Overeducation among the Second Generation in Western Europe

A cross-country comparison focusing on labour market characteristics

Ana Tramošljanin

Department of Sociology, Demography Unit (SUDA)

Master's Thesis 30 HE credits

Multidisciplinary Master's program in Demography, 120 credits
Spring term 2023

Supervisor: Siddartha Aradhya

Stockholms universitet

Abstract

This thesis investigates overeducation as an aspect of integration among the second generation in Western Europe. As the second generation grows and establishes themselves in the labour market, research about their labour market outcomes becomes increasingly important. Using nine rounds (2002-2018) of the European Social Survey (ESS), this thesis investigates the impact of being a second generation on the probability of being overeducated in Western Europe. An overeducation-measure is developed using the realised matches-approach and weighted linear probability models are performed on pooled and country-stratified samples. The thesis takes into account labour market supply-and demand-side characteristics to discuss possible mechanisms behind the results. The results show that across Western Europe, the second generation faces a higher probability of being overeducated compared to their native counterparts. The UK stands out, where the second generation is subject to an 8,53-percentage point higher probability of being overeducated than the natives. Parental origin and level of education are important supply-side factors, where the second generation with parents from non-EU countries and those with non-tertiary educated parents have higher probabilities of being overeducated. On the demand-side, employment and unemployment protection regulations are associated with overeducation, where stricter employment protection and higher net replacement rates in unemployment is associated with lower probabilities of overeducation among the second generation. This thesis highlights the importance of assessing the labour market supply- and demand-side characteristics in research about labour market outcomes for the second generation, and contributes to the research field with the comparative perspective.

Keywords

Overeducation, the second generation, labour market dynamics, supply-side characteristics, demand-side characteristics

Contents

Introduction

Labour market integration of immigrants and their children (the second generation) has been studied from several angles, typically focusing on employment, wages, and sometimes occupations. While the second generation fares better than their parents in education, employment, and wages, they still suffer worse outcomes than their native peers (Heath, Rothon and Kilpi, 2008; Carlsson 2010,267; Drouhot and Nee, 2019). Research also shows that second-generation immigrants have higher unemployment rates than their native counterparts (Heath, Rothon and Kilpi 2008,218; Drouhot and Nee 2019,178; Aradhya, Grotti and Härkönen 2023,1). Considering that the second generation are born in the host country of their parents; they have the same access to education as their native peers and should converge to natives' labour market outcomes according to classical assimilation theory. They are however disadvantaged in the labour market, with higher unemployment rates, partly due to difficulties finding a job (Quillian *et al.* 2017,10870; 2019,479; Quillian, Lee and Oliver 2020,735). Difficulties finding a job may lead to a situation where an individual is forced to take a job that they are overeducated for – that is, the education that the individual has exceeds the education required for the job. It is at the intersection of these two phenomena – having the required education, but difficulties finding a job matching the education - that overeducation, or labour market mismatch, occurs.

The scope of integration challenges will be better understood once overeducation among second-generation immigrants is properly investigated. Second generations have the unique position in the labour market of being brought up and educated in the same society as the natives, but they have foreign roots which for many of the second-generation groups has proven to be a disadvantage when it comes to finding a job (Heath, Rothon and Kilpi 2008,218; Quillian *et al.* 2017,10870). Difficulties finding a job can leave the individual with the choice of either being unemployed or accepting a job for which they are overqualified.

The issue with overeducation is multifaceted. From a societal point of view, human capital and resources are inefficiently allocated when a person's skill set is not utilised in the best possible way. Employers with overeducated employees might also experience a higher turnover rate as

the theory of career mobility suggests that employees who are overeducated expect to be promoted – if they are not, they are more likely to quit (Sicherman and Galor 1990,170-171). From an individual point of view, overeducated individuals suffer worse earnings growth (Korpi and Tåhlin 2009,192), worse health outcomes (Dunlavy, Garcy and Rostila 2016,37), and are less satisfied with life (Smith and Frank 2005,831). In relation to properly matched individuals, overeducated individuals may have higher wages than their colleagues but worse outcomes than those with the same level of education but properly matched.

Using overeducation as an angle of labour market integration, this thesis will explore whether different labour market dynamics and social models present differences in labour market mismatch by comparing eight countries located in Western Europe (Belgium, Germany, France, the Netherlands, Switzerland, the UK, Sweden and Norway). Different types of welfare state models (social models) and different employment and unemployment protection indicators might correlate with the incidence of overeducation, therefore a comparison gives a clearer picture of what macro-level factors might influence the existence of overeducated individuals. This analysis is one of the main contributions of this thesis. The second generation are an important population to focus on, not only because it allows for implicit control of many unobserved factors such as language, institutional awareness, and transferability of educational qualifications. The second generation and their situation in the labour market also indicates future developments of inequality and can be directly understood as whether the integration of individuals with foreign background works or not.

Overeducation among the second generation, specifically focusing on demand- and supply-side characteristics of the labour market has been overseen in previous research. This thesis aims at contributing to the still small research field of overeducation among the second generation, by applying a comparative perspective. The country-comparisons deliver insightful and policy-relevant knowledge and understanding about how demand-side characteristics relate to the incidence of overeducation among the second generation.

Background and Theory

Why study the second generation?

The second generation are children born in the host country of their immigrant parents. There are specific reasons to study them in relation to integration and social stratification. While there is plenty of evidence pointing at some first-generation immigrant groups having difficulties establishing themselves in the labour market of the host country, classical assimilation theory predicts an intergenerational convergence which should be evident in the trajectory of their children (Alba and Nee 1997,834). Therefore, studying the second generation and their labour market outcomes will enable an understanding of current and future developments in integration and social-ethnic stratification.

Studying the second generation needs consideration of the heterogeneity of this population, in particular their ethnic background. Previous research neatly reviewed by Drouhot and Nee (2019) reports differences in educational attainment depending on parental country of origin; for example, European-origin migrants and their children are better integrated than for example Turks and North Africans. Some second-generation and higher-order immigrants outperform the natives, while others – arguably the ones with culturally more distant ethnic backgrounds – lag behind (Chiswick and DebBurman 2004,375; Heath and Brinbaum 2007,294). The unique advantage of studying the second generation and their establishment in the labour market is evident due to a couple of reasons. One, as already mentioned, studying the second generation and their labour market outcomes (more specifically whether they are overeducated on the labour market) points towards future developments of integration and ethnic stratification. This is especially interesting if we find differences in parental ethnic background. Secondly, studying the second generation allows for implicit controls of heterogeneity which have been troublesome when studying their immigrant parents' integration (for example Joona, Gupta and Wadensjö 2014,6). Namely, the second generation have the same access to education as their native peers, they have the language skills, institutional awareness, and cultural capital that their parents do not hold which should make them equally able to find a job matching their skillset and education as their native peers.

When defining the second generation, a relevant population to highlight is the population with one foreign-born parent and one native parent, the 2.5 generation (G2.5). The G2.5 will be considered individually in the descriptive statistics, and for robustness checks. Some previous research has included them in the second generation without distinguishing between them, while others have made an effort to explain that there are larger differences between the second generation and the G2.5, suggesting that the G2.5 are closer to natives than the second generation (Azzolini, Schnell and Palmer 2012,59) or opposite (Smith, Helgertz and Scott 2019,733). The reason for not treating the G2.5 as equal to the second generation is the fact that having one native-born parent comes with much country-specific inherent knowledge about for example institutional systems, but maybe most importantly, with a possibly beneficial social network, as also discussed by Smith and colleagues (2019,724). Due to this, the G2.5 will be included in the "Native" (two native-born parents) group in the statistical analysis.

Overeducation and drivers of overeducation

While studying labour market mismatch or overeducation is not new, research focused solely on the second generation is scarce. The existing research on the topic is explorative and only focuses on a specific country (Sweden: Dahlstedt, 2015; Spain: Fernández-Reino, Radl and Ramos, 2018; Norway: Larsen, Rogne and Birkelund, 2018; the Netherlands: Falcke, Meng and Nollen, 2020; Belfi *et al.*, 2022; Sweden: Kim, 2023). Looking into the broader research field of labour market mismatch and overeducation, the concept has been divided into individuals classified as overeducated, overskilled, and overqualified (Sala 2011,1026-1027). The literature on overskilled individuals has been interpreted differently, sometimes including education as a part of a person's skill-set, and sometimes focusing on cognitive skills such as numeracy and literacy (Cim, Kind and Kleibrink 2020,10).

In this thesis, overeducation is of interest. An overeducated individual is a person with more education than required for the job that they have (Duncan and Hoffman 1981,75; Groot and Maassen van den Brink 2000,149). What stands out is the acute notion of overeducation as a sign of an inefficient labour market, and possibly an individual's choice of either entering/staying in unemployment or searching for jobs that they are overqualified for. Either way, it hurts both the individual and society. On the individual level, worse earnings growth (Korpi and Tåhlin 2009,192), worse health outcomes (Dunlavy, Garcy and Rostila 2016,37),

and less life-satisfaction (Smith and Frank 2005,831) are associated with labour market mismatch, but it is also unprofitable for the individual who has invested in education (Duncan and Hoffman 1981,75). On the societal level, overeducation is regarded as the underutilisation of human capital (ibid.). Also, the career mobility theory suggests that overeducated individuals are more likely to change jobs if they are not promoted – leading to a higher turnover rate for employers which is costly and time-consuming (Sicherman and Galor 1990,170-171).

Overeducation does not appear nor exist in a vacuum but has factors driving it. The labour market is driven by demand and supply just like other markets, and previous scholars have used that fact as a starting point for their investigation of overeducation (Sala 2011,1030). Supply-side factors driving overeducation discussed include individual characteristics, while demand-side factors driving overeducation include employers' heterogeneity and labour market contexts (Caroleo and Pastore 2015,36-38). Other demand side factors that have been used in previous literature are more specifically youth unemployment rates, how technologically developed the country is, the share of highly educated individuals in the workforce, and other related factors (Ghignoni and Verashchagina 2014,675). Ghignoni and Verashchagina (2014,679-681) explore supply- and demand-side factors driving overeducation and find that on the supply side, individual characteristics such as the education field matter. On the demand side, technological development influences the share of overeducated individuals. Interestingly, the authors find that technological development is important when evaluating whether supply- or demand-side factors influence the risk of overeducation most. In highly technological settings, the demand favours highly educated workers so that there are fewer overeducated individuals. In less technologically developed settings, supply-side characteristics better balance the educational/occupational mismatch (Ghignoni and Verashchagina 2014,679-681). Croce and Ghignoni (2012,414-415) also suggest that, in addition to previous research mainly focusing on individual, supply-side characteristics, demand-side factors play an important role in the incidence of overeducation.

While labour demand and supply factors are important drivers of overeducation, there is also a theory regarding why this occurs; namely the career mobility theory (Sicherman and Galor 1990,171-179). Suggested in the theory is that overeducation is expected to increase the probability of promotions, thus increasing wage returns to education. Sicherman and Galor

(1990,171) also suggest that workers who are not promoted are more likely to quit their job. Groot and Maassen van den Brink (2000,150) confirm this in their meta-analysis by finding that overeducated workers have less experience and tenure, suggesting that they take on jobs that they are overeducated for, and gain the experience and tenure needed to take the next step in their career and find a job that matches their education (the stepping stone argument). Another confirmation of the career mobility theory is that younger workers tend to be more overeducated than older workers, indicating that it is "just a phase" (Groot and Maassen van den Brink 2000,150). In contrast with the stepping stone argument, there is evidence of overeducation early in the career acting as a trap; that is, that it delays the transition to a job matching the education (Baert, Cockx and Verhaest 2013,124). This thesis seeks to problematise overeducation, in particular if it affects the second generation disproportionately. In relation to the career mobility theory, this thesis is concerned with overeducation as a trap rather than a stepping stone. This is especially relevant considering the focus on the labour market dynamics in the different countries.

Overeducation and the drivers of overeducation are important to study due to the increase of highly educated individuals which leads to, perhaps, an excess in supply of educated workers which in turn creates a labour market that cannot meet the market equilibrium. Human capital is underutilised. Moreover, on an individual level, investing in education is expected to pay off – in a competitive labour market, it is important to signal productivity and ability and one way to do so is by investing in education. The study of overeducation has important implications for labour market economics, and this thesis will expand that literature by focusing on the second generation with a cross-country comparison. As labour market outcomes are one aspect of immigrant integration, a higher probability of being overeducated as a second generation compared to a native is telling of current inequalities and labour market discrimination, but it will also address future developments of inequality, ethnic social stratification, and integration.

As stated, the previous literature within this topic has focused on the incidence of overeducation as is, or with a focus on first-generation immigrants (Aleksynska and Tritah 2013,243; Cim, Kind and Kleibrink 2020,14; Pivovarova and Powers 2022,8). The research that has focused on the second generation has so far focused on single-country cases. This thesis aims at exploring how labour market demand- and supply-side characteristics affect the incidence of

overeducation among the second generation. The comparative perspective and analysis of the demand-side characteristics is the contribution of this thesis.

The second generation in Western Europe and labour market discrimination

The second generation are a growing demographic group. As Table 1 below presents, the foreign-born population of the countries of interest range from 12,82% (France) to 29,48% (Switzerland). The proportion of individuals with foreign backgrounds (i.e. when the second generation is included) is then even larger and therefore a significant population of each country.

Table 1. Proportion of the total population that is foreign-born in 2021.

Country	*Number of people born in a foreign country*	*Total number of people*	*Proportion of foreign-born people in country*
Belgium	2 065 727	11 554 767	17,88%
Germany	15 162 728	83 155 031	18,23%
France	8 670 939	67 656 682	12,82%
The Netherlands	2 451 157	17 475 415	14,03%
Sweden	2 045 234	10 379 295	19,70%
Norway	878 153	5 391 369	16,29%
Switzerland	2 553 225	8 670 300	29,48%
The United Kingdom	9 469 015*	66 647 112*	14,21%*

Source: Author's calculation with data from Eurostat (*Statistics | Eurostat*, n.d.)

**Data for 2019*

Important to note is that the proportion of foreign-born people in each country only points to one aspect of diversity in the populations. For example, France, the Netherlands, Belgium, and the United Kingdom (the UK) have all been countries of colonisation and this has led to different selection patterns for immigration as compared to Germany, Sweden, Norway, and Switzerland (Afonso 2004,150-155; Drouhot and Nee 2019,182-185). The ethnic background

of the first- and second-generation in these countries is therefore likely to differ across countries. For example, 45.3% of the foreign-born population in France are immigrants from Africa, of which 65% come from Algeria, Morocco, and Tunisia, former French North African colonies (data for 2019) (*Immigrants by country of birth*, n.d.). Germany's foreign-born population, on the other hand, mostly comes from European (67.52%) and Asian (23%) countries (where the biggest countries of origin in Asia are Syria, Afghanistan, Iraq, India, and China) (*Foreign population by place of birth and selected citizenships*, n.d.). This diversity is important to note because ethnic discrimination is worse for individuals who are culturally further away (Bisin *et al.* 2011,69). To conclude, there is a significant foreign-born population in each country used in the analysis, but the diversity of the first- and second-generation might differ considerably across countries. In this thesis, separate analyses will be performed investigating the role of having parents from a non-EU country, and a low- or middle-income country.

Keeping this in mind, it has been confirmed that descendants of immigrants are more likely to be discriminated on the labour market, as recent systematic reviews and meta-analyses show. This is particularly prominent in the recruitment stage (Baert 2017,11; Quillian *et al.* 2017,10871; Van Borm, Lippens and Baert 2022,18; Lippens, Vermeiren and Baert 2023,10-11). The fact that carrying foreign names comes with lower chances of even receiving an interview-invitation for a job, despite having the qualifications to do the job, is concerning and puts the second generation in a disadvantaged position in the labour market. Unlike their immigrant parents, they have the same cultural, institutional, and educational country-specific skills as their native peers; yet they still do not experience the same labour market outcomes (Crul and Vermeulen 2003,983; Heath, Rothon and Kilpi 2008,218; Drouhot and Nee 2019,178). This information is crucial to keep in mind, since having no access to desirable jobs leaves the person with a choice of either staying unemployed or applying for jobs that they, arguably, are overeducated for.

The situation of having to apply for "lower level" jobs is a result of labour market discrimination which previous research has addressed. For example, a Swedish study from 2010 concluded that ethnic discrimination in hiring is the same for the first and second generation across occupations (Carlsson 2010,272). Another study investigated whether recruiters reinforced

existing patterns of majority workers working high-skilled jobs and minority workers working low-skilled jobs. By conducting a correspondence audit in Sweden, the authors' minority applicants are similarly discriminated against in both the high- and low-skilled segments of the labour market (Bursell, Bygren and Gähler 2021,7-8). The just mentioned studies make it clear that despite having the same education as their native peers, minority individuals are being discriminated on the labour market; and despite which segment of the labour market is being studied, labour market discrimination towards individuals with foreign names exists.

Recent research also carried out in the Swedish context has extended the field on the second generation's labour market outcomes by raising the question of whether, instead of ethnic labour market discrimination in hiring, the unemployment inequality comes from the opposite process; job termination or firing (Grotti, Aradhya and Härkönen 2023,3). The authors (2023,5) propose that the second generation might be more likely to enter precarious employment and therefore also be more likely to become unemployed, which could be an explanation for the employment gap between the second generation and natives. Moreover, a discussion on whether previous unemployment influences current unemployment (unemployment persistence) has been initiated by Aradhya and colleagues (2023,3). These studies first and foremost confirm labour market inequality experienced by the second generation in Sweden and the fact that it is more difficult for individuals with a foreign background to find and get a job. The studies also highlight that the second generation are more likely to either stay unemployed or get fired from the job that they have. The authors (Aradhya, Grotti and Härkönen 2023,13; Grotti, Aradhya and Härkönen 2023,5-7) explain both demand- and supply-side mechanisms behind the employment gap between natives and the second generation, something that this thesis aims to do as well.

Labour market discrimination in hiring is not uniquely found in the Swedish labour market. Conducting a meta-analysis of 738 correspondence tests during 1990-2015, focusing on differences across countries, immigrant generation, and economic contexts, Zschirnt and Ruedin (2016,1122) find that across all countries included in the meta-analysis (the only constraint was that the country is an OECD-member), foreign applicants receive considerably fewer call-backs (in fact, they would need to send out 50% more applications than the natives to receive as many call-backs). The authors (ibid.) find no significant difference in

discrimination between the first and second generation. They also find that some minority groups – in particular Arabs and people of Middle Eastern origin – are penalised more than other immigrant groups. In line with this, Lancee (2021,1182-1184) presents the GEMM study which is a cross-national field experiment on hiring discrimination conducted in Germany, Norway, the Netherlands, Spain, the UK, and the United States. In the study, 53 ethnic minority groups are included and analysed. The study allows for a cross-country comparison as well as an analysis of which minorities are more (or less) affected. Lancee (2021,1194) also, unsurprisingly, finds that ethnic minorities receive significantly fewer callbacks. Using data from the GEMM study, it is found that in the Netherlands, Moroccans are more discriminated against than in Spain (Ramos, Thijssen and Coenders 2021,1271). Turks are also more discriminated against in the Netherlands, in comparison to Germany, another study finds using GEMM data (Thijssen *et al.* 2021,1230). The country of origin matters as well as the host country. These studies prove that it is important to take the ethnic heterogeneity of immigrants into account when studying topics such as labour market discrimination, and in extension, integration of immigrants and their descendants.

