



ORIGINAL ARTICLE

Perceived ethnic discrimination as a determinant of migrants' health in Italy

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Abstract

Discrimination has a negative impact on immigrants' health and contributes to the (re)production of health inequalities. The aim of this study was to investigate the effect of perceived discrimination on physical and mental health outcomes of migrants living in Italy. Data were taken from the Social Condition and Integration of Foreign Citizens (SCIF) survey, conducted in 2011–2012 in Italy, namely the first national survey that investigates social condition and integration of foreign citizens. In order to assess the association between perceived discrimination and both physical and mental health of immigrants, two binomial logistic regression models were fitted. The main finding of our study is that, also in Italy, perceived ethnic discrimination is associated with worse health outcomes, therefore, policy-makers should develop and implement public interventions aimed at reducing health inequalities with the rest of the population and at promoting migrants' social integration.

ETHNIC DISCRIMINATION AND HEALTH

The proportion of foreign-born migrants has grown considerably in all European countries. By January 2018, a total of 22.3 million people (4.4% of the EU-28 population) resided in an EU Member State with citizenship of a non-member country (Eurostat, 2019). In absolute terms, the five EU Member States with the highest number of non-nationals residents were Germany (9.7 million persons), the United Kingdom (6.3 million), Italy (5.1 million), France (4.7 million) and Spain (4.6 million) (Ibidem). Recent data show that at 31 December 2019, in Italy 5.306.548

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foreign citizens resided in the country; compared to 1 January 2019, they increased by 127 thousand units, representing the 8.8 per cent of the total resident population (ISTAT, 2020).

The overall health and well-being of migrants in Italy are of considerable interest for policymakers and researchers. Recently, attention has been drawn towards this issue from the recognition that the significant presence of migrants in Italy places a strain on the ability of the healthcare system to adequately respond to the health needs of those individuals who – because of their socio-economic conditions and culture – might present greater health risk compared to non-migrants (Tognetti Bordogna, 2015).

As it has been widely acknowledged in the literature, with the exception of migrants who flee a persecution, climate change, environmental disasters or war, first-generation migrants usually have better overall health than native-born population (Mackenbach et al., 2005), this mainly because of the so-called “healthy migrant effect”: namely, only individuals that are actually able both to undertake the migratory journey and to work in the country of destination usually migrate. Nevertheless, this initial health advantage is found to diminish significantly and progressively with increasing length of residence, because over the years migrants are exposed to several social factors that impinge on their health status, such as poverty, substandard living conditions, low-income status and ethnic discrimination. In this paper, we will focus on the latter.

Ethnic discrimination is based on prejudice, namely the tendency to unjustifiably consider in an unfavourable way people that belong to a specific ethnic or national group. When prejudice informs practices and behaviours, discrimination occurs and causes unequal treatment to the disadvantage of marginalized groups (Allport, 1954). Discrimination may take many different forms – this might include, for example, institutional, structural, interpersonal, overt and covert, legal and illegal discrimination (Krieger, 1999) – and in all cases such processes continue to drive and reinforce social relations of dominance and oppression, maintaining privileges of dominant groups at the detriment of socially defined subordinate groups (Simon, 2013).

This paper focuses on the relationship between perceived ethnic discrimination – namely the perception of being discriminated against because of one's geographical or ethnic origins – and migrants' general health. Underlying there is the assumption that health inequalities are not the mere result of intrinsic biological differences among individuals, they are rather a complex combination of social, psychological and biological processes¹. Studies have shown that ethnic discrimination negatively affects life expectancy (Wilkinson, 1996) and the overall health of those who experience it (Clark et al., 1999; Krieger, 1999, 2000; Meyer, 2003; Pascoe & Smart Richman, 2009; Williams et al., 2003) accelerating cellular ageing (Epel et al., 2006), increasing the prevalence of cardiovascular disease (Brondolo et al., 2008; Lewis et al., 2010; Wyatt et al., 2003) and increasing the risk of hypertension (Williams & Neighbors, 2001).

Exposure to ethnic discrimination has also been found to be associated with poorer mental health outcomes (Conklin, 2011; Ferdinand et al., 2015; Goto et al., 2013; Llácer et al., 2009), higher levels of anxiety or depression (Ikram et al., 2015; Kelaher et al., 2008), higher likelihood of experiencing mental disorders (Cardano et al., 2018), depressive disorder and/or anxiety disorder (Berger & Sarnyai, 2015; Chau et al., 2018; Gee et al., 2007; Karlsen et al., 2005) lower levels of psychological functioning (Sellers et al., 2006) and lower self-esteem (Verkuyten, 1998). In a 2015 study of 1.139 Australians, Ferdinand et al., (2015) found that many Australians from racial and ethnic minority backgrounds experience racial discrimination on a regular bases and that the odds of being above the threshold for high or very high psychological distress were increased for people with medium and high levels of experiences of racism compared to individuals who instead did not experience racism.

Analysing the interaction of perceived ethnic discrimination with physical and mental health allows to take into account the pervasiveness of discriminatory behaviours in immigrants' everyday life and its impact on the well-being of this population. Furthermore, immigrants' health outcomes may thus be used as an indicator of the level of their inclusion in the host society as well as of the vulnerability of this specific section of the population (Tognetti Bordogna, 2015).

Although the ethnic discrimination variable has been operationalized in different ways, several international studies have found an association between discrimination and poor overall health (Agudelo-Suárez, 2009, 2011;

Chae et al., 2012; Crengle et al., 2012; Harris et al., 2012; Karlsen & Nazroo, 2002; Wiking et al., 2004) with respect to a range of ethnic groups in different countries. To date, in Italy only one study has investigated this interaction, although it has focused exclusively on the effects of perceived discrimination on the mental health of immigrants in a specific context, namely at the workplace (Di Napoli et al., 2017). In this framework, our hypothesis is that migrants who had the perception of being discriminated against experienced lower levels of well-being, and more specifically worse mental and physical health than those who have not experienced ethnic discrimination, after controlling for a set of socio-demographic variables.

This paper aims to expand previous research on this topic by considering both physical and mental health of migrants as well as a broader range of social contexts where ethnic discrimination may occur. Hence, the relevance of this study, whose results may help the development and implementation, at the national level, of public policies designed to tackle migrants' social exclusion and promote their health and well-being.

DATA AND METHODS

Data were obtained from the first (and so far, the only) national survey on Social Condition and Integration of Foreign Citizens (SCIF) in Italy, conducted by ISTAT in 2011–2012 (ISTAT, 2014).

The SCIF survey has been conducted on a sample of 9.553 households residents in Italy including at least one foreign citizen, and in total 20.379 foreign citizens have been surveyed. Italian citizens (4.251) and 696 Italian citizens with foreign citizenship at birth (naturalized) were excluded from the analysis. The main purpose of the survey was to provide information on many features of socio-economic integration of migrants in Italy and, among the aspects detected, survey data allow to investigate migrants' experiences of perceived discrimination as well as their health conditions.

Questions about discrimination have been exclusively posed to subjects over 15 years of age. Once removed the cases with missing values, the valid cases on which the analyses have been carried out were 15.376.

The analytical strategy employed in order to verify our hypothesis has been the following. Two binomial logistic regression models were fitted to assess the association between perceived discrimination and separately physical and mental health of migrants.

The main independent variable is an index of perceived discrimination constructed by using eight survey items, which investigate perceived discrimination in different domains (see Table 1). First, we summed the answers (coded as 0 not discriminated and 1 discriminated) for the eight items and successively the obtained score (ranged from 0 to 8) has been recorded in order to construct a dichotomous variable named Discrimination index, which scored from 0, no discriminated, to 1, discriminated in at least one domain.

