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# Individual, interpersonal, and organisational factors associated with discrimination in medical decisions affecting people with a migration background with mental health problems: the case of general practice

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## ABSTRACT

**Objectives:** Although people with a migration background (MB) have more unmet mental health needs than the general population, patients with a MB are still underrepresented in mental health care services. Provider bias towards these patients has been evidenced repeatedly but its driving factors remain elusive. We assessed the moderating effect of the individual (e.g. age and ethnicity), interpersonal (e.g. healthcare provider trust), and organisational (e.g. perceived workload) factors on general practitioners (GPs) differential decision-making regarding diagnosis, treatment, and referral for a depressed patient with or without a MB.

**Design:** An experimental study was carried out in which GPs were shown one of two video vignettes featuring adult male depressed patients, one with a MB and the other without. Belgian GPs ( $n = 797$ , response rate was 13%) had to decide on their diagnosis, treatment, and referral. Analysis of variance and logistic regression were used to analyse the effect of a MB, adding interaction terms for the explanatory variables.

**Results:** Overall, we found that there were ethnic differences in GPs' decisions regarding diagnosis and treatment recommendations. GPs perceived the symptoms of the patient with a MB as less severe ( $F = 7.68$ ,  $p < 0.01$ ) and demonstrated a reduced likelihood to prescribe a combination of medical and non-medical treatments ( $F = 11.55$ ,  $p < 0.001$ ). Those differences increased in accordance with the GP's age and perceived workload; at an interpersonal level, we found that differences increased when the GP thought the patient was exaggerating his distress.

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Migrant; depression; ethnic minority; mental health; discrimination; bias

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**Conclusion:** This paper showed that lower levels of trust among GPs' towards their migrant patients and high GP workloads contribute to an increased ethnic bias in medical decision-making. This may perpetuate ethnic inequalities in mental health care. Future researchers should develop an intervention to decrease the ethnic inequities in mental health care by addressing GPs' trust in their migrant and ethnic minority patients.

## Introduction

Socioeconomic status partly explains why some migrant and ethnic minority (MEM) groups are at greater risk of mental illness. Ethnic disparities remain, however, even after adjusting for socio-economic factors (Bhui, Halvorsrud, and Nazroo 2018; Levecque and Van Rossem 2015). Racial and ethnic disparities in health care can be explained in several ways, including by the fact that health care professionals themselves contribute to racial and ethnic disparities. Previous studies have shown that general practitioners (GPs) often have an implicitly or explicitly unfavourable attitude toward MEM patients (Drewniak et al. 2016; Duveau et al. 2022; van Ryn et al. 2011). Although GPs' biases are part of the causal mechanism of unintentional discrimination in mental health care, few studies to date have investigated how such biases arise and how they influence GPs' decision-making (Ceuterick et al. 2020; Drewniak et al. 2016). Moreover, there is still little research focusing on healthcare providers' perspectives and their biases' impact on medical decisions in the field of mental health (National Academies Press and (NAP) 2004; Spencer and Grace 2016). As 'gatekeepers' who refer patients to mental health care, GPs play an important role in the identification and treatment of mental health problems and referral recommendations (Anjara et al. 2019; Bower and Gilbody 2005; Doorslaer, Koolman, and Jones 2004). Even unprejudiced GPs may face individual, interpersonal, or organisational conditions that result in discriminatory (e.g. unfair or unequal) decisions (Kite and Whitley 2016).

The literature also shows that mental health problems are often accompanied by stigma and discrimination, i.e. '*unfair inequalities in power, resources, capacities, and opportunities across racial or ethnic groups*' (Paradies et al. 2015). Stigmatisation and discrimination in turn have consequences associated with mental illness, such as decreasing a person's likelihood of seeking treatment when necessary, which creates a vicious circle (Clement et al. 2015; Mittal et al. 2020; Schunck, Reiss, and Razum 2015). Furthermore, people with a migration background (MB) are in double jeopardy because their prevalence of mental health problems such as depression, anxiety, and posttraumatic stress disorder (PTSD) is higher compared with people without a MB (Ekeberg and Abebe 2021; Missinne and Bracke 2012). In the context of this research, individuals with a migration background are defined as those who currently reside in a country different from their country of birth, or who have undergone a change in nationality to align with their present country of residence. Additionally, individuals with a MB encompasses those whose at least one parent entered the current country of residence as a migrant, as outlined by the United Nations (United Nations and EURO-STAT 2006).