Not only does the country of origin matter but also the cultural distance between the employer and the minority applicant. Veit and Thijsen (2021,1296) explore discrimination in relation to cultural distance (non-European and European minorities) and find that belonging to a minority group culturally more distant from the majority population is associated with more discrimination. The authors' (2021,1292) sample countries were Germany, the Netherlands, Norway, Spain, and the UK. While foreign-born non-European applicants received fewer callbacks than the natives in all countries, there were interesting country differences. Foreign-born immigrant candidates in Germany and Spain received significantly fewer positive responses than native candidates, while domestic-born minority applicants did not differ from the native candidates. In Norway and in the Netherlands, this was not the case, and all minority applicants were discriminated against as compared to native applicants. Along these lines, the results from the UK also presented discrimination towards both foreign- and domestic-born minority applicants, but surprisingly domestic-born minority applicants were penalised to a higher extent than foreign-born minority applicants (Veit and Thijsen 2021,1297). The cultural distance penalty has also been found in Germany (Koopmans, Veit and Yemane 2019,242).

Tying together the plenty of evidence on ethnic labour market discrimination in hiring, with the additional negative effect of being culturally more distant from the majority population, has consequences on first- and/or second-generation immigrants' educational choices. Knowing that it is harder to get employed as a second generation might create incentives to invest more in observable skills so that the productivity of an individual is signalled even stronger. Dickerson and colleagues (2022,17) study whether the anticipation of discrimination in the labour market influences human capital (educational) investment decisions of ethnic minorities. They find that students who anticipate labour market discrimination perform better in exams and that they choose educational strategies which would help to neutralise future labour market discrimination. A related finding is presented in a Norwegian study, where it is concluded that ethnic minority students with a Bachelor's degree have higher career ambitions than their native peers, but the career expectations are lower (Abrahamsen and Drange 2015,260).

The relevance of studying overeducation among the second generation is straightforward: previous research has confirmed that there is an employment gap between the second generation and natives, and that this could be because of discrimination in hiring, with the additional negative effect of being culturally more distant from the native population. Research has also shown that the second generation suffers higher levels of overeducation in different countries. What this thesis aims to do, is to take the existing knowledge about labour market discrimination in hiring as a starting point and investigate overeducation among the second generation as a possible consequence of that. Moreover, this thesis aims to assess the influence of relevant individual characteristics (cultural background, parental level of education (proxy for intergenerational human capital), social and institutional engagement and awareness (union membership and voting in parliament elections) and contextual country-level characteristics (social model, employment and unemployment protection).

Anti-discrimination policies and labour market dynamics

This thesis will investigate overeducation among the second generation in eight Western European countries (Belgium, Switzerland, Germany, France, the United Kingdom, the Netherlands, Norway, Sweden). By analysing a larger number of countries and observations,

the possibility to differentiate the probability of being overeducated across countries, but also welfare systems and labour market dynamics appear. All countries are countries of immigration at some point in time. Sweden, Germany, Belgium, and Norway have had large labour immigration with guest worker programs particularly active in the 1960s. France, the UK and the Netherlands, as ex-colonisers, had more labour migrants from their ex-colonies (Drouhot and Nee 2019,182-185). Switzerland has a long history of attracting labour migrants and many of them also came in the post-WWII era (although the need has fluctuated largely over time) (Afonso 2004,150-155).

Having strong anti-discrimination policies signals that the country of interest values all individuals equally and that everyone should have the same opportunities despite of gender, ethnicity, age, or other characteristics (although, what is valued in theory does not always translate to practice). Labour market dynamics are also related to the research problem of this thesis. Keeping demand-side factors in the analysis will provide a more accurate understanding of the labour market situation for the second generation. Anti-discrimination policies are targeted at reducing discrimination in different areas of life and a way to introduce these to the thesis is by looking at "The Migrant Integration Policy Index" (MIPEX). MIPEX creates policy indices concerning migrant integration and is mainly produced by the Barcelona Centre for International Affairs and the Migrant Policy Group. The policies are grouped into eight policy areas, and the indices range from 0 (Critically unfavourable for migrants) to 100 (Favourable for migrants). The fact that the MIPEX indices are created from a rich set of policies and created against the same standard in all countries, makes it suitable to use for cross-country comparisons. (*Migrant Integration Policy Index | MIPEX 2020*, n.d.). The advantages of using MIPEX have been utilised by Aleksynska and Tritah (2013,236), Bisin and colleagues (2011,76), and Juárez and colleagues (2019,427).

The MIPEX anti-discrimination index investigates whether everyone is protected from discrimination in all areas of life, based on race/ethnicity, religion, and nationality. Sweden scores highest in both the specific anti-discrimination policy index and the overall MIPEX score, while Switzerland displays the lowest scores in both measures. Table 2 shows the diversity of policy measures aimed at immigrant integration taken in different countries. The

policies might be in place – but evidence of a segregated society across all these countries tells another story.

Table 2. MIPEX anti-discrimination and total scores of discrimination policies in the countries (2020).

Country	*MIPEX* *Anti-discrimination score*	*MPIEX* *Total score*
Belgium	100	69
Germany	70	58
France	79	56
The Netherlands	85	57
Sweden	100	86
Norway	65	69
Switzerland	38	50
The United Kingdom	94	56

Source: (*Migrant Integration Policy Index | MIPEX 2020*, n.d.)

Favourable (80-100); Slightly favourable (60-79): Halfway favourable (41-59): Slightly unfavourable (21-40).

A recent meta-analysis finds high levels of ethnic discrimination in hiring in France and Sweden, and lower in Germany, Norway, the Netherlands, Belgium, and the UK (Quillian *et al.* 2019,479). This shows that even if the policies are there, in the case of Sweden for example, there is still something systematically driving the labour market inequalities of interest for this thesis. Quillian and colleagues (2019,489) discuss institutional differences across the three countries as perhaps explanatory of the differences in hiring discrimination. The high levels of discrimination in France and Sweden may partly be explained by the lack of ethnic consideration in hiring in France, and the lack of monitoring of employee diversity in Sweden. The lower levels of hiring discrimination in Germany can be explained by the detailed application which reveals more of the individuals' productivity. (Quillian *et al.* 2019,470).

Precarious or vulnerable employment has risen in Europe (Bazillier, Boboc and Calavrezo 2016,265). Temporary work, fixed-term contracts and part-time work is becoming more common, which can be stressful for the individual and reduce the health and well-being of workers (Julià *et al.* 2017,399-400). Temporary employment could however also act as steppingstones out of unemployment; in fact, a study comparing Sweden and Norway shows that fixed-term employees in Sweden (with relaxed regulations on the use of temporary contracts) face greater risks of long-term marginalisation as compared to Norwegian fixed-term employees, where the regulation is stricter (Svalund and Berglund 2018,269). If the labour market is more flexible, workers might take on informal employment, temporary or fixed-term employment; but keeping in mind that the risk of transitioning back into unemployment remains, they might take employment that they are overqualified for. Labour market regulations and protection of employment are important to consider when researching labour market outcomes. Florez and Perales (2016,630) measure how labour protection affects the size of the informal labour market in European countries using the ESS and find that stricter regulation of employment protection decreases the size of the informal labour market. The authors also discuss and make use of the fact that there are two strands of labour protection; protection of employed individuals and protection of unemployed individuals (Florez and Perales 2016,630-631).

Following Florez and Perales (2016,640), this thesis will also make use of OECD's country-level measure of employment protection; "Strictness of employment protection legislation: regular employment" (OECD, 2013). The indicator (henceforth; SEP) focuses on the protection of employed individuals and ranges from 0 to 6 where the higher the score, the stricter the regulation. In the statistical analysis of this thesis, the average SEP scores will be used from the period 2002-2018, which are the following for each country: Belgium 1.8; France 2.57; Germany 2.60; the Netherlands 3.33; Norway 2.33; Sweden 2.45; Switzerland 1.43; the United Kingdom 1.46. (OECD, 2013)

As for the unemployment protection side, Florez and Perales (2016,631) use the OECD's measure of net replacement rates in unemployment, which is the "proportion of previous in-work income that is maintained after several months of unemployment" (OECD, 2019). The 2002-2018 average net replacement rate (henceforth; NRR) is 85 for Belgium, 70 for France,

60 for Germany, 72 for the Netherlands, 70 for Norway, 73 for Sweden, 71 for Switzerland, and 55 for the United Kingdom.

European social models

The different countries also present different socio-economic regimes, as well as different types of welfare states (Sarkar 2017,438). A clever and intuitive division of different European social models in relation to the labour market has been made by Sapir (2006,375), summarised in Table 3 below. The welfare state typologies formulated by Esping-Andersen (1990) similarly describe the differences between these countries, but Sapir's (2006,375) extension of it serves the purpose of this thesis better.

Table 3. Sapir's (2006) classification of the countries into social models and their characteristics.

European Social Models formulated by Sapir (2006)	***Countries***	***Characteristics***
Nordic countries	Sweden, Norway, the Netherlands	Highest levels of social protection expenditures and universal welfare provision. Strong labour unions. Extensive fiscal intervention in labour markets based on a variety of 'active' policy instruments. (Sapir 2006,375)
Anglo-Saxon countries	The United Kingdom	Relatively large social assistance of the last resort. Cash transfers are primarily oriented to people in working age. Activation measures are important as well as schemes conditioning access to benefits to regular employment. Mixture of weak unions, comparatively wide and increasing wage dispersion and relatively high incidence of low-pay employment. (Sapir 2006,375)
Continental countries	Belgium, France, Germany, Switzerland	Rely on insurance-based, non-employment benefits and old-age pensions. Unions remain strong as regulations extend the coverage of collective bargaining to non-union situations. (Sapir 2006,375)

Source: (Sapir 2006,375)

Social models relate to the labour market outcomes (among which overeducation is of interest here) for the second generation in different ways. As previously mentioned, stricter labour market regulations and protection lead to different labour market dynamics. Certainly, welfare state models and social models as those defined above play a large role in that aspect.

Since the countries falling under the "Nordic countries" specification by Sapir (2006,375) have high levels of social protection expenditures, strong labour unions, and all score relatively high on the anti-discrimination MIPEX score, there is ground for assuming that the second generation should experience the same labour market outcomes as the natives. However, as we have confirmed, it is important to consider the diversity of the minority population in these countries and keep in mind that discrimination might be more prominent in countries with immigrants who are more culturally distant from the majority population. The Netherlands, with its colonial ties and diverse minority population, is likely a society with larger shares of overeducated second-generation immigrants than Sweden and especially Norway – but lower shares than their "Continental" neighbour countries (Belgium, France, Germany).

As for the "Anglo-Saxon" countries, where only the UK is identified in this thesis, the description of the social model in combination with the low NRR and SEP score, predicts high shares of overeducated second generations. The minority population present in the UK is diverse; 13.4% are born outside of the UK. 51.9% of the Bangladeshi population in the UK are born in the UK, 80.5% of the mixed ethnic group are born in the UK, and 46.8% of the Black population are born in the UK; these numbers are telling a story of a diverse population a large and heterogeneous second generation population (according to the England and Wales 2011 Census; "People born outside the UK," 2018). The combination of these factors predicts higher shares of overeducated second generations in the UK compared to the other countries of interest in this thesis.

In the "Continental countries", the diversity of the minority population and the colonial past of France and Belgium together with the existing evidence of more discrimination towards people of culturally more distant ethnicities calls for expectations of higher shares of overeducation among the second generation, especially in certain minority groups. Switzerland and Germany are expected to have lower levels of overeducated second generations than France and Belgium, due to different pasts and immigrant populations.

Research questions

The focus of the thesis is twofold. With labour market discrimination in hiring as a starting point, this thesis firstly explores the incidence of overeducation. The first research question is:

RQ1: How is the second generation in Western Europe associated with overeducation?

Focusing solely on overeducation, the next focus of the thesis is the exploration of the characteristics of the overeducated, as well as the characteristics of the society they are in.

RQ2: How are individual (supply-side) characteristics associated with overeducation?

RQ3. How does overeducation among the second generation differ across countries of Western Europe and social models?

RQ4: How are societal (demand-side) characteristics associated with overeducation?

Individual, supply-side characteristics include age, gender, institutional knowledge and integration, education, parental education, and parental ethnic origin. Societal, demand-side characteristics include employment and unemployment protection regulation and migrant integration indices.

Expectations and hypotheses

The previous literature in this topic has provided knowledge on existing labour market discrimination towards immigrants, and some have extended the research to the second generation (Heath, Rothon and Kilpi 2008,218; Carlsson 2010,264; Aradhya, Grotti and Härkönen 2023,2; Grotti, Aradhya and Härkönen 2023,4). Furthermore, the research has provided insights and knowledge into the labour market mismatch and how educational mismatch in the labour market affects wages negatively (Mateos Romero, Murillo Huertas and Salinas Jiménez 2017,913). Overeducation has been confirmed to appear more frequently among immigrants than natives (Joona, Gupta and Wadensjö 2014,10). To this end, the main hypothesis is as follows:

H1: The second generation (two foreign born parents) are overeducated to a higher extent than the natives (at least one native born parent).

The thesis is concerned with supply- and demand-side characteristics. Level of education, parental education and ethnic origin will be taken into consideration apart from immigrant generation, age, and gender to account for individual characteristics possibly determining the probability of being overeducated. As a way to control for institutional knowledge, labour market understanding and social integration, the analysis will also control for whether the respondents are members of a trade union, and whether they voted in the last election or not. The second generation with parents from non-European countries are expected to have a higher probability of being overeducated than the second generation with parents from European countries. In this thesis, the parental countries of origin will be classified as member states of the EU or not to capture the cultural similarity. Additionally, the parental countries of origin will be split into three categories according to the Human Development Index: high-, middle-, and low-income countries (United Nations, n.d.). This is done to also capture potential effect of having parents from middle- and low-income countries in comparison to high-income countries, where most European countries belong but also Western countries such as the US and Canada, for example. The effect is however expected to be most prominent in the non-EU parental origin.

H2: Second generations with parents from non-EU countries and with lower level of education have an increased probability of being overeducated.

The demand-side, societal characteristics will be analysed via stratified regressions by country and social model, discussing the circumstances and labour market dynamics as possible mechanisms behind the results. Moreover, a correlation analysis will be made between the country specific effects of being a second generation on the probability of being overeducated, and indicators of employment and unemployment protection, as well as MIPEX scores. Lower SEP and NRR are expected to be associated with higher beta coefficients, and higher MIPEX scores are expected to be associated with

H3: Countries with lower levels of NRR and SEP will present an increased probability of being overeducated as a second generation.

H4: Countries with lower MIPEX-scores will present an increased probability of being overeducated as a second generation.

Differences between the countries sampled in this thesis are expected to be driven from labour market dynamics, diversity of the immigrant population and the cultural distance from the native population. Earlier studies have pointed at higher levels of discrimination in the UK (Veit and Thijsen 2021,1297), and this thesis is expected to produce similar results. Due to the immigrant population characteristics, and disadvantageous labour market dynamics, one country-specific hypothesis is formulated:

H5: The second generation in the UK has higher levels of overeducation in comparison with the other countries.

Contributions

This thesis places itself in the labour market mismatch research broadly, and more specifically in the still understudied field of overeducation among second generations. To this end, it relates to literature about labour market outcomes for immigrants and their descendants, as well as to the broad literature about social ethnic stratification and labour market integration. The main contribution of this thesis, in particular to the literature about overeducation among the second generation, is the comparative cross-country analysis, and the focus on the labour market demand characteristics. With this, the thesis contributes with novel knowledge that is important in the understanding of the labour market situation for children of immigrants, and insightful knowledge for policymakers.

Ethical considerations

ESS data is anonymised, and the survey is carried out with consent from the respondents. The ESS subscribes to the *Declaration on Professional Ethics* of the International Statistical Institute (*ISI Declaration on Professional Ethics | ISI*, n.d.). The thesis is conducted with professional integrity and respect. The thesis is carried out with respect to good research practices including honesty, reliability, and accountability.

This thesis concerns, in broad terms, the social situation of minority populations. The ethical consideration important to highlight is that the aim is to shed light on and contribute with knowledge about the issues explored, and not in any way bolster stigmatisation of minority populations.

Data and Research Design

European Social Survey

The data used in the thesis is from the European Social Survey (ESS) which is a cross-national survey conducted every two years in European countries since 2002. Every country is represented by a representative sample of individuals which are selected by strict random probability methods and all countries aim at a sample of 1,500 individuals, or 800 if the country's population is less than two million ("Sampling | European Social Survey (ESS)," n.d.). The core module of the ESS consists of a set of demographically relevant background questions which is of great interest to this thesis ("Source Questionnaire | European Social Survey (ESS)," n.d.). The ESS currently has produced 9 complete rounds which are published, and a 10th round where not all participating countries have released their data yet. 40 European countries have participated so far, however not all have participated in every round.

The ESS is a suitable choice for this type of study due to the rich set of socio-demographic variables. Apart from detailed information on education level and occupation, there is information enabling the extraction of the second generation. There is information on whether the parents of the respondents are born in the country or not, and if not, which country they are born in. This information is crucial when researching labour market outcomes for immigrants, as it is important to account for the heterogeneity in the immigrant groups. Also, the intergenerational aspect of overeducation can be a part of the analysis. With the evidence of non-European immigrants experiencing worse labour market outcomes and facing more discriminatory behaviour than immigrants from a European country (Heath, Rothon and Kilpi 2008,218) – it is important to distinguish between the immigrant groups, which the ESS allows for. Moreover, there is information on parents' highest level of education, which is also valuable

in a study like this since parental educational background influences the outcomes of their children in terms of education and occupation (Björklund and Salvanes 2010,23; Björklund and Jäntti 2011,513). The ESS is used in the labour market mismatch literature in an article investigating occupation-education mismatch of immigrant workers (Aleksynska and Tritah 2013,232).

Research design

To answer RQ1, it is important to consider different operationalisations of labour market mismatch. The literature has provided several different ways of studying it. In the mismatch literature, Over-Required-Under (ORU) Education techniques are mentioned by for example Chiswick and Miller (2008,1322) who are in turn inspired by the seminal works of (Duncan and Hoffman 1981,82). Hartog (2000,132) summarises the three ways in which ORU has been measured in the literature:

1. Job analysis (JA): professional job analyst systematically evaluates the required level of education for job titles in different occupations.
2. Worker self-assessment (WA): the worker specifies the required education for the job they have, and whether the job they have requires a higher or lower education than they themselves have.
3. Realised matches (RM): the required education for a certain job or occupation is measured from what workers have attained at the workplace, by measuring the mean or mode of education.

Using ESS data, the RM approach is most suitable for measuring ORU. Creating a measure of required educational attainment for a job title/occupation out of existing information is sensible, and flexible, and does not require the researcher to hire professional job analysts (as in JA) or the workers of interest to assess whether they are correctly matched on the labour market or not. Chiswick and Miller (2008,1338) use the RM approach and successfully measure the consequences for earnings of being *O*ver educated/ having the *R*equired education/ or being *U*nder educated. Aleksynska and Tritah (2013,232) conducted a study measuring the education-qualification mismatch using ESS data, also using the RM approach.

The RM approach is however not without flaws. Flisi and colleagues (2017,1215) mention drawbacks to the method which includes the arbitrariness of using the mean as well as one standard deviation as the threshold of overeducation. Also, the authors (ibid.) discuss the influence of cohort effects, meaning that younger cohorts are more educated and in general enter the labour market with higher levels of education. The analysis in this thesis will be adjusted for age, as well as the square term of age to capture any non-linear effects on overeducation across age. The ORU measure is created within each occupation, among native-born individuals.

The ESS provides a variable indicating the working individuals' occupation (*Search ESS*, n.d.). The occupations are classified according to the International Standard Classification of Occupations (ISCO-08) by the International Labour Organisation (ILO), which is a part of the International Family of Classification by the United Nations (*ISCO - International Standard Classification of Occupations*, n.d.). Using the occupation classifications, I managed them into the "Major Groups" classified by the ILO – there are nine major groups of which for example major group 1 consists of managers, major group 2 of professionals, major group 3 of technicians and associate professionals and so on. With this data at hand, the RM approach fits well to measure ORU. For rounds 1-5 of the ESS, the ISCO88 is used instead. The "Major Groups" have not been changed between ISCO-88 and ISCO-08, hence both versions of the classifications are useful in this thesis and enable the usage of all rounds of ESS (ILO, 2012).