The dependent variables of the two models were migrants' perceived mental health status and perceived physical health status, which have been, respectively, measured by Mental Component Summary Score (hereafter MCS) and Physical Health Component Summary Score (hereafter PCS), two indexes of well-being calculated on the basis of items included in the Short Form Health Survey (hereafter SF-12) (see Table 2), which is a shorter version of the SF-36 and aims to provide a generic measure of individuals' health status (Anderson et al., 1990; Brazier et al., 1992). More specifically, following the suggestions proposed by the literature (Galenkamp et al., 2018; Wilson et al., 2000), confirmatory factor analysis (CFA) has been applied to compute the MCS and PCS summary scores. The systematic fit assessment procedures are determined by meaningful satisfactory thresholds. Specifically, in this work, the following goodness-of-fit indices are used: Root Mean Square Error of Approximation (RMSEA ≤ 0.06) and Comparative Fit Index (CFI ≥ 0.95).

First of all, we tested on our data two CFA models that have been widely deployed in previous studies.

The first CFA model specifies items n. 1, 2, 3, 4, 5 and 8 associated with the physical dimension, and items n. 6, 7, 9, 10, 11 and 12 associated with the mental dimension (Ware et al., 1998). As suggested in the literature (Clark et al., 1999; Schunck et al., 2015), the two SF-12 components, MCS and PCS, have been put in correlation with

TABLE 1 Areas of perceived discrimination employed for the construction of the discrimination index

Areas of discrimination	Questionnaire item	Response mode
a. Workplace discrimination (because of ethnicity/geographic origins)*	During your stay in Italy, have you been discriminated against, namely treated less favourably than others, while working?	Yes = 1 No = 0
b. Job search discrimination (because of ethnicity/geographic origins)*	During your stay in Italy, have you been discriminated against, namely treated less favourably than others, while searching for a job?	Yes = 1 No = 0
c. Housing discrimination	During your stay in Italy, have you been discriminated against, namely treated less favourably than others, while searching for a house to rent or to buy, just because of your ethnicity or your geographic origins?	Yes = 1 No = 0
d. Discrimination in health care	During your stay in Italy, have you been discriminated against, namely treated less favourably than others, while doing medical examinations, analyses or check-ups just because of your ethnicity or your geographic origins?	Yes = 1 No = 0
e. Mortgage lending discrimination	During your stay in Italy, have you been discriminated against, namely treated less favourably than others, while applying for a loan or a mortgage just because of your ethnicity or your geographic origins?	Yes = 1 No = 0
f. Insurance discrimination	During your stay in Italy, have you been discriminated against, namely treated less favourably than others, while requesting an insurance contract for the car, for the house, etc., just because of your ethnicity or your geographic origins?	Yes = 1 No = 0
g. Discrimination in public places	During your stay in Italy, have you been discriminated against, namely treated less favourably than others, in public places or offices just because of your ethnicity or your geographic origins? For example, they did not let you in or showed to dislike your presence.	Yes = 1 No = 0
h. Neighbours discrimination	During your stay in Italy, have you been discriminated against, namely treated less favourably than others, by your neighbours just because of your ethnicity or your geographic origins? For example, they showed feelings of hostility towards you or made you feel unwelcome	Yes = 1 No = 0

*Note: The question broadly refers to individuals' perception of having been subjected to discrimination, without any reference to the specific characteristic for which they have been discriminated against. In a subsequent question, it has been asked to the same interviewees the characteristics for which they felt discriminated against, among which it was included the modality "because of your ethnicity or your geographic origins." For the calculation of the discrimination index, we only considered as discriminated against respondents who indicated their ethnicity or geographic origins as a reason for discrimination.

each other because it has been shown that this provides a better fit to the data. However, this model has a low goodness-of-fit: RMSEA is 0.169 and CFI is 0.754.

The second CFA model tested, as suggested by Fleishman and Lawrence (2003), is equal to the first model but it also allows items n. 1, 10 and 12 to be simultaneously associated with both physical and mental dimensions. Also the goodness-of-fit of this model is poor: RMSEA is higher than the threshold of 0.06 (0.168) and CFI lower than the threshold of 0.95 (0.770).

Therefore, given the poor goodness-of-fit of previously models, a third model has been tested. Only item 1 was associated with both dimensions. Moreover, the model has been improved by adding some covariances between items. The choice of which error terms are correlated is based on theoretical justifications and CFA-specific

TABLE 2 – SF-12 items employed for the construction of mental health index

Item	Questionnaire item	Response mode
SF1	In general, would you say your health is	Very good = 1 Good = 2 Fair = 3 Poor = 4 Very poor = 5 Not responding = 9
SF2	Does your health currently interferes in performing moderate physical activities (such as moving a table, vacuum-cleaning, take a bicycle ride)?	Yes, it limits me a lot = 1 Yes, it limits me a little = 2 No, it does not limit me at all = 3 Not responding = 9
SF3	Does your health currently interferes with your ability to climb several flights of stairs?	Yes, it limits me a lot = 1 Yes, it limits me a little = 2 No, it does not limit me at all = 3 Not responding = 9
SF4	During the last four weeks did you accomplish less than you would have liked at work or in daily activities because of your physical health?	No = 1 yes = 2 Not responding = 9
SF5	During the last four weeks, were you limited in the kind of work or other activities because of your physical health?	No = 1 Yes = 2 Not responding = 9
SF6	During the last four weeks, did you accomplish less than you would have liked at work or in daily activities because of your emotional state, such as feeling depressed or anxious?	No = 1 Yes = 2 Not responding = 9
SF7	During the last four weeks, did you have decreased concentration at work or in other daily activities because of your emotional state such as feeling depressed or anxious?	No = 1 Yes = 2 Not responding = 9
SF8	During the last four weeks, to what extent did physical pain interfered in work habitually carried out (both at home and outside the home)?	Not at all = 1 A little bit = 2 Moderately = 3 Quite a bit = 4 Extremely = 5 Not responding = 9
SF9	During the last four weeks, how long did you feel calm and/or peaceful?	Always = 1 Most of the time = 2 A good bit of the time = 3 Some of the time = 4 A little of the time = 5 None of the time = 6 Not responding = 9
SF10	During the last four weeks, for how long did you feel full of energy?	Always = 1 Most of the time = 2 A good bit of the time = 3 Some of the time = 4 A little of the time = 5 None of the time = 6 Not responding = 9

(Continues)

TABLE 2 (Continued)

Item	Questionnaire item	Response mode
SF11	During the last four weeks, for how long did you feel downhearted and blue?	Always = 1 Most of the time = 2 A good bit of the time = 3 Some of the time = 4 A little of the time = 5 None of the time = 6 Not responding = 9
SF12	During the last four weeks, how long your physical health or your emotional state interfered with social activities, with the family, with friends?	Always = 1 Most of the time = 2 Some of the time = 4 A little of the time = 5 None of the time = 6 Not responding = 9

