

# Gender Inequalities in the Education of the Second Generation in Western Countries

Fenella Fleischmann<sup>1</sup> and Cornelia Kristen<sup>2</sup>

with contributions, including the provision of data and analyses instrumental to the research, by

**Anthony F. Heath, Yaël Brinbaum, Patrick Deboosere, Nadia Granato, Jan O. Jonsson, Elina Kilpi-Jakonen, Georg Lorenz, Amy C. Lutz, David Mos, Raya Mutarrak, Karen Phalet, Catherine Rothon, Frida Rudolphi, and Herman G. van de Werfhorst**

## Abstract

Drawing on comparative analyses from nine Western countries, we ask whether local-born children from a wide range of immigrant groups show patterns of female advantage in education that are similar to those prevalent in their host Western societies. We consider five outcomes throughout the educational career: test scores or grades at age 15, continuation after compulsory schooling, choice of academic track in upper-secondary education, completion of upper secondary, and completion of tertiary education. Despite great variation in gender gaps in education in immigrants' origin countries (with advantages for males in many cases), we find that the female advantage in education observed among the majority population is usually present among second-generation immigrants. We interpret these findings in light of ideas about gender role socialization and immigrant selectivity.

## Keywords

educational inequality, gender, immigrants, second generation, comparative analyses

## INTRODUCTION

Gender inequality has recently started to reverse in Western societies; in particular, girls are overtaking boys in all stages of the educational career (Breen et al. 2010; Buchmann, DiPrete, and McDaniel 2008). At the same time, these societies have experienced large-scale immigration from countries where male advantages in education remain strong. Therefore, a key question is whether children of immigrants assimilate to their destination countries' patterns of female success in

education and, if so, at what stages of the educational career. This question is most interesting for families from areas where male advantage in education is prevalent. Is there a universal female

---

<sup>1</sup>Utrecht University, Utrecht, Netherlands

<sup>2</sup>University of Bamberg, Bamberg, Germany

### Corresponding Author:

Fenella Fleischmann, Utrecht University, Padualaan 14, Utrecht, 3584CH, Netherlands.

Email: [f.fleischmann@uu.nl](mailto:f.fleischmann@uu.nl)

advantage in education in Western countries? Or do gendered patterns of educational success vary across ethnic groups, such that male advantage persists among immigrant groups from regions where women remain disadvantaged in education?

In the current article, we describe ethnic variations in gender gaps in education by studying local-born children of immigrants from a large range of origin countries in Western destinations. We apply a double comparative perspective that combines male-female gaps with ethnic inequality in education by estimating interactions between gender and country of origin derived from cross-nationally standardized analyses of high-quality national data sets. Controlling for social background and family composition, we ask how second-generation girls fare compared to boys of the same ethnic and social background, and we assess how their relative positions compare to girls' advantage over boys in the majority population.

Our study adds to existing scholarship in three ways. First, we jointly analyze ethnic and gender inequality. Most existing education literature focuses on either gender differences *or* ethnic/racial differences, without looking at the two together. Some studies that investigate gender gaps in education in conjunction with ethnic origin examine differences between minority groups without comparing them to the majority (e.g., Feliciano and Rumbaut 2005; Zhou and Bankston 2002). This precludes assessing whether immigrants' gender-specific performance differs from gendered patterns observed in the majority. Our analysis therefore aims to show to what extent gender gaps in educational outcomes vary across ethnic groups within Western countries.

Second, we investigate gender differences in secondary, upper-secondary, and tertiary education, thus covering a substantial part of the educational career. Previous cross-national analyses of ethnic and gender inequality in education are limited to adolescents' educational achievement (e.g., Dronkers and Kornder 2014).

Third, we focus on the second generation, that is, local-born children of immigrants, rather than first-generation immigrants. For the first generation, educational attainment reflects the selectivity of the migrant population (cf. Feliciano 2005). The second generation's educational careers, however, are shaped by the educational systems of their destination countries. Although we limit the study to the second generation, we consider characteristics

of the first generation by controlling for parents' social background throughout all analyses.

## GENDER GAPS IN EDUCATION IN DESTINATION AND ORIGIN COUNTRIES

Over the twentieth century, inequalities in educational attainment between men and women declined markedly (Breen et al. 2010). Western societies today show a fairly consistent trend of female advantages in education (for an overview, see Buchmann et al. 2008); for example, women now consistently outperform men in graduation rates at the upper-secondary and tertiary levels (OECD 2009).

Despite widespread female advantages toward the end of the educational career, there are no substantial differences at the beginning of the school career. Rather, domain-specific gender gaps develop over time, with a growing female advantage in reading and grades (Buchmann et al. 2008; Downey and Vogt Yuan 2005) and a growing male advantage in mathematics (Marks 2007). This development goes along with a growing female advantage in noncognitive skills (DiPrete and Jennings 2012; OECD 2009) and is greater among children from families with low socioeconomic status (Entwisle, Alexander, and Olson 2007).

Gender inequalities in reading and mathematics performance in secondary education tend to be similar across first-generation, second-generation, and majority students but vary considerably across countries (OECD 2006, 2009). A recent comparative study of children of immigrants from multiple origins in multiple destinations confirms the general pattern of female advantage (Dronkers and Kornder 2014). Most other analyses on this topic, however, refer to single countries and certain stages of the educational career (e.g., for Canada, Abada and Tenkorang 2009; for the United States, Brandon 1991; Coley 2001; and for Germany, Riphahn and Serfling 2002; Segeritz, Walter, and Stanat 2010). Their findings indicate that the female advantage typically holds despite variation across groups. Some of these studies do not include the majority population (e.g., Feliciano and Rumbaut 2005), rendering it difficult to assess whether ethnic minorities display similar gender differences as the majority.

We study children of immigrants originating from a large range of countries across the globe. Depending on the specific origin-destination combination, gender inequalities in the origin countries often starkly contrast with those in the destination countries. All Western societies in our sample include some immigrant groups from countries with male advantage in education. The composition of the immigrant population in these destinations depends on their colonial histories and immigration programs in the twentieth century.

