Self-reported health among migrants. Does contextual discrimination matter?

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ABSTRACT

Background: Switzerland is characterised by significant flows of migrants from different countries of origin and with different levels of education. More than half of recent migrants have reported experiencing prejudice or discriminatory practices in the last 24 months.
Methods: Based on a 2018 survey of 7,740 adult migrants (aged 24-64) who arrived in Switzerland in 2006 or later, we examine whether self-reported health is statistically associated with the perception of being a victim of prejudice or discrimination. Ordered logistic regressions are estimated using two indicators of discrimination: the frequency of discrimination and the number of places where discrimination occurs.
Results: The regression results show that discrimination, which is not necessarily based on ethnicity or migrant status, is associated with health status, even after controlling for possible confounding factors.
Discussion: Our results confirm those already observed in other countries of immigration. They suggest a likely association between perceived discrimination and self-reported health.

Background

Since the end of the Second World War, Switzerland has been characterised by diverse and important immigration flows who migrate mainly for professional reasons. In 2021, 30.6% of the population living in Switzerland was born abroad, a proportion that is regularly increasing (2010: 26.4%[1]). The main countries of birth of migrants are Germany, Italy, Portugal and France. A significant number of workers of foreign origin are present in various sectors of activity at both ends of the social class spectrum. Nationals from states belonging to the European Union, the European Free Trade Association (EU/EFTA) and those from the OECD are overrepresented in managerial and supervisory positions. This is particularly the case in the service sector (Steiner and Wanner, 2019). On the other hand, many Portuguese and non-EU nationals are employed in low-paid service or construction jobs. As a result, there is a diversity of living conditions among migrants, which may be associated with differences in health status and in self-reported health.

Although migration flows are mainly from surrounding countries, there is evidence of discrimination based on ethnicity or origin in both the labour market (Zschirnt, 2020) and the housing market (Auer et al). Data on discrimination or prejudice in Switzerland are scarce and not always representative of the experiences of foreign populations. However, a national study has measured some of the Swiss population's feeling towards foreigners from a different culture (racism, xenophobia, hostility) between 2016 and 2020 (Office fédéral de la statistique 2021). While this study highlights more frequent negative attitudes for various groups (right-wing voters, people from modest backgrounds, people living in rural areas in particular), it also shows a slow decline in negative sentiment over the period studied. Unfortunately, there is no international comparison of how natives perceive foreigners.

According to the latest wave of the Migration-Mobility Survey, more than half of the migrants surveyed had experienced prejudice or discriminatory practices in the last 24 months (Auer and Ruedin). Although perceived by all groups of migrants, discrimination is more prevalent among young, highly educated, active migrants who have difficulty finding jobs that match their skills. Discrimination is known to have a negative influence on self-reported health (Johnston and Lordan, 2012, Edge and Newbold, 2013), particularly among refugees (Kira et al., 2010). Several studies have already documented the relationship between perceived discrimination and self-reported health (Wiking et al., 2004, Rapp et al., 2019).

Discrimination is generally defined as "unfair treatment of groups

based on characteristics such as race, gender, age or sexual orientation" (Miller et al., 2021). In our study, we refer to perceived discrimination, which may be different from actual discrimination. Some authors mention that actual discrimination may be higher than perceived discrimination because victims are not always aware of it, either because it occurs in their absence or through channels they are unaware of, or because it is too subtle to be identified (Wooten and Ferguson, 2021). However, because it is felt by the victim, perceived discrimination is generally considered to be related to health.

Perceived discrimination is expected to affect immigrants' self-reported health (Schunck et al., 2015), in particular because it can lead to stress-related, physical and emotional changes (Davis, 2020). The links between episodes of discrimination and health can take different forms. At an individual level, such episodes are likely to have a direct impact on the individual who is subjected to remarks, violence or aggressive language. At a collective level, the existence of discrimination can deprive people of certain resources - in terms of housing, work, care, etc. - which can have a negative impact on their health (Ahmed et al., 2007). The link between perceived discrimination and health can also be the result of acculturative stress, a concept proposed by Berry in 1970 (Berry, 1970), which expresses an impairment of mental or physical health associated with a change in living environment and the acculturation required as a result of this change. Finding oneself in a culture different from one's culture of origin may be accompanied by exposure to episodes of discrimination, leading to such stress, which is then expressed in our subjective health indicator.

