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Does Labor Market Position Explain the Differences in Self-Rated Health between Employed Immigrants and Native Swedes: a Population-Based Study from Southern Sweden

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Abstract

Many groups of immigrants have worse health than the native population in the host countries. One possible explanation for this is that immigrants are disadvantaged in the labor market, since it has been shown that both precarious and locked-in labor market position can be associated with health problems. However, no published study to date has analyzed the prevalence or consequences of locked-in labor market position among immigrants. The aim of the current study is to analyze the labor market using a population-based survey. More concretely to investigate to what extent immigrants are over-represented in locked-in labor market positions and to what extent this can explain the health disadvantage among immigrants. The study is based on a dataset of the 20,449 individuals, who in the year 2000 were aged 18–64, from a survey of a representative sample of the population in the Scania region with citizen or resident status of southern Sweden, the Public Health in Scania Study conducted by the Unit of Social Medicine at Lund University, Malmö University Hospital (MAS). Respondents born abroad with Swedish parents had the highest employment rate (81.5%), with 73.7% of the employed on permanent contracts followed by participants born in Western Europe excluding the Nordic countries (81.4%), with 66.4% permanently employed, followed by native Swedes (79.1%), with 76.9% permanently employed. The lowest employment rate was observed among those born in the Middle East and North Africa, 49.4%, with 36.8% permanently employed and 19.1% self-employed. Employed participants born in the Middle East or North Africa had an excess risk of poor self-rated health if they were in a double locked-in as well as not locked-in situation, compared with native Swedes in the same labor market situations (OR = 2.18 and 2.04, respectively). In conclusion, it appears that selection into less preferred occupations or workplaces cannot explain the excess risk of poor health among immigrants from outside of Western world. Further studies, including qualitative ones, should provide detailed information from immigrants about their labor market position and the reason behind it.

Keywords Self-rated health · Labor market position · Immigrants

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Introduction

Immigrant populations across Europe have poorer health than the native populations (Lanari et al. 2015; Witvliet et al. 2014; Taloyan et al. 2006, 2008, 2010; Johansson et al. 2012). A number of explanations for this are plausible and not mutually exclusive: material deprivation and adverse exposures in the country of origin, including the effects of war, strain related to migration itself, as well as exposures in the new country of residence, ranging from overt discrimination to subtle disadvantages (Johansson et al. 2012; Borrell et al. 2015; Klinthall and Lindstrom 2011; Lindstrom et al. 2001). Some differences may also be attributable to genetic factors, diet, and levels of health literacy (Jonsson et al. 2013). A major concern of policy makers is that a disproportionate number of immigrants are excluded from the labor market (Migrationsinfo 2011), or end up in jobs with low pay, low status, low job security, and/or poor physical and psychosocial working conditions, with possible detrimental effects on health (Statistics S 2011; Hagos n.d.). A special concern is that many immigrants are not able to find a job in their own occupation and often have to accept jobs far below their level of qualification. On the other hand, reduction of the inequality in good health can be done by avoiding of the segregation at the labor market.

The reasons why it is difficult for immigrants to get jobs in Sweden have been discussed for a long time. Increased demand on competence and language skills, lack of contacts and/or professional networks, and negative attitude among employers are some of the reasons that have been suggested (Hagos n.d.). Several reports show that immigrants often chose to start their own businesses to overcome unemployment (Statistics S 2011). Even highly educated immigrants often prefer self-employment since the alternatives tend to be poorly paid. A further sign of ethnic segregation is that immigrants tend to work with people of the same ethnic origin as themselves (Åslund and Nordström Skans 2010). To our knowledge, however, no study has investigated to what extent employed immigrants themselves experience this segregation as a problem.

A Swedish study from the 1990s reported that approximately 25% of permanent employees in general (regardless of ethnic origin) were in an undesired occupation (Aronsson and Göransson 1997; Aronsson and Göransson 1999), while another reported that 36% of permanent employees were in a non-preferred occupation and/or worked in a non-preferred workplace (Aronsson et al. 2000). These studies furthermore indicated that such 'locked-in' workers had more health problems, such as upset stomach, fatigue, and discomfort than other employees. Following Aronsson (Aronsson and Göransson 1999), this phenomenon is below called 'locked-in position'.

