

Self assessed health of immigrants in France

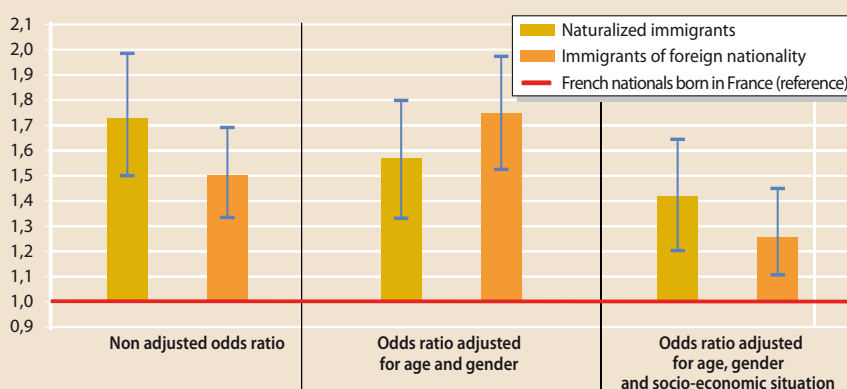
Analysis of the 2002-03 decennial health survey

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Data from the decennial health survey conducted by INSEE in 2002-2003 show that people of foreign origin living in France report worse health status than native French. Immigrants worse self assessed health is partly explained by poorer socio-economic status and working conditions. But self assessed health status also varies according to the country of origin, and more specifically according to the country's level of development. Thus, immigrants from the richest countries report a better health status than those from intermediate developed countries, suggesting that the social and health situation in countries of birth has a long-term effect on health status. Immigrants from the poorest countries also report better health status than those from intermediate developed countries. This can be explained by a health selection effect in the migration process in the poorest countries. Lastly, the fact of acquiring French nationality doesn't appear to make any difference to the health status of immigrants.

Probability of reporting poor general health status according to migration profile



Note for the reader: immigrants of foreign nationality are more likely to report poor health than French nationals born in France (non adjusted odds ratio = 1.5). For comparable age and gender, the likelihood increases (OR = 1.74). Each odds ratio is represented with a confidence interval of 95% (in blue on the graph). See the definition of the odds ratio in the Method box on page 3.

Field: people aged 18 and over who took part in the 3 survey visits and answered the questions on subjective health status.

Source: IRDES. Data: 2002/03 decennial health survey (INSEE).

If social health inequalities are now well-documented in France, the health status of certain sub-populations remain largely unexplored. This is notably the case for the immigrant population, which represented 8.1% of the French population in 2004. Until now, most of the available health surveys have lacked precise information about the respondents' nationalities and countries of birth. The 2002-03 INSEE decennial health survey, which collected information on health, country of birth and nationality (French by birth or restoration, French by naturalization, precise nationality of foreigners), allows to explore the links between nationality, immigration and health status.

In this study, we describe differences in self assessed subjective health status regarding nationality and country of origin, regrouped into 11 geographical zones, and then to determine whether these differences are explained by the economic and social situation of the immigrants in France, by the economic conditions of their country of origin or by a selection effect linked with migration (*see the Method box on page 3*)

Various hypotheses to explain why immigrants have different health status

Several mechanisms connected to the individual histories of migrants can explain the differences in health

status according to nationality and origin (see, e.g. Shaw *et al.*, 1999 and Buekens, 2001).

Firstly, the «healthy migrant selection effect» hypothesis proposes that migrants have better health status than the population of their fellow countrymen, because only those in the best health are led to migrate. This selection effect may be offset by the migrants' economic and social situation in France, most often unfavourable, because of factors such as harder working conditions, difficulties in gaining recognition for skills acquired abroad and discrimination on the labour market. Secondly, migration can cause deterioration in health status by provoking isolation through the loss of the original social network. Lastly, lack of knowledge about the health care system, imperfect mastery of the

language and difficulties in communicating with health care professionals can all result in differing uses of or responses from the health care system. In addition, health status can remain marked by health-care habits and life styles linked to the country of origin and by the economic, health or political conditions experienced before migration.