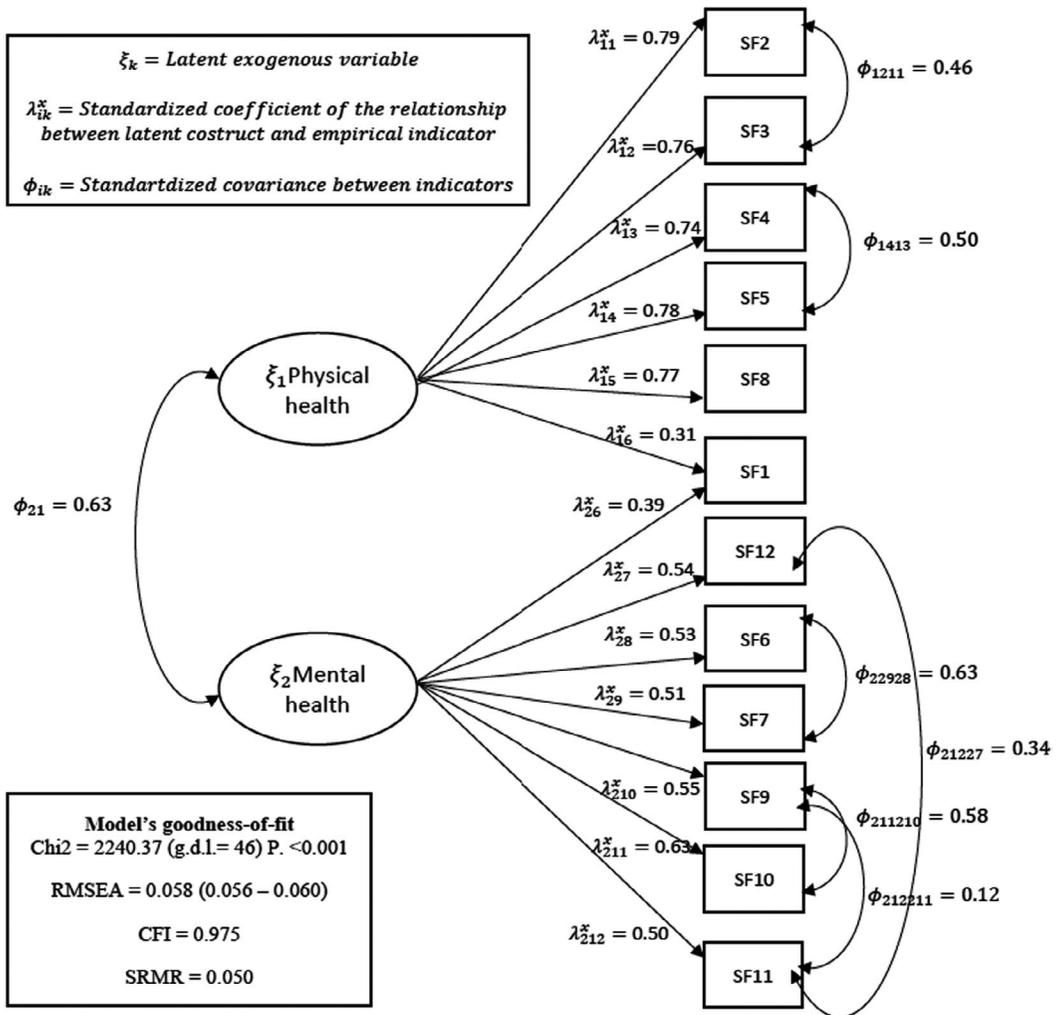
parameters, that is *modification indices*, computed in STATA. In particular, the following covariances between residuals were added: among item n. 2 and n. 3 (physical functioning) as suggested by – among others – Tucker et al., (2010) as well as Maurischat et al., (2008); between item n. 4 (problem with daily activities: accomplished less due to physical health) and n. 5 (problem with daily activities: limited due to physical health); between item n. 6 (problem with daily activities: accomplished less due to emotional problems) and n. 7 (problem with daily activities: limited due to emotional problems); between element 9 (calm and peaceful) and 10 (full of energy); between item 11 (downhearted and blue) and item 12 (impediment to perform social activities); and between item n. 9 and n. 11.

Since this last model showed a good fit to the data (RMSEA: 0.058, 90% C.I. 0.056 – 0.060; CFI 0.975) this is the model that has been used. In Figure 1, it is showed the model with the corresponding goodness-of-fit parameters.

The next step has been to calculate the predicted values for the MCS and PCS dimensions. In order to use mental health and physical health factors in the analysis, along the lines of Di Napoli et al., (2017), MCS and PCS scores have been dichotomized assuming the 1° quartile of the distribution as being the threshold equal or below which subjects have been considered as suffering from worse mental and physical health.

Moreover, the following set of control variables has been included in the two multivariate models: age (in nine classes: 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55 and more); gender; marital status (in four categories: unmarried, married, divorced and widowed); level of education (in five categories: no school education, primary education, lower secondary education, upper secondary education and tertiary education); employment status (in five categories: employed, casual/seasonal workers, self-employed, persons actively searching for a job and inactive); area of residence in Italy (in four modalities: North-West, North-East, Centre, South and Islands); duration of stay in Italy (in three modalities: 0–4, 5–9, 10 or more); the type of migrant, resulting from the combination of the country of birth (Italy or foreign-born) and the nationality: we created a dummy variable coded 1 if the respondent was born outside Italy with Non-Italian citizenship, 0 otherwise; in the logistic regression model of the SF-12 MCS on perceived discrimination, Physical Health has been included as a control variable (the Physical Health Component Summary Score has been dichotomized in “above the first quartile” and “equal/below the first quartile”), and in the logistic regression model of the SF-12 PCS on perceived discrimination, Mental Health has been included as a control variable (the Mental Health Component Summary Score has been dichotomized in “above the first quartile” and “equal/below the first quartile”). References categories are reported in Table 3 as first modality of each variable.

All analyses have been conducted using Stata 16.1.



Note:

- SF1 = Auto perceived health
- SF2 = Health limits moderate activities you might do during a typical day
- SF3 = Health limits climbing several flights of stairs
- SF4 = Problems with your work or other regular daily activities as a result of your physical health. Accomplished less than you would like
- SF5 = Problems with your work or other regular daily activities as a result of your physical health. Were limited in the kind of work or other activities.
- SF6 = Problems with work or other regular daily activities as a result of any emotional problems. Accomplished less than you would like
- SF7 = Problems with work or other regular daily activities as a result of any emotional problems. Did work or activities less carefully than usual.
- SF8 = How much pain has interfered with normal work
- SF9 = Feeling during the past 4 weeks: calm and peaceful?
- SF10 = Feeling during the past 4 weeks: have a lot of energy
- SF11 = Feeling during the past 4 weeks: down-hearted and blue
- SF12 = How much of the time has your physical health or emotional problems interfered with your social activities

FIGURE 1 Confirmatory factor analysis (CFA) of SF-12 questionnaire

TABLE 3 – Logistic regression of the SF-12 MCS and PCS on perceived discrimination. Odds Ratio, standard errors and confidence intervals (95%)

		Mental health			Physical health		
		Odds Ratio	95% CI		Odds Ratio	95% CI	
Nationality and citizenship	No discrimination	1.00			1.00		
	Discrimination	1.51	1.37	1.68	1.60	1.45	
PCS/MCS	> first quartile				1.00		
	≤ second quartile	19.69	17.89	21.71	19.71	17.91	21.71
Nationality and citizenship	Italy-Italian	1.00			1.00		
	Foreign-foreign	1.10	0.83	1.46	0.94	0.71	1.25
Area of residence	North-West	1.00			1.00		
	North-East	0.68	0.59	0.80	0.89	0.76	1.04
	Centre	0.99	0.85	1.15	0.97	0.83	1.14
	South and Islands	1.02	0.90	1.16	0.92	0.81	1.05
Marital status	Unmarried	1.00			1.00		
	Married	0.90	0.80	1.01	1.02	0.90	1.16
	Divorced	1.15	0.98	1.35	0.93	0.79	1.09
	Widowed	0.97	0.75	1.27	1.41	1.08	1.83
Gender	Male	1.00			1.00		
	Female	1.12	1.01	1.23	1.15	1.04	1.27
Level of education	No school education	1.00			1.00		
	Primary education	1.07	0.84	1.35	0.88	0.69	1.11
	Lower secondary education	1.00	0.83	1.19	0.76	0.63	0.91
	Upper secondary education	0.91	0.77	1.09	0.81	0.68	0.96
	Tertiary education	0.78	0.63	0.97	0.73	0.59	0.91
Age class	15–19	1.00			1.00		
	20–24	1.45	1.06	1.97	1.68	1.18	2.41
	25–29	1.87	1.38	2.52	1.89	1.34	2.68
	30–34	1.62	1.20	2.19	2.32	1.65	3.27
	35–39	1.85	1.36	2.50	2.66	1.88	3.75
	40–44	1.83	1.34	2.50	3.33	2.35	4.73
	45–49	2.00	1.46	2.74	4.00	2.81	5.72
	50–54	2.27	1.64	3.15	4.76	3.31	6.84
Employment status	Employed	1.00			1.00		
	Casual/seasonal workers	1.96	1.36	2.82	0.66	0.44	0.99
	Self-employed	1.19	0.99	1.42	0.87	0.72	1.05
	Persons actively searching for a job	2.21	1.89	2.59	0.75	0.64	0.90
	Inactive	1.44	1.27	1.64	1.05	0.93	1.20