Many immigrants to Western Europe arrived as guest workers in response to recruitment by European enterprises. These programs brought Italians, Turks, and Moroccans to Belgium; Italians, Greeks, former Yugoslavians, and Turks to Germany; Turks and Moroccans to the Netherlands; Southern Europeans, former Yugoslavians, and Turks to Switzerland; and Portuguese to France. Sweden received guest workers from neighboring Scandinavian countries as well as a comparatively small contingent from Turkey. Other economic migrants include Chinese and Africans in England, sub-Saharan Africans in France, Poles in Germany, Africans and Chinese in Finland, and Central, Eastern, and Southern Europeans and East Asians in Sweden. Similarly, most immigrants to the United States arrive for economic purposes, but they have different geographic origins and primarily stem from Mexico, other Latin American countries, China, and other Asian countries.

Decolonization is another important source of immigration in the countries under study. In England and Wales, postcolonial migrants arrived from South Asia (India, Pakistan, and Bangladesh), the Caribbean, and East Africa; in France, immigrants came from North Africa (Algeria, Morocco, and Tunisia) and overseas territories (the *Départements d'outre-mer/Territoires d'outre-mer*, or DOM-TOM)<sup>1</sup>; and the Netherlands saw immigration from Surinam and the Netherlands Antilles.

Comparable to postcolonial migrants, some groups have privileged access to their destination country because of shared citizenship or ancestry. This includes Puerto Ricans in the United States, immigrants from the former Soviet Union in Germany, and Ingrian Finns from Estonia and Russia as well as Swedish speakers in Finland. Finally, the immigrant population in all countries in our sample includes refugees, who are historically

(and numerically) most important in Sweden and Finland.

As a result of these diverse and country-specific migration movements, our comparative analyses contain children of immigrants who came from world regions where girls remain strongly disadvantaged in education, such as sub-Saharan Africa, South Asia, the Middle East, and North Africa (Birdsall, Levine, and Ibrahim 2005; Grant and Behrman 2010; Wils and Goujon 1998). These children can be compared to children whose parents came from world regions where female advantage is prevalent. Table 1 shows rates of female and male adult literacy and gross enrollment in the origin and destination countries. Data are drawn from the United Nations Development Programme (UNDP 2010).

Table 1 shows modest gender differences in adult literacy and gross enrollment rates in Southern and Eastern Europe and considerable female disadvantages in Turkey, India, Pakistan, Bangladesh, Iran, Iraq, and all of Africa. However, in countries and regions where women are most disadvantaged, male advantages in enrollment rates are generally smaller than their advantages in adult literacy. This attests to changes in gender gaps in the origin countries, with smaller male advantages, or even female advantages, in younger cohorts compared to the adult population.

## IS THERE ETHNIC VARIATION IN GENDER GAPS IN EDUCATION?

Our description and comparison of variations in the male-female gap in education across second-generation groups from multiple origins in multiple destinations is informed by the classic question of assimilation theory, that is, to what extent immigrants become increasingly similar to the majority population over time and across generations (Alba and Nee 1997). In drawing on this idea, we refer to assimilation at the macro level and investigate whether within one society gender gaps in educational outcomes vary across ethnic groups. If gender gaps in education among children of immigrants resemble those of the majority in their host societies, this can be interpreted as a sign of assimilation to the gendered patterns of female advantage in Western countries. Evidence for assimilation at the aggregate level, which we address by investigating ethnic variation in gender gaps, does not illuminate, however, how these

**Table 1.** Adult literacy and enrollment in destination countries and countries of origin.

	Adult literacy		Gross enrollment	
	Female	Male	Female	Male
Majority (destination countries)				
Belgium	n.a.	n.a.	95.9	92.8
Finland	n.a.	n.a.	105.1	97.9
France	n.a.	n.a.	97.4	93.5
Germany	n.a.	n.a.	87.5	88.6
Netherlands	n.a.	n.a.	97.1	97.9
Sweden	n.a.	n.a.	99.0	89.8
Switzerland	n.a.	n.a.	81.4	84.0
England and Wales	n.a.	n.a.	92.8	85.9
United States of America	n.a.	n.a.	96.9	88.1
East Asia				
China	90.0	96.5	68.5	68.9
East Asia	93.5	97.6	79.5	84.5
Southeast/South Asia				
Bangladesh	48.0	58.7	52.5	51.8
India	54.5	76.9	57.4	64.3
Pakistan	39.6	67.7	34.4	43.9
South Asia	56.3	73.6	60.4	64.6
Southeast Asia	81.5	89.3	68.0	69.5
West Asia				
Iran	77.2	87.3	73.0	73.4
Iraq	64.2	84.1	52.1	68.5
Turkey	81.3	96.2	66.3	75.7
West Asia	81.7	90.9	75.7	73.0
East Europe				
East Europe	98.3	99.0	83.7	79.6
Ex-Yugoslavia	96.2	99.1	82.9	77.3
Former Soviet Union	99.2	99.6	85.2	79.8
Poland	99.0	99.6	91.4	84.2
South Europe				
Italy	98.6	99.1	94.7	89.1
South Europe	95.9	97.1	87.9	84.4
West Europe				
Denmark	n.a.	n.a.	105.3	97.6
Finland	n.a.	n.a.	105.1	97.9
Norway	n.a.	n.a.	102.4	92.4
Africa				
Africa's Horn	37.9	63.1	31.2	40.7
North Africa	63.0	81.7	76.8	75.9
Sub-Saharan Africa	53.7	69.5	49.1	56.0
Caribbean				
Caribbean	90.2	90.2	79.4	73.4
South America				
Chile	96.5	96.6	82.0	83.0
Mexico	91.4	94.4	79.0	81.5
South America	89.0	91.6	80.8	78.3

Note: The gross enrollment ratio is defined as the share of all children of schooling age in the population who are enrolled in school; values above 100 percent indicate delays or delayed enrollment. Whenever the data sources did not allow us to make more fine-grained distinctions regarding countries of origin, we referred to regions. For these cases, we averaged data from single countries across regions. n.a. = not available.

Source: UNDP (2010).

group-level outcomes come about at the level of individual students and families.

We now turn to several theoretical ideas on the mechanisms that may lead to ethnic variation in gender gaps, or the lack thereof. Further research is needed to empirically investigate which of these mechanisms is operating and thus contributing to the patterns of gendered educational outcomes that we observe among the second generation and the non-migrant reference population.