Based on the Migration-Mobility survey, the aim of this paper is then to examine whether discrimination is associated with a poor self-reported health status among recently arrived adult migrants for the specific case of Switzerland., We measure the strength of the association between discrimination and self-reported health after controlling for various confounding factors that have also been shown to be significant predictors of self-reported health among immigrants, such as labour market status (Daly et al., 2020), social status (Garza et al., 2017) and the level of integration into the host society (Rapp et al., 2018). Moreover, we aim to examine the extent to which the relationship between both discrimination and health varies according to the number of contexts or places in which discrimination occurs.

Data and methods

In this paper, we examine whether self-reported health is associated with perceptions of being a victim of prejudice or discrimination. Self-reported health has been validated as a good measure of health and a predictor of mortality (Kuhn et al., 2006), and is considered as a valid indicator in middle-aged populations (Miilunpalo et al., 1997). To this end, we use data from the Migration-Mobility Survey conducted in Fall 2018, which includes a question on self-reported health (Steiner and Wanner, 2019). The survey collected information from 7,740 foreigners living in Switzerland who responded online (n=7,537) or by phone (n=203) to a wide range of questions on their migration history, their economic and social integration in Switzerland, their family life and their expectations for the future. The sample was drawn by the Swiss Federal Statistical Office using the Swiss Population Register. The conditions for inclusion in the sample were as follows: to be born abroad and have foreign citizenship; to be aged 18 or older at the time of arrival in Switzerland and 24-66 at the time of the survey; and to have arrived in Switzerland in 2006 or later. As the survey was not adapted to this population, asylum seekers and refugees were excluded, as were undocumented migrants. At the end of 2018, 62,000 people were in the asylum process in Switzerland, a minority of the 2.15 million foreign nationals living in the country. The size of the undocumented population was estimated at 76,000 (Morlok et al., 2016). Given the small size of these populations, their exclusion does not call into question the representativeness of our results.

The sampling procedure used a stratification method based on

nationality and gender. The survey was conducted in the six languages most commonly used by the migrant population (English, German, French, Italian, Portuguese and Spanish). Although the survey was conducted on a voluntary basis and without incentives, the response rate (42.1%) was slightly higher than expected for a survey conducted among such a mobile population.

We excluded 76 respondents who stated that they have moved to Switzerland for health reasons. Seventeen respondents who did not answer the question on subjective health were also excluded.

Respondents were asked about their self-reported health status using a standard wording:

How is your health in general? (Very good; Good; Fair; Bad; Very bad).

Ordered logistic regressions were conducted to measure the associations of various factors that were identified in the literature as relevant with self-reported health. These regressions were designed to explain the probability (*p*) of reporting (very) good, fair or (very) bad health in relation to the dimensions studied and various control variables (Engel, 1988). The use of ordered logistic regression models makes it possible to avoid grouping the self-reported health variable in such a way as to have a dichotomous variable. Thus, we take into account all modalities of the variable and measure the factors that influence the likelihood of reporting a rather "poor" state of health, compared to the more positive modalities.

For all models, significance levels (*p<0.05; **p< 0.01; ***p<0.001) are shown to facilitate the interpretation of the results.

The question on perceived discrimination was worded as follows:

Discrimination means that a person is treated less favourably than other people because of different characteristics. Have you experienced situations of prejudice or discrimination in Switzerland in the last 24 months? (Never; Rarely; Sometimes; Frequently).

This wording does not limit perceived discrimination to ethnicity but also includes other types of discrimination (migrant origin, gender, etc.). A second question asks respondents who answered "Sometimes" or "Frequently" to the previous question about the places where discrimination occurs.

Where did you experience this discrimination? Was it… (multiple answers possible: during education and work; in shops, in public and/or during leisure activities; in healthcare and health services; by public authorities; in another situation or by other persons; when applying for an apartment; during the search for a job)?

On the basis of this question, we calculated the number of places where discrimination was perceived after grouping the modality "during education and work" with the modality "during the search for a job" (see also Table 1).