Our data enable us more specifically to explore the effects related to migration selection effects, in terms of the level of development of the country of origin and the living conditions of the immigrants in France. Although we lack data on the length of stay in France, we can examine its effect indirectly by distinguishing between foreign and naturalized immigrants, as the latter have, on average, been living in France for longer.

This research into immigrants' health status in France comes in line with a stream of researches conducted by IRDES into inequalities in health and their social determinants. It has received funding from the DREES - MiRe within the call for research projects "Secondary analysis of the 2002-2003 INSEE decennial health survey". The data enables to study the links between health status and migration profile, by distinguishing respondents between French natives, naturalized immigrants and immigrants of foreign ers.

INSEE: National institute for statistics and economic studies

MiRe: Research Mission and Directory of Research, Study, Evaluation and Statistics, French Ministry of health.

French studies on immigrant's health

In France, the health status of the immigrant population has been largely neglected, because of a lack of information about the nationality and country of birth in most of the health surveys available up until now (Chenu, 2000). A very small number of works have, however, underlined the specificity of immigrant and foreign populations as regards health status in France. Thus, analysis of the 1991-92 decennial health survey showed that people living in households comprising at least one foreigner from North Africa declared better health status than the population as a whole (Khat *et al.*, 1998). This result held true for a number of different indicators of health status, and the effect was more pronounced for men. This is consistent with the under-mortality of foreigners brought to light by several other

studies (Bouvier-Colle *et al.*, 1985; Khat and Courbage, 1995; Darmon and Khat, 2001). Analysis of the data from health and social protection surveys conducted between 1988 and 1991 has also shown that foreigners had a better health status, on average, than French natives, but also that Naturalized French citizens on the contrary, had worse health status (Mizrahi *et al.*, 1993).

More recently, analysis of the survey "Passage à la retraite des immigrants" ("Immigrants' transition to retirement") (Attias-Donfut and Teissier, 2005) has highlighted the diversity of situations with regard to health within the immigrant population of the 45- to 70-year-old age range, with migrants from Northern Europe and sub-Saharan Africa having better health than those from Southern Europe and North Africa, for

example. According to this study, the health status of immigrants deteriorates as the length of their stay in France increases. Comparison of this survey's results with those of the "Emploi du temps" ("time table-daily activities") survey carried out within the general population points to a worse overall health status among older immigrants, in keeping with the international literature (Shaw *et al.*, 1999). Lastly, analysis of the "Histoire de vie" ("Life history") survey by INSEE shows that male immigrants born in Europe and their children suffer more often from activity limitations than men born in France of two French parents, while immigrants from non-European countries and their children, on the contrary, suffer from these limitations less often (Lert *et al.*, 2007).

Immigrants declare poorer health status than French by birth...

Among the people in our sample aged 18 and over, 91% were born in France and 9% are immigrants, i.e. people who were born abroad. About two-thirds of the latter are naturalized French citizens.

Out of the whole population studied, 26% reported poor health status. This proportion varies with migration status. Naturalized and foreign immigrants declare worse health status than the native French: 36% and 31% respectively compared with 25% for the latter (see table on page 3).

These differences in health status are not linked solely to the structural differences in age and gender between the three populations. When the structural effects are taken into account immigrants are still more likely to report poor health status than native French (see table on page 4, model 1).

... due notably to their worse living and working conditions

Our analysis confirms the link between socio-economic status and health status. Thus, the probability of reporting poor health status falls significantly when the levels of education, income, social status and access to employment rise. Furthermore, couples with children report better health status than couples without children, people living alone,

single parent families and people in other situations (see table on page 4, model 2).

The immigrants' poorer health is therefore partly explained by their unfavourable socio-economic situation. Unemployment and inactivity rates are higher among this group, as is the proportion of people without any qualifications, which is 48% among the foreign

immigrants, compared with 15% of the native French. It is worth to note that immigrants are more likely to live in couples with children and are more often part of composite households (see table below).

Former analysis showed that immigrants experience or have experienced harder working conditions than the population

born in France, and this has a deleterious effect on their health status (Dourgnon *et al.*, 2008).

But there remain differences linked to migration profile

However, the socio-economic status and working conditions alone are not sufficient to explain the differences in health status compared with native



Statistical methods

METHOD

This analysis of the links between immigration, nationality and health status has been carried out using three groups of logistic regressions studying the influence of migration profile and region of birth on the probability of reporting poor health status (see table on page 5).