Gender role socialization suggests that gender gaps in education may be different among children of immigrants, specifically, among children whose parents grew up in countries with a male advantage in education. According to gender role socialization, children acquire the gender stereotypes and norms prevalent within families and educational institutions in the course of developing a gender identity (Bussey 2011). Parents and educators may have gender-biased perceptions of children's abilities and performance, for example, that boys have a better grasp on technical questions or mathematics (Schofield 2006). These differential perceptions can translate into biased educational expectations and parenting styles. Gender role socialization also contributes to gender differences in school-relevant behavior. On average, girls have more social and noncognitive skills (DiPrete and Jennings 2012), are more attentive, devote more effort to schoolwork, and are less disruptive in class than boys (Buchmann et al. 2008; Downey and Vogt Yuan 2005).

If immigrants from societies with male advantage in education hold more traditional attitudes toward gender roles and value education more for their sons than for their daughters, their children might show a smaller female advantage or even a male advantage in educational outcomes. However, one could also derive the opposite expectation: Traditional attitudes toward gendered task distributions may not necessarily affect girls' educational outcomes negatively. More household duties and the closer monitoring of daughters compared to sons could lead females to spend more time at home and invest more in their education (Varner and Mandara 2013). To the extent that closer supervision and strict parental monitoring facilitate encouragement and discipline, the maintenance of these attributes promotes girls' education (Abada and Tenkorang 2009; Varner and Mandara 2013; Zhou and Bankston 2002). Higher standards for good behavior in the home could translate into good behavior and achievement in school (Feliciano and Rumbaut 2005; Zhou and

Bankston 2002). Moreover, if children of immigrants resist their parents' traditional gender ideology, girls may gain an educational advantage because pursuing higher education and economic independence are a means for them to turn against traditional gender roles. For boys, on the other hand, resisting parental expectations may result in poor performance and resistance in school (Cammarota 2004). Opposite expectations can thus be derived from the gender role socialization argument; these two suppositions can be disentangled only by empirically investigating each separately. However, our data sources do not allow us to address these explanations directly. Thus, if opposing processes are central to the explanation, they may not be evident in an overall assessment of gender disparities in education.

There are also reasons to suspect, however, that gender disparities in education may be similar in the second generation and the majority population. This could be due to differences in returns to female education between origin and destination countries, selective migration, or the influence of peer groups and institutions that may overrule family influences in shaping educational outcomes of boys and girls with and without a migration background.

Scholars have depicted increasing returns to female education in terms of labor market outcomes and social class attainment as the major reason for the disappearance or reversal of the gender gap in educational attainment in the West (DiPrete and Buchmann 2006). This development has been accompanied by sociocultural changes in expectations about life-course trajectories for men and women, with a declining number of individuals in Western countries expressing support for traditional gender roles (Buchmann et al. 2008; Inglehart and Norris 2003). The reversal is related to shifts in the structure of the labor market, such as the declining gender wage gap, especially for women with high levels of human capital, and decreasing occupational sex segregation (Legewie and DiPrete 2009).

For immigrant women and their daughters, more than for immigrant men and their sons, there may be a large contrast between origin and destination countries in terms of the labor market returns to education. Educational attainment is less productive for women in contexts where they are expected to focus on motherhood and homemaking and where female labor market participation is low. In Western societies, in contrast, education promises a relatively greater payoff for women. This contrast between origin and

destination countries may be a powerful motivator to succeed in education (Abada and Tenkorang 2009; Brandon 1991; Feliciano and Rumbaut 2005). Because this contrast is larger for female than for male immigrants, and particularly immigrants from countries with low levels of female labor force participation, second-generation girls from these origin countries should be more motivated to pursue education than their male counterparts, resulting in a female advantage in educational attainment. This reasoning, however, assumes that migrant women compare themselves to women in their parents' country of origin. Because we consider only the second generation, one may wonder whether this assumption holds as strongly as we would expect for the first generation.

The second argument for the absence of ethnic variation in gender gaps in education is selectivity of migration. Immigrants usually are not a representative sample of their origin country's population; in most cases, they are positively selected on educational attainment (Feliciano 2005). The question of whether this selectivity in education extends to selectivity in values and beliefs, such that migrants have different attitudes and values than non-migrants, has not yet been extensively studied. One recent study of Nepali immigrants to the Gulf region indicates that migrants tend to be more family-oriented but less religious than non-migrants (Williams, Thornton, and Young-DeMarco 2014). The implications of these results for our research setting—to the extent that they can be generalized to immigrants in Western destinations at all—are not clear. Greater commitments to family values likely go along with more traditional attitudes toward gender roles, whereas lower levels of religiosity are likely associated with less traditional attitudes (Diehl, Koenig, and Ruckdeschel 2009). In the absence of empirical evidence comparing migrants and non-migrants in their origin countries in terms of their attitudes toward men's and women's roles and the relative value of education for boys and girls, we cannot rule out that a lack of ethnic variation in gender gaps in education is a result of selective migration. Families with more progressive attitudes may have a higher propensity to improve educational opportunities for their daughters and thus leave countries where women are disadvantaged in education. On the other hand, research indicates that immigrants from non-Western origins often hold less egalitarian gender role values than does the majority population in their

destination countries (e.g., Inglehart and Norris 2003; Röder 2014).

So far, the reasoning on the lack of ethnic variation in gender gaps in education relates to mechanisms operating within immigrant families, that is, in terms of immigrants maintaining their traditional norms about gender roles, immigrants comparing returns to female education in their destination countries versus their origin countries, or selective migration to the West based on more progressive attitudes toward gender equality. The final argument on the absence of ethnic differences in gender gaps, in contrast, relates to exposure to influences outside the family. That is, educational outcomes of children of immigrants are likely influenced by institutional environments or, more specifically, by the schools these children attend, the learning conditions they encounter there, and the peers with whom they interact. For example, egalitarian gender role orientations of teachers and majority peers may shape learning environments such that girls encounter favorable learning conditions. Instructors may also be more responsive to behaviors that girls display more often than boys, such as being attentive in class or devoting effort to schoolwork (Buchmann et al. 2008; Downey and Vogt Yuan 2005), and this could contribute to female advantages.