The aim of the current study is to analyze the labor market using a population-based survey. More concretely to investigate to what extent immigrants are over-represented in locked-in labor market positions and to what extent this can explain the health disadvantage among immigrants.

Methods

We selected the 20,449 individuals, who in the year 2000 were aged 18–64, from a survey of a representative sample of the population in the Scania region

with citizen or resident status of southern Sweden, the Public Health in Scania Study conducted by the Unit of Social Medicine at Lund University, Malmö University Hospital (MAS).

Dependent Variable

Self-rated health (SRH) was assessed by the well-validated question (Svedberg et al. 2006; McEwen et al. 2009; Miilunpalo et al. 1997; Fayers and Sprangers 2002) "How do you perceive your general health?" with five response options: (1) very good, (2) good, (3) neither good nor poor, (4) fairly poor, and (5) very poor, where options 3–5 were regarded as suboptimal health.

Intermediate Variable

Locked-in labor market position was based on two questions:

- Your current company/workplace, is it the workplace you would like to work in the future?
- Is your current occupation the occupation you would like to have in the future?

Depending on the combinations of responses ("yes" and "no"), workers were classified into four groups. The first one included those who wanted to work in the same workplace in the future and were also in their preferred occupation—not-locked-in (NL). The second group was working in occupations they did not desire to have in the future but in a workplace they were satisfied with—occupationally locked-in (OL). The third group was working in their preferred occupation but not in a workplace they wanted to continue working in—workplace locked-in (WPL). Finally, if the individuals were satisfied neither with their workplaces nor with their occupations, they were considered to be double-locked–in (DL).

Independent Variables

Country of birth was defined as native Swedes (Swedish born with both parents born in Sweden) and persons born outside of Sweden categorized as (1) Nordic region (Scandinavian countries); (2) Western Europe including USA, Canada, and Australia; (3) Eastern Europe including the former Soviet Union; (4) Latin America; (5) East Asia; (6) Middle East and North Africa; and (7) Sub-Saharan Africa. Swedish-born persons with both parents born abroad were categorized separately.

Covariates

Socio-demographic characteristics were derived from the questionnaire responses: *age* (classified into the age groups 18–30, 31–50, and 51–64), *sex*, *education* (*divided into* ≤ 9 years, 10–12, and > 12 years), and employment type (categorized into: permanent, self-employed, temporary, and other).

Statistical Analyses

Calculation of the prevalence of the outcome variable—suboptimal SRH in total, for the four groups of locked-in and for employed individuals was performed separately by age, sex, and education and respondent's country of birth.

Unconditional logistic regression was used to calculate the odds ratios (ORs) and 95% confidence interval (95% CI) in five models as shown in Table 2. All presented models are final and were calculated separately for the four labor positions. The fit of the models was judged by the Hosmer-Lemeshow goodness-of-fit test. The models were considered acceptable if $p > 0.05$, and all models met this demand (Holmer and Lemeshow 2002). All analyses were performed using STATA version 11.2 for Windows (College Station, TX, USA).

Results

In total, the number of respondents included in this study was 20,449, of which 15,766 (77.1%) were in gainful employment. Table 1 presents demographic information by country of birth. The majority were native Swedes (born in Sweden with Swedish-born parents). The largest group of those born outside of Sweden was born in Eastern Europe including the former Soviet Union ($n = 963$) followed by persons born in other Nordic countries than Sweden ($n = 543$). There were also 1479 second generation immigrants, i.e., persons born in Sweden with either or both parents born abroad. There were significant differences regarding age, sex, education, and employment between groups of different origin. Short education was most common among those born in East Asia (31.1% with 9 years or less of schooling), followed by those from the Middle East and North Africa (27.4%). Higher education was most common (50.9% with more than 12 years of schooling) among participants from Western Europe (excluding Sweden and other Nordic countries) followed by those born in Sub-Saharan Africa (44.7%). Respondents born abroad with Swedish parents had the highest employment rate (81.5%), with 73.7% of the employed on permanent contracts. Participants born in Western Europe excluding the Nordic countries had the second highest employment rate (81.4%), with 66.4% permanently employed, followed by native Swedes (79.1%), with 76.9% permanently employed. The lowest employment rate was observed among those born in the Middle East and North Africa, 49.4%, with 36.8% permanently employed and 19.1% self-employed (the highest proportion in the sample). The largest proportion of temporary employees was found among employed persons born in Sub-Saharan Africa (39.3%).