The first group of analyses explores the influence of migration profile on the likelihood of reporting poor health status. The analysis is conducted firstly by controlling only for age and gender (model 1), then by introducing the level of education, employment situation, profession and socio-professional category, disposable income and type of household in order to distinguish between the direct effects of migration and nationality and the indirect effects that operate through the impact of economic and social situation (model 2).

The second group of analyses was carried out with the introduction of regions of birth instead of migration profile, in order to study the heterogeneity of situations according to country of origin (models 3 and 4).

The third and last group of analyses introduces the country of birth Gross Domestic Product and Index of Human Development to test the long-term effect on health of the economic and health conditions in the country of origin (models 5 and 6).

Definition of the odds ratio

An odds ratio (OR) expresses the effect of a variable (for example the fact of being a foreign immigrant) on the probability of reporting poor health status, in relation to a reference situation (being a native French). The meaning of the association is measured by comparing the value of the OR to 1. If the OR is greater than 1, then the fact of being a foreign immigrant increases the probability of reporting poor health status.

Sample characteristics			
	Migration profile		
	French nationals born in France	Foreign immigrants	Naturalized immigrants
Health indicator			
Poor self-assessed health	24.8%	31.2%	36.0%
Good self-assessed health	75.2%	66.8%	64.0%
Socio-economic characteristics			
Age			
18-29 years old	18.9%	14.8%	9.0%
30-49 years old	38.4%	44.5%	42.7%
50-69 years old	29.0%	34.2%	29.7%
70 years old and over	13.8%	6.6%	18.6%
Gender			
Male	46.9%	49.8%	44.6%
Female	53.1%	50.2%	55.4%
Employment situation			
Employed	54.8%	47.4%	50.2%
Unemployed	5.5%	12.0%	7.9%
Student	6.0%	4.2%	2.1%
Housewife/husband	6.6%	17.1%	11.7%
Retired	24.0%	13.2%	24.4%
Other inactive	3.1%	6.2%	3.7%
Profession and socio-professional category			
Farmer	5.6%	0.9%	1.2%
Craftsperson, shopkeeper	8.1%	7.8%	9.5%
White-collar worker	14.7%	10.6%	16.7%
Manual worker	29.4%	53.8%	36.9%
Intermediate profession	23.4%	11.7%	17.2%
Manager	17.4%	12.2%	17.0%
Does not apply	1.3%	3.1%	1.6%
Level of education			
No qualifications	15.4%	48.3%	32.9%
BEPC-CAP*	45.0%	23.6%	33.3%
Baccalauréat**	16.1%	9.1%	13.0%
Bac +2 or more***	23.5%	19.0%	20.7%
Monthly income per unit of consumption (divided into quartiles)			
First quartile	22.3%	48.4%	34.7%
Second quartile	25.5%	21.9%	28.0%
Third quartile	25.6%	16.1%	19.3%
Fourth quartile	26.6%	13.6%	18.1%
Type of household			
Single person	15.8%	11.4%	13.8%
Couple with no children	31.5%	22.9%	27.3%
Couple with one or more children	42.9%	52.0%	46.7%
Single-parent family	5.6%	4.8%	6.6%
Composite	4.2%	8.8%	5.6%
Region of birth			
Northern Europe		10.5%	6.6%
Central Europe		3.3%	9.8%
Southern Europe		30.3%	27.4%
Turkey		5.2%	2.5%
North Africa		32.2%	26.0%
Middle East		1.4%	4.2%
Sub-Saharan Africa		6.9%	6.0%
Indian sub-continent + islands		2.1%	3.6%
Asia		5.0%	10.0%
America, Australia, New Zealand		3.2%	3.9%
Sample size	22,891	1,399	897

* certificate taken during secondary education, at the age of 15/16.

** school-leaving certificate taken at the age of 17/18.

*** two or more years of higher education.

Note for the reader: Among foreign immigrants, 31.2% report poor health and 47.4% are employed.

Field: People aged 18 and over who took part in the 3 survey visits and answered the questions on their health status.

Source: IRDES. Data: 2002/03 decennial health survey (INSEE).