Taken together, there are reasons to expect interactions between gender and ethnic background and reasons to suspect gender gaps are the same among natives and the second generation. In the empirical analyses that follow, we test whether the gender gaps in educational achievement and attainment observed among the majority population in the nine Western countries under study are replicated among second-generation children from various origins or whether interactions between ethnicity and gender indicate ethnic variation in these gender gaps. Because our data sources do not contain information that allows us to capture the processes operating at the level of individual students, their families, and institutional environments, we must leave it to future research to address these mechanisms and adjudicate which is driving the patterns we observe at the macro level.

## ANALYSES

Our comparative study draws on cross-nationally standardized separate analyses of high-quality

data from nine Western countries. The findings result from an international collaborative effort in which country experts provided standardized analyses of educational outcomes (Heath and Brinbaum forthcoming). All data sources are large representative surveys or population data that allow disaggregation by immigrant generation and country of origin. In each country, the maximal number of groups that could be meaningfully distinguished and analyzed with sufficient power was taken into account. Moreover, we include only the second generation, defined as children of immigrants either born in their parents' destination country or foreign-born but who arrived before the start of compulsory education. In addition, all data sources contain information on parents' education, parents' occupational status, and family composition as indicators of social background. We present gender and ethnic gaps net of these effects, taking into account families' social position, because gender differences are more pronounced among children from families with low socioeconomic status compared to children from high-SES families (Entwisle et al. 2007). Table A1 in the online supplement at [soe.sagepub.com](http://soe.sagepub.com) provides more details about the various data sources and operationalizations.

We used a common coding scheme to measure the educational outcomes of interest in each country—immigrant generation, ethnicity, social background, and family composition. We analyzed five educational outcomes. The first is academic achievement at age 15 or 16 years. Measures include summary grades averaging across subjects (Finland, Sweden, and Britain), PISA reading scores (Belgium, Germany, and Switzerland), and scores on national exams or tests (France, the Netherlands, and the United States). In countries where our analyses of achievement are based on PISA data, we used reading test scores that generally show a female advantage, instead of math or science test scores that show prevalent male advantage (Marks 2007). We made this decision because grades, just like reading test scores, usually reflect female advantage (Downey and Vogt Yuan 2005); this choice thus minimizes between-country variation in gender gaps. We *z*-transformed achievement scores within countries<sup>2</sup> and analyzed effects of gender, ethnicity, and their interactions with ordinary least squares (OLS) regression while controlling for social background and family composition. In Switzerland, PISA scores were the only available outcome; hence,

analyses of the remaining educational outcomes were limited to a maximum of eight countries.

The second outcome is continuation in full-time education after the end of compulsory schooling.<sup>3</sup> We operationalized this as attendance in upper-secondary education in countries where schooling at this level is not mandatory. Continuation could not be analyzed for Belgium because schooling is compulsory until age 18, when students typically complete upper-secondary education. We applied probit regression to this outcome and the remaining dichotomous outcomes to estimate the effects of gender, ethnicity, and their interaction while controlling for social background and family composition.

The third outcome is the type of track students attend in upper-secondary education (academic = 1, vocational = 0). We do not use data from the United States in this analysis because the U.S. educational system does not formally track students into academic versus vocational education.

The fourth outcome is completion of upper-secondary education (e.g., high school diploma, certificate or GED in the United States, or baccalauréat in France). Results are available from Belgium, France, the Netherlands, Sweden, England and Wales, and the United States.

Finally, we analyzed completion of tertiary education. We considered any type of tertiary education that requires at least three years to complete. Results are available from Belgium, England and Wales, the Netherlands, the United States, and Sweden.

Regarding independent variables, we used a dummy for female gender (male = 0). We captured ethnicity with dummy variables indicating students' country of origin based on the country of birth of both parents (or a single parent). If one parent was foreign-born and one native-born, we classified participants' ethnicity as mixed; if two foreign-born parents originated from different countries, we classified participants as other/miscellaneous.<sup>4</sup>

Throughout, we controlled for social background and family composition with indicators for parents' education, parents' occupational class, and the presence of two parents in the home. Parents' education refers to combinations of parental qualifications and was assessed using the following categories: both tertiary, one tertiary, both full secondary, one full secondary, less than full secondary (the reference category), and missing. To measure parents' occupational

class, we used the EGP scheme (Erikson, Goldthorpe, and Portocarero 1979) as a widely adopted and internationally comparable instrument to translate occupations into positions in the class structure. When parents belonged to different classes, we used the higher of the two. We distinguished between higher salariat (class I), lower salariat (II), clerical (IIIa), petty bourgeoisie (IV), skilled manual (V and VI), semi- and unskilled (VII, IIIb, the reference category), unemployed, and missing. Finally, we included a dummy that distinguishes between two-parent families (0) and all other types of families (1). Effects of the independent variables, other than gender and ethnicity, are not shown here but are presented elsewhere (Heath and Brinbaum forthcoming).

## FINDINGS

Our research question is whether gender gaps in educational outcomes differ between the majority population and second-generation migrant groups. To address this question, we estimated models with and without interactions between gender and ethnicity, separately for each country and each educational outcome. Table 2 provides statistical tests of model comparisons indicating whether adding interactions between gender and ethnicity significantly improves our estimation of educational outcomes. We used *F*-tests to compare the fit of the OLS regression models on educational achievement and likelihood ratio tests for the comparison of probit regressions for all other outcomes. In most cases, the interaction terms do not improve model fit. This result indicates that female advantage in education is similar for the various second-generation groups and the majority: the gender gap in favor of females is similar among immigrants and non-immigrants.

Even though the model with interaction terms is not generally the preferred model, it is the preferred model in the case of some outcomes for some countries. In these instances, it is necessary to take a closer look at these interactions and ask whether immigrant females or males from certain origins face an additional advantage or disadvantage. Accordingly, for each educational outcome, we present coefficients for gender, ethnicity, and their interactions. We consider these interactions not only in light of the findings regarding model fit but also because they provide additional

information about the gendered patterns of educational success for the second generation. Given the relatively small numbers of second-generation migrants in our data—due to their actual distributions rather than our choice of data sources, which maximizes the number of second-generation individuals—a significant interaction in one group, while providing substantive information, might not contribute to overall model fit because of the relatively small group size. Attributing any significant interactions solely to chance based on global model fit comparisons may thus be too strict and may hide important results.

