtained from the results of the linear regression conducted in the first step of the two-step meta-analytical multilevel approach. Bold values indicate statistical significance at the p < 0.05 level.

Table 4: Results of meta-regression after running separate linear regressions using the data of each country for each variable.

of time working with patients, rather than other engagements, such as research, teaching etc., results in more favorable attitudes. As this provides more contact with people with mental illness, the health-care worker may have the chance to get to know their clients better. In fact, a Canadian qualitative study[26] found that focusing on the illness without understanding the person was associated with demeaning behaviour. Psychotherapists spend more time in clinical interactions, in addition to being able to identify unconscious biases and being empathic, which are crucial and essential skills to combat stigma in health care.[27]

In this study, less stigmatising attitudes of close colleagues, openness to and participation in case discussion groups, supervision, or Balint groups showed the strongest association with favourable attitudes. Stigmatisation in workplace culture is also an existing issue in health care; thus, those surrounded by accepting colleagues are more likely to disclose their mental illness at work.[27] An intervention study found that a significant reduction in the implicit stigma of health care professionals can be achieved by promoting conscious engagement, awareness, debriefing, and case discussions.[28] Our results are also in line with a large meta-analysis on burnout, in which good relationships at work and access to regular clinical supervision were found to be protective against stigma.[24] In contrast with the results of a large study of Brazilian psychiatrists[11] in

which sociodemographic (e.g., gender, age) and profession-related variables (e.g., being a specialist or trainee or being an adult or child psychiatrist) were not related to stigmatising attitudes, our metaregression model found that an association between higher age and more stigmatising attitudes. The literature seems to show mixed results regarding age, as Turkish psychiatry trainees were found to present more stigmatising attitudes compared to their senior colleagues.[8] The Turkish study also highlighted the importance of engagement in psychotherapy training to reduce stigma. It is also noteworthy that those who have ever experienced discrimination for working as a psychiatrist had higher stigma scores. Research shows that associative stigma among health professionals is related to burnout symptoms and the dissatisfaction of service users.[29] Additionally, as noted above, evidence suggests that burnout leads to more stigmatising attitudes.[25] A study conducted with 151 psychiatrist trainees in Belgium reported that the majority confirmed hearing derogatory or humiliating remarks about the profession and the perceived incompetence of psychiatrists.[30] The public image of psychiatry is mainly negative, and psychiatrists frequently face negative and disparaging remarks from other mental health professionals, from service users and their families and the mass media portrays them as ineffective and unhelpful.[31] Although psychiatry is considered to be a stigmatised profession, the

relationship between associative stigma and the attitudes towards patients has not yet been investigated among psychiatrists. Therefore, its investigation is a recommendation for future research. The available literature on psychiatrists is limited, despite the presence of mental health-related stigma among them. As Table 3 shows, the OMS-HC scores varied across different countries. We were interested in examining country-level data instead of solely relying on pooled sample analyses and investigating the relationship between stigma and cross-national factors. However, due to the limited representativeness of the sample, comparisons between countries were not possible. Nonetheless, it is well-known that the situation of psychiatrists varies from country to country. The excessive workload in certain areas, coupled with the underfunded and less-developed health care system, contribute to a significant burden on health care providers.[32] Albeit it is challenging to quantify stigma levels and impossible without representative samples from each country, according to a scoping review paper, stigma toward people with mental illness appears to be alarmingly high in Central and Eastern Europe.[32] Additional research is needed to measure stigma and understand what factors contribute to it in different countries and cultures that specific programs could target. Also, for future research investigating stigma towards certain groups (e.g., people with substance use disorders, personality disorders, or service users of forensic mental health care) could be valuable. As stigmatising attitudes are usually not monolithic, and even health care professionals who are generally non-stigmatising may hold stigmatising views toward particular groups. Although their attitudes toward people with mental illness appeared generally positive, tailoring anti-stigma interventions specifically for psychiatrists remains an important objective. The results of this study highlight the importance of participation in case discussion groups, training in psychotherapy and the use of its toolkit, or targeted reduction of stigma in workplace culture. As these findings present predictors that span multiple European nations, they could serve as targets for European policy interventions. In addition, it would be beneficial to introduce and/or enhance anti-stigma interventions in psychiatric training programs. Keeping these associations in mind could help us continue to work together toward a common goal: reducing the stigma surrounding mental illnesses.