### **Individual, interpersonal, and organisational factors**

Spencer and Grace (2016) identified different factors that contribute to discriminatory medical decisions: at (i) the *patient's level* (e.g. age, gender, and ethnicity), (ii) the *physician's level* (e.g. gender, ethnicity, experience, specialty, and implicit and explicit bias), (iii) the *interpersonal level* (e.g. ethnic discordance, i.e. a Moroccan patient who visits a Belgian GP, and interpersonal trust (Cooper et al. 2004; Moskowitz et al. 2011; Poma 2017)), and (iv) the *organisational level* (e.g. location and type of organisation, time pressure and workload, practice culture and frequency of contact with people with other cultural backgrounds (Stepanikova 2012)). The relationship between those factors and ethnic disparities in GPs' decisions has been demonstrated frequently in the United States (US) but very rarely elsewhere. In Europe, evidence of the factors associated with ethnic disparities in GP's medical decisions remains scarce despite the huge ethnic diversity of GPs' waiting rooms. Belgium, a European country, is a good case study because the prevalence of depression among those with a migration background, e.g. people with Moroccan or Turkish roots, is especially higher, as compared to other European countries (Levecque, Lodewyckx, and Bracke 2009; Missinne and Bracke 2012; Van Roy et al. 2018). It has been shown that discriminatory practices regarding the mental health of patients with a migration background are more prevalent in Belgium than in other European countries (Missinne and Bracke 2012). Even compared to other European countries (like France or Germany), Belgium has a long history of immigration and has experienced significant migratory flow. A first wave of migration from Morocco took place during the 1960s, at a time of shortage in the labour market. Subsequently, during the 1970s and 1980s, labour migrants gradually transitioned into more long-term residents, with their families opting to establish roots in the host country they had initially migrated to (Van Mol and De Valk 2016). Today, Moroccan communities constitute one of the most significant ethnic groups in Belgium. Morocco remains one of the primary countries of origin for people naturalised in Belgium, along with Romania, Poland, the UK, and Italy. However, in 2022, out of the 36,871 asylum seekers who arrived in the country, Moroccan populations were less represented, with a larger number of individuals originating from countries such as Afghanistan, Syria, Palestine, Burundi, and Eritrea. In 2023, nearly one-fifth of Belgium's population (19,7%) holds foreign nationalities as their first registered nationality, and up to 40% of the population of Brussels, the country's capital. (Statbel 2022b, 2022a). Migration is still an important issue today.

There is a need, therefore, to better understand which factors are associated with those discriminatory decisions (Clark et al. 1999). For instance, in the US, racial disparities based on the colour of people's skin have dominated the research agenda, whereas in Europe, the term 'race' has been superseded by 'ethnicity' (Afshari and Bhopal 2010). In Europe, ethnicity is mainly defined by a person's country of birth or ancestry and cultural differences such as language (Afshari and Bhopal 2010).

### **Aims**

This paper assessed the association between GPs' individual, interpersonal, and organisational factors and the differences between medical decisions affecting a depressed patient with or without a MB.

At the individual level, we hypothesised that the medical decisions of older male ethnically discordant GPs who more often placed the responsibility to adapt care on the person with a migration background would be more affected by the patients' migration background (Assari 2018; Duveau et al. 2022). At the interpersonal level, we hypothesised that GPs who were less trusting of the patient with a migration background would also make less favourable decisions (Moskowitz et al. 2011; Pugh et al. 2021). Finally, for the organisational factors, we hypothesised that decisions made by GPs with a heavier workload would be more affected by the patient's migration background because heavy workloads lead to shortcuts in the decision-making process (Lepièce et al. 2014).

## Methods

### *Study design*

A study with an experimental design, accompanied by an online survey, was carried out in Belgium. The online experiment, facilitated through Qualtrics®, featured a selection between two distinct staged video vignettes, allocated at random to participating GP respondents. The videos both showed a staged consultation with a GP and either a Belgian male patient or a male patient with a Moroccan migration background (Figure 1), both with symptoms of major depression (according to DSM-V criteria). The actor's Moroccan migration background was not explicitly specified; instead, we relied on visual cues to infer this information. Despite being fluent in the languages spoken in Belgium (French or Dutch), the actor exhibited a subtle foreign accent, indicative of a diverse migration background. The actor's appearance alone led GPs to infer that he likely had an ethnic background, potentially originating from Morocco. We chose to only have male actors in the videos because it has been shown that the sex of the patient may play a role in GPs' decision-making, especially with male patients (Scott, Shiell, and King 1996; M. van Ryn et al. 2006) and, secondly, because it would have doubled the total number of videos in the experiment and, given that GPs are a hard-to-reach population sample, we did not consider that to be feasible.



**Figure 1.** Patients played by actors in the video-vignettes in the survey.

The two videos and their written introductions were comparable in every way and can be accessed in Appendix 1. The script of the video was approved by an academic expert in experimental psychology and an advisory committee composed of two psychiatrists, two GPs, a psychiatric nurse, a psychologist, and an expert in culturally sensitive care. The video simulated a conversation between a GP and a patient who had come for a second consultation due to a persistent headache for which no physical cause had been identified. Full details of the design of the video vignette are provided elsewhere (Ceuterick et al. 2020). This study was carried out within the framework of the 'REMEDI' research project, which aimed to test empirically whether GPs unintentionally discriminate against patients with a migration background and with mental health problems. More details of the project methodology are provided elsewhere (Duveau et al. 2023).

GP respondents were invited to take part in an online survey on medical decisions involving mental health problems in primary care, but they were not aware that the principal purpose of the study was to assess the effect of the patients' migration background on the diagnosis and treatment of depression and referral to mental healthcare services.

The online survey collected participants' demographic characteristics and several individual and organisational factors.

### ***Individual and interpersonal factors***

At the individual level, we collected the GPs' age, sex (man or woman), and concordance of ethnic and migration backgrounds. The combination of the GP's birth country and that of their parents into a single variable enabled the classification of GPs into two distinct groups: those without a migration background (comprising GPs born in Belgium to parents of Belgian origin) and those with a migration background (including GPs born abroad themselves and/or having at least one parent born outside Belgium). The composite variable will be referred to as the 'GP's ethnicity'. We also collected GPs' explicit bias, which was assessed by measuring an explicit attitude of willingness to adapt care to diversity using the Hudelson scale (GPs were given a score ranging from 5, indicating that they placed the responsibility to adapt care on themselves, to 35, meaning that they placed the responsibility on the patient with a migration background) (33).