The following confounding factors are therefore included in the models (Table 2):

Demographic and family factors:

- Sex: Male (reference category), Female;
- Age group: 24-29 (reference category), 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-66;
- Living with a spouse/partner in the household: No (reference category), yes.

Factors related to migration history:

- Time since migration: less than 2 years (reference category), 2-4 years, 5 years or more;
- Reason for immigration to Switzerland: Work reasons only (reference category), family reasons only, both family and work reasons, other reasons (i.e. lifestyle reasons, social network, tax reasons).

Country of origin: EU/EFTA countries (reference category), other OECD countries, other non-OECD countries.

Human capital and occupational factors:

Table 1
Distribution of self-reported health according to different indicators of discrimination (in %).

	How is your health in general ?					In % of the whole sample	N
	Very good (%)	Good (%)	Fair (%)	Bad (%)	Very bad (%)		
Self-reported discrimination							
No	61.5	32.8	4.8	0.8	0.2	44.8	3443
Rarely	52.8	40.2	6.2	0.6	0.2	29.0	2271
Sometimes	45.3	41.3	11.5	1.7	0.3	21.9	1609
Frequenty	44.8	36.1	14.9	3.6	0.5	4.2	319
During education and at work							
No	56.6	36.2	6.3	0.8	0.2	85.6	6605
Yes	43.8	41.1	11.8	2.9	0.5	14.4	1042
When applying for an apartment							
No	55.1	37.0	6.8	0.9	0.2	94.4	7199
Yes	48.1	36.7	11.6	3.4	0.2	5.7	448
In shop, in public or during leisure activities							
No	55.4	36.9	6.6	0.9	0.2	89.3	6354
Yes	49.4	37.4	10.8	2.3	0.1	10.7	1293
in healthcare and health							
No	55.1	37.0	6.7	1.0	0.2	98.2	7490
Yes	32.4	36.3	24.8	5.5	1.1	1.8	157
By public authorities							
No	54.9	37.1	6.8	1.0	0.2	95.0	7250
Yes	52.3	34.3	11.7	1.8	.	5.0	397
In other places							
No	55.9	36.6	6.5	0.9	0.2	90.7	6950
Yes	43.7	40.3	13.1	2.5	0.4	9.3	697
Number of places							
Never	58.1	35.7	5.3	0.7	0.2	73.9	5720
1 place	43.3	43.3	12.1	1.0	0.3	12.5	858
2 places	46.6	39.4	11.1	2.5	0.3	8.2	628
3 places	48.1	35.5	12.5	3.4	0.5	4.0	312
4 places	49.3	33.7	15.6	1.3	0.0	0.9	91
5 places	43.7	33.4	14.6	8.4	0.0	0.3	28
6 places	32.5	29.0	18.3	20.3	0.0	0.1	10
All	54.7	36.9	7.1	1.1	0.2	100.0	7647

Source: Migration-Mobility Survey 2018, weighted results;
*among those having answered "sometimes" or "frequently".

- Level of education: Secondary I i.e. lower secondary education, secondary II i.e. upper secondary education (reference category), tertiary education;
- Employment status: employed (reference category), unemployed, student, inactive;
- Perceived improvement in terms of occupational position compared to the situation before immigration: Significantly improved, slightly improved, remained the same (reference category), slightly or significantly worsened.

Social integration:

- Interest in news and current events in Switzerland: On a scale from 0 (no interested) to 7 (very interested);
- Language skills (based on self-declared ability to speak the local language): Good/excellent (reference category), poor;
- Satisfaction with migration: On a scale from 0 (very satisfied) to 10 (not satisfied at all);
- Homesickness: on a scale from 0 (not problematic at all) to 7 (very problematic).

To better estimate the statistical association between the explanatory factors and self-reported health, ordered logistic regressions are used with different proxies for discrimination. Models 1 and 2 include the frequency of perceived discrimination (from never to frequently). Models 3 and 4 include the number of contexts or places (from 0 to 6) where discrimination was perceived. The number of places was dichotomized. Alternatively, we also include a continuous version of the variable "number of contexts or places" and add a second variable (the number of places squared). The results of the models are then confirmed, both in terms of the estimates associated with either the number of

places where discrimination is perceived or the control variables[2].