Caution is needed when interpreting these results. First, despite all efforts in this study, it was not possible to obtain a nationally representative sample. We aimed to contact all practising psychiatrists in each country; for this reason, we also invited national psychiatric associations to disseminate the survey. However, this was impossible in many countries. In large countries, where there are thousands of psychiatrists, the results should be interpreted with the awareness that only a smaller

proportion of professionals were enrolled in the study. Out of 32 countries, 15 had less than a 10% response rate with 10 less than 5%. In addition, in some countries, small sample sizes caused by low response rates or the limited number of professionals in small countries could lead to insufficient statistical power for estimating patterns accurately. Thus, results from these countries should be interpreted cautiously. Moreover, the most senior colleagues and private practitioners were underrepresented in the sample. Therefore, the convenience sampling approach is a limitation of the study.

Unfortunately, we did not find investigators from Norway, Finland, and Moldova, and a few small countries in Europe. Moreover, Sweden, Poland, and Romania were excluded from the study due to the failure to complete data collection. Furthermore, reliability measures and the factor structure of the scale were examined in all participating countries; however, as reliability is population-specific, caution is also advised when comparing scores. Second, self-reported scales have the potential to introduce social desirability biases. Therefore, a clear indication of positive attitudes cannot be ignored in questionnaires, especially in online survey methodology. Moreover, as explicit stigma is considered morally reprehensible in this profession, being aware of this can have an effect on the answers as well. The level of bias might vary from country to country based on cultural norms. Furthermore, the self-inclusion of participants will have likely resulted in a strong selection bias, leading to lower stigma scores in countries where a smaller proportion of psychiatrists was sampled, and where stigma is less socially acceptable. Third, other components of stigma (e.g., self-stigma, discriminatory behaviour, and experienced stigma) were not measured. Fourth, the cross-sectional nature of the study prevents the identification of causal relationships that could be better elucidated by future longitudinal studies. A causal relationship cannot be proved in the regression model as the current study design is not suitable to distinguish between causes and consequences, e.g., we cannot decide whether these options improved the attitudes of the participants over time or those people who chose to participate in such who were less stigmatising. This could be a recommendation for future research. Finally, as most of the data were gathered during the COVID-19 era, healthcare workers were overworked, and we have no information on how the attitudes of psychiatrists would have been in the absence of these challenges. Although it is uncertain whether this substantially influenced their stigmatising beliefs, the overwhelming workload and stress caused by the pandemic may have affected their attitudes.[33] On the other hand, the major strength of this study is that the same measurement tool was used in all countries included in the study. Furthermore, this study is one of the few to investigate stigma among psychiatrists and,

to the best of our knowledge, the first extensive multicentre study in Europe and the sample size is the largest to date.

Having lived experience of mental illness, engagement in active psychotherapeutic practice, favourable attitudes of colleagues, and being open to and participating in case discussion groups, all showed statistically significant association with more favourable attitudes among psychiatrists across Europe. We encourage all psychiatrists to take advantage of case discussion groups and train themselves in psychotherapy to the benefit of their patients. In addition, it would be beneficial to incorporate such opportunities into psychiatric training programs and subsequently into daily practice and to consider anti-stigma initiatives to reduce stigma in the workplace culture.

Appendix A. Supplementary data
Supplementary data related to this article can be found at https://doi.org/10.1016/j.eclinm.2023.102342.

References
1 Thornicroft G, Sunkel C, Aliev AA, et al. The Lancet Commission on ending stigma and discrimination in mental health. *Lancet*. 2022;400(10361):1438–1480.
2 Schomerus G, Schindler S, Sander C, Baumann E, Angermeyer MC. Changes in mental illness stigma over 30 years–Improvement, persistence, or deterioration? *Eur Psychiatr*. 2022;65(1):e78.
3 Henderson C, Noblett J, Parke H, et al. Mental health-related stigma in health care and mental health-care settings. *Lancet Psychiatr*. 2014;1(6):467–482.
4 Sirey JA, Bruce ML, Alexopoulos GS, et al. Perceived stigma as a predictor of treatment discontinuation in young and older outpatients with depression. *Am J Psychiatr*. 2001;158(3):479–481.
5 Corrigan PW, Watson AC. Understanding the impact of stigma on people with mental illness. *World Psychiatr*. 2002;1(1):16.
6 Wang K, Link BG, Corrigan PW, Davidson L, Flanagan E. Perceived provider stigma as a predictor of mental health service users' internalized stigma and disempowerment. *Psychiatr Res*. 2018;259:526–531.
7 Link BG, Phelan JC. Stigma and its public health implications. *Lancet*. 2006;367(9509):528–529.

Articles

8   Yavuz KF, Nalbant A, Ulusoy S, Esen B, Burhan HS, Kara T. Burned out and avoided: Stigmatizing processes among psychiarists. *Psychiatr Danub*. 2020;32:463.

9   Őri D, Szocsics P, Molnár T, et al. Stigma towards mental illness and help-seeking behaviors among adult and child psychiatrists in Hungary: a cross-sectional study. *PLoS One*. 2022;17(6):e0269802.