Suboptimal SRH was most prevalent among respondents with their origin in the Middle East and North Africa, both in the total sample (42.0%) and among those in permanent employment (38.1%), followed by those born in Eastern Europe and the former Soviet Union (40.8% in the total sample and 34.7% among those who were permanently employed) (Table 2). The second highest prevalence of suboptimal SRH among employed participants, however, was among those from Sub-Saharan Africa (35.7%). The lowest prevalence in the whole sample was among second generation immigrants (24.9%) followed by native Swedes (27.2%). Among those in permanent employment, the lowest prevalence was found in those born in Western Europe

Table 1 Descriptive statistics for the participants in the sample who were aged < 65 years by country of birth (Chi²-test of association), $n = 20,449$

	All respondents aged < 65										
Country of birth	Total (*n*)	Age (years), row %			Sex, row %		Education (years), row %			In gainful employment *n* (%)	Suboptimal self-rated health
		18–30	31–50	51–64	Men	Women	≤ 9	10–12	> 12		
p value				< 0.0001		< 0.0001		< 0.0001		< 0.0001	< 0.0001
Native Swedes	16,234	22.7	39.4	37.9	45.3	54.7	17.8	46.5	35.7	12,835 (79.1)	4322 (27.2)
Nordic region	543	10.7	38.3	51.0	42.2	57.8	22.8	43.7	33.5	403 (74.2)	187 (35.2)
West Europe inc. USA, Canada, Australia	285	14.0	43.5	42.5	50.9	49.1	10.3	38.8	50.9	232 (81.4)	77 (28.1)
Eastern Europe	963	21.7	47.1	31.2	41.9	58.1	17.8	48.8	33.4	602 (62.5)	382 (40.8)
Latin America	80	27.5	50.0	22.5	40.0	60.0	14.1	43.6	42.3	61 (76.3)	27 (34.6)
East Asia	165	26.7	54.5	18.8	35.8	64.2	31.1	31.1	37.8	100 (60.6)	54 (34.8)
Middle East, North Africa	308	29.5	54.2	16.2	52.3	47.7	27.4	36.3	36.3	152 (49.4)	125 (42.0)
Sub Saharan Africa	41	26.8	68.3	4.9	31.7	68.3	7.9	47.4	44.7	28 (68.3)	12 (29.3)
Second generation immigrants	1479	33.8	49.8	16.4	39.9	60.1	15.8	46.0	38.2	1102 (74.5)	360 (24.9)
Foreign born with both parents born in Sweden	351	24.5	30.8	44.7	57.3	42.7	24.6	45.3	30.1	251 (81.5)	97 (28.1)
Total sample	20,449									15,766 (77.1)	

Table 2 Prevalence of suboptimal self-rated health (SRH) by country of birth, employment status, and locked-in labor market position

In employed respondents aged < 65 only Country of birth	Employment type, row %				Labor market position, row %				Suboptimal self-rated health *n* (%)
	Self-employed	Permanent	Temporary	Other	Not locked in *n* (%)	Occupationally locked in *n* (%)	Workplace locked in *n* (%)	Double l ocked in *n* (%)	
p value (Chi-square test)				< 0.0001				< 0.0001	< 0.0001
Native Swedes	9.4	76.9	10.9	2.9	8419 (66.4)	579 (4.6)	1123 (8.9)	2563 (20.2)	3004 (23.9)
Other Nordic countries	9.4	77.4	10.2	3.0	271 (68.4)	24 (6.1)	36 (9.1)	65 (16.4)	114 (28.7)
Western Europe[a]	14.7	66.4	13.8	5.2	138 (60.3)	12 (5.2)	27 (11.8)	52 (22.7)	48 (21.6)
Eastern Europe and former Soviet Union	7.6	67.4	20.1	4.8	321 (53.5)	67 (11.2)	43 (7.2)	169 (28.2)	205 (34.7)
Latin America	4.9	60.7	26.2	8.2	31 (53.5)	6 (10.3)	4 (6.9)	17 (29.3)	18 (29.5)
East Asia	13.0	46.0	32.0	9.0	52 (52.0)	10 (10.0)	5 (5.0)	33 (33.0)	33 (34.7)
Middle East and North Africa	19.1	36.8	29.6	14.5	46 (31.7)	13 (9.0)	16 (11.0)	70 (41.3)	56 (38.1)
Sub-Saharan Africa	3.6	53.6	39.3	3.6	11 (42.3)	1 (3.9)	3 (11.5)	11 (42.3)	10 (35.7)
Second generation immigrants	9.8	68.2	17.1	5.0	600 (54.7)	59 (5.4)	128 (11.7)	309 (28.2)	238 (22.0)
Foreign born with both parents born in Sweden	13.6	73.7	8.8	4.0	165 (66.3)	15 (6.0)	29 (11.7)	40 (16.1)	56 (22.8)