Modelling of the probability of reporting poor health status												
	Probability of reporting poor health status											
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Odds ratio	p-value	Odds ratio	p-value	Odds ratio	p-value	Odds ratio	p-value	Odds ratio	p-value	Odds ratio	p-value
INDIVIDUAL SOCIO-ECONOMIC CHARACTERISTICS												
Age												
18-29 years old	Ref.	-	Ref.	-	Ref.	-	Ref.	-	Ref.	-	Ref.	-
30-49 years old	2.2	<0.001	2.06	<0.001	2.2	<0.001	2.07	<0.001	2.07	<0.001	2.07	<0.001
50-69 years old	5.19	<0.001	3.67	<0.001	5.24	<0.001	3.67	<0.001	3.68	<0.001	3.68	<0.001
70 years and over	13.02	<0.001	6.53	<0.001	13.2	<0.001	6.55	<0.001	6.57	<0.001	6.57	<0.001
Gender												
Male	Ref.	-	Ref.	-	Ref.	-	Ref.	-	Ref.	-	Ref.	-
Female	1.29	<0.001	1.21	<0.001	1.29	<0.001	1.21	<0.001	1.22	<0.001	1.21	<0.001
Profession and socio-professional category												
Farmer			1.37	<0.001			1.35	<0.001	1.37	<0.001	1.37	<0.001
Craftsperson, shopkeeper			1.07	0.393			1.05	0.48	1.06	0.429	1.06	0.429
White-collar worker			1.34	<0.001			1.32	<0.001	1.33	<0.001	1.33	<0.001
Manual worker			1.54	<0.001			1.51	<0.001	1.53	<0.001	1.53	<0.001
Intermediate profession			1.23	0.001			1.21	0.002	1.22	0.001	1.22	0.001
Manager			Ref.	-			Ref.	-	Ref.	-	Ref.	-
Does not apply			1.56	0.018			1.53	0.024	1.53	0.023	1.54	0.022
Level of education												
No qualifications			2.17	<0.001			2.11	<0.001	2.14	<0.001	2.14	<0.001
BEPC-CAP (secondary education certificate)			1.56	<0.001			1.54	<0.001	1.55	<0.001	1.55	<0.001
Baccalauréat (high-school leaving certificate)			1.24	0.001			1.23	0.001	1.23	0.001	1.23	0.001
Bac +2 or more (at least two years higher education)			Ref.	-			Ref.	-	Ref.	-	Ref.	-
Employment situation												
Employed			Ref.	-			Ref.	-	Ref.	-	Ref.	-
Unemployed			1.59	<0.001			1.58	<0.001	1.58	<0.001	1.58	<0.001
Student			0.71	0.008			0.71	0.008	0.71	0.01	0.71	0.01
Housewife/husband			1.24	0.001			1.24	0.001	1.25	0.001	1.24	0.001
Retired			1.57	<0.001			1.58	<0.001	1.58	<0.001	1.58	<0.001
Other inactive			3.99	<0.001			4	<0.001	4.03	<0.001	4.03	<0.001
Income available to household												
First quartile			1.47	<0.001			1.46	<0.001	1.46	<0.001	1.46	<0.001
Second quartile			1.32	<0.001			1.32	<0.001	1.32	<0.001	1.32	<0.001
Third quartile			1.1	0.059			1.1	0.052	1.1	0.062	1.1	0.062
Fourth quartile			Réef.	-			Ref.	-	Ref.	-	Ref.	-
Type of household												
Single person			1.2	0.001			1.21	0	1.34	<0.001	1.34	<0.001
Couple without children			1.18	<0.001			1.18	0	1.22	0.013	1.22	0.013
Couple with one or more children			Ref.	-			Ref.	-	Ref.	-	Ref.	-
Single-parent family			1.33	<0.001			1.34	0	1.18	<0.001	1.18	<0.001
Others			1.23	0.011			1.23	0.009	1.21	<0.001	1.21	<0.001
Migration profile												
French national born in France	Ref.	-	Ref.	-					Ref.	-	Ref.	-
Naturalized immigrant	1.57	<0.001	1.42	<0.001					1.02	0.842	1.03	0.824
Foreign immigrant	1.74	<0.001	1.26	0.001					0.88	0.268	0.88	0.273
Regions of birth												
France and French overseas territories					Ref.	-	Ref.	-				
Northern Europe					0.49	<0.001	0.59	0.008				
Central Europe					1.61	0.015	1.35	0.141				
Southern Europe					1.91	<0.001	1.49	<0.001				
Turkey					2.07	0.007	1.43	0.188				
North Africa					2.41	<0.001	1.58	<0.001				
Middle East					0.79	0.48	0.95	0.89				
Sub-Saharan Africa					1.5	0.043	1.13	0.558				
Indian sub-continent + islands					1.61	0.126	1.09	0.786				
Asia					1.53	0.027	1.42	0.079				
America, Australia, New-Zealand					0.66	0.202	0.85	0.621				
CHARACTERISTICS OF COUNTRY OF BIRTH												
Gross domestic product (GDP)												
First quartile									1.3	0.188		
Second quartile									1.58	0.001		
Third quartile									1.71	<0.001		
Fourth quartile									Ref.	-		
Human development index (HDI)												
First quartile											1.29	0.212
Second quartile											1.6	<0.001
Third quartile											1.72	<0.001
Fourth quartile											Ref.	-
MODEL FIT STATISTICS												
-2 Log L (constant only)	28 484		28 484		28 484		28 484		28 457		28 457	
-2 Log L (constant and covariates)	25 563		24 278		25 476.4		24 251.4		24 237.7		24 237.7	
Sample size	24 911		24 911		24 911		24 911		24 887		24 887	