At the interpersonal level, we also wanted to test Allport's theory that the more contacts we have with outgroup members, the more they will trust them and the less prejudiced they will be towards them (Pettigrew et al. 2011). We asked the GPs how frequently they had contact with migration-background patients with mental health problems. This was assessed using a scale ranging from 1 (never) to 5 (every day).

Regarding the interpersonal factors, we computed an indicator of interpersonal trust by asking GPs to what extent they believed that the patient in the video exaggerated his pain/distress Burgess et al. (2008), made unreasonable demands (Moskowitz et al. 2011), and manipulated the visit to the GP for other purposes (Burgess et al. 2008), using a 5-point Likert scale ranging from 1 (very unlikely) to 5 (very likely). We then calculated the average of those three scores.

## **Organisational factors**

We hypothesise that overwhelmed GPs in solo practices would have less time and thus take more cognitive shortcuts, i.e. simplify decision-making in complex situations, and that their medical decisions would be more affected by the patient's migration background (Lepièce et al. 2014; Stepanikova 2012). We collected the type of practice (solo or group) in which the GPs spent more than 50% of their working time. We asked them whether their actual working hours matched their preferred working hours to assess their perceived workload, based on a validated scale (Kaldenberg and Becker 1992). The score for perceived workload ranged from -1 to +1 with -1 meaning that they had a light or normal workload and +1 meaning that they considered their workload to be high.

## **Outcome measures**

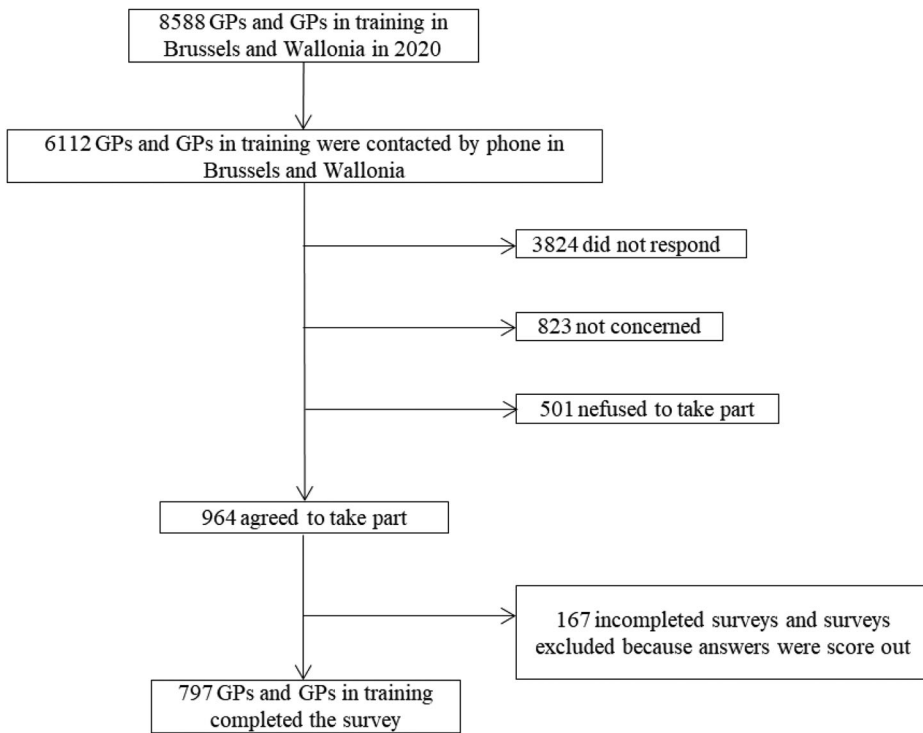
After the GPs watched one of the randomly allocated videos, we asked them several questions regarding the patient's diagnosis, the treatment they would have prescribed, and referral recommendations. These questions can be accessed in Appendix 2. Regarding the diagnosis, GPs had to choose up to three diagnoses from among the following: schizophrenia, bipolar disorder, depression, anxiety, post-traumatic stress disorder (PTSD), obsessive-compulsive disorder, symptomatic and related disorders, and sleep disorders. In this study, we have only presented the results for diagnosis of depression, anxiety, and PTSD, because the literature demonstrates that the prevalence of these three disorders is higher among patients with a migration background. We also asked GPs to assess the severity of the actor in the video's symptoms on a scale from zero (very minor) to 10 (very severe). Treatment and referral variables were assessed on a 4-point Likert scale ranging from 1 to 4, with 1 = not at all likely; 2 = unlikely; 3 = likely, and, 4 = very likely. We asked them how likely they would be to prescribe a medical treatment, a non-medical treatment, and a combination of both for the patient in the video. We asked them how likely they would be to refer him to mental health care services.

## **Study population**

GP participants were recruited by telephone in French-speaking Belgium between April 2021 and July 2021 ( $n = 6112$ ); we reached 2288 GPs, out of which we obtained informed consent to participate from 964. We only kept complete questionnaires with no scored-out answers, leaving us with 797 GP participants. Those who filled out the online survey to the end had a chance to win a €500 gift card. The survey's response rate was 13% (see Figure 2, which presents a flow chart of the GP participants in the survey).

The participating GPs were mainly women (63.5% of those who watched the video-vignette with the patient without a migration background and 64.5% of those who watched the video-vignette with the patient from a migration background), more than 70% were without a migration background, and roughly 45% were trainee GPs from Belgium's Dutch- and French-speaking communities. The average age of respondents was





**Figure 2.** Flow chart showing participation in the sample process.

about 38 years ( $\pm 15$ ). About half of the participants estimated their workload to be high and about 70% of participants worked in a group practice.