[a] Including USA, Canada, and Australia but excluding the Nordic countries

[b] Omitted due to lacking number of respondents in cell

excluding the Nordic countries (21.6%) followed by second generation immigrants (22.0%), Foreign Born with Swedish Parents (22.8%), and native Swedes (23.9%).

Table 2 shows that respondents with their origin in Sub-Saharan Africa, followed by those from the Middle East and North Africa, had the highest prevalence of a double locked-in working situation (42.3 and 41.3%, respectively). Foreign born participants with both parents born in Sweden, followed by those born in other Nordic countries, reported the lowest prevalence of being double locked-in which was lower than in Swedes (16.1, 16.4, and 20.2%, respectively). Satisfaction with both occupation and workplace (not locked-in) was most common among employed participants born in other Nordic countries than Sweden (68.4%), followed by native Swedes (66.4%) and foreign born participants with both parents born in Sweden (66.3%). This was least common among those born in the Middle East and North Africa (31.7%) followed by those from Sub-Saharan Africa (42.3%).

Table 3 presents the results of logistic regression analyses of the risk for reporting suboptimal SRH in a model including all participants regardless of employment status but adjusted for age, sex, and education; plus in four models with only employed participants stratified by the four groups of locked-in labor market position and additionally adjusted employment type. In the model with all participants, those born in the Middle East or North Africa, followed by those born in Eastern Europe and the former Soviet Union, in Latin America, East Asia, and in the Nordic Region apart from Sweden, had significantly higher odds for reporting suboptimal SRH than native Swedes (OR = 2.45, 1.97, 1.63, 1.58, and 1.35, respectively). Employed participants born in the Middle East or North Africa had an excess risk if they were in a double locked-in as well as not locked-in situation, compared with native Swedes in the same labor market situations (OR = 2.18 and 2.04, respectively). Employed participants from Eastern Europe and the former Soviet Union had an excess risk in all labor market situations apart from the double-locked in, compared to native Swedes in the same situations (OR = 1.93–2.07).

Discussion

In this large, population-based study, we observed that, compared to those born in Sweden with Swedish parents, suboptimal self-rated health was more common in respondents born outside of Western Europe, but also in other Nordic countries, with at least one parent of non-Swedish origin. This pattern was largely retained also in employed participants and after taking locked-in position into account, although the association with country of birth became statistically non-significant in some combinations of this and labor market situation. This indicates that the poorer self-rated health among immigrants cannot be explained by selection into less preferred occupations and workplaces: the odds for reporting suboptimal self-rated health about twice as high among participants born in Middle East and North Africa, as well as in Eastern Europe and the former Soviet Union, the compared with respondents born in Sweden also if they were employed in their preferred occupation and workplace, as well as in some other labor market position.

In agreement with other studies, our results show that persons of Swedish and Western European origin report better health than first generation immigrants (Lanari

Table 3 The risk (OR and 95% CIs) for reporting suboptimal self-rated health in all participants adjusted for age, sex, and education, as well as in and four analyses of employed persons stratified by labor market position and additionally adjusted for employment type