Note for the reader: the table presents 6 models analyzing the influence of migration profile on the likelihood of reporting poor health status (the characteristics taken into account in each model are specified in the Method box on page 3). The value 2.2 indicated in the category of men aged between 30 and 49 in model 1 should be interpreted as follows: when only age and gender are taken into account (model 1), the probability for men belonging to this category is 2.2 times higher than it is for the men aged between 18 and 29 (the reference category). The reference categories are given in bold and italics. The p-value at <0.001 indicates that the risk of error is less than 0.1%. See the definition of the odds ratio in the Method box on page 3.

Field: People aged 18 and over who took part in the 3 survey visits and answered the questions on their health status.

Source: IRDES. Data: 2002/03 decennial health survey (INSEE).

French, suggesting that there are also effects related to migration. For a given economic and social situation, the likelihood of foreign immigrants reporting poor health is higher (odds ratio=1.3) than that of the native French and that of naturalized immigrants (odds ratio=1.4) (see table on page 4, model 2). This suggests that the fact of having migrated has a negative effect on health. In addition, the self-assessed health status of naturalized immigrants does not differ from that of the foreigners when controlled with socioeconomic characteristics.

Diversity according to country of origin...

Among the 2,296 immigrants in our sample, 30% were born in Southern

Europe, 30% in North Africa and 9% in Northern Europe. Then follows sub-Saharan Africa, Central Europe, Eastern Europe and Turkey. Analysis according to country of birth shows a wide diversity in health status for the different immigrant populations (see table 2, models 3 and 4).

Firstly, immigrants from Central Europe, Southern Europe, North Africa, Turkey, sub-Saharan Africa and Asia report subjective health status significantly worse for comparable age and gender at a significance level of 5%. Immigrants from Northern Europe, on the contrary, declare better subjective health status than people born in France. These differences are largely explained by socioeconomic situation in France. After controlling for social situation, only

immigrants from Southern Europe and North Africa are more likely to report poorer health status than people born in France, whereas immigrants from Northern Europe still appear to be in better health.

... related to the level of development

The differences in self-assessed health status according to region of birth that remain after the current economic and social situation of the immigrants has been taken into account suggest a long-term influence of the economic, health and political characteristics of the countries of origin. The better subjective health status of immigrants from Northern Europe could be related to the fact



DATA AND METHOD

The 2002-2003 decennial health survey

The decennial health survey (EDS) is conducted by INSEE every ten years on a representative sample of ordinary households in mainland France. The most recent survey was carried between October 2002 and September 2003. In all, 40,796 people belonging to 16,800 households were surveyed. Households were surveyed over a period of eight weeks, with three visits by interviewers, each visit being separated by four weeks. The survey collects information about the socio-economic characteristics of individuals (living conditions, professional situation, social security protection) their nationality and country of birth, their health status and their consumption of health care. It should, however, be noted that the survey excludes, by definition, the populations living in collective households and in very precarious situations, categories in which people of foreign origin are over-represented.