## Academic Achievement

Turning to performance on standardized tests or grades, we find a female advantage in the majority populations in all countries in the sample, with considerable gender gaps in Finland, France, Belgium, Sweden, Switzerland, Germany, England and Wales, and the United States and a negligible gap in the Netherlands (see Table 3).<sup>5</sup> As Table 2 shows, this female advantage in educational achievement is consistently replicated among immigrant groups: including interactions between gender and ethnicity does not improve the fit of OLS regression models predicting test scores or grades (all *ps* > .05). The only exception to this uniform female advantage is found in Switzerland (among Iberians in Switzerland, boys outperform girls), where the model with interaction between gender and ethnicity has a significantly better fit. In all countries and groups except Iberians in Switzerland, gender gaps among the second generation are the same as those for the majority population, and a combination of female advantage and ethnic penalties in academic achievement is the most frequently observed outcome. Despite strong ethnic variation in achievement, the female advantage in test scores and grades does not vary across ethnic groups.

Although comparing the fit of regression models with and without interactions between gender and ethnicity provides a concise test of the hypothesis that gender gaps in educational achievement vary across ethnic groups, this overall test masks some interesting substantive findings, as Table 3 shows. Despite the fact that we find no significant change in model fit when interactions are included in Finland and Sweden, a number of second-generation groups show different gender gaps.



**Table 2.** Model fit of models with and without interactions between gender and ethnicity and model fit comparisons, by country and educational outcome.

	Test scores/ grades	Continuation	Academic track	Completion of upper secondary	Completion of tertiary
Belgium	5,958.73, 8,146	Not available	1,212.57, 17	2,359.34, 17	1,756.77, 17
	5,956.92, 8,142		1,198.15, 22	2,355.89, 22	1,751.86, 22
	0.001, 1.000		14.42, 0.013	3.45, 0.631	4.91, 0.427
Finland	16,748.23, 22,416	65,566.13, 25	170,969.26, 25	Not available	Not available
	16,740.93, 22,405	65,546.63, 36	170,952.58, 36		
	0.887, 0.450	19.50, 0.053	43.68, < .001		
France	10,297, 9,890	8,374.83, 19	14,568.95, 19	16,810.42, 19	Not available
	10,288, 9,884	8,359.67, 25	14,562.02, 25	16,774.38, 25	
	1.441, 0.398	15.17, 0.019	6.90, 0.330	36.04, < .001	
Germany	<sup>a</sup>	19,968.25, 19	14,466.21, 19	Not available	Not available
		19,961.34, 27	14,457.23, 27		
	1.49, 0.155	6.91, 0.557	8.98, 0.344		
Netherlands	16,342.28, 18,153	-7,497.40, 13 <sup>b</sup>	-8,050.60, 13 <sup>b</sup>	-4,146.74, 13 <sup>b</sup>	-4,205.72, 13 <sup>b</sup>
	16,337.53, 18,149	-7,495.41, 17	-8,044.85, 17	-4,144.44, 17	-4,203.92, 17
	1.289, 0.730	3.98, 0.409	11.51, 0.021	4.59, 0.332	3.59, 0.309
Sweden	447,157.80, 565,884	11,433.60, 38	14,604.37, 38	10,308.69, 38	9,461.36, 38
	447,109.29, 565,862	11,416.96, 60	13,522.60, 60	10,234.86, 60	9,416.75, 60
	2.79, 1.00	16.64, 0.783	81.77, < .001	73.83, < .001	44.88, 0.003
Switzerland	<sup>a</sup>	Not available	Not available	Not available	Not available
	2.92, 0.005				
England and Wales	12,402.51, 16,111	1,419.15, 22	1,755.38, 22	36.29, 15 <sup>c</sup>	287.47, 15 <sup>c</sup>
	12,395.98, 16,103	1,432.18, 30	1,740.85, 30	52.62, 29	309.59, 29
	1.06, 1.000	13.02, 0.111	14.53, 0.068	16.33, 0.293	22.12, 0.076
United States	<sup>a</sup>	<sup>a</sup>	Not available	<sup>a</sup>	<sup>a</sup>
	1.20, 0.283	8.83, < .001		19.54, < .001	0.84, 0.600

Note: The first line in each cell reports the model fit and *df* for models without interactions, the second line reports these figures for models with interactions, the third line shows the test statistic and pertaining *p* value. Model fit indicators are Residual Sum of Squares (RSS) for test scores/grades as this outcome was analyzed using ordinary least squares (OLS) regression, and  $-2\text{LogLikelihood}$  ( $-2\text{LL}$ ) for the other outcomes, which were analyzed using probit regression.

<sup>a</sup>RSS and  $-2\text{LL}$  are not provided, and incremental *F* tests and likelihood ratio tests are not appropriate for these models because of the use of weights and clusters in Stata. As an alternative, we conducted model fit comparisons with the *nestreg* command in Stata, which provides an *F* statistic and accompanying *p* value for the model fit comparison, testing whether adding interactions between gender and ethnicity lead to a significant change in model fit.

<sup>b</sup>Instead of  $-2\text{LL}$ , the cells show the log likelihood of the models. We calculated the test statistic by multiplying the difference between the two values by two.

<sup>c</sup> $-2\text{LL}$  values were not available for these models, instead the  $\chi^2$  for each model is reported and models are compared with a  $\chi^2$  difference test.

Compared to the female advantage in the majority group in both countries, East Asians, former Yugoslavians, and North and sub-Saharan Africans in Finland, as well as West Asians, Danish, Norwegian, and Chilean minorities in Sweden, have significantly smaller female advantages in grades. North Africans in Sweden and Swedish speakers in Finland, on the other hand, have a significantly larger female advantage in grades than

do their majority peers. Although the magnitude of the gender gap varies across ethnic groups in these cases, all groups show a consistent female advantage in educational achievement.

### Continuation of Full-time Education

Gender differences in continuation of full-time education after compulsory schooling are modest

**Table 3.** Gender differences in standardized test scores or grades at age 15 to 16 (ordinary least squares regression).