Results

Descriptive results

As shown in Table 1, there are differences in self-reported health status according to different indicators, in particular perceptions of discrimination. The proportion of respondents who report being very good or good health is systematically higher among those who say they have not experienced discrimination than among those who have experienced it. For example, 61.5% of those who have not experienced discrimination are in very good health, compared with 44.8% of those who have frequently experienced discrimination. Differences are also observed regardless of the place where the discrimination was perceived, but they are less pronounced among those who perceived an episode of discrimination in their contact with the government. The number of places where discrimination was perceived is also associated with subjective health, as the higher the number, the worse the reported health status.

Table 2 shows the distribution of responses to the self-reported health question for the different variables that will be controlled for in the models. As expected from the current literature (Gerritsen and Devillé, 2009, Malmusi et al., 2010), migrant men report slightly better health than women. Self-reported health is also logically related to age. The length of time since arrival in Switzerland also plays a role, as the subjective health of those who have been in Switzerland for 5 years or more is not as good as that of those who have recently arrived. This

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[2] Alternative models are available in the supplementary material.

Table 2

Distribution of self-reported health according to different confounding variables (in %).

	How is your health in general?					In % of the whole sample	Sample size
	Very good	Good	Fair	Bad	Very bad		
Sex (%)							
Male	56.8	36.5	5.4	1.0	0.3	52.7	3687
Female	52.4	37.4	8.9	1.1	0.2	47.3	3960
Age (%)							
<30	63.2	31.0	5.1	0.5	0.1	13.1	916
30-34	58.1	34.8	6.6	0.6	0.0	21.6	1624
35-39	56.4	36.5	5.8	1.2	0.1	20.4	1688
40-44	51.6	41.6	6.2	0.6	0.1	16.4	1302
45-49	48.8	40.6	9.6	0.9	0.3	11.5	912
50-54	49.1	39.0	10.5	0.8	0.6	9.3	637
55-59	50.8	36.7	8.6	2.5	1.4	5.5	383
60-+	43.2	36.0	10.7	10.1	0.0	2.2	185
Duration in Switzerland (%)							
0-1 year	57.5	36.2	6.1	0.2	0.0	11.8	968
2-4 years	55.8	36.8	6.4	1.0	0.1	28.2	2309
5 years and more	53.7	37.2	7.6	1.3	0.3	60.1	4369
Visited the country of origin (%)							
Yes	55.3	36.8	6.9	0.9	0.2	85.8	6264
No	51.2	37.9	8.4	2.0	0.6	14.2	1383
Reason for migration (%)							
Professional	56.8	37.4	4.9	0.8	0.1	37.3	2211
Family	53.2	35.2	9.8	1.6	0.2	38.3	2705
Both	56.5	35.6	7.2	0.5	0.2	10.8	635
Other	50.6	40.1	7.8	1.2	0.3	13.7	765
Origin (%)							
EU/EFTA	54.1	37.7	7.0	1.1	0.2	72.7	4285
Other OECD	61.4	31.0	5.9	1.0	0.7	5.0	825
Other countries	55.4	35.7	7.7	1.1	0.2	22.3	2537
Education level (%)							
+Secondary I	41.0	39.0	17.3	2.6	0.2	11.0	605
Secondary II	49.5	39.9	8.5	1.4	0.6	27.8	1718
Tertiary	59.6	35.2	4.6	0.6	0.0	61.2	5324
Employment status (%)							
Employed	56.1	36.6	6.6	0.5	0.2	83.0	5975
Unemployed	52.9	35.2	9.7	2.2	0.1	5.7	541
Student	54.6	34.8	10.4	0.3	0.0	1.6	166
Inactive	44.1	41.1	9.1	5.0	0.8	9.7	965
Language skills (%)							
Good	56.7	36.1	6.4	0.7	0.1	50.2	3429
Fair/Bad	52.8	37.8	7.7	1.4	0.3	49.8	4218

Source: Migration-Mobility Survey 2018, weighted results

supports the well-known hypothesis of a selection of healthy migrants at the time of arrival, which may disappear after some time (Blair and Schneeberg, 2014). The reason for migration also plays a role in subjective health status, with those who came to Switzerland for work reasons being in better health than for those who came for family reasons or for other reasons. A high level of education and employment are also positively associated with self-reported good health. Responses are also more positive when occupational mobility after migration is viewed positively. Fluency in the language of the host region is also a positive factor for self-reported health, confirming the results observed in Canada (Ng et al., 2011).