Area of the study

To analyse the links between migration profile (native French, foreign immigrant, naturalized immigrant) and health status, the field of this study has been limited to people aged 18 and over who took part in all three survey visits and belonging to one of the following three categories: Native French, foreigners born abroad (foreign immigrants), immigrants who have acquired French nationality (naturalized immigrants).

French nationals born abroad (n=921) were excluded from the study, because of the high proportion born in Algeria before 1962, for whom we couldn't define the contextual elements of the country of origin for a general study such as ours.

In total, the final sample consists of 22,891 people, of whom 2,296 are immigrants.

Health status measurement

Assessment of health status is based on the indicator of self-assessed health used by Eurostat in European surveys: "How is your health in general?" People who report a fair, bad or very bad general health status are compared with those who report good or very good health status.

This subjective indicator raises the problem of comparability between populations of different origins. Many studies have shown that the self-perception of health varies according to individuals' health norms and aspirations, which are in turn related to their culture (Idler and Benyamini, 1997; Shmueli, 2003; Lardjane and Dourgnon, 2007). However, other works have validated the use of different indicators of perceived health in different ethnic groups and demonstrated that in every ethnic group, worse assessed health status is consistently associated with higher prevalence of illnesses (Chandola and Jenkinson, 2000; Molines *et al.*, 2000).

The other indicators

Socioeconomic status is assessed on the basis of the level of education, employment situation, profession and socio-professional category, available income of the household and the type of household.

We used two indicators to test the long-term influence on health of the economic and health conditions of the countries of origin: per capita Gross Domestic Product (GDP) and the Human Development Index (HDI) developed by the United Nations Development Programme (UNDP). Per capita GDP enables us to take into account the level of economic development of the country of origin. The HDI is used to take into account the level of education, measured by the literacy rate, and health conditions, approximated by life expectancy. Because of a lack of information about the date of entry into France, the indicators for 2006 were used. For all the surveys, these two indicators were introduced into the analysis in quartiles.

that in their countries of origin they experienced more favourable conditions, on average, than immigrants from North or sub-Saharan Africa. We have tried to test this hypothesis by alternately introducing two development indicators into the analysis: per capita GDP and the HDI for the country of birth (see the Data and method box on page 5). This approach brings to light a significant influence of these indicators on health status, explaining the differences related to immigrants' countries of origin.

First, people born in intermediate developed countries have, *ceteris paribus*, a higher probability of reporting poor health status than people born in the most developed countries. This result would tend to confirm that the level of development of the country of origin has a long-term protective effect. However, we also observe that immigrants born in the least developed countries do not have a significantly different self-assessed health status from immigrants born in the richest countries. This result is consistent with the findings of Beckman *et al.* (2004, 2006). It may reflect a selection effect for migration for migrants coming from the poorest countries, whereby migration is easier for people in very good health (see the table on page 4, models 5 and 6).



This study brings to light the existence of health inequalities between native French and people born abroad, and among the latter according to the country of birth. These inequalities are partly explained by the poorer economic and social conditions of immigrants in France.

Differences in health status according to country of origin are also related to the latter's level of economic development, for comparable current individual economic and social conditions. Results suggest a long-term effect on health status of the health and social situation in the country of birth: people from the richest countries report better health status than those from intermediate developed countries. However, people

from the poorest countries also report better health status than those from intermediate developed countries. This can be explained by more pronounced selection for migration in the poorest countries. Lastly, there does not appear to be any difference in health status between foreign immigrants and the naturalized. These results show the diversity in health situations according to the country of origin, and confirm the interest of this type of research, looking beyond the simple

question of nationality by also taking into account the country of birth. Two works in progress at IRDES continue to explore these issues, one drawing on the INSEE health survey to analyse immigrants' use of health care, and the other completing the present study of the health status of immigrant populations using information on the length of stay in France and the access to social capital, based on data from the 2004 ESPS survey (Health, Health Care and Insurance Survey).



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