10 Loch AA, Hengartner MP, Guarniero FB, et al. The more information, the more negative stigma towards schizophrenia: Brazilian general population and psychiatrists compared. *Psychiatr Res*. 2013;205(3):185–191.

11 da Silva AG, Loch AA, Leal VP, et al. Stigma toward individuals with mental disorders among Brazilian psychiatrists: a latent class analysis. *Braz J Psychiatry*. 2020;43:262 [AHEAD].

12 Yazdankhahfard M, Haghani F, Omid A. The Balint group and its application in medical education: a systematic review. *J Educ Health Promot*. 2019;8.

13 Őri D, Szocsics P, Molnár T, et al. Psychometric properties of the opening minds stigma scale for health care providers in 32 European countries–a bifactor ESEM representation. *Front Public Health*. 2023;11.

14 Modgill G, Patten SB, Knaak S, Kassam A, Szeto AC. Opening minds stigma scale for health care providers (OMS-HC): examination of psychometric properties and responsiveness. *BMC Psychiatr*. 2014;14(1):120.

15 Liefbroer AC, Zoutewelle-Terovan M. Meta-analysis and meta-regression: an alternative to multilevel analysis when the number of countries is small. In: *Social background and the demographic life course: cross-national comparisons*. Springer International Publishing Cham; 2021:101–123.

16 Hox JJ, Moerbeek M, Van de Schoot R. *Multilevel analysis: techniques and applications*. Routledge; 2017.

17 Raudenbush SW, Bryk AS. *Hierarchical linear models: applications and data analysis methods*. sage; 2002.

18 Bryan ML, Jenkins SP. Multilevel modelling of country effects: a cautionary tale. *Eur Socio Rev*. 2015;32(1):3–22.

19 Harbord RM, Higgins JP. Meta-regression in Stata. *STATA J*. 2008;8(4):493–519.

20 Team J. *JASP*; 2023 [Computer software] Version 0.17.3.

21 Loch AA, Guarniero FB, Lawson FL, et al. Stigma toward schizophrenia: do all psychiatrists behave the same? Latent profile analysis of a national sample of psychiatrists in Brazil. *BMC Psychiatr*. 2013;13(1):92.

22 Hassan T, Tran T, Doan N, et al. Attitudes of Canadian psychiatry residents if mentally ill: awareness, barriers to disclosure, and help-seeking preferences. *Can Med Educ J*. 2016;7(2):e14.

23 Eksteen H-C, Becker PJ, Lippi G. Stigmatization towards the mentally ill: perceptions of psychiatrists, pre-clinical and post-clinical rotation medical students. *Int J Soc Psychiatr*. 2017;63(8):782–791.

24 O'Connor K, Neff DM, Pitman S. Burnout in mental health professionals: a systematic review and meta-analysis of prevalence and determinants. *Eur Psychiatr*. 2018;53:74–99.

25 Solmi M, Granziol U, Danieli A, et al. Predictors of stigma in a sample of mental health professionals: network and moderator analysis on gender, years of experience, personality traits, and levels of burnout. *Eur Psychiatr*. 2020;63(1).

26 Knaak S, Patten S. A grounded theory model for reducing stigma in health professionals in Canada. *Acta Psychiatr Scand*. 2016;134:53–62.

27 Knaak S, Mantler E, Szeto A. *Mental illness-related stigma in health-care: barriers to access and care and evidence-based solutions. Healthcare management forum; 2017*. Los Angeles, CA: SAGE Publications Sage CA; 2017:111–116.

28 Sukhera J, Miller K, Scerbo C, Milne A, Lim R, Watling C. Implicit stigma recognition and management for health professionals. *Acad Psychiatr*. 2020;44(1):59–63.

29 Verhaeghe M, Bracke P. Associative stigma among mental health professionals: implications for professional and service user well-being. *J Health Soc Behav*. 2012;53(1):17–32.

30 Catthoor K, Hutsebaut J, Schrijvers D, De Hert M, Peuskens J, Sabbe B. Preliminary study of associative stigma among trainee psychiatrists in Flanders, Belgium. *World J Psychiatr*. 2014;4(3):62.

31 Sartorius N, Gaebel W, Cleveland H-R, et al. WPA guidance on how to combat stigmatization of psychiatry and psychiatrists. *World Psychiatr*. 2010;9(3):131.

32 Winkler P, Krupchanka D, Roberts T, et al. A blind spot on the global mental health map: a scoping review of 25 years' development of mental health care for people with severe mental illnesses in central and eastern Europe. *Lancet Psychiatr*. 2017;4(8):634–642.

33 Őri D, Molnár T, Szocsics P. Mental health-related stigma among psychiatrists in light of Covid-19. *Asian J Psychiatr*. 2021;58:102620.