(Continues)

TABLE 3 (Continued)

		Mental health			Physical health		
		Odds Ratio	95% CI		Odds Ratio	95% CI	
Duration of stay in Italy	0–4	1.00			1.00		
	5–9	1.14	0.99	1.31	0.91	0.8	1.05
	10 or more	1.11	0.96	1.28	1.00	0.86	1.15
Constant		0.04	0.03	0.06	0.04	0.03	0.07

RESULTS

Our findings show that, as expected, cultural, social and economic factors have a significant influence on the probability of experiencing discrimination (see Table A1 in Appendix which reports socio-demographic characteristics of migrants by perceived discrimination). People with more economic and employment resources show lower levels of discrimination compared to those from less privileged backgrounds. Significant differences also emerged with respect to gender, age and duration of stay in Italy: males, migrants in central age classes and with a higher duration of stay in Italy seem to be most penalized. As regards education –and with the exception of those with lower secondary education who reported experiencing lower levels of discrimination than other groups –the observed differences are limited.

If we consider mental health (see Table A2 in Appendix), socio-demographic factors are confirmed as relevant in structuring differences among individuals. Nationality, marital status, level of education and employment status (among others) show a strong association with the likelihood of experiencing mental health problems. Bivariate association between perceived discrimination and mental health shows a difference of about 13 percentage points to the disadvantage of those discriminated against (34.4% against 21.6%).

Finally, we pay attention to the characteristics of the study population by distribution of PCS score (see Table A3 in appendix). As already observed in the case of mental health, the role of socio-demographic factors emerged as significant in shaping differences in physical health disparities among individuals. Nationality, marital status, level of education and employment status (among others) show a strong association with the likelihood of experiencing mental health problems. Also in this case, bivariate analysis showed a significant association of perceived discrimination with worse self-reported physical health, with a difference of about 13 percentage points to the disadvantage of those discriminated against (34.6% against 21.5%).

The existence of an association between perceived discrimination and the health of migrants has been confirmed –after controlling for a range of potential confounders –by applying two binomial logistic regression models (see Table 3).

The estimation of the parameters of the logistic regressions clearly shows that the perception of being discriminated against increases 1.5 times the probability of suffering worse mental health (O.R. 1.51, C.I. 1.37–1.68) and 1.6 times the probability of suffering worse physical health (O.R. 1.61, C.I. 1.45–1.78). It is thus confirmed that, also in Italy, the general health of migrants is negatively affected by perceived ethnic discrimination. Odds ratio showed a statistically significant association of some factors with the probability of reporting good or poor health status; more specifically, being female and belonging to age groups over the age of 19 seem to be factors associated with higher probability of reporting worse mental and physical health, while higher levels of education seem to decrease the probability of reporting worse mental and physical health. Living in the North-West of Italy, having unstable occupations, searching for a job and being inactive seem to be factors associated with higher probability of reporting worse mental health. The estimates of nationality and citizenship, the area of residence, marital status and duration of stay in Italy were instead not statistically significant.

Sensitivity analysis

In order to examine how the baseline results change when different specification and estimation scenarios are applied, we conducted three different types of robustness checks.

The first type of sensitivity analysis assessed whether the effect of the discrimination index varies by selecting a sample with a different age range. In particular, it could be hypothesized that young people (14- to 24-year-old) have experienced situations of discrimination less frequently, considering areas of discrimination examined in this study. Therefore, we replicated original regressions on a sample 25 years or older. Results show that there were not significant differences compared to the baseline specification. Considering the MCS score, the odds ratio of Discrimination index was 1.48 (C.I. 1.33–1.64), whereas for PCS score the odds ratio was 1.61 (C.I. 1.45–1.79).

The second robustness check was related to the values of the MCS and PCS score threshold as indicators of reduced mental and physical health, respectively. Therefore, we examined how sensitive the analysis was to the use of a continuous variable for MCS and PCS index instead of a dichotomous one. We employed two linear regressions on standardized dependent variables' score (mean =0 and standard deviation =1). Results confirm that discrimination matters for migrants' health. Being discriminated against reduces of 0.19 points (C.I. -0.22 – -0.13) standardized mental well-being index (which ranges from -5.97 to 1.13) and of 0.10 points (C.I. -0.13 – -0.07) standardized physical well-being index (which ranges from -6.07 to 0.52).

Finally, we used a different Discrimination index cut-off score. We constructed a new index of perceived discrimination in four categories used as independent variable in logistic regressions: score 0, no perceived discrimination; 1, mild perceived discrimination (namely, who claims to have been discriminated against in one domain); 2, moderate perceived discrimination (who claims to have been discriminated against in two domains); and 3, severe perceived discrimination (who claims to have been discriminated against in three or more domains). Considering "no perceived discrimination" as the reference category, for MCS score, the odds ratio of mild perceived discrimination was 1.40 (C.I. 1.23–1.60), the odds ratio of moderate perceived discrimination was 1.49 (C.I. 1.25–1.77), and the odds ratio of severe perceived discrimination was 1.82 (C.I. 1.52–2.18); for PCS score, we registered the following values: 1.46 (C.I. 1.28–1.66), 1.77 (C.I. 1.49–2.11) and 1.79 (C.I. 1.49–2.14), respectively. These findings confirm the significant role of perceived discrimination on migrants' mental and physical health.

Full results of robustness check models are available from authors upon request.

DISCUSSION

Overall, the analysis shows that subjective experiences of ethnic discrimination increase the probability of reporting a decrease in both mental and physical health outcomes in immigrant population in Italy. Despite the relevance of the issue, and despite the considerable presence of migrants in Italy, no studies to our knowledge have so far analysed the association between perceived ethnic discrimination and general health outcomes. Migrants experience worse mental and physical health even after adjusting for age, gender, marital status, level of education, employment status and area of residence in Italy, duration of stay in Italy, country of birth, nationality and citizenship.

These results are in line with previous findings suggesting an association between ethnic discrimination and worse mental and physical health outcomes (Agudelo-Suárez et al., 2011; Cardano et al., 2018; Chae et al., 2012; Crengle et al., 2012; Harris et al., 2012; Karlsen & Nazroo, 2002; Wiking et al., 2004). Indeed, although the above-mentioned studies adopted different sampling strategies, as well as different discrimination measures and health outcomes, the estimated association between discrimination and health is very similar (or higher) to our results. For example, Harris et al., (2012) reported an odds ratio of 1.73 (IC 1.53 – 1.95) and 1.42 (IC 1.24 – 1.64) for the MCS and the PCS lowest quartiles of SF36 questionnaire, respectively, in New Zealand. Furthermore, Gee et al.,

(2007) found an odds ratio of 1.98 (IC 1.41 – 2.79) analysing the relationship between everyday discrimination and mental disorder (11 items) among Latino and Asian immigrants in the United States. In Australian culturally and linguistically diverse communities (Ferdinand et al., 2015), people who experienced discrimination showed to be above the threshold for high or very high psychological distress: the odds ratio is 3.49 (1.82 – 6.70) for medium and 14.93 (8.23 – 27.08) for high discrimination. The current study points to the importance of considering the embodied effects of racism, prejudice and discrimination on the (re)production of health inequalities to the disadvantage of migrants. Once migrants arrive in Italy, they are likely to experience ethnic discrimination in many domains of their everyday life: as mentioned before, in this study discrimination has been investigated by taking into account the contexts of housing, employment, health care, economic/financial and insurance requests. Although in the literature, it has been highlighted that first-generation migrants usually have better overall health than native-born population, in the long term the so-called “healthy migrant effect” might be affected by the negative impact of discrimination and of social exclusion that contributes to erode migrants’ health capital. Even if duration of stay in Italy was not statistically significant in logistic regression, the univariate distribution shows that perceived discrimination was higher with the increasing of the years of residence in Italy, as well as the likelihood of experiencing physical and mental health problems. In the same direction, we could interpret odds ratio showing a statistically significant association of increased age with a higher probability of reporting worse health status, which suggests the reproduction of the phenomenon known as “exhaust migrant” effect, according to which the effects of migration process and social exclusion lead to a deterioration of migrants health status and jeopardize their ability to fully integrate into society and actively participate to social life.