Moreover, there are variables on the highest level of education as well as years of completed education which will finally give the base for creating an ORU measurement per major occupation group. Once the ORU measurements are created, they will be descriptively analysed, and the population of interest (the second generation) will be compared to their native peers. Taking sources of heterogeneity into account, the second generations will be more deeply analysed in terms of parental origin as research suggests that immigrants from for example the Middle East are more affected by labour market discrimination than European immigrants.

Sample

The full ESS sample used in this thesis consists of all respondents in ESS rounds 1–9 in the eight countries analysed in the thesis. The full sample consists of 141,545 respondents. Those

with missing information on age, years of education, whether they are born in the country or not, whether their father and mother are born in the country or not, gender are dropped from the sample (n= 2,014). The sample is then reduced to consist of 139,531 respondents. Creating the ORU measure means that individuals with missing information on which occupation they have/had are automatically excluded (9,845 respondents) from further analysis.

The outcome variable (Overeducated) contains 129,686 observations (which is the full sample excluding the individuals without information on occupation). The main independent variable indicating whether the respondent is a second generation, or a native, contains 123,533 respondents. 15,998 respondents from the full sample are first generation immigrants – they are not the target nor the control population in this thesis and are therefore excluded from the statistical analysis. Together, the outcome variable and main independent variable contain 115,200 observations when missing values are excluded.

Considering the focus of this thesis, the sample is restricted to individuals aged 20-65 to capture the population in the working ages. The analytical sample of respondents, eligible for measuring overeducation, consists of 86,182 respondents. 3,47% of the sample are second generations (with two foreign-born parents) and 96,53% are natives with at least one native-born parent.[1]

Within the analytical sample, the mean age is 44.04 with a standard deviation of 12.62 years. The median age is 45. The mean and median age as well as the standard deviation does not differ considerably between the countries and are presented in Appendix 1.

Statistical analysis

Binary outcome variables are common in the social sciences and are usually analysed by using logistic regressions, probit regressions, or OLS regressions, called linear probability models (LPM). It is common for social science researchers to use logistic regressions (Mood 2010,67). There are however issues in using logistic regressions in social sciences, related to unobserved

[1] When the G2.5 are excluded (N=80,035), the second generation (two foreign-born parents) are 3.75% of the sample, and natives with two native-born parents are 96.26% of the sample.

heterogeneity (Mood 2010,68). What Mood (2010,73) proposes is avoiding the situation of a binary outcome variable, but in avoidable cases to use OLS regression, that is, LPM (Mood 2010,78). LPMs are not without flaws and the main methodological issues are; 1) the coefficients, which are probabilities, can be larger than 1 or smaller than 0, which is out of range for what is possible for a probability; 2) the errors are heteroscedastic, violating one of the OLS assumptions; 3) the functional form is not specified correctly, that is, the relationship between the dependent variable and independent variable is non-linear, possibly leading to biased estimates (ibid.). Mood (2010,78) recommends using LPM if the researcher is interested in the direction and significance of an effect and not in the non-linear relationship specifically. Furthermore, it has been suggested that when the binary outcome variable rarely takes on the value 1, more specifically, in less than 25% of the cases, the LPM is more suitable (Timoneda 2021,2). The share of overeducated does not reach over 17% of the cases, except for in first-generation immigrants where the share reaches about 21%. Either way, this thesis aims to understand the determinants of overeducation among the second generation and for that, the LPM is used.

Using ESS data, it is important to carry out weighted statistical analyses. For this thesis, the regressions will be weighted by using ESS' inherent analysis weight, which accounts for potential sources of bias in cross-country comparisons. The analysis weight corrects for differential selection probabilities specified by sample design, nonresponse, noncoverage and sampling error related to the four post-stratification variables. Weighting the regressions ensures accurate representations of the populations of interest in this thesis (*Weighting | ESS*, n.d.).

Outcome variable

As previous research researching overeducation the RM approach is used. Since this thesis focuses on eight different countries, the ORU measure is calculated by using the average years of full-time education completed per ISCO Major group, on a country basis. Moreover, just as Aleksynska and Tritah (2013,231) only native-born individuals with two-native born parents are used as a reference when calculating the ORU measure. The ORU measure is constructed as a dummy variable, taking the value 0 if the individual is matched or undereducated, and 1 if the individual is overeducated.

Independent variables

The main independent variable in the analysis is whether the respondent is a second generation or not. Variations of the main independent variable will be made to be able to distinguish between the second generation and the G2.5, however it is the second generation excluding the G2.5 that is of primary interest in this thesis. The control group are native-born individuals with at least one native-born parent. As a robustness check, regressions will be run where the G2.5 are excluded completely. The G2.5 are not included in the second generation population, as the presence of a native-born parent may come with a social network beneficial for job searching, and country-specific inherent human capital. Moreover, the second generations with a native-born parent might carry a more "native-sounding" name. They are therefore not exposed to the same labour market discrimination in recruitment as discussed previously in this thesis. As a robustness check however, models will be run with them included in the second generation population.

The main model, which answers RQ1, controls for age, and the squared term of age. There are several reasons to do this – younger individuals are expected to have higher probabilities of being overeducated, but also, the second generation is younger on average than the native population which makes it necessary to control for (See Table 5). The squared term of age is included to capture non-linear effects. The model also controls for gender (male/female), as gender differences are expected to appear.

Furthermore, the main model controls for the individual's level of education. The variable indicating level of education is constructed to tell whether the respondent has finished a tertiary education or not. The reason to control for this is that the level of education is potentially a moderator in the main association of interest. Moreover, parental level of education, also constructed as a binary variable indicating whether the parents have finished tertiary or non-tertiary education, is controlled for to explore intergenerational influences on an individuals' education trajectory.

The main model controls for ESS round to capture period effects, since nine rounds of the ESS is used in this thesis. Also, ISCO Major Group is included, to control for the different types of occupations, since the level of overeducation is expected to differ between the occupations – those occupations where it is necessary with education will contain higher levels of overeducation than those where no education is needed.

For RQ2, which is concerned with individual, supply-side, characteristics, three binary variables will be introduced. One tells whether the respondent voted in the last parliament election or not. This variable is used to account for social engagement and institutional knowledge which should be similar between the second generation and natives. The second variable introduced is whether the respondent is, or has been, a member of a trade union (Yes/No). This is introduced to control for labour market knowledge and integration. Being a member of a trade union can come with knowledge about worker's rights, but also indicates institutional awareness. Moreover, a binary variable indicating whether the respondent has ever had a child or not is introduced in the model. Having had a child and taken care of it might mean that the person has achieved their career goals and decide to have a child when they are at a stable point in life, but also in the labour market.

Two models will focus on the effect of parental origin with a binary variable indicating whether the parents come from an EU or non-EU country. Previous research has shown that minorities culturally closer to the majority face less ethnic discrimination, and EU member states share some core values and are closer culturally than non-EU countries. There are however countries belonging to the Western world that are close culturally with the eight countries analysed in this thesis. Therefore, the second model will split the countries of origin into three categories classified by the Human Development Index: low-, middle-, and high-income countries.

For the demand-side part of the analysis, the model from RQ1 will be stratified by country (RQ3). Then, answering RQ4, the SEP and NRR will be plotted against the beta coefficients retrieved in the country stratified models. The SEP and NRR are measurements indicating labour market dynamics and the regulated social security networks in each country. Moreover, the MIPEX anti-discrimination and total scores will be analysed in the same way against the

beta coefficients for each country to investigate whether the policies correlate to the probability of being overeducated as a second generation.

Analysis and Results

The analysis section will firstly provide descriptive statistics of the sample used in the analysis, to then answer the research questions by applying different linear probability models; firstly, without distinguishing between the countries and secondly, regressions stratified by country and social model to account for country- and social differences.

Study population characteristics

Table 4 shows that 14,40% of the whole population of analysis is overeducated. Males are overeducated to a higher degree than females. Taking only natives with native-born parents into account, 12,91% of them are classified as overeducated, also showing higher shares of overeducated males than females. As for the second generation, 17,22% are overeducated (16.64% when G2.5 are included). There is a larger share of overeducated second-generation males than overeducated females. Including both females and males, 16,80% of the G2.5 with a foreign-born mother are overeducated, and 15,95% of G2.5 with a foreign-born father are overeducated. The male/female gap mentioned is consistent in the G2.5 with a foreign-born father group but reversed in the G2.5 with a foreign-born mother group. Table 4 is reproduced for each of the countries used as well, in Appendix 2.

Table 4. Number and share of overeducated individuals in the ESS sample, according to immigrant generation, and gender.

	Female		*Male*		*Total*	
Age range: 20-65	n	%	n	%	n	%
Overeducated						
Whole population	6 835	13.58	7 369	15.25	14 204	14,40
Natives (with native born parents)	4 681	11,89	5 302	13,96	9 983	12,91
First-generation immigrants	1 387	22,18	1 311	22,21	2 698	22,19
Second generation (incl. G2.5)	767	16,26	756	17,03	1 523	16,64
Second generation (excl. G2.5)	251	16,34	266	18,13	517	17,22
G2.5, foreign-born father	256	15,18	256	16,80	512	15,95
G2.5, foreign-born mother	260	17,4	234	16,17	494	16,80

Table 5 presents socio-demographic descriptive characteristics of the sample population. Looking at the age range, the different identified populations are seemingly unbalanced in the youngest (20–29) age group and the two older (50–59; 60–65) age groups. On average, the second-generation population (both including and excluding G2.5) is younger than the native population. The second-generation population, excluding G2.5, has the largest share of individuals with tertiary education. The parental level of education is lower in both the second generation and G2.5 compared with natives and the total. Overall, the populations of interest are balanced to a satisfactory level, enabling a fair comparison between the groups of interest (natives and the second generation). Appendix 3 presents country-specific replicated versions of Table 5. Appendix 4 presents the distribution of the respondents into the ISCO Major Groups.

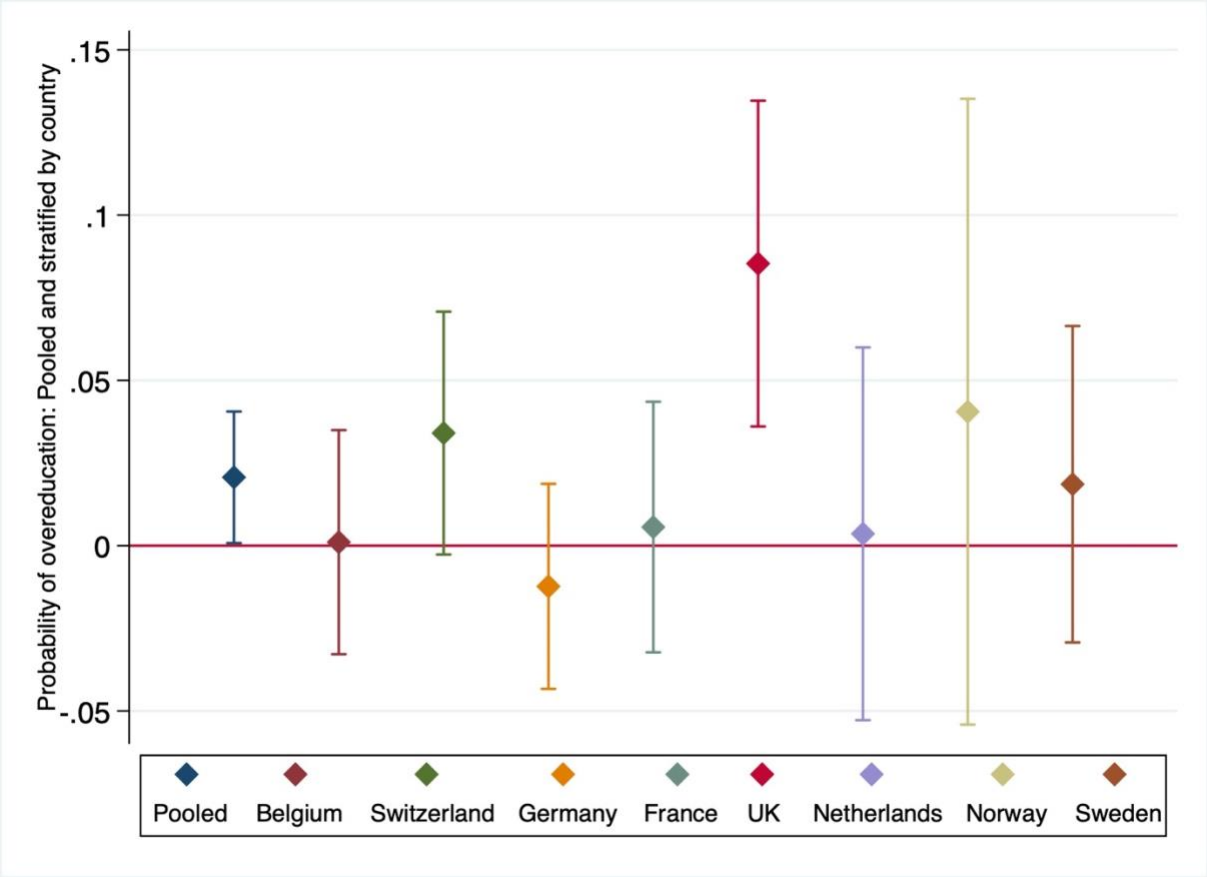
Table 5. Socio-demographic characteristics of the pooled sample population, according to native/immigrant generation.

Pooled sample	Age range: 20-65	***Native (incl. G2.5)***		***Second generation (excl. G2.5)***		***Total***		***Native (excl. G2.5)***		***Second generation (incl G2.5)***	
		N=83 499		N=3 003		N=98 658		N=77 348		N=9 154	
		n	%	n	%	n	%	n	%	n	%
Overeducated											
	Yes	10 989	13,16	517	17,22	14 204	14,40	9 983	12,91	1 523	16,64
	No	72 510	86,84	2 486	82,78	84 454	85,60	67 365	87,09	7 631	83,36
Gender											
	Male	42 188	48,93	1 540	48,22	49 918	48,69	39 099	48,99	4 629	48,25
	Female	44 026	51,07	1 654	51,78	52 610	51,31	40 715	51,01	4 965	51,75
Age group											
	20-29	14 492	16,81	944	29,56	17 628	17,19	13 177	16,51	2 259	23,55
	30-39	18 161	21,07	850	26,61	22 674	22,11	16 652	20,86	2 359	24,59
	40-49	20 766	24,09	716	22,42	24 870	24,26	19 210	24,07	2 272	23,68
	50-59	20 860	24,20	496	15,53	23 989	23,40	19 511	24,45	1 845	19,23
	60-65	11 935	13,84	188	5,89	13 367	13,04	11 264	14,11	859	8,95
Respondent Educational Level											
	Non-tertiary	48 725	56,74	1 643	51,63	57 380	56,25	45 150	56,79	5 218	54,61
	Tertiary	37 154	43,26	1 539	48,37	44 635	43,75	34 356	43,21	4 337	45,39
Father Educational Level											
	Non-tertiary	50 127	62,56	1 645	55,02	58 815	61,74	46 627	62,81	5 145	57,91
	Tertiary	29 997	37,44	1 345	44,98	36 444	38,26	27 603	37,19	3 739	42,09
Mother Educational Level											
	Non-tertiary	54 730	67,52	1792	59,10	64 252	66,65	50 863	67,75	5 659	62,79
	Tertiary	26 326	32,48	1 240	40,90	32 143	33,35	24 213	32,25	3 353	37,21
Parental Educational Level											
	Non-tertiary	47 908	60,57	1 598	54,08	56 279	59,83	44 597	60,84	4 909	56,10
	Tertiary (at least one parent)	31 190	39,43	1 357	45,92	37 784	40,17	28 705	39,16	3 842	43,90

RQ1: How are second-generation immigrants in Western Europe associated with overeducation?

Weighted linear probability models (LPM) are used in the thesis. RQ1 is answered through an LPM (Appendix 5) with "Overeducated" as binary outcome variable, and second generation(excl. G25) as main independent variable. The coefficients of the main independent variable (and their 95% confidence intervals) are plotted in Figure 1 below. As a robustness check, RQ1 is carried out with different variations on the target and control population, presented in Appendix 9.

Figure 1. Coefficients and 95% confidence intervals of the effect of being a second-generation immigrant on overeducation. Pooled and by country. (Reference category: Natives). (Appendix 5)

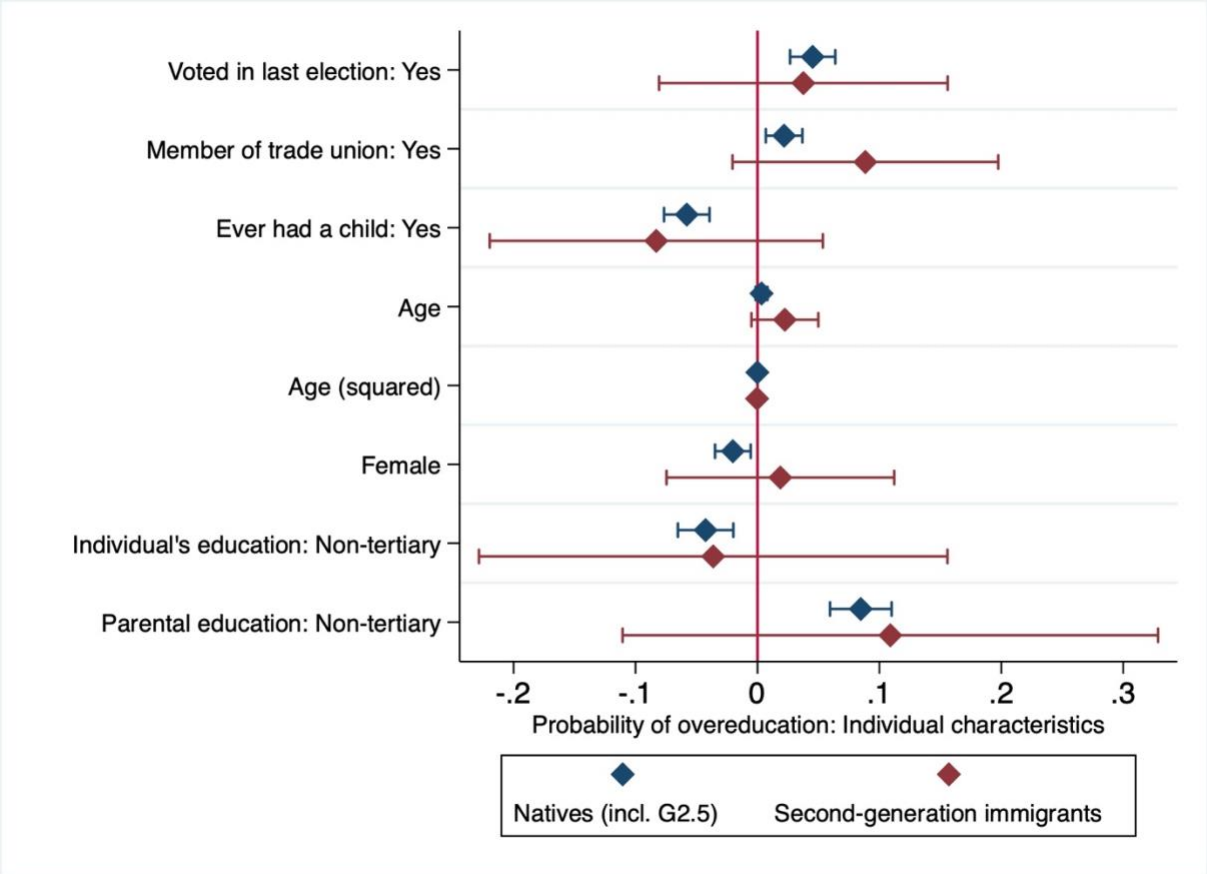


In the pooled sample, there is an increased probability of being overeducated by 2,07 percentage points for the second generation in comparison with natives holding all other variables constant, statistically significant at a 5% level. H1 is confirmed.

RQ2: How are supply-side characteristics associated with overeducation?