### **Statistical analyses**

Descriptive statistics were conducted to examine the distribution of our sample. Then, several chi-square tests were computed to ascertain that the 50–50 allocation of vignettes remained unaffected by GP characteristics. Additionally, these tests aimed to verify that the allocation process of video vignettes, facilitated by Qualtrics®, adhered to a random distribution of the GP respondents regardless of their characteristics. We then assessed the effect of the patients’ migration background on the GPs’ decisions using logistic regression for categorical variables, such as diagnosis, and an analysis of variance (ANOVA) for the continuous variables, such as the symptom severity and the likelihood to prescribe a treatment. Then, for medical decisions on which the patient’s migration background was found to have a significant effect ( $p$ -Value  $< 0.05$ ), a moderated multiple regression was run to test two-way interactions statistically by regressing a dependent variable  $Y$  (medical decisions) on the independent variable  $X$  (migration background), the moderator variable  $Z$  (individual/interpersonal/organisational factors) and the product (interaction) term of  $X$  and  $Z$  ( $XZ$ ; ‘migration background’ x ‘factors’). To do so, we tested the interaction effect, between migration background/ethnicity and each factor, on each medical decision. The results of the logistic regression provided estimates for PTSD diagnosis, while ANOVA analyses yielded estimates for both symptom severity



and the likelihood of prescribing medical and non-medical treatments. We also conducted a sensitivity analysis for the ‘frequency of contact with patients with a migration background’ variable.

Finally, we calculated the effect size of the actor’s ethnic background on medical decisions, using Cohen’s *d*. A Cohen’s *d* of 0.2 is considered as a small effect, 0.5 is a medium effect, and 0.8 is a large one. SAS 9.4 was used to perform all the statistical analyses.

**Table 1.** Sociodemographic description of the GP respondents according to the patient ethnicity in the video-vignette and statistical test on the random allocation of the video-vignette according to the patient ethnicity, Belgium, *n* = 797.

Respondents’ characteristic	Vignette of the patient without a migration background	Vignette of the patient with a migration background	Statistical test
	Mean (SD) <sup>a</sup> or %	Mean (SD) or %	F-test or $\chi^2$ ( <i>p</i> Value)
<b>GPs, n (%)</b>	400 (50.2)	397 (49.8)	
<b>Age</b> (range = 24–79), years	38.5 (14.9)	38.0 (14.7)	0.21 (0.665)
<b>Sex</b>			0.08 (0.77)
Men	36.5	35.5	
Women	63.5	64.5	
<b>Language</b>			0.02 (0.88)
French-speaker	70.0	69.5	
Dutch-speaker	30.0	30.5	
<b>GP’s ethnicity</b>			0.10 (0.75)
Without a MB (i.e. Belgian)	73.0	74.8	
With a MB (i.e. first or second-generation)	10.8	11.8	
<b>Licence status</b>			2.04 (0.15)
Licensed GPs	52.8	57.4	
GPs in training	47.2	42.6	
<b>Experience</b> (years)	12.3 (14.2)	11.9 (13.8)	0.15 (0.70)
<b>Working schedule</b>			2.07 (0.56)
Full time	88.3	84.9	
Half of normal working hours	3.7	5.3	
< Half of normal working hours	0.8	1.0	
Other	7.2	8.8	
<b>Perceived workload</b>			0.78 (0.38)
Light or normal	48.5	51.6	
High	51.5	48.4	
<b>Type of practice</b> (>50% of their working schedule)			2.23 (0.13)
Solo	32.5	27.6	
Group	67.5	72.4	
<b>Type of area</b>			0.95 (0.62)
Unknown	.	0.7	
Urban	11.2	12.3	
Sub-urban	26.0	28.0	
Rural	62.8	59.0	
<b>Frequency of contact with patients with migration background</b> (1: never to 5: everyday)	3.4 (1.4)	3.7 (1.3)	<b>9.36 (0.002)</b>
<b>Hudelson score</b> (5, 35)	21.3 (5.1)	20.9 (5.0)	1.02 (0.31)
<b>Cultural competence training</b>			0.10 (0.74)
No	79.8	80.7	
Yes	20.2	19.3	
<b>The patient exaggerates his distress</b> (1: not likely at all to 5: very likely)	2.3 (0.6)	2.2 (0.6)	0.97 (0.32)

<sup>a</sup>SD: Standard deviation.

## Ethics consideration and consent statement

On 24 February 2020, the study and its methodology were approved. Written informed consent was obtained from all participants.

## Results

Table 1 presents the GPs' characteristics according to the ethnicity of the patient in the video (means, standard deviation, and the statistical test on the allocation of the video). The allocation of the video to GPs was not biased towards any GP characteristics, except for the frequency of contact with patients with a migration background ( $F = 9.36$ ,  $p < 0.05$ ).

Interestingly, GPs who watched the vignette with the patient with a migration background reported more frequent contact with patients with a migration background. We believe that this was due to the salience of the ethnicity of the actor in the vignette, which worked as a trigger and brought his migration background to the fore.

Table 2 presents the results of medical decisions according to the ethnicity of the patient in the video vignette. Overall, we found that several medical decisions differed depending on the ethnicity of the patient in the vignette. We found no difference in depression diagnosis between the two vignettes ( $\chi^2 = 1.05$ ,  $p = 0.31$ ). We did, however, find that the prevalence of PTSD diagnosis was significantly higher for patients with a migration background (16.1% vs. 11% for patients without a MB,  $\chi^2 = 4.46$ ,  $p < 0.05$ ), alongside the diagnosis of depression, even though the two videos were similar in every way. The effect size of the patient's ethnicity on the diagnosis of PTSD was measured at 23.9%, indicating a small effect.