As mentioned above, the association of perceived discrimination with adverse health outcomes seems to differ with respect to different factors, one of which is gender. The results of our study suggest that migrant women, compared to men, experience a higher probability of reporting worse mental and physical health outcomes. Women decide to migrate to Italy mainly in order to search for a job or for family reunion, even if these reasons might be intertwined with cultural and emancipatory motivations (Tognetti Bordogna, 2012). Women who migrate are, as women, inevitably embedded in a net of gender relations that makes them differentially vulnerable to the adverse effects of ethnic discrimination: asymmetry between men and women is related to unequal social and economic valuation of both paid work as well as unpaid work such as caregiving (Llácer et al., 2009). Compared to men, migrant women's labour market participation is mostly related to a labour market sector, that of domestic work, which is discriminating because of work overload and emotional stress conditions that hinder access to healthcare services and increase the risk of worse mental health. In addition, migrant women are subject to multiple forms of discrimination: they are discriminated against because of their foreign and gender status that relegates them in under-qualified jobs even if they have higher education levels (Tognetti, 2016).

Our analysis shows that migrant's mental health status seems to be negatively associated with precarious employment and the absence of a job. Previous studies (Burchell, 1994; Di Napoli et al., 2017; Drydakis, 2015; Farré et al., 2018; Kennedy & McDonald, 2006; Strandh et al., 2011; Vancea & Utzet, 2016; Virtanen et al., 2005) pointed to an increased vulnerability of unemployed or precarious workers due to financial hardship and the risk of poverty – which is a major challenge to health – to the absence of nonfinancial benefits as well as positive aspects of work (such as self-esteem and sense of achievement), all factors that combined with the stresses of migration affect the mental health of migrants residing in Italy. In fact, work absence or uncertainty adversely affect the ability of planning for, predicting and controlling the present and the future, and this lack of control and predictability has negative effects on mental health of individuals (Strandh et al., 2011). If unemployment may have negative effects on mental health because of the importance given to paid work in our social context and to the social status accorded to it (Jahoda, 1982) this is even more so for migrants, whose success of the migration project in the majority of cases depends on their ability to find a job in the country of arrival. Studies in European countries showed that, compared to unemployment, a higher level of employment is associated with less perceived discrimination (OECD, 2013).

Furthermore, our data suggest that migrants actively searching for a job have a higher probability of worse mental health: in fact, according to Istat survey (Istat,) the 8.5 per cent of those who have been searching for a job in Italy reported being discriminated against, and in the 90.7 per cent of cases this is attributed to the mere fact of “being foreign.” The misapprehension that migrants deprive native citizens of employment and, in the case of unemployed/inactive migrants, of welfare benefits (Ibidem), certainly contributes to fuel prejudices and stereotypes that, in turn, increase the probability of experiencing forms of discrimination that have a negative impact on migrants' health. What therefore emerges is the relevance of employment status as a crucial factor in determining migrants mental health and well-being, and in this regard, recent Covid-induced crisis and its socio-economic implications will affect especially less privileged groups to which the majority of migrants belong.

Employment status shows also an association with the likelihood of experiencing physical health problems. If, on the one hand, the fact that precarious employment as well as the absence of a job increased the probability of migrants experiencing worse mental health was an expected finding in line with previous studies, on the other hand of more difficult interpretation seem to be the results regarding migrants' perceived physical health. In fact, our analysis shows that migrants who have insecure jobs or are actively searching for a job seem to be less likely to experience a worse physical health. Similarly, Virtanen et al., (2002) in their study on the relation of contractual and perceived employment security and employees' health found that, compared to contractually less secure employment, contractually secure employment was positively associated with worse self-rated health and more chronic disease. A plausible explanation relies on the possibility that temporary workers suffered to a lesser extent from the exposure of work-related hazards, if compared to permanent employees (Ibidem); and this might be particularly significant for migrants, who are more likely than native-born to experience worse working conditions. Nevertheless, despite the fact that it is not necessarily true that any job is better than no job, it is highly improbable that precarious workers experience better physical health as a result of past unemployment or other episodes of non-employment (Ibidem). In fact, in the last decades, significant changes have taken place in the labour market of most industrialized countries and have led to an increase in precarious employment and to the progressive emergence of 'flexibility' as main objective and value (Benach & Muntaner, 2011). In this regard, the literature highlights that precarious employment is characterized by high job insecurity, low wage level, limited and temporary social benefits and powerlessness (Benach & Muntaner, 2011). Just like other social transformations, such changes are likely to have an impact also on the physical health of subjects and populations; previous studies (see Benach et al., 2014; Ferrie et al., 2008) showed that perceived job insecurity associated with temporary employment has negative effects on physical health as a result of increased stress due to the threat of job loss and the loss of social and financial job-related resources, to uncertainty as well as to overwork in which individuals engage in order to keep their job. Discontinuity in employment is associated with social deprivation, which in turn may have an impact on different social determinants of health (Benach et al., 2014). This could be particularly true for minority populations such as migrants, who also experience other forms of structural inequities that may contribute to deteriorate their health status. Therefore, the most probable explanation for the better physical health found in the case of occasional workers and in migrants searching for a job is a health-based selection (Virtanen et al., 2002). Just as for the abovementioned “healthy migrant effect,” our seemingly unexpected results might be explained by a self-selection of healthiest migrants who are physically healthy enough to undertake the migration process, to resist precarious and often physically demanding employment, as well as to cope with subsequent periods of unemployment, economic hardship, constant search for work and adaptation to a new working environment. As a matter of facts, previous studies (Claussen et al., 1993; Leino-Arjas et al., 1999) highlighted health-related selection with respect to the possibility of re-employment. Therefore, although temporary employment seems to be associated with a lower probability of migrants experiencing worse physical health, long-term detrimental effects of precariousness on health should also be taken into account in order to tackle the reproduction of inequalities among migrant and native-born populations.

Our study has some limitations worthy of mention. First, as mentioned above, data were obtained from SCIF, a Survey conducted by ISTAT (2014) several years ago, in 2011–2012. But despite the old data set, it has

to be considered that so far this is the only available source of data in Italy including relevant information for this study and, moreover, the processes underlying the association between perceived ethnic discrimination and health not only are to be considered still valid, but since in the last years there has been a constant increase in the number of the reports of discrimination based on ethnic origin² and the mechanisms of prejudice and intolerance seem to be still persistent and pervasive, it is reasonable to expect that at present the relationship could be even more significant than observed. Moreover, as usual in survey studies, the measure of discrimination available in SCIF relies on the individual's own report of one's own experience of discrimination and not on an objective observation of actual episodes of discrimination (Schunk et al., 2015). If, on the one hand, this implies relying on subjective perceptions of discrimination, on the other hand, it is nevertheless true that – as stated in Thomas theorem – if situations are defined as real, they are real in their consequences (Thomas & Thomas, 1928 in Schunck et al., 2015) and therefore the perception of being discriminated against is associated with migrants' health-related practices and outcomes, for example on the chances of accessing health services. Another limitation concerns the use of the Mental Health and the Physical Health Components of the Short-Form 12 Health Survey for immigrant population, a group for which it has not yet been validated. Therefore, the decision on establishing the thresholds below which migrants' mental and physical health are considered as “poor” is certainly questionable, although robustness tests that have been conducted point to the existence and the strength of the observed relation.