As discussed in the section *Independent variables*, the main model will be adjusted to focus on individual characteristics, and three binary variables will be added to account for social engagement and institutional knowledge, but also for whether the individual has a child or not. The effects of the individual characteristics are presented in Figure 2, where two models were performed taking the two populations of interest into account. The models control for ESS round to mitigate period effects and ISCO Major Group to control for occupation.

Figure 2. Coefficients and 95% confidence intervals of the individual characteristics on the probability of being overeducated. (Appendix 7)[2]

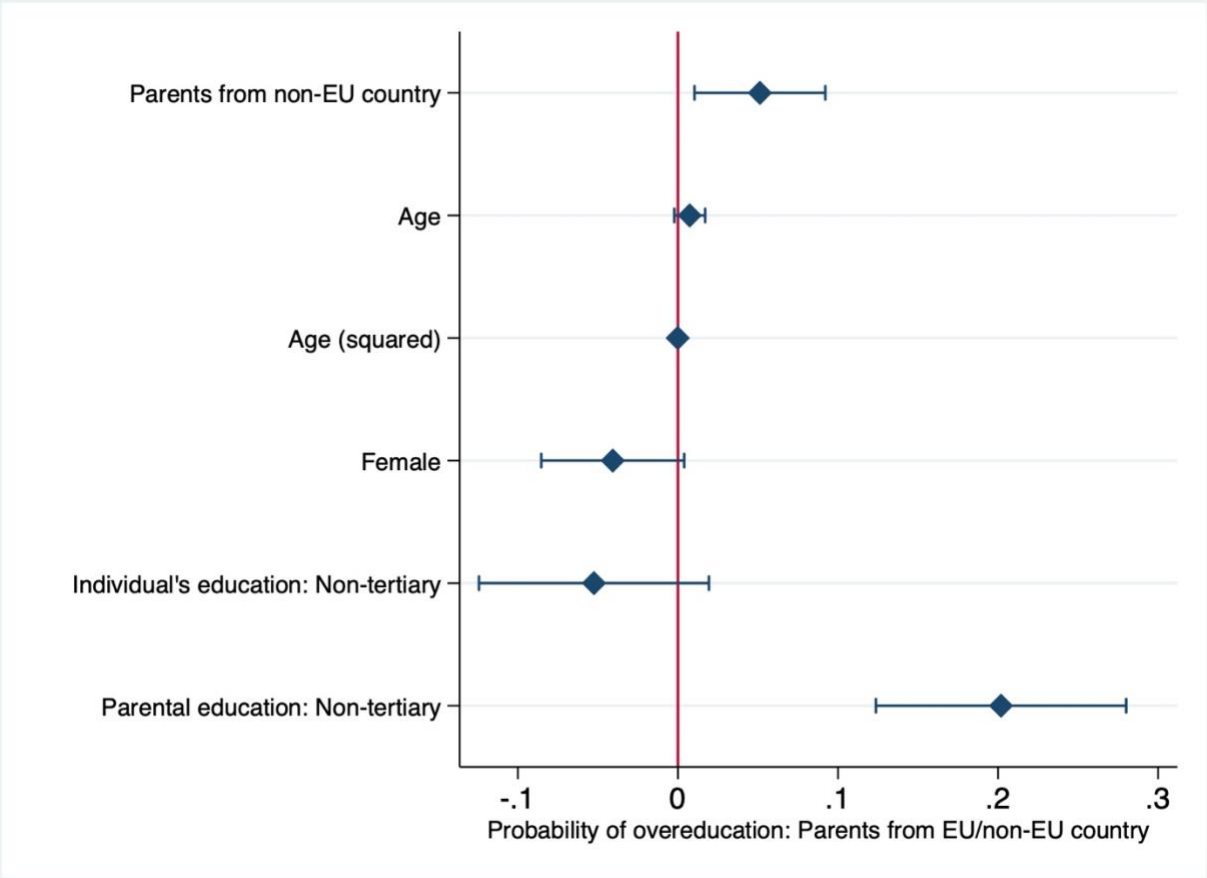


[2] This figure is reproduced with different sample populations in Appendix 10, for robustness check.

As presented in Figure 2, the individual characteristics of the respondents are showing the same trends across the two populations, although the standard errors are smaller for the native population, yielding statistically significant coefficients. This is due to the low number of observations in the second generation study population. A notable difference is that native females are less likely to be overeducated in comparison with males, while it is the opposite situation for the second generation where females have a higher probability of being overeducated in comparison with men.

To fully consider individual characteristics of the second-generation population, it is important to investigate the role of parental ethnic background. The main model specified in RQ1 will be used, which controls for age (and age squared), gender, individual and parental level of education, ESS round and ISCO Major Group. The sample will be restricted to the second generation, and the main independent variable will be parental ethnic origin. In Figure 3, the parental origin is split into whether the parents come from an EU member country or not. Figure 4 will analyse the effect of parental origin from a high-, middle-, and low-income country as defined by the Human Development Index.

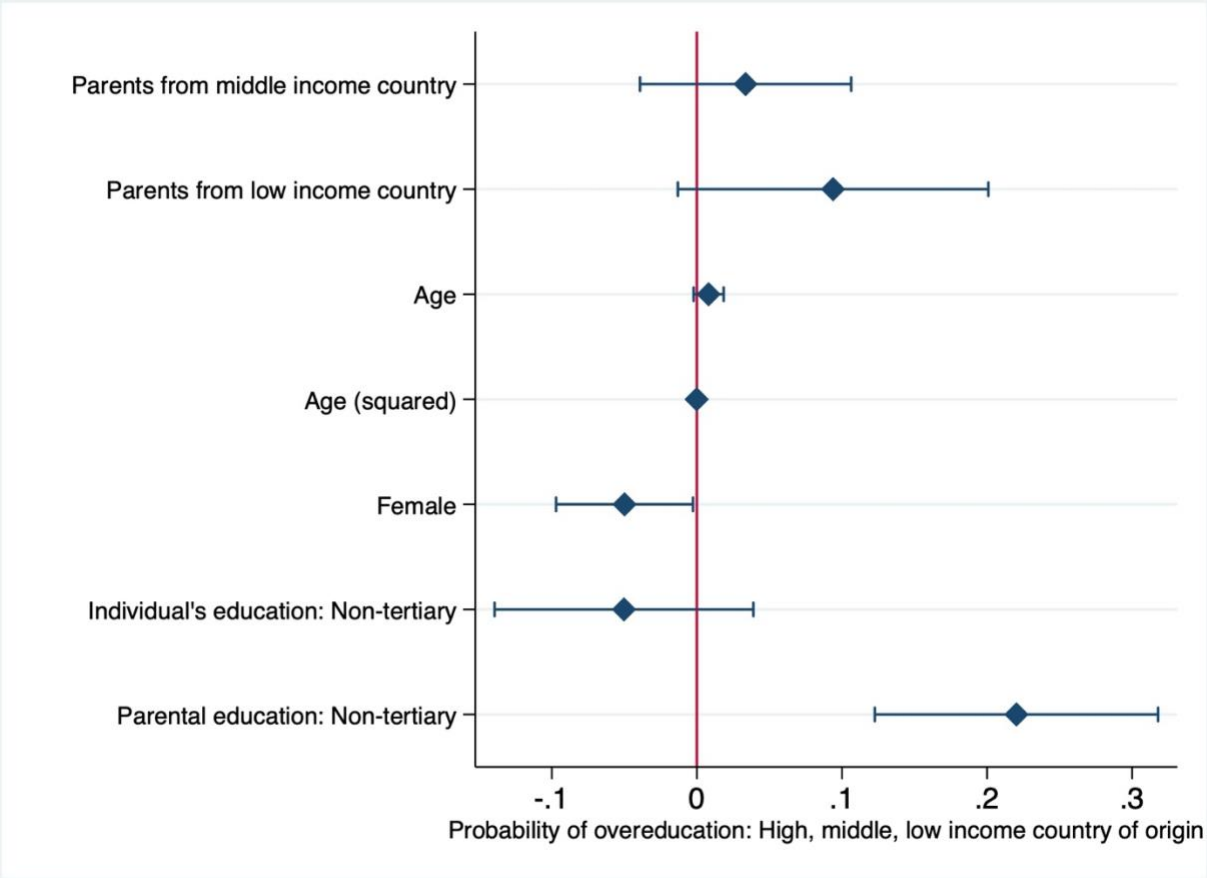
Figure 3. Coefficient and 95% confidence interval of parental country of origin (Reference category: Parents from EU country) on the probability of being overeducated, including control variables. (Appendix 8)[3]



In comparison with the second generation with parents from an EU country, the second generation with parents from a non-EU country have a 5.12 percentage point increased probability of being overeducated on the labour market, statistically significant on a 5% level. H2 is confirmed.

[3] This figure is reproduced with different sample populations in Appendix 11, for robustness check.

Figure 4. Coefficients and 95% confidence intervals of parental country of origin (Reference category: Parents from high income country) on the probability of being overeducated, including control variables. (Appendix 8)[4]



In comparison with the second generation with parents from a high-income country, those with parents from a middle-, or low-income country have an increased probability of being overeducated on the labour market. Having parents from a middle-income country is associated with a 3,36 percentage point increased risk of being overeducated on the labour market (not statistically significant) and having parents from a low-income country is associated with a 9,39 percentage point increased risk of being overeducated on the labour market (statistically significant at the 10% level).

The result shown in Figure 4 point at the same direction as the results shown in Figure 3, namely that the second generation with parents from culturally similar, high-income countries fare

[4] This figure is reproduced with different sample populations in Appendix 12, for robustness check.

better than those with parents from mid- and low-income countries, or culturally more distant countries.

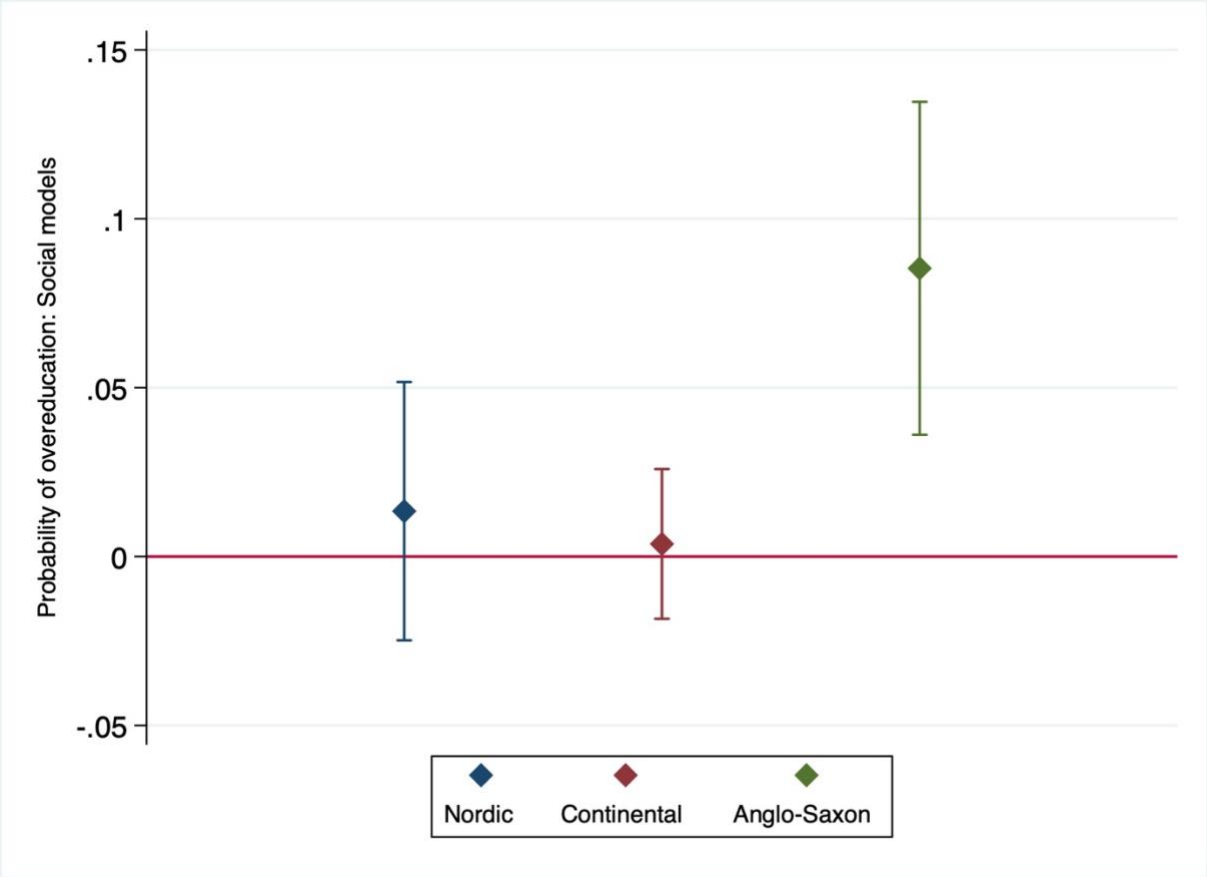
RQ3: How does overeducation among the second generation differ across countries of Western Europe and social models?

The regressions stratified by country (Figure 1, Appendix 5 (Appendix 13 for robustness check with different populations)) show that there is a general higher probability for the second generation to be overeducated in comparison with natives, in all countries except for Germany which has a coefficient below 0. In all countries except for Germany, the second generation has a higher probability of being overeducated as compared to natives. The coefficients for Belgium, Germany, France, the Netherlands, Norway and Sweden do not confirm H1.

In Switzerland, being second generation is associated with a 3,41-percentage point increased probability of being overeducated in comparison with natives, holding all other variables constant, statistically significant at the 10% level. The effect of being a second generation is most substantive in the UK, where being a second generation is associated with an 8,53 percentage point increased probability of being overeducated in comparison with natives, holding all other variables constant. The coefficient is statistically significant at a 1% level, and confirms H5.

The model is also stratified by social model as classified by Sapir (2006,375). As presented in Figure 5, it is only the Anglo-Saxon social model that delivers substantive, but also statistically significant, results. Because the Anglo-Saxon social model only consists of the UK, the results are identical to the UK's result presented in Figure 1. The Nordic countries (Sweden, Norway, the Netherlands) and the Continental countries (Belgium, Switzerland, Germany, France) do not provide any statistically significant results holding all other variables constant, and the coefficients are low, showing no large differences between the second generation and natives (incl. G2.5) in the probability of being overeducated. They are however positive; there is a general difference between the second generation and the natives in the probability of being overeducated.

Figure 5. Coefficients and 95% confidence intervals of the effect of being a second-generation immigrant on overeducation, by social model. (Reference category: Natives). (Appendix 6)

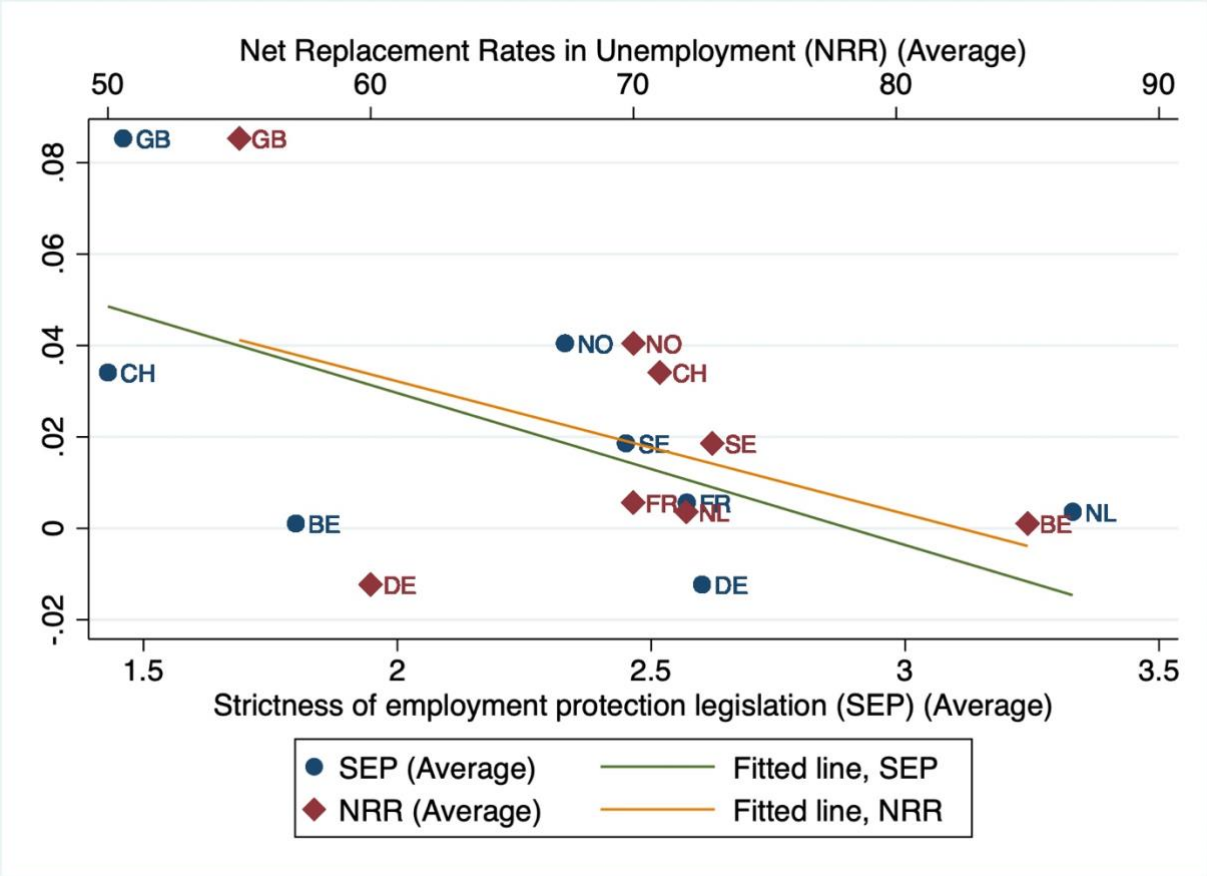


RQ4: How are demand-side characteristics associated with overeducation?

To explore the demand-side characteristics and their effect on the probability of being overeducated on the labour market, two scatterplots of four correlations will be presented (Figure 6 and Figure 7). As discussed previously in the thesis, demand-side characteristics relevant for this thesis are some indicators of labour market dynamics. The indicators of labour market dynamics sensible to use in this thesis are the measurements of net replacement rates in unemployment (NRR) and strictness in unemployment protection legislation (SEP). The NRR focuses on the unemployment protection side of the labour market, while the SEP is focused on the employment protection side. The SEP ranges from 0 to 6 where the higher the score, the

stricter the regulation. The NRR is a rate ranging from 0 to 100. In Figure 6, the NRR (upper x-axis) and SEP (lower x-axis) are plotted against the country specific beta coefficients presented in Figure 1 (and Appendix 5). The average NRR and SEP were used for the period 2002-2018 (which is the first and last year of the ESS rounds used in this thesis).