The symptoms severity assessment was quite high in both video vignettes. However, GPs systematically estimated the symptoms of patients with a migration background to be less severe than those without a migration background with a score of 7.79/10 and 7.53/10, respectively ( $F = 7.68$ ,  $p < 0.01$ ), corresponding to an effect size of 23%.

**Table 2.** GPs' diagnostic decisions, treatment, referral recommendations, and time spent on the vignette.

	Vignette of the patient without a migration background Mean (SD <sup>a</sup> ) or %	Vignette of the patient with a migration background Mean (SD) or %	Statistical test F-test or $\chi^2$ ( $p$ Value)
<b>Diagnosis</b>			
Depression, %	98.5	97.5	1.05 (0.31)
Anxiety, %	42.3	36.5	2.74 (0.10)
Post-traumatic Stress Disorder (PTSD), %	11.0	16.1	4.46 (0.04)
Severity of symptoms, /10	7.79 (1.03)	7.53 (1.18)	7.68 (0.006)
<b>Treatment (/4)</b>			
Medical	2.95 (0.66)	2.85 (0.75)	4.09 (0.04)
Non-medical	3.65 (0.61)	3.71 (0.58)	2.29 (0.13)
A combination of both	3.60 (0.60)	3.44 (0.65)	11.55 (<0.001)
<b>Referral (/4)</b>			
Likelihood of referral	3.26 (0.69)	3.31 (0.68)	0.95 (0.33)
MANOVA (F-test, $p$ Value) <sup>b</sup>	-	-	3.56 (<0.001)

<sup>a</sup>SD: Standard deviation

<sup>b</sup>MANOVA: Multivariate analysis of variance

**Table 3.** The effect of GPs' individual, interpersonal, and organizational factors on ethnic differences in mental health diagnosis, treatment, and referral recommendations, estimated coefficients from logistic regression and ANOVA.

Covariates	Diagnosis of PTSD (%Yes) <sup>a</sup>		Severity of symptoms (/10)		A combination of both treatments (/4) <sup>b</sup>	
	B <sup>c</sup>	CI <sub>95%</sub>	B	CI <sub>95%</sub>	B	CI <sub>95%</sub>
<b>Main effect</b>						
Age (10 years) <sup>d</sup>	<b>-0.05**</b>	<b>(-0.09, -0.02)</b>	0.09	(-0.03, 0.21)	<b>0.04***</b>	<b>(-0.00, 0.08)</b>
Women (ref = Men)	<b>0.74*</b>	<b>(0.01, 1.48)</b>	-0.13	(-0.39, 0.14)	0.02	(-0.12, 0.15)
GP's ethnicity (ref = Without a MB)	-0.63	(-1.60, 0.35)	0.21	(-0.19, 0.62)	-0.04	(-0.24, 0.17)
Perceived heavy workload (ref = Light)	<b>-0.81*</b>	<b>(-1.46, -0.14)</b>	<b>0.12*</b>	<b>(-0.45, 0.39)</b>	<b>0.12**</b>	<b>(-0.01, 0.24)</b>
Group practice (ref = Solo)	<b>0.99*</b>	<b>(0.16, 1.84)</b>	-0.08	(-0.34, 0.19)	<b>-0.13*</b>	<b>(-0.26, 0.01)</b>
Frequency of contact with patients with a migration background <sup>e</sup>	0.24	(-0.12, 0.60)	0.02	(-0.12, 0.16)	<b>-0.07***</b>	<b>(-0.14, -0.00)</b>
Hudelson score (5-35)	0.01	(-0.05, 0.07)	0.01	(-0.02, 0.03)	-0.00	(-0.02, 0.01)
Cultural competence training (ref = No)	<b>0.95**</b>	<b>(0.27, 1.62)</b>	-0.43	(-0.86, -0.00)	<b>-0.38***</b>	<b>(-0.55, -0.20)</b>
The patient exaggerates his distress <sup>f</sup>	<b>-0.83**</b>	<b>(-1.43, -0.24)</b>	<b>-0.19**</b>	<b>(-0.40, 0.03)</b>	0.10	(-0.02, 0.22)
<b>Interaction between patient with a migration background (ref = without a migration background) and:</b>						
Age (10 years) <sup>d</sup>	<b>0.04*</b>	<b>(0.00, 0.08)</b>	0.09	(-0.03, 0.21)	<b>0.06*</b>	<b>(-0.00, 0.12)</b>
Women (ref = Men)	-0.43	(-1.37, 0.51)	0.11	(-0.27, 0.49)	0.02	(-0.17, 0.21)
GP's ethnicity (ref = Without a MB)	-0.53	(-2.28, 1.23)	-0.26	(-0.08, 0.28)	<b>0.38*</b>	<b>(0.08, 0.66)</b>
Perceived heavy workload (ref = Light)	<b>0.88*</b>	<b>(0.04, 1.73)</b>	0.22	(-0.16, 0.59)	0.04	(-0.14, 0.22)
Group practice (ref = Solo)	-0.28	(-1.39, 0.82)	0.046	(-0.34, 0.43)	-0.01	(-0.21, 0.19)
Frequency of contact with patients with a migration background <sup>e</sup>	0.06	(-0.43, 0.56)	-0.09	(-0.29, 0.11)	-0.05	(-0.15, 0.08)
Hudelson score (5-35)	-0.03	(-0.11, 0.05)	-0.03	(-0.06, 0.001)	0.01	(-0.01, 0.03)
Cultural competence training (ref = No)	0.07	(-0.83, 0.97)	0.38	(-0.27, 1.04)	-0.00	(-0.26, 0.25)
The patient exaggerates his distress <sup>f</sup>	<b>4.15**</b>	<b>(0.40, 1.90)</b>	-0.11	(-0.42, 0.20)	-0.09	(-0.27, 0.09)