Ordered logistic models

In both Tables 3 and 4, the first model (I) includes only the sociodemographic characteristics of the migrants (sex, age, length of stay in Switzerland, origin, reasons for immigration and proficiency in the regional language). The second model (II) also includes socioeconomic characteristics (education and employment status). All models include the proxies for discrimination interchangeably (either the frequency of discrimination — Table 3 — or the number of places where discrimination was perceived — Table 4).

First, we discuss the results related to the confounding factors, and then, we discuss the association between self-reported discrimination and self-reported health.

As expected, age and gender are significantly associated with health. In all models, the estimation results confirm this association, with relatively little change in the odds ratios across models. The number of years since migration is not statistically significantly associated with health status, which contradicts the hypothesis that migrants' health tends to deteriorate over time. The reason for immigrating also plays a role only in the first model, in the sense that coming to Switzerland for reasons other than family or work is associated with a higher risk of self-reported poor health. However, once the occupational variables are taken into account, the reason for migration no longer affects health status (model II). Country of origin plays a significant role in the level of self-reported health, with a lower risk of poor health for non-EU/EFTA or OECD nationals compared to EU/EFTA nationals and an increased risk for nationals from the rest of the world. Model II also shows that the level of education is positively associated with subjective health in the sense that, as education increases, self-perceived health improves. Being occupationally inactive or unemployed is also associated with a higher risk of poor health. Finally, not having a good knowledge of the local language increases the risk of poor self-reported health (in line with (Pottie et al., 2008)).

In both models, the frequency of discrimination is significantly associated with subjective reports of poor health status. As shown in the first model, the odds ratio is almost doubled (1.94, p<0.001) for those who frequently experience discrimination compared to those who have never experienced discrimination, while the results for the other

Table 3

Ordered logit regressions on the probability of reporting poor health among migrants. Switzerland, 2018

	Model I				Model II			
	O.R.	C.I.		significance	O.R.	C.I.		significance
Age								
<30	1.00				1.00			
30-34	1.23	{1.03	-1.45}	*	1.26	{1.06	-1.50}	**
35-39	1.51	{1.28	-1.79}	***	1.59	{1.34	-1.89}	***
40-44	1.53	{1.27	-1.83}	***	1.52	{1.27	-1.83}	***
45-49	1.64	{1.35	-1.99}	***	1.64	{1.35	-2.00}	***
50-54	1.94	{1.57	-2.39}	***	1.87	{1.51	-2.31}	***
55-59	2.19	{1.71	-2.81}	***	2.16	{1.68	-2.77}	***
60+	2.56	{1.86	-3.51}	***	2.44	{1.77	-3.36}	***
Sex								
Male	1.00				1.00			
Female	1.22	{1.11	-1.35}	***	1.19	{1.08	-1.32}	***
Time spent in Switzerland								
0-1 years	1.00				1.00			
2-4 years	0.94	{0.80	-1.09}		0.95	{0.82	-1.11}	
5 years or more	0.97	{0.83	-1.12}		0.98	{0.85	-1.14}	
Reason for migration								
Work	1.00				1.00			
Family	1.19	{1.07	-1.33}	**	0.98	{0.87	-1.10}	
Both	1.00	{0.84	-1.19}		0.95	{0.80	-1.13}	
Other	1.38	{1.18	-1.62}	***	1.17	{0.99	-1.37}	
Country of origin								
EU/EFTA	1.00				1.00			
Other OECD	0.78	{0.67	-0.91}	***	0.82	{0.70	-0.96}	*
Other non-OECD	1.20	{1.08	-1.34}	***	1.12	{1.01	-1.25}	*
Level of education								
Secondary I					1.44	{1.20	-1.72}	***
Secondary II					1.00			
Tertiary					0.67	{0.60	-0.75}	***
Employment status								
Employed					1.00			
Unemployed					1.21	{1.01	-1.44}	*
Student					1.45	{1.06	-1.97}	*
Inactive					1.56	{1.35	-1.80}	***
Language knowledge								
Good	1.00				1.00			
Fair/bad	1.21	1.10	1.32	***	1.22	1.11	1.34	***
Discrimination level								
Never	1.00				1.00			
Rarely	1.52	{1.37	-1.70}	***	1.61	{1.44	-1.79}	***
Sometimes	1.88	{1.67	-2.12}	***	1.97	{1.75	-2.23}	***
Frequently	1.94	{1.55	-2.43}	***	2.00	{1.60	-2.50}	***
Somers' D	0.21				0.24			
Gamma	0.21				0.24			
Tau-a	0.11				0.13			
C	0.60				0.62			
Likelihood Ratio	290.80	<.0001			435.01	<.0001		
F-Score	281.42	<.0001			414.37	<.0001		
Wald	285.05	<.0001			426.68	<.0001		
Observations	7647				7647			