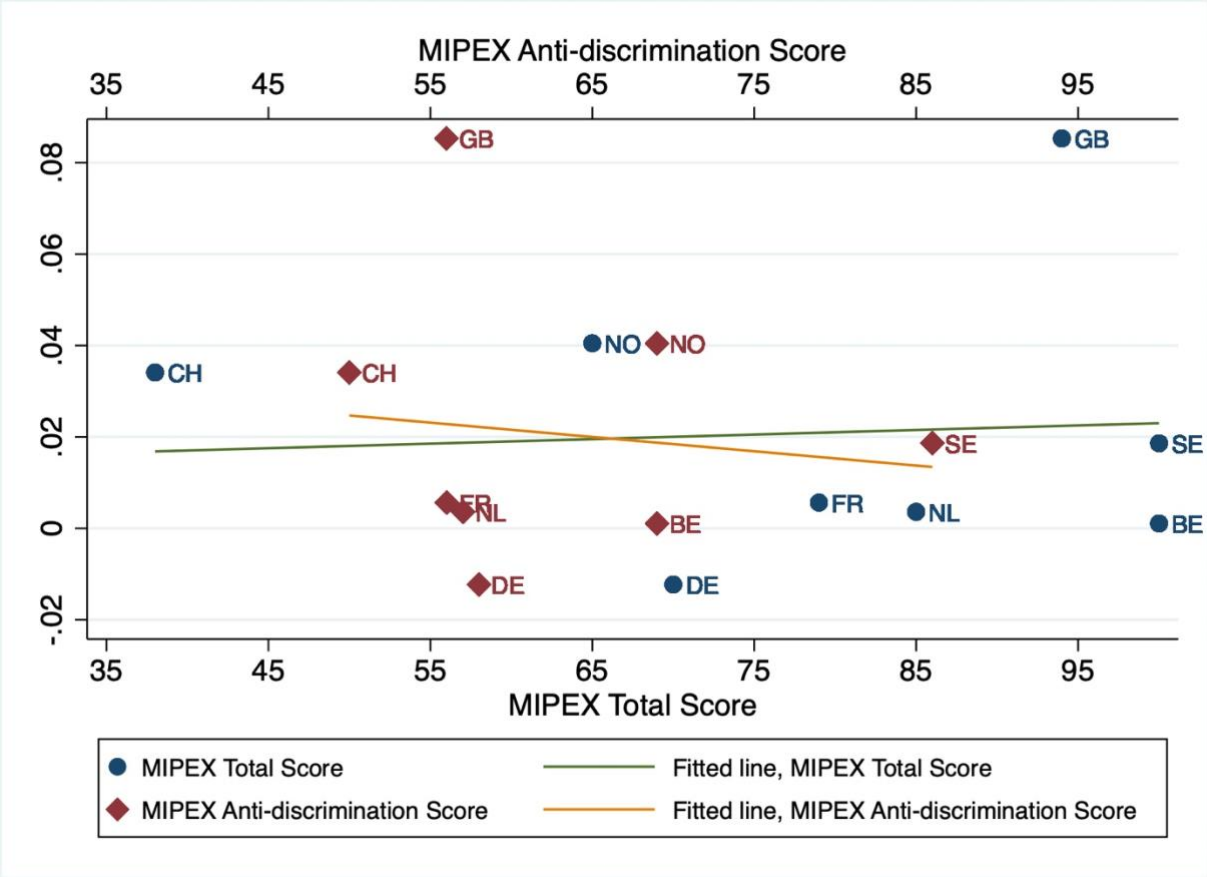
Figure 6. The correlation between the coefficients from the stratified country specific analyses and SEP and NRR.



The UK had the most significant and substantive effect (8,53 percentage points) and scores low on both the NRR and SEP (Figure 6), indicating that labour market dynamics in terms of unemployment and employment protection does correlate with the incidence of overeducation among the second generation. The fitted lines in Figure 6 indicate that the higher the SEP and NRR, the lower the probability of overeducation among the second generation; that is, the more protection in employment and unemployment, the better the match on the labour market for the second generation.

While the SEP and NRR measure policies and regulations targeted at the whole labour force in each country, the MIPEX indices are focused on the migrant integration policies instead. The MIPEX total score is an index of all policies within a country aimed at migrant integration, in all areas. The MIPEX anti-discrimination score is aimed at anti-discrimination policies in all areas of life.

Figure 7. The correlation between the coefficients from the stratified country specific analyses and MIPEX Anti-discrimination and total scores.



Plotted in Figure 7 is the relation between the coefficients retrieved for RQ1 (visualised in Figure 1) and the MIPEX total score (lower x-axis) and anti-discrimination score (upper x-axis). Somewhat surprising, there is no clear relation between the coefficients and the MIPEX scores. Higher anti-discrimination scores are slightly positively associated with the probability of being overeducated as a second generation, while the opposite direction is observed for the MIPEX total scores. However, the correlations are weak, and no conclusions can be drawn from this.

Summary and Discussion

Drawing on previous research and theory, the main hypothesis throughout this thesis was that the second generation has a higher probability of being overeducated in comparison with natives. The hypothesis was confirmed in the statistical analysis, where it was established that the second generation is subject to a 2.07 percentage point increased probability of being overeducated in comparison with natives, as presented in Figure 1 (and Appendix 5). As discussed in the *Background and theory*-section, ethnic discrimination in hiring, labour market dynamics, individual characteristics, and parental ethnic origin are some factors to consider when discussing the results.

While discriminatory behaviour from the employer's side was not measured in this thesis, it is well established in previous literature that both first- and second-generations suffer lower chances of being called for an interview for a position they apply for (Carlsson, 2010; Baert, 2017; Quillian *et al.*, 2017; Lippens, Vermeiren and Baert, 2023). Knowing this, individuals anticipating labour market discrimination invest more in productivity signals such as education (Dickerson *et al.*, 2022). As presented in Table 5, the second generation (excl. G2.5) population is the population with the highest share of individuals with tertiary education (48,37%). It is therefore in line with the expectations to find that the second generation is subject to a higher probability of being overeducated on the labour market than the natives. While this result can be framed as a direct consequence of ethnic labour market discrimination, especially in the recruitment stage, it is not the only factor playing a role in the incidence of overeducation. Before diving into possible related explanations of why the second generation is overeducated to a higher extent than natives, the country differences need to be discussed.

The eight sample countries of this thesis were separately analysed, to find how overeducation among the second generation differs across countries and social models. The hypotheses connected to this analysis are driven partly by considerations of the heterogeneity of the immigrant population (and the cultural distance from the majority population) within the countries, but also by type of social model, employment and unemployment protection

legislation, anti-discrimination policies in place as well as results from previous research. While it was expected to find that the second-generation population in all the countries faced higher probabilities of being overeducated in all countries, some countries were hypothesised to stand out more than others. The combination of the heterogeneous immigrant population and the labour market dynamics (low SEP and NRR scores) predicted the UK/Anglo-Saxon social model to produce higher probabilities of being overeducated among the second generation than the rest of the countries. The regression analysis confirmed this hypothesis, showing that the second generation in the UK has an 8,53 percentage point increased probability of being overeducated in comparison with the native population. As the UK is the only country belonging to the Anglo-Saxon social model, this result is produced exactly in the models stratified by social models.

It was only Switzerland that also had a statistically significant (however only at the 10% level) coefficient. While the expectation was that the UK would stand out from the other sample countries, surprisingly low coefficients were found in the countries with similar immigration histories: France, the Netherlands, and Belgium. These countries also have immigrant populations coming from ex-colonies, potentially with similar cultural distance as the immigrant population in the UK. France and Belgium belong to the Continental social model (together with Switzerland and Germany), and the countries within this social model were expected to produce similar results that were lower than the Anglo-Saxon social model but higher than the Nordic social model. For the Continental countries, the expectation was to find that Switzerland and Germany would have slightly lower levels of overeducated second-generation immigrants than France and Belgium, precisely due to the absence of colonial ties. In the case of Germany, the expectation was met as the results showed very low (and reverse to those expected) differences in shares of overeducated between the second generation and the natives. The descriptive statistics for Germany (in Appendix 2) show that there is only a 0,07-percentage point difference in the share of overeducated between the natives (12,22%) and the second generation (excl. G2.5) (12,15%). In Switzerland, the differences between the two populations of interest are larger; 15,69% of the natives are overeducated, and 22,38% of the second generation are overeducated. The foreign-born population in Switzerland is almost a third of the total population (see Table 1), indicating a diverse population and a large second-generation population. Switzerland has the lowest MIPEX total score and a low SEP score, suggesting that the Swiss labour market is insecure. Being at risk for ethnic discrimination, a

minority individual who has a job that they are overeducated for might not be prone to change jobs once they have one settled. Relating this to the career mobility theory (Sicherman and Galor 1990,177-178), it can be argued that in countries with higher SEP scores, where the probability of being overeducated as a second generation is lower, individuals are maybe more likely to change jobs because they are more protected in their employment than in the UK and Switzerland where the protection is relatively low. Belgium and France have coefficients close to zero (however, positive), and the results are not statistically significant.

Another unexpected result was the finding that the Nordic countries presented higher coefficients than the Continental countries. The results for Norway should be cautiously interpreted, and no conclusions can be drawn there, due to large standard errors and very few observations (only 62 respondents classified into the second-generation population for the statistical analysis). While the share of overeducated was higher in the second-generation population (19,35% (n=12)) compared with the natives (11,98% (n=1155)), the sample is too small to make any claims. The Swedish sample was larger, and the model presented that holding all other variables constant, the second generation faced a 1,86 percentage point increased probability of being overeducated in comparison with the natives. The coefficient was however not statistically significant, but it did point in the expected direction. As for the Netherlands, the coefficient was surprisingly low (0,0036), but similar to their direct neighbour country Belgium (0,0011).

The results on country- and social-model-level both rejected and confirmed the hypothesis, which is why it has been crucial to investigate the supply- and demand-side characteristics of the labour market. Expanding on the previous statement that the second generation is overeducated to a higher extent than natives, individual characteristics will firstly be discussed.

Figure 2 (Appendix 7) presented the coefficients for the chosen individual, supply-side, characteristics in the main model using the pooled sample. Taking only the second generation into account, the following effects were found: the two measures indicating social engagement and integration, as well as institutional awareness, (voted in last election, member of a trade union) both correlated positively with the probability of being overeducated. Age, being female,

and having parents with non-tertiary education also correlated positively with the probability of being overeducated. The variables for whether the respondent voted in the last election or not, as well as whether they were members in a trade union, were not expected to be positive. These variables were used as proxies for social integration and engagement, and institutional awareness, but it is questionable how suitable they are for those kinds of implications. Age, and the squared term of age, barely presented an expected non-linear effect, disregarding the argument of younger individuals being significantly more likely to be overeducated as suggested in the career mobility theory. Both the coefficients are close to zero. When it comes to education, the second generation with non-tertiary education face lower probability of being overeducated in comparison with the second generation with tertiary education. This is sensible and expected, because having a tertiary education puts the individual at higher risk of being overeducated. The second generation with parents with non-tertiary education face higher probabilities of being overeducated than those with parents with tertiary education. This ties to the discussion about intergenerational influences on the respondents' educational trajectory, and the fact that there is some inherent human capital and social network effects coming from having parents with tertiary education. Having parents with non-tertiary education could be assumed to mean that the social network is not as strong, the institutional awareness might be poorer, and the inherent human capital is not as valuable as the second generation with parents with tertiary education.

Another important individual characteristic is parental origin. As expected, the second generation with parents from non-EU-countries faced higher probability of being overeducated as compared with those with parents from EU-countries. At least superficially, EU-countries are culturally close, which has been important in the analysis of immigrant integration. In comparison with high-income-countries, having parents from low- or middle-income-countries was associated with an increased probability of being overeducated, however these coefficients were not statistically significant. They did point in the same direction however, and together confirmed the hypothesis that the second generation with parents from culturally more distant ethnic origins face higher probabilities of being overeducated on the labour market. This indicates that the second generation with parental origins closer to the majority population have an easier integration process as they are not discriminated against to the same extent as the second generation with European ethnic origins, in line with previous research (Veit and Thijsen 2021,1297).

In combination with the supply-side characteristics, the demand side of the labour market was analysed by plotting the country-specific coefficients against the SEP and NRR. In Figure 6, there is a visible correlation suggesting that higher NRR and SEP scores are associated with lower coefficients retrieved from the stratified regressions. The mechanism behind this relates to labour market dynamics, and the fact that weak employment and unemployment protection creates an insecure environment, where employees perhaps are less likely to switch jobs once they get one. This is clearly the case in the UK (low SEP and NRR), and in Switzerland (low SEP). The rest of the countries were clustered around NRR 70 and SEP 2.5, except for the Netherlands with a high SEP, and Belgium with a high NRR and low SEP. Germany also deviated from the cluster with a NRR of 60.

The second focus of the demand-side-characteristics was the MIPEX anti-discrimination and total scores (Figure 7). The fitted lines are almost flat, and both indices are very dispersed. No conclusions can be drawn from the analysis with the MIPEX-scores, which is unexpected, but does show that actual labour market-oriented regulations, such as the SEP and NRR, have more impact on the labour market situation and outcomes for the second generation.

The previous knowledge within labour market discrimination, and integration, in combination with the results produced in this thesis, motivates a further discussion about labour market outcomes for the second generation. Integration challenges are often only brought up in relation to first-generation immigrants, but the second generation also suffers worse labour market outcomes, such as unemployment. Additionally, it is also sensible to now include a heightened probability of overeducation as a part of the challenge that most countries are facing in their second-generation populations. Reconciling these two findings paints a clearer picture about current and future inequalities and social (ethnic) stratification. The full chain of the second generation's entry on the labour market needs to be addressed when researching, and improving, the labour market outcomes and integration for the second generation – from the recruitment to the matching of an individual's education to the employment.

Through the stratified country regressions, an important aspect becomes very clear in the search to improve the second generation's labour market outcomes. Taking the UK as an example where the second generation has been unsuccessfully integrated in terms of labour market matching, and comparing to the rest of the countries, higher NRR and SEP leads to a labour market dynamic that is better at matching individuals correctly. Germany, as discussed, barely had any differences in the level of overeducation between the second generation and the natives. Briefly mentioned in *Anti-discrimination policies and labour market discrimination*, lower levels of hiring discrimination were found in Germany and explained by detailed application processes which reveal more information on the applicant's productivity (Quillian *et al.*, 2019). More applicant information in combination with high employment protection (SEP) and decent unemployment protection (NRR) could potentially be the answer as to why Germany's labour market integrates the second generation better. An additional aspect is also the immigrant population in Germany, mostly consisting of European immigrants culturally closer to Germany (Bisin *et al.*, 2011). Drawing attention to this aspect only makes France stand out and once again points to the importance of including demand-side characteristics in research concerning labour market integration. The second generation in France faced a very small increase in the probability of being overeducated in comparison with natives, even if the immigrant population to a large extent consists of immigrants from North African countries such as Algeria, Morocco, and Tunisia (*Immigrants by country of birth*, n.d.). France, however, scores high on the SEP and has a relatively high NRR of 70 (the UK has 53) which further proves the point that employment and unemployment protection is an important factor when discussing the incidence of overeducation.

This thesis has researched overeducation among the second generation in Western Europe, by focusing on the labour market demand- and supply characteristics to tangle out what possible mechanisms there are that reduce, or enhance, the probability of being overeducated for the second generation in comparison with natives. This has been motivated by the well-known existence of ethnic labour market discrimination, but also by the notion that the results of this thesis will have possibilities to address future development of ethnic social stratification and integration. On the supply side, it is evident that the second generation with non-EU origins has a higher probability of being overeducated on the labour market (compared to those with EU origins). Moreover, having tertiary education puts individuals at a higher risk of being overeducated, as well as having parents with non-tertiary education. These results are important

to acknowledge and highlight when discussing how to improve the labour market integration of individuals with foreign backgrounds. It also points towards social inequalities important to target through labour market-related policies. Evidently, an analysis of the demand side is crucial to understand the full scope of labour market integration and its challenges. Employment and unemployment protection is an important political tool when combatting labour market inequalities, and the results in Figure 6 clearly point towards the fact that a better social security network leads to a more efficient labour market, where human capital is more correctly allocated.

Limitations and strengths

This thesis has provided a first step to fill the research gap concerning overeducation among the second generation, and the labour market supply- and demand characteristics of importance in this aspect. It is however not without limitations, which are important to address.

Research about social, human, phenomena will always suffer from omitted variable bias. It is important to consider the balance between including relevant independent variables in the statistical analysis, without overfitting the model. Measurements of how beneficial an individual's social network is, how well the individual speaks the majority language, how much a person values to be correctly matched on the labour market, all would have served plausible independent variables which are missing in the ESS. Social network was partly addressed when controlling for parental educational level, but it is certainly not the only social network in play when a person navigates the labour market. Other factors that likely play a role in the integration of the second generation in the labour market are 'local' factors, i.e. whether the respondent has a relevant and needed education for the place where they want to live or work, whether they are open to moving for work, and how high the demand is for the education that they have acquired. An assumption made in this thesis was that individuals working in a particular ISCO Major Group had relevant education for that occupation.

Furthermore, a limitation to this study is the small second-generation populations within the country samples, which led to many effects not being statistically significant, although the general trend within the countries, except for Germany, is that the probability of being overeducated is higher for the second generation than for natives. This result is important to

acknowledge and adds to the importance of why this phenomenon is crucial to study, with richer data.

The outcomes have been tested with different sample populations, where for example the G2.5 has either been excluded completely or included in the second-generation group. There were no significantly different trends when this robustness check was made, meaning that the results found in this thesis are robust and hold to the expectations.

This thesis has contributed with a new angle on the study of overeducation among the second generation, by doing a comparison between countries and focusing on labour market supply- and demand characteristics specifically. The thesis has provided evidence of the second generation being disproportionately overeducated on the labour market, and shed light o the fact that contextual factors matter. Country-specific labour market dynamics play a role for the incidence of overeducated second generations, which was revealed in the analysis of how employment and unemployment protection legislations correlated with the incidence of overeducation. This in particular is a strength of the thesis and the main contribution. To this end, this thesis has provided insightful and relevant knowledge for both policymakers and future research.

Acknowledgements

I am deeply thankful for the guidance, enthusiastic support, and patience that I have received from my supervisor, Siddartha Aradhya. His encouragement and expertise made the process of writing a thesis engaging and rewarding - for which I am thankful. Moreover, his belief in my abilities has been a profound support, and I am certain that these lessons will accompany and guide me throughout my personal, academic, and professional journey.

References

Abrahamsen, B. and Drange, I. (2015) 'Ethnic Minority Students' Career Expectations in Prospective Professions: Navigating between Ambitions and Discrimination', *Sociology*, 49(2), pp. 252–269. Available at: https://doi.org/10.1177/0038038514542494.

Afonso, A. (2004) 'Immigration and Its Impacts in Switzerland', *Mediterranean Quarterly*, 15(4), pp. 147–166.

Alba, R. and Nee, V. (1997) 'Rethinking Assimilation Theory for a New Era of Immigration', *The International Migration Review*, 31(4), pp. 826–874. Available at: https://doi.org/10.2307/2547416.

Aleksynska, M. and Tritah, A. (2013) 'Occupation–education mismatch of immigrant workers in Europe: Context and policies', *Economics of Education Review*, 36, pp. 229–244. Available at: https://doi.org/10.1016/j.econedurev.2013.06.001.

Aradhya, S., Grotti, R. and Härkönen, J. (2023) 'Unemployment persistence among second-generation immigrants', *European Sociological Review*, p. jcac071. Available at: https://doi.org/10.1093/esr/jcac071.

Azzolini, D., Schnell, P. and Palmer, J.R.B. (2012) 'Educational Achievement Gaps between Immigrant and Native Students in Two "New" Immigration Countries: Italy and Spain in Comparison', *The ANNALS of the American Academy of Political and Social Science*, 643(1), pp. 46–77. Available at: https://doi.org/10.1177/0002716212441590.

Baert, S. (2017) 'Hiring Discrimination: An Overview of (Almost) All Correspondence Experiments Since 2005'.

Baert, S., Cockx, B. and Verhaest, D. (2013) 'Overeducation at the start of the career: Stepping stone or trap?', *Labour Economics*, 25, pp. 123–140. Available at: https://doi.org/10.1016/j.labeco.2013.04.013.

Bazillier, R., Boboc, C. and Calavrezo, O. (2016) 'Measuring Employment Vulnerability in Europe', *International Labour Review*, 155(2), pp. 265–282.

Belfi, B. *et al.* (2022) 'Early career trajectories of first- and second-generation migrant graduates of professional university', *Journal of Ethnic and Migration Studies*, 48(10), pp. 2415–2435. Available at: https://doi.org/10.1080/1369183X.2021.1935666.