Despite anti-discrimination law existing for decades, the persistence of ethnic discrimination seems to be still a relevant cause of negative physical and mental health outcomes in migrants population living in Italy. Hence, more research is needed to better understand, and prevent, mechanisms that lead to discriminatory practices against migrants. Public policies should be developed and implemented in order to fight ethnic discrimination and to promote an inclusive cultural and social environment for migrants. Moreover, social policy should also provide adequate social and economic support in order to buffer the effects of discrimination on migrants' well-being and to advance health equity for migrant population living in Italy.

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ENDNOTES

1. For a review of the debate on ethnic inequalities in health see Gravlee (2009).
2. Retrieved from <http://www.unar.it/wp-content/uploads/2020/01/Relazione-al-Parlamento-e-al-Presidente-del-Consiglio-2018.pdf> last access 20/07/2020.

REFERENCES

- Agudelo-Suarez, A., Gil-Gonzalez, D., Ronda-Perez, E., Porthé, V., Paramio-Pérez, G., García, A.M., et al. (2009) Discrimination, work and health in immigrant populations in Spain. *Social Science & Medicine*, 68, 1866–1874.
- Agudelo-Suárez, A., Ronda-Pérez, E., Gil-González, D., Vives-Cases, C., García, A.M., Ruiz-Frutos, C., et al. (2011) The Effect of perceived discrimination on the health of immigrant workers in Spain. *BMC Public Health*, 11, 652. <https://doi.org/10.1016/j.socscimed.2009.02.046>.
- Anderson, J.S., Sullivan, F. & Usherwood, T.P. (1990) The medical out-comes study instrument (Mosi) - Use of a New Health Status Measure in Britain. *Family Practice*, 73, 205–218. <https://doi.org/10.1093/fampra/7.3.205>.

- Benach, J. & Muntaner, C. (2011) Employment and working conditions as health determinants, In Lee, J.H. & Sadana, R. (eds.), *Improving equity in health by addressing social determinants*, Geneva, Switzerland: WHO, pp. 165–195. Available from: http://whqlibdoc.who.int/publications/2011/9789241503037_eng.pdf
- Benach, J., Vives, A., Amable, M., Vanroelen, C., Tarafa, G. & Muntaner, C. (2014) Precarious employment: understanding an emerging social determinant of health. *Annual Review of Public Health*, 35, 229–253.
- Berger, M. & Sarnyai, Z. (2015) More than skin deep: Stress neurobiology and mental health consequences of racial discrimination. *Stress*, 18(1), 1–10.
- Brazier, J., Harper, R., Jones, N., O’Cathain, A., Thomas, K.J., Usherwood, T. et al. (1992) Validating the SF-36 health survey questionnaire: new outcome measure for primary care. *BMJ*, 305(6846), 160–164.
- Brondolo, E., Libby, D.J., Denton, E., Thompson, S., Beatty, D.L., Schwartz, J. et al. (2008) Racism and ambulatory blood pressure in a community sample. *Psychosomatic Medicine*, 70, 49–56.
- Burchell, B. (1994) The Effects of labour market position, job insecurity, and unemployment on psychological health. In: Gallie, D., Marsh, C. & Vogler, C. (Eds.) *Social Change and the Experience of Unemployment*. Oxford: Oxford University Press, pp. 188–212.
- Cardano, M., Scarinzi, C., Costa, G. & d’Errico, A. (2018) Internal migration and mental health of the second generation. The case of Turin in the age of the Italian economic miracle. *Social Science & Medicine*, 208, 142–149.
- Chae, D.H., Nuru-Jeter, A.M., Lincoln, K.D., Jacob Arriola, K.R., et al. (2012) Racial Discrimination, Mood Disorders, and Cardiovascular Disease Among Black Americans. *Annals of Epidemiology*, 22(2), 104–111. <https://doi.org/10.1016/j.annepidem.2011.10.009>.
- Chau, V., Bowie, J.V. & Juon, H.S. (2018) The association of perceived discrimination and depressive symptoms among Chinese, Korean, and Vietnamese Americans. *Cultural diversity & ethnic minority psychology*, 24(3), 389–399. <https://doi.org/10.1037/cdp0000183>.
- Clark, R., Anderson, N.B., Clark, V.R. & Williams, D.R. (1999) Racism as a stressor for African Americans: A biopsychosocial model. *American Psychologist*, 54(10), 805–816. <https://doi.org/10.1037//0003-066x.54.10.805>.
- Claussen, B., Bjorndal, A. & Hjort, P. (1993) Health and re-employment in a two year follow-up of the long-term unemployed. *Journal of Epidemiology and Community Health*, 47, 14–18.
- Conklin, H.D. (2011) *Perceived racism and mental health: a meta-analytic review*. Doctor of Philosophy Brigham Young University.
- Crengle, S., Robinson, E., Ameratunga, S., Clark, T., Raphael, D., et al. (2012) Ethnic discrimination prevalence and associations with health outcomes: data from a nationally representative cross-sectional survey secondary school students in New Zealand. *BMC Public Health*, 12, 45. <https://doi.org/10.1186/1471-2458-12-45>.
- Di Napoli, A., Gatta, R., Rossi, A., Perez, M., Costanzo, G., Mirisola, C., et al. (2017) Discriminazione percepita sul luogo di lavoro in quanto straniero: uno studio sulla salute mentale percepita dagli immigrati in Italia. *Epidemiologia & Prevenzione*, 41(3–4), 33–40. <https://doi.org/10.19191/EP17.3-4S1.P033.063>.
- Drydakis, N. (2015) The effect of unemployment on self-reported health and mental health in Greece from 2008 to 2013: a longitudinal study before and during the financial crisis. *Social Science & Medicine*, 128, 43–51.
- Epel, E., Lin, J., Wilhelm, F., Wolkowitz, O.M., Cawthon, R., Adler, E.A., et al. (2006) Cell aging in relation to stress arousal and cardiovascular diseases risk factors. *Psychoneuroendocrinology*, 31(3), 277–287. <https://doi.org/10.1016/j.psyneuen.2005.08.011>.
- Eurostat (2019) *Migration and migrant population statistics*, Available from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Migration_and_migrant_population_statistics [Accessed 30 March 2020].
- Farré, L., Fasani, F. & Mueller, H. (2018) Feeling useless: The effect of unemployment on mental health in the great recession”. *IZA Journal of Labor Economics*, 7(1), 1–34. <http://dx.doi.org.proxy.unimib.it/10.1186/s40172-018-0068-5>.
- Ferdinand, A.S., Paradies, Y. & Kelaher, M. (2015) Mental health impacts of racial discrimination in Australian culturally and linguistically diverse communities: a cross-sectional survey. *BMC Public Health*, 15, <https://doi.org/10.1186/s12889-015-1661-1>.
- Ferrie, J.E., Westerlund, H., Virtanen, M., Vahtera, J. & Kivimäki, M. (2008) Flexible labor markets and employee health, *Scandinavian Journal of Work, Environment and Health* (Suppl. 6), 98–110.
- Fleishman, J.A. & Lawrence, W.F. (2003) Demographic variation in SF-12 scores: true differences or differential item functioning? *Medical Care*, 41(Supplement), 75–86. <https://doi.org/10.1097/01.MLR.0000076052.42628.CF>.
- Galenkamp, H., Stronks, K., Mokkink, L.B., Yip, T. & Takeuchi, D.T. (2018) Measurement invariance of the SF-12 among different demographic groups: The HELIUS study. *PLoS One*, 13(9), e0203483
- Gee, G.C., Spencer, M., Chen, J., Yip, T. & Takeuchi, D.T. (2007) The association between self-reported racial discrimination and 12-month DSM-IV mental disorders among Asian Americans nationwide. *Social Service*, 64, 1984–1996.
- Goto, J.B., Couto, P.F.M. & Bastos, J.L. (2013) Systematic review of epidemiological studies on interpersonal discrimination and mental health. *Cadernos De Saude Publica*, 29(3), 445–459.
- Gravlee, C. (2009) How race becomes biology: Embodiment of social inequality. *American Journal of Physical Anthropology*, 139, 47–57.