Competence measure	Belgium Test scores (reading)	Finland Grades sum score	France Test scores (French)	Germany Test scores (reading)	Netherlands Test scores (CITO)	Sweden Grades sum score	Switzerland Test scores (reading)	England and Wales Grades (GCSE)	United States of America Test scores (reading)
N	8,162	22,442	9,909	30,822	18,167	581,368	11,815	16,134	11,380
Majority Female	0.36*	0.63*	0.54*	0.26*	0.03*	0.37*	0.29*	0.19*	0.14*
East Asian		East Asian				East Asian		Chinese	East Asian
Female Ethnicity		0.30*				0.39		0.19	0.04
		0.60*				0.57*		0.65*	0.15
South East/South Asian						South-East Asian		Bangladeshi	
Female Ethnicity						0.34		0.15	
						0.47*		0.41*	
Female Ethnicity								Indian	
								0.28	
Female Ethnicity								0.24*	
								Pakistani	
Female Ethnicity								0.15	
								0.13	
West Asian									
Female Ethnicity						Iranian			
						0.33			
Female Ethnicity						0.29*			
						Iraqi			
Female Ethnicity						0.29			
						0.00			
Female Ethnicity						Turkish			Turkish
						-0.04			0.27
Female Ethnicity						-0.17*			-0.62*
Female Ethnicity						Middle East			
						0.26*			
Female Ethnicity						0.02			
Other Asian									
Female Ethnicity						0.42			-0.03
						0.31*			-0.18

(continued)

**Table 3. (continued)**

Competence measure	Belgium Test scores (reading)	Finland Grades sum score	France Test scores (French)	Germany Test scores (reading)	Netherlands Test scores (CITO)	Sweden Grades sum score	Switzerland Test scores (reading)	England and Wales Grades (GCSE)	United States of America Test scores (reading)
<b>East European</b>									
	Russian/Estonian				Form. Soviet Union		Albanian/Kosovar		
Female	0.53	0.53		0.21		0.37	0.12		
Ethnicity	-0.03	-0.03		-0.30		0.08*	-1.42*		
Female	0.12*	Ex-Yugoslav		Ex-Yugoslav		Ex-Yugoslav	0.13		
Ethnicity	-0.30*	-0.30*		0.66		0.38	-0.84*		
Female				-1.20		0.04			
Ethnicity				Polish		Polish			
Female				0.34		0.30*			
Ethnicity				-0.20		0.24*			
<b>South European</b>									
Female				Italian		South European	Italian		
Ethnicity				0.57		0.42	0.02		
Female				-0.93*		0.05	-0.41*		
Ethnicity				Greek			Iberian		
Female				0.50			-0.15*		
Ethnicity				-0.48			-0.27*		
<b>West European</b>									
Female				Portuguese		Danish			White
Ethnicity				0.29		0.28*			0.47
Female				0.13		-0.11*			-0.41
Ethnicity						Finnish			
Female						0.39			
Ethnicity						-0.10*			
Female						Norwegian			
Ethnicity						0.28*			
						-0.01			
<b>African</b>									
Female						Africa's Horn			
Ethnicity						0.30			
Female						0.19*			
Ethnicity						0.53*			
Female						-0.02			
Ethnicity									

(continued)

**Table 3. (continued)**

Competence measure	Belgium Test scores (reading)	Finland Grades sum score	France Test scores (French)	Germany Test scores (reading)	Netherlands Test scores (CITO)	Sweden Grades sum score	Switzerland Test scores (reading)	England and Wales Grades (GCSE)	United States of America Test scores (reading)
Female		Sub-Saharan African 0.08*	Sub-Saharan African 0.63			Sub-Saharan African 0.37		Sub-Saharan African 0.47	Black 0.27
Ethnicity		0.08	-0.32			0.00		-0.16	-0.38*
Caribbean									
Female			DOM-TOM 0.64		Surinam/Antilles 0.13			Caribbean 0.18	
Ethnicity			-0.14*		-0.21*			-0.22*	
South American									
Female						Chilean 0.25*			Mexican -0.01
Ethnicity						-0.14*			-0.48*
Female						South American 0.38			Other Latino 0.30
Ethnicity						0.02			-48*

Note. Cell values represent OLS regression coefficients of the effect of being female (majority) and the sum of the coefficients of being female and the interaction between being female and belonging to a particular second-generation group (minorities). For the second-generation groups, the second row refers to the ethnic coefficient. All results are controlled for parental occupation, parental education, and family composition.

Sources: Belgium: PISA 2003; Finland: Administrative data (linked registers) 2000–2005; France: Panel-95; Germany: PISA-E 2000; Netherlands: VOCL 1999; Sweden: STAR database (register data); Switzerland: PISA-E 2000; England and Wales: Longitudinal Study (LS) 1991, 2001; United States of America: Education Longitudinal Study (ELS) 2002. Table A1 in the online supplement provides information about the samples and measures.

\*Group-specific interaction with female gender or main effect of ethnicity is significant ( $p < .05$ ).

among the majority, but to the advantage of girls (see Table 4). The Finnish majority is an exception, showing a nonsignificant male advantage. These female advantages do not vary across ethnic groups in most countries in our sample, except for France and the United States where the inclusion of interactions between gender and ethnicity improves the fit of the probit regression models predicting continuation (see Table 2). In contrast to the female advantage among the majority group, male second-generation blacks in the United States show higher continuation rates than do their female counterparts (see Table 4). The North African second generation in France, on the other hand, shows a significantly larger female advantage than does the French majority. Apart from these two exceptions, gender gaps in continuation after compulsory schooling do not differ across ethnic groups. At the same time, there is large ethnic variation in this educational outcome so that, again, most second-generation groups combine female advantage with an ethnic penalty.

### *Upper-secondary Education Track*

Most European countries' school systems offer academic and vocational tracks at the upper-secondary level. Because upper-secondary education is often not compulsory, our analysis of tracking is restricted to the subsample of students who continued their education after compulsory schooling. Table 2 shows that tracking has the most ethnic variation in gender gaps among the educational outcomes. Out of the seven countries examined, four show significant improvements in model fit upon inclusion of interactions between gender and ethnic background. Only in Germany, France, and England and Wales is the female advantage in choosing academic over vocational tracks replicated in the same magnitude among all second-generation groups. In the remaining countries, we also observe a female advantage among the majority groups, but this female advantage is significantly larger in some minority groups (see Table 5). This pattern of larger female advantage is found among Iranians, other Asians, ex-Yugoslavs, and South Europeans in Sweden. Norwegians in Sweden, however, show smaller female advantage than the Swedish majority. Turks in Belgium are the only group where girls were less likely to be in academic tracks

than boys, and this pattern stands in stark contrast with the findings among the majority, as well as among other minorities in other countries. In Finland and the Netherlands, inclusion of interactions between gender and ethnicity leads to a significant improvement in model fit, yet none of the included interactions are significant.