Source: Migration-Mobility Survey 2018,

* p<0.05;

** p<0.01;

*** p<0.001. The dependent variable ranges from 1 (very good health) to 5 (very bad health).

modalities are intermediate (rarely 1.52, p<0.001; sometimes 1.88, p<0.001). These odds ratios remain statistically significant when labour market variables are included (model II).

Table 4 shows the estimates for the number of places where discrimination occurs — sometimes or frequently — as an alternative indicator of discrimination. In the model III, which only includes demographic variables, the odds ratios for experiencing contextual discrimination are systematically higher than those for the reference category (no places), regardless of the number of places. The statistical association between health and contextual discrimination is also confirmed in the model IV which takes into account laband third models.

Discussion

According to our data, more than half of the foreign-origin population report having experienced prejudice or discrimination. About 25% of the migrant population sometimes or frequently experience discrimination. The perception of having experienced episodes of discrimination is observed in many contexts of professional and private life, mostly in the public sphere (shops, during leisure activities) and at work or in education. In this context, the MMS survey provides very comprehensive information on discrimination, which forms the basis for further analysis.

Here, we focus on the impact of experiences of discrimination on health. Our results show that such experiences are associated with subjective perceptions of health, in the sense that the more frequent the discrimination is, the worse the health. This relationship is also observed between the number of places where discrimination is experienced and the subjective health status.

Controlling for different socioeconomic factors does not significantly

Table 4

Ordered logit regressions on the probability of reporting poor health among migrants. Switzerland, 2018

	Model III				Model IV			
	O.R.	C.I.		significance	O.R.	C.I.		significance
Age								
<30	1.00				1.00			
30-34	1.23	{1.04	-1.46}	*	1.27	{1.07	-1.50}	**
35-39	1.50	{1.26	-1.77}	***	1.57	{1.32	-1.86}	***
40-44	1.51	{1.26	-1.81}	***	1.51	{1.26	-1.81}	***
45-49	1.59	{1.31	-1.93}	***	1.59	{1.31	-1.94}	***
50-54	1.87	{1.52	-2.31}	***	1.80	{1.46	-2.23}	***
55-59	2.04	{1.60	-2.61}	***	2.00	{1.56	-2.57}	***
60+	2.35	{1.71	-3.22}	***	2.23	{1.62	-3.07}	***
Sex								
Male	1.00				1.00			
Female	1.23	{1.12	-1.35}	***	1.20	{1.09	-1.33}	***
Time spent in Switzerland								
0-1 years	1.00				1.00			
2-4 years	0.97	{0.83	-1.13}		0.99	{0.85	-1.15}	
5 years or more	1.00	{0.86	-1.16}		1.02	{0.88	-1.18}	
Reason for migration								
Work	1.00				1.00			
Family	1.17	{1.05	-1.31}	**	0.97	{0.86	-1.09}	
Both	1.00	{0.84	-1.19}		0.95	{0.80	-1.14}	
Other	1.37	{1.17	-1.60}	***	1.16	{0.98	-1.36}	
Country of origin								
EU/EFTA	1.00				1.00			
Other OECD	0.80	{0.69	-0.94}	**	0.84	{0.72	-0.98}	*
Other non-OECD	1.20	{1.08	-1.33}	***	1.12	{1.01	-1.25}	*
Level of education								
Secondary I					1.43	{1.19	-1.71}	***
Secondary II					1.00			
Tertiary					0.69	{0.61	-0.77}	***
Employment status								
Employed					1.00			
Unemployed					1.21	{1.02	-1.45}	*
Student					1.48	{1.09	-2.02}	*
Inactive					1.51	{1.31	-1.75}	***
Language knowledge								
Good	1.00				1.00			
Fair/bad	1.21	{1.11	-1.33}	***	1.23	{1.12	-1.35}	***
Number of places								
No place	1.00				1.00			
One place	1.49	{1.29	-1.71}	***	1.48	{1.29	-1.71}	***
Two places	1.59	{1.35	-1.87}	***	1.64	{1.40	-1.93}	***
Three places	1.55	{1.24	-1.93}	***	1.63	{1.30	-2.04}	***
Four places	2.21	{1.49	-3.29}	***	2.31	{1.55	-3.43}	***
Five places	3.78	{1.87	-7.64}	***	4.03	{1.99	-8.17}	***
Six places	5.03	{1.55	-16.26}	***	4.13	{1.27	-13.40}	*
Somers' D	0.19				0.22			
Gamma	0.19				0.22			
Tau-a	0.10				0.12			
C	0.59				0.61			
Likelihood Ratio	242.84	<.0001			372.93	<.0001		
F-Score	234.58	<.0001			355.81	<.0001		
Wald	243.72	<.0001			374.42	<.0001		
Observations	7647				7647			