	Odds ratio (95% CI) for suboptimal self-rated health				
	All participants	Employed participants only			
Country of origin	Adjusted for age, sex and education	DR	OL	WPL	DL
Sweden	Reference	Reference	Reference	Reference	Reference
The Nordic region apart from Sweden	*1.35* (1.11–1.63)	0.95 (0.70–1.30)	1.16 (0.46–2.92)	2.06 (0.98–4.34)	1.49 (0.87–2.55)
Western Europe[1]	1.15 (0.87–1.52)	0.63 (0.38–1.05)	2.13 (0.64–7.07)	1.43 (0.57–3.58)	0.94 (0.49–1.81)
Eastern Europe, former Soviet Union	*1.97* (1.71–2.26)	*1.93* (1.51–2.48)	*2.04* (1.18–3.53)	*2.07* (1.04–4.10)	1.04 (0.73–1.49)
Latin America	*1.63* (1.00–2.66)	1.03 (0.42–2.57)	1.40 (0.24–8.02)	1.33 (0.13–13.27)	2.18 (0.77–6.13)
East Asia	*1.58* (1.11–2.25)	1.56 (0.82–2.97)	2.53 (0.68–9.41)	1.02 (0.10–10.12)	1.25 (0.57–2.74)
Middle East, North Africa	*2.45* (1.91–3.14)	*2.04* (1.03–4.06)	1.53 (0.45–5.19)	0.49 (0.10–2.31)	*2.18* (1.26–3.77)
Sub Saharan Africa	1.58 (0.79–3.15)	2.74 (0.80–9.54)	No observ.	1.13 (0.10–12.64)	2.41 (0.72–8.08)
Second generation immigrants	1.05 (0.92–1.19)	0.95 (0.76–1.20)	0.65 (0.32–1.33)	1.01 (0.63–1.62)	1.06 (0.81–1.39)
Foreign born with both parents born in Sweden	1.00 (0.78–1.27)	0.94 (0.64–3.70)	0.50 (0.13–1.93)	0.90 (0.35–2.28)	0.90 (0.43–1.90)
Age (years)					
18–30	Reference	Reference	Reference	Reference	Reference
31–50	*1.45* (1.32–1.58)	*1.60* (1.28–1.98)	*2.05* (1.28–3.28)	1.08 (0.77–1.51)	*1.58* (1.31–1.91)
51–64	*2.42* (2.21–2.65)	*2.74* (2.21–3.40)	*2.92* (1.70–5.01)	*2.37* (1.62–3.47)	*2.86* (2.27–3.60)
Sex					
Men	Reference	Reference	Reference	Reference	Reference
Women	*1.36* (1.27–1.45)	*1.21* (1.10–1.33)	0.93 (0.67–1.30)	*1.65* (1.26–2.17)	*1.36* (1.1 6–1.60)
Education (years)					
≤ 9	Reference	Reference	Reference	Reference	Reference
10–12	*0.75* (0.69–0.82)	*0.69* (0.61–0.79)	*0.63* (0.40–0.99)	0.65 (0.41–1.05)	0.99 (0.79–1.24)

Table 3 (continued)

	Odds ratio (95% CI) for suboptimal self-rated health				
> 12	*0.43* (0.39–0.47)	*0.47* (0.41–0.54)	*0.46* (0.28–0.76)	*0.38* (0.24–0.62)	*0.63* (0.49–0.81)
Employment type					
Permanent		Reference	Reference	Reference	Reference
Self-employed		1.00 (0.86–1.17)	0.92 (0.46–1.84)	0.58 (0.31–1.10)	0.92 (0.62–1.38)
Temporary		*1.28* (1.01–1.61)	1.25 (0.56–2.78)	*0.47* (0.23–0.96)	0.80 (0.52–1.24)
Other		*1.52* (1.07–2.16)	1.91 (0.63–5.76)	0.75 (0.32–1.77)	1.11 (0.66–1.87)

NL not-locked, *OL* occupationally locked-in, *WPL* workplace locked-in, *DL* double locked-in

Italic figures indicate significance

et al. 2015; Witvliet et al. 2014; Taloyan et al. 2006, 2008, 2010; Johansson et al. 2012). In particular, it has been shown that immigrants to Sweden from the former Soviet Bloc, i.e., from Poland and other Eastern European countries, had a twofold odds of reporting psychiatric illness and psychosomatic complaints (Blomstedt et al. 2007). Twenty-four percent of the Eastern European respondents in our sample were born in Poland, and 50.1% of them worked in blue-collar job (31.0% in unskilled) as compared with 39.0% in the total sample (22.4% unskilled), which might have influenced the outcome. In addition, another 25% came from war and war-related conditions in Bosnia-Hercegovina. The excess risk among immigrants to Sweden from the Middle East/North Africa, Latin America, and East Asia, on the other hand, has to our knowledge reported to little extent in the international literature. It is also notable that second generation immigrants do not appear to differ from native Swedes in terms of self-rated health. A possible explanation for the differences between both Swedish and foreign born, and particularly between first and second generation immigrants, could be cultural differences in how health is talked about, rather than to real differences in perceived health. The large discrepancy in health rating between first and second generation immigrants could also be due to the latter favorably comparing their own health to the health of people in their parents' generation.