The ethnic variation in gender gaps occurs against the background of a general pattern of female advantage; in all countries, majority girls more often follow academic tracks than do majority boys. Moreover, in contrast to the results presented thus far, ethnic premiums in tracking are more common than ethnic penalties (see Table 5). The prevalence of ethnic premiums highlights the selectivity of the analyzed population, which excludes all individuals who left full-time education after the compulsory stage. Most groups combine a female advantage with an ethnic premium. Exceptions showing ethnic penalties include ex-Yugoslavian and Swedish-speaking minorities in Finland and the second generation from the former Soviet Union in Germany. Among many Swedish minorities, the female advantage is larger than for the majority and accompanied by ethnic premiums, resulting in a double advantage for girls. Overall for tracking, ethnic advantages are more pronounced than female advantages.

### *Completion of Upper-secondary Education*

Regarding the completion of upper-secondary education, three out of six countries in the sample show significant interactions between gender and ethnicity (see Table 2). In Belgium and England and Wales, the female advantage among the majority population is replicated among the second generation; in the Netherlands, we find the same gender gap among the majority and ethnic minorities, but men are more likely than women to complete upper-secondary education (see Table 6).<sup>6</sup> In France, Sweden, and the United States, we find a female advantage in the completion of secondary education, but also significant ethnic variation in gender gaps. Among all second-generation groups in France and Sweden, as well as other Asians in the United States, the female advantage is significantly larger than in the majority population. Second-generation blacks and East Asians in the United States, however, show a reversed gender gap: in these groups, men are

**Table 4.** Gender differences in continuation (probit regression).

	Finland	France	Germany	Netherlands	Sweden	England and Wales	United States of America
N	23,158	11,869	16,872	15,861	565,923	16,219	10,950
Majority							
Female	-0.05	0.23*	0.07*	0.10*	0.16*	0.10*	0.23*
East Asian							
Female	East Asian				East Asian	Chinese	East Asian
Ethnicity	-0.06				0.22	-0.11	0.44
	-0.03				0.35*	0.90*	-0.05
South East/South Asian							
Female					South East Asian	Bangladeshi	
Ethnicity					0.21	-0.12	
					0.37*	0.82*	
Female						Indian	
Ethnicity						0.06	
						0.71*	
Female						Pakistani	
Ethnicity						0.01	
						0.38*	
West Asian							
Female					Iranian		
Ethnicity					0.21		
					0.30*		
Female					Iraqi		
Ethnicity					0.22		
					-0.05		
Female					Turkish		
Ethnicity					0.19		
					-0.26*		
Female					Middle East		
Ethnicity					0.07*		
					-0.07*		

(continued)

**Table 4. (continued)**

	Finland	France	Germany	Netherlands	Sweden	England and Wales	United States of America
Other Asian							
Female Ethnicity					Other Asian 0.20 0.21*		Other Asian 0.67 0.17
East European	Russian/Estonian		Former Soviet Union		East European		
Female Ethnicity	0.29 -0.27		0.09 -0.29		0.15 -0.03		
Female Ethnicity	Ex-Yugoslav -0.56 -0.07		Ex-Yugoslav 0.16 -0.06		Ex-Yugoslav 0.17 0.00		
Female Ethnicity			Polish 0.59* -0.05		Polish 0.19 0.08*		
South European	European	Portuguese	Italian		South European		
Female Ethnicity	0.35 -0.61*	0.32 0.18	0.18 0.02		0.15 -0.05		
Female Ethnicity			Greek -0.26 0.31				
West European	Swedish speaking				Danish		White
Female Ethnicity	-0.05 -0.01				0.11 -0.17*		0.11 -0.24
Female Ethnicity					Finnish 0.16 -0.12*		
Female Ethnicity					Norwegian 0.11 0.02		

(continued)

**Table 4. (continued)**

	Finland	France	Germany	Netherlands	Sweden	England and Wales	United States of America
African							
Female Ethnicity					Africa's Horn 0.22 0.18*		
Female Ethnicity	North African -0.38 -0.28	Maghreb 0.39 0.31*		Moroccan 0.24 -0.32*	North African 0.44* -0.22*		
Female Ethnicity	Sub-Saharan African 0.02 -0.42*	Sub-Saharan African 1.20* -0.29			Sub-Saharan African 0.11 -0.02	Black African 0.94 0.49*	Black -2.83* 3.86*
Caribbean							
Female Ethnicity		DOM-TOM 0.55* -0.13		Surinam/Antilles 0.19 -0.38*		Caribbean -0.48* 0.55*	
South American							
Female Ethnicity					Chilean 0.14 -0.15*		Mexican 0.31 0.06
Female Ethnicity					South American 0.09 0.06		Other Latino 0.35 -0.08

Note. Cell values represent probit regression coefficients of the effect of being female (majority) and the sum of the coefficients of being female and the interaction between being female and belonging to a particular second-generation group (minorities). For the second-generation groups, the second row refers to the ethnic coefficient. All results are controlled for parental occupation, parental education and family composition.

Sources: Finland: Administrative data (linked registers) 2000–2005; France: Panel-95; Germany: Microcensus 2005; Netherlands: VOCL 1999; Sweden: STAR database (register data); England and Wales: Youth Cohort Study (YCS) 2000; United States of America: Education Longitudinal Study (ELS) 2002. Table A1 in the online supplement provides information about the samples and measures.

\*Group-specific interaction with female gender or main effect of ethnicity is significant ( $p < .05$ ).