Source: Migration-Mobility Survey 2018,
* $p < 0.05$;
** $p < 0.01$;
*** $p < 0.001$. The dependent variable ranges from 1 (very good health) to 5 (very bad health).

alter this association.

A number of limitations should be noted. First, as with any survey of migrants, it is likely that those who are poorly integrated into the host population did not respond. However, the design of the Migration-Mobility Survey takes this situation into account by proposing a questionnaire translated into six languages and by implementing a mixed approach with interviews that can be conducted either online or by telephone. Underreporting may also occur among those who are least able to answer the questions due to illness. Limiting the sample to those of working age reduces the extent of this bias.

Second, not all the questions in the survey are factual, and some questions require the participant's self-assessment, which may depend on many non-objective factors (e.g., sense of timing, fatigue with respect to the length of the questionnaire). It is therefore possible that a strong association between different subjective variables may be explained by the way the questionnaire was administered. In particular, for migrant populations, self-reported health may be related to subjective conditions (e.g., satisfaction with living in Switzerland) regardless of actual health status. The same is true for discrimination, which is also a self-reported measure. Therefore, our baseline estimates may be plagued by endogeneity problems related to omitted variables that are also relevant to explain the possible link between these two phenomena.

Moreover, our data do not allow us to examine other physical or mental health outcomes, as other studies have done (Pascoe and Smart

Richman, 2009), but we assume that self-reported health is a valid indicator of overall health status (Miilunpalo et al., 1997). A large number of empirical studies investigating the differences in health among these populations have used related measures of subjective health (e.g., (Dunn and Dyck, 2000, Moullan and Jusot, 2014)).

Finally, it is important to note that our data are cross-sectional, i.e. they do not allow changes in subjective health related to experiences of prejudice and discrimination to be tracked over time. This limits the analysis without detracting from its interest, as the link between these two phenomena has been clearly demonstrated.

Despite these limitations ultimately our results confirm those observed in other countries of immigration, notably Sweden (Wiking et al., 2004, Lindström et al., 2001) and Canada (Fernando De Maio and Kemp, 2010), which show differences among ethnic groups in self-reported health that are explained by differences in socioeconomic status, country of origin and the frequency of discrimination. Our models highlight the robust relationships between these three factors and self-reported health.

Other studies have focused on the refugee population, which is the population most likely to experience episodes of discrimination (e.g., (Pottie et al., 2008)). We show that the relationship between discrimination and subjective health is also relevant for non-refugee populations. Of course, our data do not allow us to investigate the pathways through which discrimination may affect subjective health, and our estimates do not identify causal effects. Despite the lack of information on causal effects, the results underline the importance of anti-discrimination policies, not only to ensure equal opportunities, but also to ensure the well-being and health of the foreign-born population.

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