This is in agreement with previously published studies showing that those who had an undesired occupation or/and workplace reported more fatigue and gastro-intestinal problems than others (Aronsson et al. 2000). Also, the prevalence of locked-in labor market position observed in our study agrees with those seen in other studies (Aronsson and Göransson 1997, 1999). Previous studies have, however, not reported prevalence of locked-in position by country of birth, and our study therefore adds new knowledge in this field, indicating that a double locked in position is particularly prevalent among those born in Africa or Asia. However, the sample of individuals born in Africa was too small for drawing of general conclusions.

The decision to stay in an unwished job, with potential negative consequences on health, might be based on limited opportunities to find another job. The underlying reason for dissatisfaction with the job might also be that the individual has poor health. Both these reasons might be particularly common among immigrants and explain the higher prevalence of locked-in labor market position among those born outside of the Nordic countries. Low level of education is another factor which could increase the risks both for staying in an unwished job and for illness. However, people could also have strategic reasons for accepting a non-preferred job, for instance in order to get a foothold in the labor market, which could also contribute to the higher prevalence among immigrants.

The result that the excess risk of poor self-rated health associated with being born in certain areas of the world is not lower among those in both their preferred occupation and workplace is somewhat surprising. This appears to be in contrast to earlier studies which have found that immigrants who are unable to get employment in a job in an appropriate qualification level have poorer health than those with low education. The fact that labor market situation as defined in this paper appears not to explain the excess risk for poor health associated with being foreign born is particularly true for immigrants from the Middle East, North Africa, Eastern Europe, and the former Soviet Union. One possible explanation for this might be that these areas have been characterized by war or war like circumstances, and that traumatic experiences from this

persist relatively independently of occupational conditions in the host country. Our results thus challenge findings from other studies which have concluded that post-migration factors, such as structural barriers in the host country, are more important for general health than pre-migration experiences (Blomstedt et al. 2007).

However, moving to a new country and starting a new life is challenging and the process of adaptation is a stress factor in itself. The reason for migration may influence the adaptation in a new country: those who came to seek work or study by their own choice tend to experience less stress than those who had to escape the country of birth due to war or war-related reasons (Perreira and Ornelas 2013; Sondergaard et al. 2001; Bhugra 2004; Krupinski 1984; Hondius et al. 2000).

The main strengths of the study are that the study is based on a large and regionally representative population sample and that country of birth both for the participants and their parents is known for all respondents through linkage to administrative register data. However, there are also some limitations. Foremost among these are the cross-sectional nature of the data, which makes it impossible to disentangle whether labor market situation influences health or vice versa, or whether any health problems preceded immigration or not. Furthermore, since the questionnaire was available only in Swedish, another bias is that majority of those participants had good skills in Swedish language and immigrants with limited skills in the Swedish language are likely to be over-represented among non-respondents. Other likely biases are that those with high education might have been more prone to respond, and that people coming from countries where the citizens do not trust the authorities might be reluctant to respond. Further limitation is that we lack information about the individual reasons for migration as well the time point of resettlement, which makes it more difficult to draw conclusions from the results.

Another limitation is the way in which locked-in labor market position has been measured. We operationalized being locked in as working in a non-preferred occupation and/or workplace. Such responses could, however, be due to temporary mismatches which do not necessarily mean that the person is 'locked in' in the mismatch situation, at least when it comes to dissatisfaction with the workplace. An indication that this might be a problem is that having a temporary contract actually appears to be protective among those who are defined as workplace (as opposed to occupationally) locked in. This should thus likely not be interpreted as a positive effect of temporary contracts, but rather as a sign that some persons have been misclassified as workplace locked in.

In conclusion, it appears that selection into less preferred occupations or workplaces cannot explain the excess risk of poor health among immigrants from outside of Western world. Further studies should preferably, qualitative studies, provide more detailed information from immigrants about their labor market positions and the reason behind it.

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