- Harris, R.B., Cormack, D., Tobias, M., Yeh, L.-C., Talamaivao, N., Minster, J. et al. (2012) The pervasive effects of racism: experiences of racial discrimination in New Zealand over time and associations with multiple health domains. *Social Science and Medicine*, 74(3), 408–415. <https://doi.org/10.1016/j.socscimed.2011.11.004>
- Ikram, U.Z., Snijder, M.B., Fassaert, T.J.L., Schene, A.H., Kunst, A.E. & Stronks, K. (2015) The contribution of perceived ethnic discrimination to the prevalence of depression. *European Journal of Public Health*, 25(2), 243–248.
- ISTAT. (2014) *Condizione e integrazione sociale dei cittadini stranieri*. Available from: <https://www.istat.it/it/archivio/10825> [Accessed 6 July 2020].
- ISTAT. (2018) *Vita e percorsi di integrazione degli immigrati in Italia*. Available from <https://www.istat.it/it/archivio/230556> [Accessed 17 January 2021].
- ISTAT (2020) *Bilancio Demografico Nazionale*. Available from https://www.istat.it/it/files//2020/07/Report_BILANCIO_DEMOGRAFICO_NAZIONALE_2019.pdf [Accessed 17 January 2021]
- Jahoda, M. (1982) *Employment and unemployment – a social psychological analysis*. Cambridge: Cambridge University Press.
- Karlsen, S. & Nazroo, J.Y. (2002) Relation between racial discrimination, social class, and health among ethnic minority groups. *American Journal of Public Health*, 92, 624–630.
- Karlsen, S., Nazroo, J., McKenzie, K., Bhui, K. & Weich, S. (2005) Racism, psychosis and common mental disorder among ethnic minority groups in England. *Psychological Medicine*, 35(12), 1795–1803. <https://doi.org/10.1017/S0033291705005830>.
- Kelagher, M., Paul, S., Lambert, H., Ahmad, W., Paradies, Y. & Davey Smith, G. (2008) Discrimination and health in an English study. *Social Science and Medicine*, 66(7), 1627–1636. <https://doi.org/10.1016/j.socscimed.2007.12.005>.
- Kennedy, S. & McDonald, J.T. (2006) Immigrant mental health and unemployment. *The Economic Record*, 82(259), 445–459. <https://doi.org/10.1111/j.1475-4932.2006.00358.x>.
- Krieger, N. (1999) Embodying Inequality: a review of concepts, measures, and methods for studying health consequences of discrimination. *International Journal of Health Services*, 29(2), 295–352. <https://doi.org/10.2190/M11W-VWXE-KQM9-G97Q>.
- Krieger, N. (2000) Discrimination and health. In: Berkman, L.F. & Kawachi, I. (Eds.) *Social Epidemiology*. Oxford: Oxford University Press, pp. 36–75.
- Leino-Arjas, P., Liira, J., Mutanen, P., Malmivaara, A. & Matikainen, E. (1999) Predictors and consequences of unemployment among construction workers: prospective cohort study. *BMJ*, 319, 600–605.
- Lewis, T.T., Aiello, A.E., Leurgans, S., Kelly, J. & Barnes, L.L. (2010) Self-reported experiences of everyday discrimination are associated with elevated C-reactive protein levels in older African-American adults. *Brain, behavior, and immunity*, 24, 438–443.
- Llácer, A., Del Amo, J., Garcia-Fulgueiras, A., Ibanez-Rojo, V., Garcia-Pino, R., Jarrin, I. et al. (2009) Discrimination and mental health in Ecuadorian immigrants in Spain. *Journal of Epidemiology & Community Health*, 63, 766–772. <https://doi.org/10.1136/jech.2008.085530>.
- Mackenbach, J.P., Bos, V., Garssen, M.J. & Kunst, A.E. (2005) Mortality among non-western migrants in The Netherlands. *Nederlands Tijdschrift voor Geneeskunde*, 149(17), 917–923.
- Maurischat, C., Herschbach, P., Peters, A. & Bullinger, M. (2008) Factorial validity of the Short Form 12 (SF-12) in patients with diabetes mellitus. *Psychology Science*, 50(1), 7–20.
- Meyer, I.H. (2003) Prejudice as stress: Conceptual and measurement problems. *American Journal of Public Health*, 93(2), 262–265. <https://doi.org/10.2105/ajph.93.2.262>.
- OECD (2013) *International migration outlook*. Paris: OECD.
- Pascoe, E.A. & Smart Richman, L. (2009) Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin*, 135(4), 531–554.
- Schunck, R., Reiss, K. & Razum, O. (2015) Pathways between perceived discrimination and health among immigrants: evidence from a large national panel survey in Germany. *Ethnicity & Health*, 20(5), 493–510. <https://doi.org/10.1080/13557858.2014.932756>.
- Sellers, R.M., Copeland-Linder, N., Martin, P.P. & Lewis, R.L. (2006) Racial identity matters: The relationship between racial discrimination and psychological functioning in African American adolescents. *Journal of Research on Adolescence*, 16(2), 187–216.
- Simon, P. (2013) Discrimination against immigrants. Measurement, incidence and policy instruments, OECD, *International Migration Outlook*, 191–230.
- Strandh, M., Novo, M. & Hammarström, A. (2011) Mental health among the unemployed and the unemployment rate in the municipality. *European Journal of Public Health*, 21(6), 799–805. <https://doi.org/10.1093/eurpub/ckq147>.
- Thomas, W.I. & Thomas, D.S. (1928) *The child in America*. Oxford: Knopf.
- Tognetti Bordogna, M. (2012) *Donne e percorsi migratori*. FrancoAngeli, Milano: Per una sociologia delle migrazioni.
- Tognetti Bordogna, M. (2015) Health Inequalities: Access to Services by Immigrants in Italy” *Open Journal of. Social Sciences*, 3, 8–15. <https://doi.org/10.4236/jss.2015.34002>.
- Tognetti, M. (2016) Donne e processi migratori tra continuità e cambiamento. *Paradoxa Anno X*, 3, 69–88.

- Tucker, G., Adams, R. & Wilson, D. (2010) New Australian population scoring coefficients for the old version of the SF-36 and SF-12 health status questionnaires. *Quality of Life Research*, 19(7), 1069–1076. <https://doi.org/10.1007/s11136-010-9658-9>.
- Vancea, M. & Utzet, M. (2016) How unemployment and precarious employment affect the health of young people: a scoping study on social determinants. *Scandinavian Journal of Public Health*, 45(1), 73–84. <https://doi.org/10.1177/1403494816679555>.
- Verkuyten, M. (1998) Perceived discrimination and self-esteem among ethnic minority adolescents. *Journal of Social Psychology*, 138, 479–493.
- Virtanen, M., Kivimäki, M., Joensuu, M., Virtanen, P., Elovainio, M. & Vahtera, J. (2005) Temporary employment and health: a review. *International Journal of Epidemiology*, 34(3), 610–622. <https://doi.org/10.1093/ije/dyi024>.
- Virtanen, P., Vahtera, J., Kivimäki, M., Pentti, J. & Ferrie, J. (2002) Employment security and health. *Journal of Epidemiology & Community Health*, 56, 569–574.
- Ware, J.E., Keller, S.D. & Kosinski, M. (1998) *Sf-12: How to score the Sf-12 Physical and mental health summary scales*, 2nd edn. Boston, MA: The Health Institute, New England Center, Second Edition.
- Wiking, E., Johansson, S.E. & Sundquist, J. (2004) Ethnicity, acculturation, and self reported health. A population based study among immigrants from Poland, Turkey, and Iran in Sweden. *Journal of Epidemiology and Community Health*, 58(7), 574–582.
- Wilkinson, R.G. (1996) *Unhealthy societies*. Routledge, London: The Afflictions of Inequality.
- Williams, D.R. & Neighbors, H.W. (2001) Racism, discrimination and hypertension: Evidence and needed research. *Ethnicity & Disease*, 11, 800–816.
- Williams, D.R., Neighbors, H.W. & Jackson, J.S. (2003) Racial/ethnic discrimination and health: Findings from community studies. *American Journal of Public Health*, 93(2), 200–208.
- Wilson, D., Parsons, J. & Tucker, G. (2000) The SF-36 summary scales: Problems and solutions. *Sozial-Und Praventivmedizin*, 45(6), 239–246.
- Wyatt, S.B., Williams, D.R., Calvin, R., Henderson, F.C., Walker, E.R. & Winters, K. (2003) Racism and cardiovascular disease in African Americans: Evidence and implications for the Jackson Heart Study. *The American Journal of the Medical Sciences*, 325(6), 315–331. <https://doi.org/10.1097/00000441-200306000-00003>.