<sup>a</sup>: These estimated coefficients come from a logistic regression, while the other come from an ANOVA. <sup>b</sup>: 4-point Likert scale from 1: not at all likely to 4: very likely

<sup>c</sup>: bold coefficients have a significant *p* Value; \* means *p* Value < 0.05; \*\* means *p* Value < 0.01; \*\*\* means *p* Value < 0.001

<sup>d</sup>: Odds ratio associated with a 10-year increase in age

<sup>e</sup>: 1 = less than monthly to 3 = at least every week

<sup>f</sup>: 1 = not likely at all to 5 = extremely likely

GP respondents were overall in favour of prescribing a treatment to both patients in the vignette. However, GPs were more likely to prescribe medical treatment and to prescribe a combination of medical and non-medical treatment to the patient without a migration background ( $F = 4.09$ ,  $p < 0.05$  and  $F = 11.55$ ,  $p < 0.01$ , respectively). The effect size attributed to the actor's ethnicity stood at 26%, suggesting again a small effect of the patient's ethnicity on these medical decisions.

Table 3 indicates the results of the multivariate logistic/linear regression analyses with the effect of individual, interpersonal, and organisational factors on medical decisions and the effect of those factors on ethnic differences in medical decisions. We present

three medical decisions in [Table 3](#): the diagnosis of PTSD, the assessment of symptom severity, and the combination of medical and non-medical treatments.

Regarding the main effect of the individual factors, we found that being older decreased the likelihood to diagnose PTSD as a comorbidity of depression, but increased the likelihood to prescribe a combination of medical and non-medical treatment. Being a woman GP and having followed cultural competence training decreased the likelihood of being diagnosed with PTSD. At the organisational level, we found that the heavy perceived workload of GPs decreased the prevalence of PTSD, while a high workload increased the symptoms severity assessment and of prescribing a combination of treatments. The results also showed that working in a group practice increased the prevalence of PTSD while working in solo practice increased the likelihood to prescribe a combination of treatments.

At the interpersonal level, GPs who were distrustful of the patient were less likely to give a diagnosis of PTSD for the patient with a migration background and found the patient's symptoms to be less severe.

Regarding the interaction effects of these factors and ethnic background on medical decisions, we found that older and busy GPs and GPs with lower trust towards patients were more likely to give a diagnosis of PTSD for the patient with a migration background than for the patient without a migration background. Older GPs and ethnically discordant GPs were keener to prescribe a combination of medical and non-medical treatments to patient with a migration background. No significant moderation effect was found on the assessment of symptom severity according to the ethnicity of the patient.

The models were not controlled for the 'frequency of contact with migrant patients' variable because we attributed the significant association with the vignette to a methodology bias and the salience of the actor ethnicity. When, however, models were controlled for this variable (results not presented) in a sensitivity analysis (alternative model specification), we observed that the main effect of the 'type of practice' variable became non-significant in the diagnosis of PTSD. We also observed that the main effect of heavy perceived workload had become non-significant in treatment prescription.

## Discussion

### *Key findings*

This research aimed to identify individual, interpersonal, and organisational factors that moderate ethnic differences in GPs' diagnosis, treatment, and referral regarding of patients with mental health problems. We hypothesised that less trusting GPs with a heavier workload who more frequently placed the responsibility to adapt care to diversity on the patient with a migration background would make more unfavourable medical decisions affecting patients with a migration background. We also hypothesised that ethnically concordant GPs would make more favourable medical decisions affecting patients with a migration background.

This experimental study found evidence of ethnic differences in mental health care. The results showed that the patient with a migration background was more often diagnosed with PTSD, that GPs found that patient's mental illness to be less severe and that

GPs prescribed a combination of psychotherapy and medication less often for the patient with a migration background. Overall, we found a few variables that were associated with differences in medical decisions affecting a patient from a different ethnic background.

Older GPs were keener to diagnose the patient with a migration background with PTSD (as a comorbidity of depression) and were also more likely to prescribe a combination of medical and non-medical treatment to that patient. GPs who had a migration background were more likely to prescribe medical and non-medical treatment for patient with a migration background. Another interesting finding was that a high perceived workload and lower trust in the patient significantly increased the likelihood of GPs diagnosing the migration-background patient with PTSD. The results of this study did not, however, reveal any moderating factors associated with the symptom severity assessment for the patient with a migration background.

Despite the small effects size, the main findings corroborate those of previous studies, showing that there is a clear effect between ethnicity and medical decisions in mental health (Anderson et al. 2014; Balsa, McGuire, and Meredith 2005; Bas-Sarmiento et al. 2017; Delaruelle et al. 2021; Duveau et al. 2023). Most of these studies have evidenced provider bias in mental health care but few of them have explained why and how that bias arises. Our study attempted to explain that bias and found that the provider's perceived workload and trust in the patient had a strong effect, especially on PTSD diagnosis for the patient with a migration background.

### ***Individual, interpersonal, and organisational factors***

This paper investigated three groups of factors: who the GP is, their dyadic relationship with the patient, and how they are organised. Among the individual factors, we found that age and ethnic concordance had a significant effect on ethnic differences in medical decisions. As shown elsewhere, GPs' age and their experience have an impact on their beliefs and therefore on their decisions (Balsa, McGuire, and Meredith 2005).