Bisin, A. *et al.* (2011) 'Ethnic identity and labour market outcomes of immigrants in Europe: IMMIGRANTS AND THE LABOUR MARKET', *Economic Policy*, 26(65), pp. 57–92. Available at: https://doi.org/10.1111/j.1468-0327.2010.00258.x.

Björklund, A. and Jäntti, M. (2011) 'Intergenerational Income Mobility and the Role of Family Background', in B. Nolan, W. Salverda, and T.M. Smeeding (eds) *The Oxford Handbook of Economic Inequality*. Oxford University Press, p. 0. Available at: https://doi.org/10.1093/oxfordhb/9780199606061.013.0020.

Björklund, A. and Salvanes, K.G. (2010) 'Education and Family Background: Mechanisms and Policies'.

Bursell, M., Bygren, M. and Gähler, M. (2021) 'Does employer discrimination contribute to the subordinate labor market inclusion of individuals of a foreign background?', *Social Science Research*, 98, p. 102582. Available at: https://doi.org/10.1016/j.ssresearch.2021.102582.

Carlsson, M. (2010) 'Experimental Evidence of Discrimination in the Hiring of First- and Second-generation Immigrants', *LABOUR: Review of Labour Economics & Industrial Relations*, 24(3), pp. 263–278. Available at: https://doi.org/10.1111/j.1467-9914.2010.00482.x.

Caroleo, F.E. and Pastore, F. (2015) 'Overeducation: A Disease of the School-to-Work Transition System', *SSRN Electronic Journal* [Preprint]. Available at: https://doi.org/10.2139/ssrn.2606902.

Cassar, L. and Meier, S. (2018) 'Nonmonetary Incentives and the Implications of Work as a Source of Meaning', *Journal of Economic Perspectives*, 32(3), pp. 215–238. Available at: https://doi.org/10.1257/jep.32.3.215.

Chiswick, B.R. and DebBurman, N. (2004) 'Educational attainment: analysis by immigrant generation', *Economics of Education Review*, 23(4), pp. 361–379. Available at: https://doi.org/10.1016/j.econedurev.2003.09.002.

Chiswick, B.R. and Miller, P.W. (2008) 'Why is the payoff to schooling smaller for immigrants?', *Labour Economics*, 15(6), pp. 1317–1340. Available at: https://doi.org/10.1016/j.labeco.2008.01.001.

Cim, M., Kind, M. and Kleibrink, J. (2020) 'Occupational mismatch of immigrants in Europe: the role of education and cognitive skills', *Education Economics*, 28(1), pp. 96–112. Available at: https://doi.org/10.1080/09645292.2019.1677558.

Croce, G. and Ghignoni, E. (2012) 'Demand and Supply of Skilled Labour and Overeducation in Europe: A Country-level Analysis', *Comparative Economic Studies*, 54(2), pp. 413–439. Available at: https://doi.org/10.1057/ces.2012.12.

Crul, M. and Vermeulen, H. (2003) 'The Second Generation in Europe', *International Migration Review*, 37(4), pp. 965–986. Available at: https://doi.org/10.1111/j.1747-7379.2003.tb00166.x.

Dahlstedt, I. (2015) 'Over-Education Amongst the Children of Immigrants in Sweden', *Nordic Journal of Migration Research*, 5(1), p. 36. Available at: https://doi.org/10.1515/njmr-2015-0003.

Dickerson, A. *et al.* (2022) *Anticipated labour market discrimination and educational achievement*, *The Sheffield Economic Research Paper Series (SERPS)*. Department of Economics, University of Sheffield. Available at: https://www.sheffield.ac.uk/economics/research/serps/ (Accessed: 13 January 2023).

Drouhot, L.G. and Nee, V. (2019) 'Assimilation and the Second Generation in Europe and America: Blending and Segregating Social Dynamics Between Immigrants and Natives', *Annual Review of Sociology*, 45(1), pp. 177–199. Available at: https://doi.org/10.1146/annurev-soc-073117-041335.

Duncan, G.J. and Hoffman, S.D. (1981) 'The incidence and wage effects of overeducation', *Economics of Education Review*, 1(1), pp. 75–86. Available at: https://doi.org/10.1016/0272-7757(81)90028-5.

Dunlavy, A.C., Garcy, A.M. and Rostila, M. (2016) 'Educational mismatch and health status among foreign-born workers in Sweden', *Social Science & Medicine*, 154, pp. 36–44. Available at: https://doi.org/10.1016/j.socscimed.2016.02.018.

Esping-Andersen, G. (1990) *The three worlds of welfare capitalism*. Princeton, N.J: Princeton University Press.

Falcke, S., Meng, C. and Nollen, R. (2020) 'Educational mismatches for second generation migrants. An analysis of applied science graduates in the Netherlands', *Journal of Ethnic and Migration Studies*, 46(15), pp. 3235–3251. Available at: https://doi.org/10.1080/1369183X.2020.1738211.

Fernández-Reino, M., Radl, J. and Ramos, M. (2018) 'Employment Outcomes of Ethnic Minorities in Spain: Towards Increasing Economic Incorporation among Immigrants and the Second Generation?', *Social Inclusion*, 6(3), pp. 48–63. Available at: https://doi.org/10.17645/si.v6i3.1441.

Flisi, S. *et al.* (2017) 'Measuring Occupational Mismatch: Overeducation and Overskill in Europe—Evidence from PIAAC', *Social Indicators Research*, 131(3), pp. 1211–1249. Available at: https://doi.org/10.1007/s11205-016-1292-7.

Florez, L.A. and Perales, F. (2016) 'Labour Protection and Informal Work: A Cross-National Analysis of European Countries, 2004-2012 Special Issue: The Age of Flexibility', *International Labour Review*, 155(4), pp. 623–650.

Foreign population by place of birth and selected citizenships (no date) *Federal Statistical Office*. Available at: https://www.destatis.de/EN/Themes/Society-Environment/Population/Migration-Integration/Tables/foreigner-place-of-birth.html (Accessed: 7 March 2023).

Freeman, R.B. (1975) 'Overinvestment in College Training?', *The Journal of Human Resources*, 10(3), pp. 287–311. Available at: https://doi.org/10.2307/145193.

Ghignoni, E. and Verashchagina, A. (2014) 'Educational qualifications mismatch in Europe. Is it demand or supply driven?', *Journal of Comparative Economics*, 42(3), pp. 670–692. Available at: https://doi.org/10.1016/j.jce.2013.06.006.

Groot, W. and Maassen van den Brink, H. (2000) 'Overeducation in the labor market: a meta-analysis', *Economics of Education Review*, 19(2), pp. 149–158. Available at: https://doi.org/10.1016/S0272-7757(99)00057-6.

Grotti, R., Aradhya, S. and Härkönen, J. (2023) 'Hiring or firing? The dynamics of unemployment inequality among the children of immigrants'. Stockholm Research Reports in Demography. Available at: https://doi.org/10.17045/sthlmuni.21915228.v1.

Hartog, J. (2000) 'Over-education and earnings: where are we, where should we go?', *Economics of Education Review*, 19(2), pp. 131–147. Available at: https://doi.org/10.1016/S0272-7757(99)00050-3.

Heath, A. and Brinbaum, Y. (2007) 'Guest editorial: Explaining ethnic inequalities in educational attainment', *Ethnicities*, 7(3), pp. 291–304. Available at: https://doi.org/10.1177/1468796807080230.

Heath, A.F., Rothon, C. and Kilpi, E. (2008) 'The Second Generation in Western Europe: Education, Unemployment, and Occupational Attainment', *Annual Review of Sociology*, 34, pp. 211–235.

ILO (2012) *International Standard Classification of Occupations 2008 (ISCO-08): Structure, group definitions and correspondence tables*. Available at: http://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_172572/lang--en/index.htm (Accessed: 4 May 2023).

Immigrants by country of birth (no date) *Ined - Institut national d'études démographiques*. Available at: https://www.ined.fr/en/everything_about_population/data/france/immigrants-foreigners/countries-birth-immigrants/ (Accessed: 7 March 2023).

ISCO - International Standard Classification of Occupations (no date). Available at: https://www.ilo.org/public/english/bureau/stat/isco/isco08/index.htm (Accessed: 10 January 2023).

ISI Declaration on Professional Ethics | ISI (no date). Available at: https://www.isi-web.org/about/policies/professional-ethics/isi-declaration (Accessed: 24 March 2023).

Joona, P.A., Gupta, N.D. and Wadensjö, E. (2014) 'Overeducation among immigrants in Sweden: incidence, wage effects and state dependence', p. 23.

Juárez, S.P. *et al.* (2019) 'Effects of non-health-targeted policies on migrant health: a systematic review and meta-analysis', *The Lancet Global Health*, 7(4), pp. e420–e435. Available at: https://doi.org/10.1016/S2214-109X(18)30560-6.

Julià, M. *et al.* (2017) 'Precarious Employment and Quality of Employment in Relation to Health and Well-being in Europe', *International Journal of Health Services*, 47(3), pp. 389–409. Available at: https://doi.org/10.1177/0020731417707491.

Kim, W. (2023) 'Overqualification among second generation children of migrants in the Swedish labor market'. Stockholm Research Reports in Demography. Available at: https://doi.org/10.17045/sthlmuni.23284745.v1.

Koopmans, R., Veit, S. and Yemane, R. (2019) 'Taste or statistics? A correspondence study of ethnic, racial and religious labour market discrimination in Germany', *Ethnic and Racial Studies*, 42(16), pp. 233–252. Available at: https://doi.org/10.1080/01419870.2019.1654114.

Korpi, T. and Tåhlin, M. (2009) 'Educational mismatch, wages, and wage growth: Overeducation in Sweden, 1974–2000', *Labour Economics*, 16(2), pp. 183–193. Available at: https://doi.org/10.1016/j.labeco.2008.08.004.

Lancee, B. (2021) 'Ethnic discrimination in hiring: comparing groups across contexts. Results from a cross-national field experiment', *Journal of Ethnic and Migration Studies*, 47(6), pp. 1181–1200. Available at: https://doi.org/10.1080/1369183X.2019.1622744.

Larsen, E.N., Rogne, A.F. and Birkelund, G.E. (2018) 'Perfect for the Job? Overqualification of Immigrants and their Descendants in the Norwegian Labor Market', *Social Inclusion*, 6(3), pp. 78–103. Available at: https://doi.org/10.17645/si.v6i3.1451.

Lippens, L., Vermeiren, S. and Baert, S. (2023) 'The state of hiring discrimination: A meta-analysis of (almost) all recent correspondence experiments', *European Economic Review*, 151, p. 104315. Available at: https://doi.org/10.1016/j.euroecorev.2022.104315.

Mateos Romero, L., Murillo Huertas, I.P. and Salinas Jiménez, M. del M. (2017) 'Wage effects of cognitive skills and educational mismatch in Europe', *Journal of Policy Modeling*, 39(5), pp. 909–927. Available at: https://doi.org/10.1016/j.jpolmod.2017.08.001.

Migrant Integration Policy Index | MIPEX 2020 (no date). Available at: https://www.mipex.eu/ (Accessed: 28 February 2023).

Mood, C. (2010) 'Logistic Regression: Why We Cannot Do What We Think We Can Do, and What We Can Do About It', *European Sociological Review*, 26(1), pp. 67–82. Available at: https://doi.org/10.1093/esr/jcp006.

Nations, U. (no date) *Human Development Index, Human Development Reports*. United Nations. Available at: https://hdr.undp.org/data-center/human-development-index (Accessed: 10 May 2023).

OECD (2013) *Strictness of employment protection legislation: regular employment*. Paris: Organisation for Economic Co-operation and Development. Available at: http://instance.metastore.ingenta.com/content/collection/lfs-data-en (Accessed: 28 February 2023).

OECD (2019) *Net replacement rates in unemployment*. Paris: Organisation for Economic Co-operation and Development. Available at: http://instance.metastore.ingenta.com/content/collection/socwel-data-en (Accessed: 1 March 2023).

People born outside the UK (2018). Available at: https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/demographics/people-born-outside-the-uk/latest (Accessed: 13 March 2023).

Pivovarova, M. and Powers, J.M. (2022) 'Do immigrants experience labor market mismatch? New evidence from the US PIAAC', *Large-scale Assessments in Education*, 10(1), p. 9. Available at: https://doi.org/10.1186/s40536-022-00127-7.

Quillian, L. *et al.* (2017) 'Meta-analysis of field experiments shows no change in racial discrimination in hiring over time', *Proceedings of the National Academy of Sciences*, 114(41), pp. 10870–10875. Available at: https://doi.org/10.1073/pnas.1706255114.

Quillian, L. *et al.* (2019) 'Do Some Countries Discriminate More than Others? Evidence from 97 Field Experiments of Racial Discrimination in Hiring', *Sociological Science*, 6, pp. 467–496. Available at: https://doi.org/10.15195/v6.a18.

Quillian, L., Lee, J.J. and Oliver, M. (2020) 'Evidence from Field Experiments in Hiring Shows Substantial Additional Racial Discrimination after the Callback', *Social Forces*, 99(2), pp. 732–759. Available at: https://doi.org/10.1093/sf/soaa026.

Ramos, M., Thijssen, L. and Coenders, M. (2021) 'Labour market discrimination against Moroccan minorities in the Netherlands and Spain: a cross-national and cross-regional comparison', *Journal of Ethnic and Migration Studies*, 47(6), pp. 1261–1284. Available at: https://doi.org/10.1080/1369183X.2019.1622824.

Sala, G.L. (2011) 'Approaches to Skills Mismatch in the Labour Market: A Literature Review', *Papers. Revista de Sociologia*, 96(4), pp. 1025–1045. Available at: https://doi.org/10.5565/rev/papers/v96n4.171.

Sapir, A. (2006) 'Globalization and the Reform of European Social Models*', *JCMS: Journal of Common Market Studies*, 44(2), pp. 369–390. Available at: https://doi.org/10.1111/j.1468-5965.2006.00627.x.

Sarkar, S. (2017) 'Employment polarization and over-education in Germany, Spain, Sweden and UK', *Empirica*, 44(3), pp. 435–463. Available at: https://doi.org/10.1007/s10663-017-9372-8.

Search European Social Survey (no date). Available at: https://ess-search.nsd.no/en/variable/fd13c07d-9d30-4fbd-b908-6a30619e617c (Accessed: 10 January 2023).

Sicherman, N. and Galor, O. (1990) 'A Theory of Career Mobility', *Journal of Political Economy*, 98(1), pp. 169–192.

Smith, C.D., Helgertz, J. and Scott, K. (2019) 'Time and Generation: Parents' Integration and Children's School Performance in Sweden, 1989–2011', *European Journal of Population*, 35(4), pp. 719–750. Available at: https://doi.org/10.1007/s10680-018-9498-9.

Smith, P. and Frank, J. (2005) 'When aspirations and achievements don't meet. A longitudinal examination of the differential effect of education and occupational attainment on declines in self-rated health among Canadian labour force participants', *International Journal of Epidemiology*, 34(4), pp. 827–834. Available at: https://doi.org/10.1093/ije/dyi047.

Statistics | Eurostat (no date). Available at: https://ec.europa.eu/eurostat/databrowser/view/MIGR_POP4CTB/default/table?lang=en&category=demo.demo_pop (Accessed: 28 February 2023).

Svalund, J. and Berglund, T. (2018) 'Fixed-term employment in Norway and Sweden: A pathway to labour market marginalization?', *European Journal of Industrial Relations*, 24(3), pp. 261–277. Available at: https://doi.org/10.1177/0959680117740777.

Thijssen, L. *et al.* (2021) 'Discrimination against Turkish minorities in Germany and the Netherlands: field experimental evidence on the effect of diagnostic information on labour market outcomes', *Journal of Ethnic and Migration Studies*, 47(6), pp. 1222–1239. Available at: https://doi.org/10.1080/1369183X.2019.1622793.

Timoneda, J.C. (2021) 'Estimating group fixed effects in panel data with a binary dependent variable: How the LPM outperforms logistic regression in rare events data', *Social Science Research*, 93, p. 102486. Available at: https://doi.org/10.1016/j.ssresearch.2020.102486.

Van Borm, H., Lippens, L. and Baert, S. (2022) 'An Arab, an Asian, and a Black Guy Walk into a Job Interview: Ethnic Stigma in Hiring after Controlling for Social Class', *SSRN* [Preprint].

Veit, S. and Thijsen, L. (2021) 'Almost identical but still treated differently: hiring discrimination against foreign-born and domestic-born minorities', *Journal of Ethnic and Migration Studies*, 47(6), pp. 1285–1304. Available at: https://doi.org/10.1080/1369183X.2019.1622825.

Weighting | European Social Survey (ESS) (no date). Available at: https://www.europeansocialsurvey.org/methodology/ess_methodology/data_processing_archiving/weighting.html (Accessed: 8 April 2023).

Zschirnt, E. and Ruedin, D. (2016) 'Ethnic discrimination in hiring decisions: a meta-analysis of correspondence tests 1990–2015', *Journal of Ethnic and Migration Studies*, 42(7), pp. 1115–1134. Available at: https://doi.org/10.1080/1369183X.2015.1133279.

Appendix

Appendix 1. Mean age, standard deviation and median age of the analytical sample in each country.

Country	*Observations*	*Mean age*	*Standard deviation*	*Median age*
Belgium	9,685	43.26	12.62	44
Switzerland	8,376	43.65	12.69	44
Germany	15,891	44.94	12.41	46
France	10,549	44.13	12.57	44
The UK	11,652	44.35	12.58	45
The Netherlands	10,971	44.62	12.41	45
Norway	9,701	42.21	12.63	44
Sweden	9,677	43.41	13.05	43

Appendix 2. Number and share of overeducated individuals in the ESS sample, according to immigrant generation, and gender. Stratified by country.