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APPENDIX

TABLE A1 Characteristics of the immigrant population by perceived discrimination. Istat, 2011–2012

		No discrimination	Discrimination	Total	N	p-value
Nationality and citizenship	Italy-Italian	78.9	21.1	100.0	636	0.001
	Foreign-foreign	72.9	27.1	100.0	14391	
Area of residence	North-West	71.1	28.9	100.0	2921	0.054
	North-East	73.7	26.3	100.0	2998	
	Centre	73.6	26.4	100.0	2732	
	South and Islands	73.5	26.5	100.0	6916	
Marital status	Unmarried	76.3	23.7	100.0	5135	0.000
	Married	72.3	27.7	100.0	7595	
	Divorced	67.8	32.2	100.0	2295	
	Widowed	76.4	23.6	100.0	542	
Gender	Male	70.5	29.5	100.0	6886	0.000
	Female	75.2	24.8	100.0	8681	
Level of education	No school education	69.8	30.2	100.0	1243	0.000
	Primary education	73.0	27.0	100.0	997	
	Lower secondary education	76.9	23.1	100.0	4899	
	Upper secondary education	71.5	28.5	100.0	6702	
	Tertiary education	70.9	29.1	100.0	1726	
Age class	15–19	93.9	6.1	100.0	996	0.000
	20–24	82.2	17.8	100.0	1336	
	25–29	73.3	26.7	100.0	1830	
	30–34	68.7	31.3	100.0	2330	
	35–39	67.8	32.2	100.0	2446	
	40–44	67.5	32.6	100.0	2132	
	45–49	69.1	30.9	100.0	1683	
	50–54	73.2	26.9	100.0	1233	
	55 and more	78.8	21.3	100.0	1581	
Employment status	Employed	69.4	30.6	100.0	8591	0.000
	Casual/seasonal workers	64.0	36.0	100.0	228	
	Self-employed	66.6	33.4	100.0	1140	
	Persons actively searching for a job	69.4	30.6	100.0	1414	
	Inactive	84.2	15.8	100.0	4194	
Duration of stay in Italy	0–4	80.5	19.5	100.0	2556	0.000
	5–9	74.1	25.9	100.0	5253	
	10 or more	69.5	30.5	100.0	7567	

TABLE A2 - Characteristics of the immigrant population by distribution of Mental Component Summary (MCS) score. Istat, 2011-2012

		Mental health >first quartile	Mental health ≤first quartile	Total	N	p- value
Discrimination	No discrimination	78.5	21.6	100.0	11381	0.000
	Discrimination	65.6	34.4	100.0	4186	
Nationality and citizenship	Italy-Italian	77.7	22.3	100.0	636	0.111
	Foreign-foreign	74.9	25.1	100.0	14391	
Area of residence	North-West	73.0	27.0	100.0	2921	0.054
	North-East	81.0	19.1	100.0	2998	
	Centre	74.1	25.9	100.0	2732	
	South and Islands	73.6	26.4	100.0	6916	
Marital status	Unmarried	79.9	20.1	100.0	5135	0.000
	Married	75.1	25.0	100.0	7595	
	Divorced	68.5	31.6	100.0	2295	
	Widowed	55.7	44.3	100.0	542	
Gender	Male	77.6	22.4	100.0	6886	0.000
	Female	73.0	27.0	100.0	8681	
Level of education	No school education	66.5	33.6	100.0	1243	0.000
	Primary education	69.8	30.2	100.0	997	
	Lower secondary education	77.1	22.9	100.0	4899	
	Upper secondary education	75.4	24.6	100.0	6702	
	Tertiary education	76.4	23.6	100.0	1726	
Age class	15-19	89.2	10.8	100.0	996	0.000
	20-24	83.6	16.4	100.0	1336	
	25-29	79.7	20.3	100.0	1830	
	30-34	79.7	20.3	100.0	2330	
	35-39	76.7	23.3	100.0	2446	
	40-44	74.6	25.4	100.0	2132	
	45-49	70.7	29.3	100.0	1683	
	50-54	65.7	34.3	100.0	1233	
	55 and more	56.0	44.0	100.0	1581	
Employment status	Employed	77.1	22.9	100.0	8591	0.000
	Casual/seasonal workers	70.2	29.8	100.0	228	
	Self-employed	74.3	25.7	100.0	1140	
	Persons actively searching for a job	68.4	31.6	100.0	1414	
	Inactive	73.4	26.6	100.0	4194	
Duration of stay in Italy	0-4	78.4	21.6	100.0	2556	0.000
	5-9	76.3	23.7	100.0	5253	
	10 or more	72.6	27.4	100.0	7567	

TABLE A3 – Characteristics of the immigrant population by distribution of Physical Component Summary (PCS) score. Istat, 2011–2012

		Physical health >first quartile	Physical health ≤first quartile	Total	N	p- value
Discrimination	No discrimination	78.5	21.5	100.0	11381	0.000
	Discrimination	65.4	34.6	100.0	4186	
Nationality and citizenship	Italy-Italian	76.9	23.1	100.0	636	0.258
	Foreign-foreign	74.9	25.1	100.0	14391	
Area of residence	North-West	73.0	27.0	100.0	2921	0.000
	North-East	81.0	19.1	100.0	2998	
	Centre	74.1	25.9	100.0	2732	
	South and Islands	73.6	26.4	100.0	6916	
Marital status	Unmarried	81.8	18.2	100.0	5135	0.000
	Married	74.3	25.7	100.0	7595	
	Divorced	68.6	31.4	100.0	2295	
	Widowed	48.0	52.0	100.0	542	
Gender	Male	77.7	22.3	100.0	6886	0.000
	Female	72.8	27.2	100.0	8681	
Level of education	No school education	64.2	35.8	100.0	1243	0.000
	Primary education	69.5	30.5	100.0	997	
	Lower secondary education	78.6	21.4	100.0	4899	
	Upper secondary education	75.2	24.8	100.0	6702	
	Tertiary education	74.9	25.1	100.0	1726	
Age class	15–19	92.6	7.4	100.0	996	0.000
	20–24	86.5	13.5	100.0	1336	
	25–29	83.2	16.8	100.0	1830	
	30–34	80.9	19.1	100.0	2330	
	35–39	77.7	22.3	100.0	2446	
	40–44	73.6	26.4	100.0	2132	
	45–49	68.9	31.1	100.0	1683	
	50–54	63.5	36.5	100.0	1233	
	55 and more	48.9	51.1	100.0	1581	
Employment status	Employed	75.5	24.5	100.0	8591	0.277
	Casual/seasonal workers	77.6	22.4	100.0	228	
	Self-employed	74.6	25.4	100.0	1140	
	Persons actively searching for a job	75.2	24.8	100.0	1414	
	Inactive	73.8	26.2	100.0	4194	
Duration of stay in Italy	0–4	78.9	21.1	100.0	2556	0.000
	5–9	77.7	22.3	100.0	5253	
	10 or more	71.5	28.5	100.0	7567	