In our study, older GPs were slightly more likely to be influenced by their cognitive shortcuts and to associate the patient's migration background with a diagnosis of PTSD as a comorbidity of depression. Younger GPs may be more sensitive to diversity and aware of their cognitive shortcuts; they are less likely to associate PTSD with a migration background (Hall et al. 2015). It is also possible that older GPs encounter more patients with a migration background with PTSD in their consultations. They might, therefore, automatically associate such patients with a higher prevalence of PTSD, as has been shown in a previous systematic review and meta-analysis (Amiri 2022). This mirrors other research that examined the impact of the provider's unconscious ethnic biases on the formulation of a differential diagnosis (Ashton et al. 2003). Taken together, these findings resonate with the broader concept of discrimination in mental healthcare. The automatic linkage between migration background and specific diagnoses, such as PTSD in this study, aligns with the larger body of research that highlights how preconceived notions, whether conscious or unconscious, can significantly shape medical interactions and outcomes (Drewniak et al. 2016; Lepièce et al. 2014; van Ryn et al. 2011). The potential influence of these biases underscores the imperative for continued efforts to address disparities in healthcare and tackle discriminatory practices perpetuating unequal treatment (Kapadia 2023; Spencer and Grace 2016).

Regarding the interpersonal factors, the level of trust expressed by GP respondents towards the patient did not exhibit variations based on the patient's ethnicity. However, this trust factor did play a role in elucidating the ethnic disparities in medical decision-making. This result was in line with those of Moskowitz et al. (2011), who underscored the significance of interpersonal trust between primary care providers and patients in clinical consultations and subsequent medical decisions (Moskowitz et al. 2011).

The evident ethnic variation in diagnoses might be related to the disease prestige hierarchy that GPs associate with mental illnesses. This phenomenon, discussed by Album, Johannessen, and Rasmussen (2017), underscores how the perceived prestige of various diseases can shape healthcare providers' attitudes. Depressive disorders, in particular, tend to occupy a lower position on the scale of disease prestige. This ranking places depressive disorders among the four-lowest-rated conditions, alongside fibromyalgia, anxiety disorders, and hepatocirrhosis (Album, Johannessen, and Rasmussen 2017). Furthermore, people with mental health problems often encounter stigmatisation from healthcare professionals, leading to double jeopardy for those with a migration background, as noted by previous studies (Clement et al. 2015; Mittal et al. 2020; Schunck, Reiss, and Razum 2015).

In light of these cumulative insights, it becomes apparent that concerted efforts and interventions are required to cultivate trust between GPs and patients with a migration background having a mental health disorder. We believe that delving into the qualitative aspect could yield a deeper understanding of GPs' discourse and relationship with patients, particularly those dealing with depression and who are from diverse migration backgrounds. Factors such as culture, language, and non-verbal cues and attitudes, not captured within the scope of our experimental survey, may significantly influence the GP-patient relationship (De Maesschalck, Deveugele, and Willems 2011).

At the organisational level, GPs with a heavier workload were less likely to diagnose the patient with a migration background with PTSD than the other patients. It can therefore be assumed that a heavier workload is partly responsible for the unintentional bias. Implicit bias may cause subtle changes in healthcare providers' behaviour, such as less frequent eye contact, shortened consultation times, or a lower likelihood of referral (Byrne and Tanesini 2015). Furthermore, it has been shown that some conscious strategies designed to reduce implicit bias activation are less effective in situations of high cognitive load (Byrne and Tanesini 2015). This is consistent with a systematic review which concluded that a balanced workload for GPs is an important prerequisite for establishing a beneficial relationship with patients, and thus making less discriminatory decisions (Busch et al. 2019). Finally, we believe that ethnically discriminatory practice is a dysfunctional way of coping with stress and that organisational measures should be taken to reduce GP workloads.

### ***Strengths and limitations***

The strength of this study is that it analyses differences in medical decisions using an experimental design that suppresses the confounding factors involving differences in patients' health status. That experimental design standardises symptom presentation, differing socioeconomic status, and insurance, to focus on GP decision-making (Kales

et al. 2005). We were able to control for differences in GPs' perceptions of PTSD diagnosis, in their assessment of symptom severity, and the prescribed treatment, according to the ethnicity of the patient.

One limitation of this study is the sample composition as it was mainly composed of young women working in group practices in rural areas. As a result, the magnitude of ethnic differences may have been underestimated as older male GPs are more prone to discriminatory practices. Further data collection might be required to include more "average 53-year-old GP" respondents working in a solo practice, who make up the majority of general practitioners in Belgium (PlanCad 2019). This selection bias, previously identified in a meta-analysis, underscores the tendency of trainees (e.g. younger GPs) to exhibit higher response rates compared to their non-trainee counterparts (e.g. older GPs), probably due to the greater accessibility of the internet for engaging online surveys (Wu, Zhao, and Fils-Aime 2022). Consequently, our study has exhibited an inclination towards younger GPs, potentially leading to an underrepresentation of the broader demographic of older GPs constituting Belgium's medical landscape.