Belgium	***Female***		***Male***		***Total***	
Age range: 20-65	n	%	n	%	n	%
Overeducated						
Whole population	637	11,66	812	14,55	1 449	13,12
Natives (with native born parents)	410	9,57	584	13,53	287	21,1
First-generation immigrants	152	22,72	135	19,54	287	21,10
Second-generation immigrants (incl. G2.5)	75	14,71	93	16,15	168	15,47
Second-generation immigrants (excl. G2.5)	22	13,41	38	14,96	60	14,35
G2.5, foreign-born father	29	15,93	34	19,54	63	17,70
G2.5, foreign-born mother	24	14,63	21	14,19	45	14,42

Switzerland	***Female***		***Male***		***Total***	
Age range: 20-65	n	%	n	%	n	%
Overeducated						
Whole population	1 043	18,54	1 076	20,00	2 119	19,25
Natives (with native born parents)	487	14,13	576	17,31	1 063	15,69
First-generation immigrants	376	27,55	319	25,20	695	26,42
Second-generation immigrants (incl. G2.5)	180	22,09	181	22,97	361	22,52

Second-generation immigrants (excl. G2.5)	55	20,30	69	24,38	124	22,38
G2.5, foreign-born father	58	24,27	40	19,70	98	22,17
G2.5, foreign-born mother	67	21,97	72	23,84	139	22,90

Germany	***Female***		***Male***		***Total***	
Age range: 20-65	n	%	n	%	n	%
Overeducated						
Whole population	926	10,71	1 287	14,28	2 213	12,54
Natives (with native born parents)	717	10,25	1 038	14,08	1 755	12,22
First-generation immigrants	123	14,07	142	15,97	265	15,03
Second-generation immigrants (incl. G2.5)	86	11,11	107	14,27	193	12,66
Second-generation immigrants (excl. G2.5)	26	11,56	30	12,71	56	12,15
G2.5, foreign-born father	38	11,08	44	15,07	82	12,91
G2.5, foreign-born mother	22	10,68	33	14,86	55	12,85

France	***Female***		***Male***		***Total***	
Age range: 20-65	n	%	n	%	n	%
Overeducated						
Whole population	819	13,24	775	14,08	1 594	13,63
Natives (with native born parents)	605	12,56	590	13,75	1 195	13,12
First-generation immigrants	101	16,61	93	17,42	194	16,99
Second-generation immigrants (incl. G2.5)	113	14,87	92	13,53	205	14,24
Second-generation immigrants (excl. G2.5)	45	14,90	33	14,16	78	14,58
G2.5, foreign-born father	34	12,69	30	10,83	64	11,74
G2.5, foreign-born mother	34	17,89	29	17,06	63	17,50

The UK	***Female***		***Male***		***Total***	
Age range: 20-65	n	%	n	%	n	%
Overeducated						
Whole population	1 053	14,41	936	15,73	1 989	15,00
Natives (with native born parents)	712	12,24	635	13,53	1 347	12,82
First-generation immigrants	222	25,75	198	26,68	420	26,18
Second-generation immigrants (incl. G2.5)	119	18,95	103	19,96	222	19,41
Second-generation immigrants (excl. G2.5)	43	18,45	50	25,64	93	21,73
G2.5, foreign-born father	36	16,59	31	17,03	67	16,79
G2.5, foreign-born mother	40	22,47	22	15,83	62	19,56

The Netherlands	***Female***		***Male***		***Total***	
Age range: 20-65	n	%	n	%	n	%
Overeducated						
Whole population	829	12,59	928	16,78	1 757	14,50
Natives (with native born parents)	647	11,80	771	16,52	1 418	13,97
First-generation immigrants	105	16,77	98	18,92	203,00	17,74

Second-generation immigrants (incl. G2.5)	77	16,14	59	17,05	136	16,52
Second-generation immigrants (excl. G2.5)	26	17,11	17	18,48	43	17,62
G2.5, foreign-born father	23	14,47	23	20,18	46	16,85
G2.5, foreign-born mother	28	16,87	19	13,57	47	15,36

Norway	***Female***		***Male***		***Total***	
Age range: 20-65	n	%	n	%	n	%
Overeducated						
Whole population	675	13,35	754	13,05	1 429	13,19
Natives (with native born parents)	524	12,26	570	11,55	1 094	11,88
First-generation immigrants	118	21,42	144	24,83	262	23,17
Second-generation immigrants (incl. G2.5)	33	14,29	40	15,27	73	14,81
Second-generation immigrants (excl. G2.5)	4	14,29	8	23,53	12	19,35
G2.5, foreign-born father	13	12,75	18	15,25	31	14,09
G2.5, foreign-born mother	16	15,84	14	12,73	30	14,22

Sweden	***Female***		***Male***		***Total***	
Age range: 20-65	n	%	n	%	n	%
Overeducated						
Whole population	853	15,59	801	14,33	1 654	14,96
Natives (with native born parents)	579	13,62	538	12,27	1 117	12,93
First-generation immigrants	190	27,22	182	26,65	372	26,94
Second-generation immigrants (incl. G2.5)	84	16,12	81	15,58	165	15,85
Second-generation immigrants (excl. G2.5)	30	18,63	21	15,00	51	16,94
G2.5, foreign-born father	25	14,20	36	21,95	61	17,94
G2.5, foreign-born mother	29	15,76	24	11,11	53	13,25

Appendix 3. Socio-demographic characteristics of the sample population, according to native/immigrant generation. Stratified by country.

Belgium	Age range: 20-65	***Native (incl. G2.5)***		***Second-generation (excl. G2.5)***		***Total***		***Native (excl. G2.5)***		***Second-generation (incl. G2.5)***	
		N=9 267		N=418		N=11 045		N=8 599		N=1 086	
		n	%	n	%	n	%	n	%	n	%
Overeducated											
	Yes	1 102	11,89	60	14,35	1 449	13,12	994	11,56	168	15,48
	No	8 165	88,11	358	85,65	9 596	86,88	7 605	88,44	918	84,52
Gender											
	Male	4 827	49,47	271	57,17	5 836	49,62	4 482	49,61	616	51,72
	Female	4 930	50,53	203	42,83	5 925	50,38	4 558	50,39	575	48,28
Age group											
	20-29	1 969	20,18	142	29,96	2 360	20,07	1 792	19,82	319	26,78
	30-39	2 008	20,58	126	26,58	2 527	21,49	1 839	20,34	295	24,77
	40-49	2 324	23,82	112	23,63	2 845	24,19	2 178	24,09	258	21,66
	50-59	2 268	23,24	71	14,98	2 673	22,73	2 129	23,55	210	17,63
	60-65	1 188	12,18	23	4,85	1 356	11,53	1 102	12,19	109	9,15
Respondent Educational Level											
	Non-tertiary	5 636	57,92	268	56,78	6 677	57,01	5 229	57,99	675	56,91
	Tertiary	4 095	42,08	204	43,22	5 035	42,99	3 788	42,01	511	43,09
Father Educational Level											
	Non-tertiary	6 185	66,44	268	59,96	7 264	64,78	5 763	66,78	690	61,28
	Tertiary	3 124	33,56	179	40,04	3 949	35,22	2 867	33,22	436	38,72
Mother Educational Level											
	Non-tertiary	6 577	70,03	290	63,04	7 730	68,33	6 133	70,42	734	64,22
	Tertiary	2 815	29,97	170	36,96	3 583	31,67	2 576	29,58	409	35,78
Parental Educational Level											
	Non-tertiary	5 864	64,07	265	59,82	6 905	62,60	5 466	64,40	663	59,78
	Tertiary (at least one parent)	3 289	35,93	178	40,18	4 125	37,40	3 021	35,60	446	40,22

Switzerland	Age range: 20-65	***Native (incl. G2.5)***		***Second-generation (excl. G2.5)***		***Total***		***Native (excl. G2.5)***		***Second-generation (incl. G2.5)***	
		N=7 822		N=554		N=11 007		N=6 773		N=1 086	
		n	%	n	%	n	%	n	%	n	%
Overeducated											
	Yes	1 300	16,62	124	22,38	2 119	19,25	1 063	15,69	361	22,52
	No	6 522	83,38	430	77,62	8 888	80,75	5 710	84,31	1 242	77,48
Gender											
	Male	3 922	48,85	290	50,43	5 521	48,52	3 404	48,98	808	48,85
	Female	4 107	51,15	285	49,57	5 858	51,48	3 546	51,02	846	51,15
Age group											
	20-29	1 364	16,98	172	29,91	1 939	17,04	1 132	16,29	404	24,43
	30-39	1 707	21,24	179	31,13	2 673	23,49	1 465	21,08	415	25,09
	40-49	1 907	23,73	158	27,48	2 827	24,84	1 605	23,09	460	27,81
	50-59	1 922	23,92	57	9,91	2 538	22,30	1 704	24,52	275	16,63
	60-65	1 135	14,13	9	1,57	1 402	12,32	1 044	15,02	100	6,05
Respondent Educational Level											
	Non-tertiary	4 543	56,73	276	48,00	6 261	55,19	3 935	56,75	884	53,61
	Tertiary	3 465	43,27	299	52,00	5 083	44,81	2 999	43,25	765	46,39
Father Educational Level											
	Non-tertiary	4 830	62,02	286	50,89	6 584	59,75	4 221	62,59	895	55,73
	Tertiary	2 958	37,98	276	49,11	4 435	40,25	2 523	37,41	711	44,27
Mother Educational Level											
	Non-tertiary	5 549	70,55	329	58,02	7 525	67,60	4 827	70,89	1 051	64,76
	Tertiary	2 316	29,45	238	41,98	3 606	32,40	1 982	29,11	527	35,24
Parental Educational Level											
	Non-tertiary	4 699	61,14	282	50,54	6 401	58,82	4 111	60,31	870	56,53
	Tertiary (at least one parent)	2 987	38,86	276	49,46	4 482	41,18	2 540	39,69	723	43,47

Germany	Age range: 20-65	*Native (incl. G2.5)*		*Second-generation (excl. G2.5)*		*Total*		*Native (excl. G2.5)*		*Second-generation (incl. G2.5)*	
		N=15 430		N=461		N=17 654		N=14 367		N=1 524	
		n	%	n	%	n	%	n	%	n	%
Overeducated											
	Yes	1 892	12,26	56	12,15	2 213	12,54	1 755	12,22	193	12,66
	No	13 538	87,74	405	87,85	15 441	87,46	12 612	87,78	1 331	87,34
Gender											
	Male	8 190	50,96	252	51,32	9 381	50,75	7 649	51,12	793	49,56
	Female	7 881	49,04	239	48,68	9 103	49,25	7 313	48,88	807	50,44
Age group											
	20-29	2 556	15,90	168	34,22	3 109	16,82	2 393	15,99	331	20,69
	30-39	2 933	18,25	94	19,14	3 547	19,19	2 727	18,23	300	18,75
	40-49	4 161	25,89	90	18,33	4 716	25,51	3 834	25,62	417	26,06
	50-59	4 125	25,67	96	19,55	4 603	24,90	3 841	25,67	380	23,75
	60-65	2 296	14,29	43	8,76	2 509	13,57	2 167	14,48	172	10,75
Respondent Educational Level											
	Non-tertiary	9 422	58,77	248	50,72	10 757	58,38	8 811	59,04	859	53,82
	Tertiary	6 610	41,23	241	49,28	7 670	41,62	6 114	40,96	737	46,18
Father Educational Level											
	Non-tertiary	9 351	60,05	239	50,42	10 641	59,54	8 761	60,38	829	54,01
	Tertiary	6 220	39,95	235	49,58	7 230	40,46	5 749	39,62	706	45,99
Mother Educational Level											
	Non-tertiary	10 794	68,76	266	55,65	12 205	67,73	10 106	69,18	954	60,88
	Tertiary	4 904	31,24	212	44,35	5 815	32,27	4 503	30,82	613	39,12
Parental Educational Level											
	Non-tertiary	9 067	58,85	234	49,79	10 304	58,29	8 494	59,18	807	52,99
	Tertiary (at least one parent)	6 339	41,15	236	50,21	7 372	41,71	5 859	40,82	716	47,01

France	Age range: 20-65	*Native (incl. G2.5)*		*Second-generation (excl. G2.5)*		*Total*		*Native (excl. G2.5)*		*Second-generation (incl. G2.5)*	
		N=10 014		N=535		N=11 691		N=9 109		N=1 440	
		n	%	n	%	n	%	n	%	n	%
Overeducated											
	Yes	1 322	13,20	78	14,58	1 594	13,63	1 195	13,12	205	14,24
	No	8 692	86,80	457	85,42	10 097	86,37	7 914	86,88	1 235	85,76
Gender											
	Male	4 886	47,15	244	43,19	5 684	46,68	4 416	46,91	714	47,13
	Female	5 477	52,85	321	56,81	6 492	53,32	4 997	53,09	801	52,87
Age group											
	20-29	1 674	16,15	101	17,88	1 938	15,92	1 477	15,69	298	19,67
	30-39	2 358	22,75	155	27,43	2 819	23,15	2 103	22,34	410	27,06
	40-49	2 352	22,70	143	25,31	2 797	22,97	2 164	22,99	331	21,85
	50-59	2 489	24,02	104	18,41	2 904	23,85	2 288	24,31	305	20,13
	60-65	1 490	14,38	62	10,97	1 718	14,11	1 381	14,67	171	11,29
Respondent Educational Level											
	Non-tertiary	5 300	51,18	264	46,81	6 208	51,04	4 815	51,19	749	49,50
	Tertiary	5 055	48,82	300	53,19	5 956	48,96	4 591	48,81	964	50,50
Father Educational Level											
	Non-tertiary	5 723	58,89	292	54,58	6 688	58,52	5 215	59,05	800	56,30
	Tertiary	3 995	41,11	243	45,42	4 740	41,48	3 617	40,95	621	43,70
Mother Educational Level											
	Non-tertiary	6 065	61,33	307	56,54	7 099	61,02	5 527	61,45	845	58,76
	Tertiary	3 824	38,67	236	43,46	4 535	38,98	3 467	38,55	593	41,24
Parental Educational Level											
	Non-tertiary	5 441	57,08	283	53,60	6 374	56,80	4 966	57,28	758	54,53
	Tertiary (at least one parent)	4 091	42,92	245	46,40	4 847	43,20	3 704	42,72	632	45,47

The UK	Age range: 20-65	***Native (incl. G2.5)***		***Second-generation (excl. G2.5)***		***Total***		***Native (excl. G2.5)***		***Second-generation (incl. G2.5)***	
		N=11 224		N=428		N=13 256		N=10 508		N=1 144	
		n	%	n	%	n	%	n	%	n	%
Overeducated											
	Yes	1 476	13,15	93	21,73	1 989	15,00	1 347	12,82	222	19,41
	No	9 748	86,85	335	78,27	11 267	85,00	9 161	87,18	922	80,59
Gender											
	Male	5 162	44,55	209	45,73	6 167	44,59	4 833	44,58	538	44,76
	Female	6 425	55,45	248	54,27	7 662	55,41	6 009	55,42	664	55,24
Age group											
	20-29	1 794	15,48	104	22,76	2 239	16,19	1 670	15,40	228	18,97
	30-39	2 566	22,15	131	28,67	3 286	23,76	2 378	21,93	319	26,54
	40-49	2 764	23,85	117	25,60	3 304	23,89	2 579	23,79	302	25,12
	50-59	2 743	23,67	83	18,16	3 107	22,47	2 572	23,72	254	21,13
	60-65	1 720	14,84	22	4,81	1 893	13,69	1 643	15,15	99	8,24
Respondent Educational Level											
	Non-tertiary	5 894	51,75	258	56,83	7 077	52,13	5 482	51,45	670	56,40
	Tertiary	5 496	48,25	196	43,17	6 498	47,87	5 174	48,55	518	43,60
Father Educational Level											
	Non-tertiary	6 309	59,30	277	64,87	7 600	59,66	5 879	59,05	707	63,64
	Tertiary	4 331	40,70	150	35,13	5 138	40,34	4 077	40,95	404	36,36
Mother Educational Level											
	Non-tertiary	6 820	62,64	293	67,51	8 215	63,10	6 369	62,49	744	65,90
	Tertiary	4 067	37,36	141	32,49	4 803	36,90	3 823	37,51	385	34,10
Parental Educational Level											
	Non-tertiary	5 868	56,14	266	63,48	7 103	56,70	5 476	55,95	658	60,65
	Tertiary (at least one parent)	4 585	43,86	153	36,52	5 425	43,30	4 311	44,05	427	39,35

The Netherlands	Age range: 20-65	***Native (incl. G2.5)***		***Second-generation (excl. G2.5)***		***Total***		***Native (excl. G2.5)***		***Second-generation (incl. G2.5)***	
		N=10 727		N=244		N=12 115		N=10 148		N=823	
		n	%	n	%	n	%	n	%	n	%
Overeducated											
	Yes	1 511	14,09	43	17,62	1 757	14,50	1 418	13,97	136	16,52
	No	9 216	85,91	201	82,38	10 358	85,50	8 730	86,03	687	83,48
Gender											
	Male	4 994	45,58	160	62,75	5 632	45,28	4 737	45,72	352	41,41
	Female	5 962	54,42	95	37,25	6 805	54,72	6 524	54,28	498	58,59
Age group											
	20-29	1 544	14,09	102	40,00	1 811	14,56	1 431	13,81	215	25,29
	30-39	2 371	21,64	65	25,49	2 782	22,37	2 224	21,47	212	24,94
	40-49	2 716	24,79	37	14,51	3 103	24,95	2 581	24,91	172	20,24
	50-59	2 708	24,72	39	15,29	2 990	24,04	2 599	25,08	148	17,41
	60-65	1 617	14,76	12	4,71	1 751	14,08	1 526	14,73	103	12,12
Respondent Educational Level											
	Non-tertiary	6 133	56,03	119	46,85	6 912	55,70	5 806	56,09	446	52,59
	Tertiary	4 812	43,97	135	53,15	5 497	44,30	4 545	43,91	402	47,41
Father Educational Level											
	Non-tertiary	6 616	62,57	121	50,00	7 396	61,92	6 280	62,79	457	56,14
	Tertiary	3 958	37,43	121	50,00	4 548	38,08	3 722	37,21	357	43,86
Mother Educational Level											
	Non-tertiary	7 179	67,36	134	55,14	8 066	66,89	6 814	67,57	499	61,15
	Tertiary	3 479	32,64	109	44,86	3 992	33,11	3 217	32,43	317	38,85
Parental Educational Level											
	Non-tertiary	6 398	61,25	118	49,79	7 149	60,63	6 084	61,55	432	54,20
	Tertiary (at least one parent)	4 047	38,75	119	50,21	4 643	39,37	3 801	38,45	365	45,80

Norway	Age range: 20-65	***Native (incl. G2.5)***		***Second-generation (excl. G2.5)***		***Total***		***Native (excl. G2.5)***		***Second-generation (incl. G2.5)***	
		N=9 639		N=62		N=10 832		N=9 208		N=493	
		n	%	n	%	n	%	n	%	n	%
Overeducated											
	Yes	1 155	11,98	12	19,35	1 429	13,19	1 094	11,88	73	14,81
	No	8 484	88,02	50	80,65	9 403	86,81	8 114	88,12	420	85,19
Gender											
	Male	5 353	53,97	34	53,97	5 991	53,67	5 118	53,99	269	53,48
	Female	4 566	46,03	29	46,03	5 171	46,33	4 361	46,01	234	46,52
Age group											
	20-29	1 786	18,01	38	60,32	2 050	18,37	1 662	17,53	162	32,21
	30-39	2 173	21,91	13	20,63	2 565	22,98	2 060	21,73	126	25,05
	40-49	2 434	24,54	6	9,52	2 757	24,70	2 339	24,68	101	20,08
	50-59	2 381	24,00	5	7,94	2 576	23,08	2 303	24,30	83	16,50
	60-65	1 145	11,54	1	1,59	1 214	10,88	1 115	11,76	31	6,16
Respondent Educational Level											
	Non-tertiary	5 801	58,60	42	67,74	6 484	58,32	5 545	58,61	298	59,48
	Tertiary	4 099	41,40	20	32,26	4 635	41,68	3 916	41,39	203	40,52
Father Educational Level											
	Non-tertiary	6 779	69,34	40	64,52	7 551	68,73	6 513	69,64	306	63,09
	Tertiary	2 997	30,66	22	35,48	3 435	31,27	2 840	30,36	179	36,91
Mother Educational Level											
	Non-tertiary	7 210	73,21	43	69,35	8 048	72,72	6 916	73,47	337	67,67
	Tertiary	2 639	26,79	19	30,65	3 019	27,28	2 497	26,53	161	32,33
Parental Educational Level											
	Non-tertiary	6 431	66,01	39	62,90	7 170	65,49	6 183	66,32	287	59,67
	Tertiary (at least one parent)	3 311	33,99	23	37,10	3 778	34,51	3 140	33,68	194	40,33

Sweden	Age range: 20-65	***Native (incl. G2.5)***		***Second-generation (excl. G2.5)***		***Total***		***Native (excl. G2.5)***		***Second-generation (incl. G2.5)***	
		N=9 376		N=301		N=11 058		N=8 636		N=1 041	
		n	%	n	%	n	%	n	%	n	%
Overeducated											
	Yes	1 231	13,13	51	16,94	1 654	14,96	1 117	12,93	165	15,85
	No	8 145	86,87	250	83,06	9 404	85,04	7 519	87,07	876	84,15
Gender											
	Male	4 854	50,92	145	46,18	5 706	50,50	4 460	50,87	539	49,95
	Female	4 678	49,08	169	53,82	5 594	49,50	4 307	49,13	540	50,05
Age group											
	20-29	1 805	18,94	117	37,26	2 182	19,31	1 620	18,48	302	27,99
	30-39	2 051	21,52	87	27,71	2 475	21,90	1 856	21,17	282	26,14
	40-49	2 108	22,11	53	16,88	2 521	22,31	1 930	22,01	231	21,41
	50-59	2 224	23,33	41	13,06	2 598	22,99	2 075	23,67	190	17,61
	60-65	1 344	14,10	16	5,10	1 524	13,49	1 286	14,67	74	6,86
Respondent Educational Level											
	Non-tertiary	5 996	63,00	168	53,85	7 004	62,17	5 527	63,12	637	59,31
	Tertiary	3 522	37,00	144	46,15	4 262	37,83	3 229	36,88	437	40,69
Father Educational Level											
	Non-tertiary	4 334	64,23	122	50,62	5 091	63,16	3 995	64,40	461	58,65
	Tertiary	2 414	35,77	119	49,38	2 969	36,84	2 208	35,60	325	41,35
Mother Educational Level											
	Non-tertiary	4 536	66,53	130	53,06	5 364	65,78	4 171	66,58	495	62,03
	Tertiary	2 282	33,47	115	46,94	2 790	34,22	2 094	33,42	303	37,97
Parental Educational Level											
	Non-tertiary	4 140	61,97	111	46,64	4 873	61,03	3 817	62,11	434	56,14
	Tertiary (at least one parent)	2 541	38,03	127	53,36	3 112	38,97	2 329	37,89	339	43,86

Appendix 4. Number and share of ESS respondents in ISCO Major Groups, according to population. Pooled sample.