Our modest response rates (13%) align with the results of a prior study on physicians which ranged from 10 to 13% (Taylor and Scott 2019). The higher proportion of female respondents within our sample may have contributed to an underestimation of the observed ethnic disparities. A study has shown that male trainee GPs tend to exhibit more explicit ethnic biases towards individuals with a migration background compared to their female counterparts (Duveau et al. 2022). Throughout the phase of data collection, certain GPs declined participation in the survey, citing reasons such as perceived irrelevance of the mental health topic or time constraints. This mirrors findings documented elsewhere (Taylor and Scott 2019) and offers valuable insights into its non-response to the survey. Theory suggests that older male GPs might harbour latent ethnic biases to a greater extent than their younger female counterparts towards patients with a migration background. However, our study does not allow conclusive determination in this regard. GPs who agreed to participate in our study potentially held predispositions towards these issues and might have displayed a heightened inclination towards mental health care compared to those who did not respond. This consideration underscores the necessity for replication of our study.

Another limitation is that we used staged video vignettes and an online survey to assess the GPs' management of migrant patients. The experimental design removed, or at least neutralised, the patient's context: his/her life story, frequency of eye contact with the GP, physical proximity, etc., as well as the GP-patient relationship, which constitutes a key element of mental health care in GPs' everyday practice (FitzGerald and Hurst 2017). Previous studies have demonstrated, however, that the use of video vignettes rather than written vignettes may increase the accuracy of the probability estimates made by GPs (Evans et al. 2015).

## Conclusion

This study expands our knowledge of the individual, interpersonal, and organisational factors that moderate ethnic differences in GPs' medical decisions relating to mental health disorders. This experiment identified explanatory factors of ethnic inequalities



in mental health care: the GP's workload and their level of trust in patients with a migration background. While previous studies have focused on patients' trust in GPs, this research can serve as a foundation for future interventions and studies aimed at improving GPs' trust in their patients with a migration background. Further research is also needed to identify which factors influence ethnic differences in GPs' assessment of symptom severity and treatment prescription.

Finally, we believe that this work contributes to a more complete understanding of the effect of GPs' trust in their patients and of heavy workloads on medical decisions, especially regarding PTSD diagnosis. Future research should investigate the role of GPs' trust and workload in more depth in order to develop an intervention to improve the quality of care for patients with a migration background and reduce ethnic disparities in mental health care.










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## Appendices

### Appendix 1: Video Vignettes in French and in Dutch with the introductory text

#### Introductory text

‘After this introduction, you will see a short video. This video simulates a conversation between a general practitioner and a patient, and takes about three minutes to watch. It is the patient’s second consultation due to persistent headaches.

Despite an extensive anamnesis, physical examination and a CT-scan, no physical cause for the headaches was found.

The patient has no history of psychiatric problems, nor a family history of mental illness. There are no precedents of drug abuse. Besides paracetamol, the patient does not take medication. The patient is currently unemployed.

Then, you will be asked a number of questions about a potential follow-up for this patient. Therefore, it is important that you think of the consultation as if it would be taking place in your own practice. The video was developed in collaboration with a medical scientific advisory board consisting of general practitioners, psychiatrists, psychologists and a psychiatric nurse.

To watch the video, you will need speakers or a headphone.

If the video below does not play correctly, you can watch it via the following link: (one of three video vignettes).’

Videos

- (1) Native Dutch-speaking patient:
- (2) Native French-speaking patient:
- (3) Belgo-Moroccan Dutch-speaking patient:
- (4) Belgo-Moroccan French-speaking GPs:

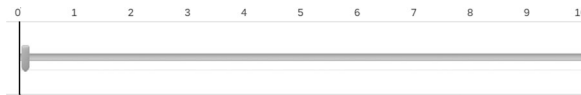
### Appendix 2: Questionnaire

#### A. Diagnosis

1. Using the categories below, how would you diagnose the patient? You can select up to three options.

- 
- Schizophrenia and other psychotic disorders
  - Bipolar disorder
  - Depression
  - Anxiety
  - Obsessive Compulsive Disorder and related disorders
  - Post-Traumatic Stress Disorder
  - Somatization disorder and related disorders
  - Sleeping disorder
  - None of the above diagnoses applies to this patient.
- 

**2. How would you assess the severity of the patient's symptoms, on a scale from 0 to 10 (with 0 'not serious at all' and 10 'very severe')?.**




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<input type="checkbox"/>	0	1	2	3	4	5	6	7	8	9	10
Vignette of the patient without a migration background (% of GPs)	0	0	0	0	0.7	1.4	7.1	26.1	40.4	21.8	2.5
Vignette of the patient with a migration background (% of GPs)	0	0.4	0	0	2.2	3.3	6.2	31.5	40.2	14.5	5

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## B. Treatment

**1. Would you prescribe a medical treatment, a non-medical or a combination of both?.**

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	How likely are you to prescribe this treatment?							
	Vignette of the patient without a migration background				Vignette of the patient with a migration background			
	1 Very unlikely	2 Unlikely	3 Likely	4 Very likely	1 Very unlikely	2 Unlikely	3 Likely	4 Very likely
<b>Medical treatment (%)</b>	1.9	18.8	61.6	17.7	4.1	24.8	53.4	17.7
<b>Non-medical treatment (%)</b>	0.8	4.5	23.8	70.9	1.4	2.4	19.6	76.6
<b>A combined medical and non-medical treatment (%)</b>	0	6.1	28.3	65.6	0.3	8.2	38.9	52.6

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## C. Referral.

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	How likely would you refer the patient in question?							
	Vignette of the patient without a migration background				Vignette of the patient with a migration background			
	1 Very unlikely	2 Unlikely	3 Likely	4 Very likely	1 Very unlikely	2 Unlikely	3 Likely	4 Very likely
<b>Frequency (%)</b>	0.8	11.5	48.5	39.2	1.0	9.6	46.8	42.6

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