Pooled	Age range: 20-65	***Native (incl. G2.5)***		***Second-generation immigrant (excl. G2.5)***		***Total***		***Native (excl. G2.5)***		***Second-generation immigrant (incl G2.5)***	
		N=83 499		N=3 003		N=98 658		N=77 348		N=9 154	
		n	%	n	%	n	%	n	%	n	%
Occupation (ISCO Major Group)											
Armed Forces Officers		310	0,37	10	0,33	336	0,34	289	0,37	31	0,34
Managers		7 567	9,06	238	7,93	8 798	8,92	7 008	9,06	797	8,71
Professionals		16 464	19,72	502	16,72	19 214	19,48	15 184	19,63	1 782	19,47
Technicians and Associate Professionals		16 752	20,06	595	19,81	19 173	19,43	15 450	19,97	1 897	20,72
Clerical Support Workers		8 913	10,67	358	11,92	10 260	10,40	8 265	10,69	1 006	10,99
Service and Sales Workers		12 795	15,32	561	18,68	15 530	15,74	11 808	15,27	1 548	16,91
Skilled Agricultural, Forestry and Fishery Workers		1 695	2,03	14	0,47	1 795	1,82	1 622	2,10	87	0,95
Craft and related trades workers		8 100	9,70	286	9,52	9 661	9,79	7 540	9,75	846	9,24
Plant and Machine Operators, and Assemblers		5 044	6,04	175	5,83	6 215	6,30	4 729	6,11	490	5,35
Elementary Occupations		5 859	7,02	264	8,79	7 676	7,78	5 453	7,05	670	7,32

Appendix 5. Weighted linear probability models adjusted for age, age-squared, gender, respondent's and parent's level of education, ESS-round and ISCO Major Group.

Outcome: Overeducated (dummy)	*Second-generation immigrant*	*Confidence interval*	*p-value*	*Standard error*	*_cons*	*Number of observations*
Model 1: All countries	0,0207**	0,0008–0,0406	0,042	0,01	0,128***	78 980
Belgium	0,00106	-0,0328–0,03497	0,951	0,02	0,168***	9 035
Switzerland	0,0341*	-0,0027–0,0708	0,069	0,02	0,143**	8 008
Germany	-0,0123	-0,0433–0,0187	0,437	0,02	-0,055	15 186
France	0,00563	-0,0323–0,0435	0,771	0,02	0,198***	9 665
The UK	0,0853***	0,0361–0,1346	0,001	0,03	0,283***	10 446
The Netherlands	0,00361	-0,0528–0,0600	0,900	0,03	0,097*	10 388
Norway	0,0405	-0,0541–0,1352	0,401	0,05	0,060	9 456
Sweden	0,0186	-0,0293–0,0665	0,446	0,02	-0,000233	6 757

** p<0.10, ** p<0.05, *** p<0.01*

Appendix 6. Weighted linear probability models adjusted for age, age-squared, gender, respondent's and parent's level of education, ESS-round and ISCO Major Group.

Social model	*Second-generation immigrant*	*Confidence interval*	*p-value*	*Standard error*	*_cons*	*Number of observations*
Nordic	0,013	-0,0248–0,0517	0,491	0,02	0,0670*	26 640
Anglo-Saxon	0,0853***	0,0361–0,1346	0,001	0,03	0,283***	10 446
Continental	0,00373	-0,0184–0,0260	0,741	0,01	0,0775***	41 894

** p<0.10, ** p<0.05, *** p<0.01*

Appendix 7. Weighted linear probability models with the probability of being overeducated as outcome, individual characteristics as independent variables. Populations: The second generation and natives (excl. G2.5) (Controlling for ESS round and ISCO Major Group)

Independent variables' effect on the probability of being overeducated	***Second-generation immigrant***	***Standard error***	***Natives (excl. G2.5)***	***Standard error***
Voted in last election: Yes	0,0329	0,0600	0,0492***	0,00950
Member of trade union: Yes	0,0843	0,0536	0,0239***	0,00770
Ever had a child: Yes	-0,0820	0,0683	-0,0596***	0,00949
Age	0,0227	0,0138	0,00386	0,00243
Age (Squared)	-0,000335**	0,000157	-0,0000742**	0,0000263
Female	0,00449	0,0585	-0,0277***	0,00826
Individual's education: Non-tertiary	-0,0478	0,0963	-0,0484***	0,0116
Parental education: Non-tertiary	0,136	0,112	0,0956***	0,0131
Number of observations	520		16 525	

** p<0.10, ** p<0.05, *** p<0.01*

Appendix 8. Weighted linear probability models with the probability of being overeducated as outcome, parental ethnic origin as main independent variables. (Controlling for ESS round and ISCO Major Group)

Parental origin's effect on the probability of being overeducated	***Second-generation immigrant***	***Standard error***	***Second-generation immigrant***	***Standard error***
Parents from non-EU country[1]	0,0512**	0,0208	-	-
Parents from middle-income country[2]	-	-	0,0336	0,0371
Parents from low-income country[2]	-	-	0,0939*	0,0546
Age	0,00739	0,00492	0,00809	0,00528
Age (squared)	-0,00120**	0,0000566	-0,000131**	0,0000607
Female	-0,0407*	0,0228	-0,0499**	0,0241
Individual's education: Non-tertiary	-0,0524	0,0366	-0,0502	0,0455
Parental education: Non-tertiary	0,202***	0,0399	0,220***	0,0498
Number of observations	2702		2486	

** p<0.10, ** p<0.05, *** p<0.01*

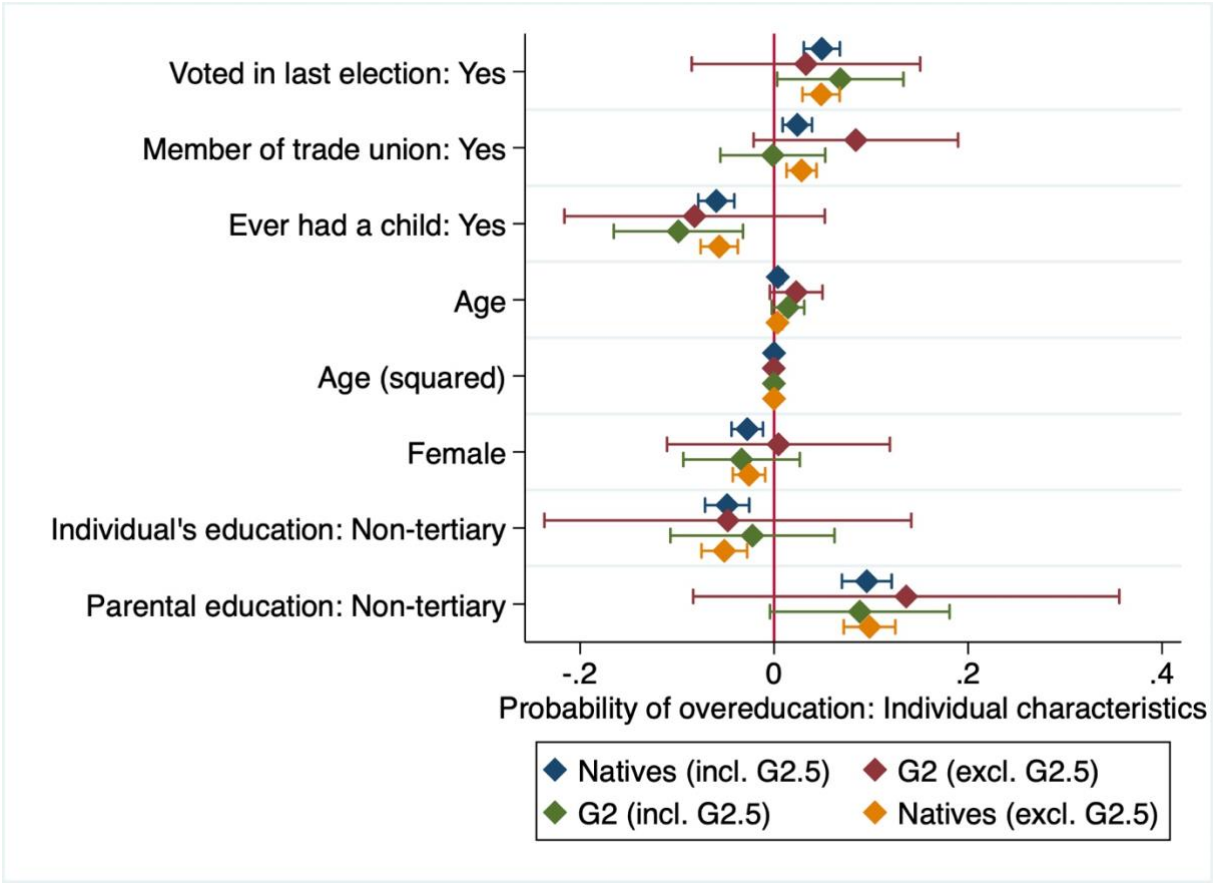
1: Reference category: Parents from EU country 2: Reference category: Parents from high-income country

Appendix 9. Robustness check: Weighted linear probability models with the probability of being overeducated as outcome. Main independent variables vary across the models.

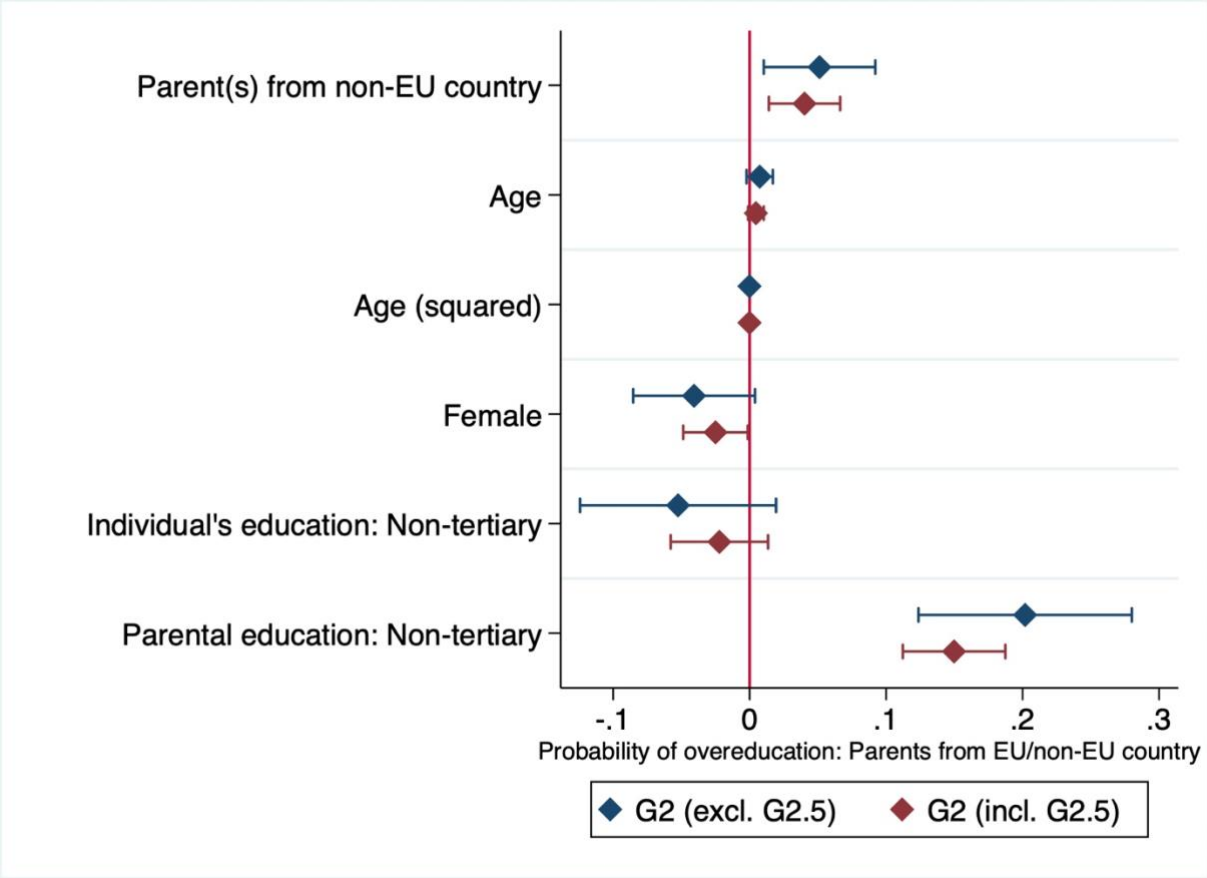
	(1) RQ1 - Second generation (excl. G2.5) (control: native with at least one native-born parent)	***(2) RQ1 (robustness check) - Second generation (incl. G2.5) (control: native with two native-born parents)***	***(3) RQ1 (robustness check) - Second generation (excl. G2.5) (control: native with two native-born parents)***
Coefficient	0.0207**	0.0180***	0.0220**
Standard error	0.0102	0.00568	0.0102
95% confidence interval	0.0007802-0.0405867	0.0068459-0.029104	0.0020945-0.0419593
Observations	78 980	78 980	73 431

** p<0.10, ** p<0.05, *** p<0.01*

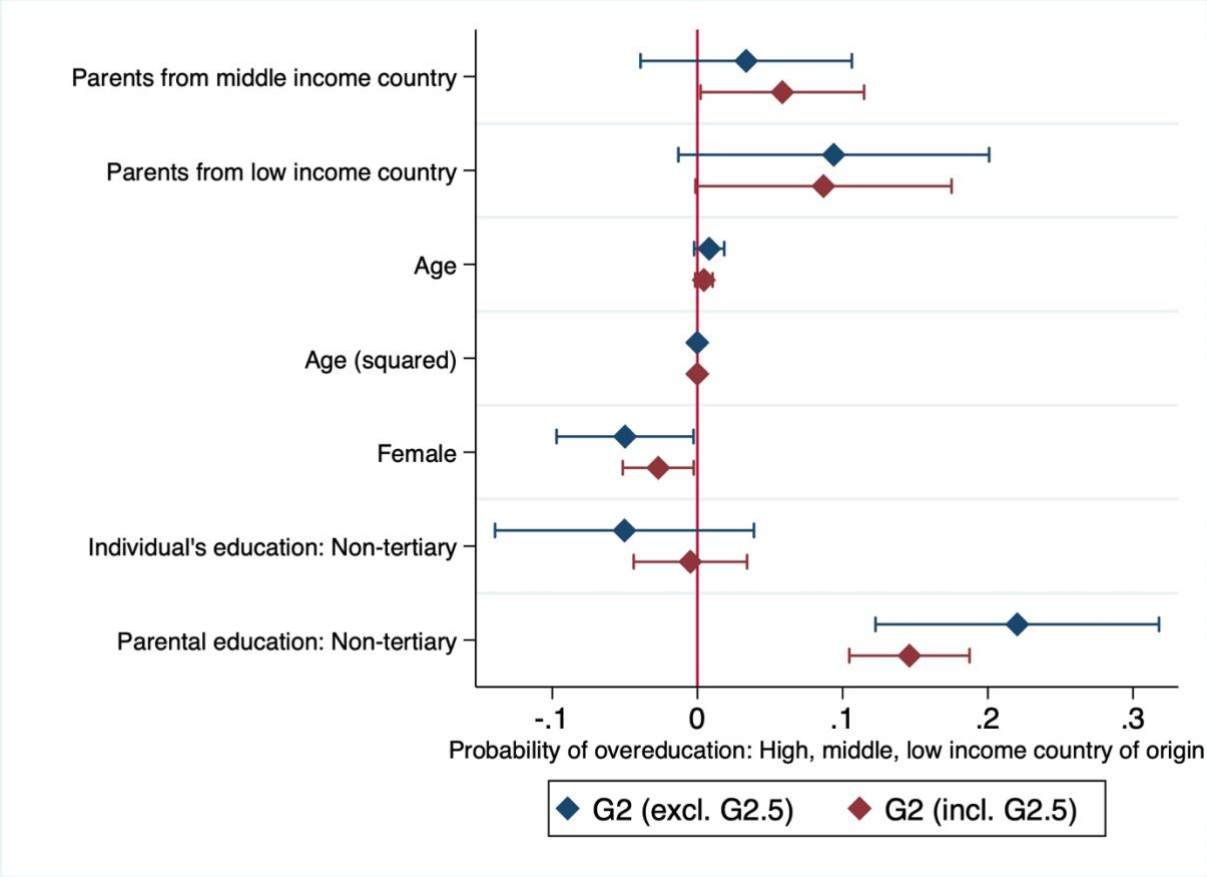
Appendix 10. Robustness check: Coefficients and 95% confidence intervals of the individual characteristics on the probability of being overeducated.



Appendix 11. Robustness check: Coefficient and 95% confidence interval of parental country of origin (Reference category: Parents from EU country) on the probability of being overeducated, including control variables.



Appendix 12. Robustness check: Coefficients and 95% confidence intervals of parental country of origin (Reference category: Parents from high income country) on the probability of being overeducated, including control variables.



Appendix 13. Robustness check: Weighted linear probability models with the probability of being overeducated as outcome. Main independent variables (sample populations) vary across the models. (*p<0.10, **p<0.05, ***p<0.01)

		(1) *Second generation (excl. G2.5) (control: native with at least one native-born parent)*	*(2)* *Robustness check - Second generation (incl. G2.5) (control: native with two native-born parents)*	*(3)* *Robustness check - Second generation (excl. G2.5) (control: native with two native-born parents)*
Belgium	**Coefficient**	0.00106	0.0247**	0.00232
	Standard error	0.0173	0.0114	0.0173
	Observations	9 035	9 035	8 416
Switzerland	**Coefficient**	0.0431*	0.0541***	0.0431**
	Standard error	0.0187	0.0120	0.0189
	Observations	8 008	8 008	7 005
Germany	**Coefficient**	(-)0.0123	(-)0.00345	(-)0.0121
	Standard error	0.0158	0.00911	0.0158
	Observations	15 186	15 186	14 176
France	**Coefficient**	0.00563	0.00394	0.00542
	Standard error	0.0193	0.0115	0.0194
	Observations	9 665	9 665	8 847
UK	**Coefficient**	0.0853***	0.0580***	0.0885***
	Standard error	0.0251	0.0148	0.0251
	Observations	10 446	10 446	9 811
Netherlands	**Coefficient**	0.00361	0.0146	0.00345
	Standard error	0.0288	0.0155	0.0288
	Observations	10 427	10 427	9 882
Norway	**Coefficient**	0.0405	0.0182	0.0389
	Standard error	0.0483	0.0161	0.0483
	Observations	9 456	9 456	9 049
Sweden	**Coefficient**	0.0186	0.0233	0.0203
	Standard error	0.0244	0.0149	0.0245
	Observations	6 757	6 757	6 245

Stockholms universitet