**Table 5.** Gender differences in tracking in upper-secondary education (probit regression).

	Belgium	Finland	France	Germany	Netherlands	Sweden	England and Wales
N	22,184	21,596	11,253	11,923	12,688	511,103	13,662
Majority Female	0.22*	0.55*	0.47*	0.20*	0.10*	0.31*	0.08*
East Asian		East Asian				East Asian	Chinese
Female Ethnicity		0.35 0.80*				0.40 0.91*	0.18 0.81*
South East/South Asian						South East Asian	Bangladeshi
Female Ethnicity						0.27 0.69*	0.71* 0.03 Indian 0.39* 0.43* Pakistani 0.10 0.31*
West Asian							
Female Ethnicity						Iranian 0.45* 0.90* Iraqi 0.39 0.67* Turkish 0.39 0.68* Middle East 0.35 0.55*	
Female Ethnicity				Turkish 0.37 0.12	Turkish 0.00 0.11		
Female Ethnicity	Turkish -0.25* 0.04						

(continued)

Table 5. (continued)

	Belgium	Finland	France	Germany	Netherlands	Sweden	England and Wales
Other Asian							
Female Ethnicity						Other Asian 0.62* 0.82*	
East European		Russian/Estonian		Former Soviet Union		East European	
Female Ethnicity		0.41 0.30*		0.45 -0.26		0.33 0.45*	
Female Ethnicity		Ex-Yugoslav 0.01 -0.47*		Ex-Yugoslav -0.27 0.29		Ex-Yugoslav 0.46* 0.39*	
Female Ethnicity				Polish 0.25 0.16		Polish 0.25 0.56*	
South European							
Female Ethnicity	Italian 0.08 0.20			Italian -0.44 0.04			
Female Ethnicity		European 0.76 0.43	Portuguese 0.29 0.36*	Greek 0.36 0.16		South European 0.52* 0.42*	
West European							
Female Ethnicity		Swedish speaking 0.63 -0.13*				Danish 0.19 0.01	
Female Ethnicity						Finnish 0.36 0.03	
Female Ethnicity						Norwegian 0.17* 0.08	

(continued)

**Table 5. (continued)**

	Belgium	Finland	France	Germany	Netherlands	Sweden	England and Wales
African							
Female						Africa's Horn	
Ethnicity						0.43	
						1.01*	
Female		North African	Maghreb		Moroccan	North African	
Ethnicity	Moroccan	0.27	0.68		0.31	0.39	
	0.14	0.45*	0.27*		-0.11	0.78*	
Female		Sub-Saharan African	Sub-Saharan African			Sub-Saharan African	Black African
Ethnicity		0.22	0.23			0.29	0.22
		1.11*	0.36			0.60*	0.26
Caribbean							
Female			DOM-TOM		Surinam/Antilles		Caribbean
Ethnicity			0.40		-0.14		0.22
			0.12		0.41*		0.02
South American							
Female						Chilean	
Ethnicity						0.26	
						0.39*	
Female						South American	
Ethnicity						0.19	
						0.57*	

Note. Cell values represent probit regression coefficients of the effect of being female (majority) and the sum of the coefficients of being female and the interaction between being female and belonging to a particular second-generation group (minorities). For the second-generation groups, the second row refers to the ethnic coefficient. All results are controlled for parental occupation, parental education and family composition.

Sources: Belgium: Belgian Census 1991, 2001; Finland: Administrative data (linked registers) 2000-2005; France: Panel-95; Germany: Microcensus 2005; Netherlands: VOCL 1999; Sweden: STAR database (register data); England and Wales: Youth Cohort Study (YCS) 2000. Table A1 in the online supplement provides information about the samples and measures.

\*Group-specific interaction with female gender or main effect of ethnicity is significant ( $p < .05$ ).

more likely than women to complete secondary education. At the same time, both groups are characterized by large ethnic premiums. This implies that women from these groups complete upper-secondary education at rates comparable to majority women, whereas their male counterparts have significantly higher completion rates than majority men. The prevalence of female advantage in the completion of upper-secondary education is accompanied by strong ethnic variation in completion rates. Similar to the findings regarding achievement and in contrast to those on tracking, ethnic penalties are more common than ethnic premiums at this point in the school career, as Table 6 shows.

### *Completion of Tertiary Education*

As Table 2 shows, gender gaps in the completion of tertiary education vary across ethnic groups in Sweden, but not in the four other countries included in this analysis. Thus, the female advantage found among the majority populations in Belgium and the United States is replicated among the second generation, as is the female disadvantage in the Netherlands and the absence of a significant gender gap in England and Wales.<sup>7</sup> In Sweden, the majority population shows a female advantage in the completion of tertiary education, and this female advantage is even larger among second-generation East Asians (see Table 7). However, the Swedish results refer to enrollment, not the completion of tertiary education (see Table A1 in the online supplement). Among South-East Asians, Iranians, and the Polish second generation, however, the female advantage is significantly smaller than in the majority population. In contrast to the Dutch findings, however, no single group in Sweden displays a male advantage in tertiary education; moreover, variations in gender gaps are accompanied by ethnic premiums rather than penalties in this country. In England and Wales, ethnic premiums are also more common than ethnic penalties, but they occur without a gender gap in the completion of tertiary education. In Belgium, female advantages go together with ethnic penalties among all second-generation groups. In the Netherlands, the ethnic penalty is only significant for the Turkish second generation; in light of the female disadvantage found here, this is a case of double female disadvantage. Finally, in the United States, non-Mexican Hispanics and other Asians combine ethnic penalties in the completion of tertiary education with

a female advantage that does not differ from that found in the majority group.

## DISCUSSION

The key question of the current study is whether the second generation has assimilated to the female advantage in educational achievement and attainment that prevails in Western destinations, despite widespread and persistent female disadvantage in many countries of origin. The evidence is somewhat mixed: we find significant ethnic variation in gender gaps in 11 out of 34 country-outcome combinations. Nevertheless, where gender gaps in the second generation differ significantly from those of the majority population in their magnitude, they rarely differ in their sign. Thus, apart from Iberians in Switzerland regarding academic achievement, Turks regarding the choice of academic over vocational tracks in Belgium, and East Asians and blacks in the United States regarding completion of upper-secondary education, we saw no other cases of female advantage in educational outcomes among the majority population paired with male advantage in the second generation. Overall, our comparative findings across up to nine destination countries and a large number of second-generation groups indicate that the female advantage in education found in majority populations extends to the second generation, regardless of parents' country of origin and despite some significant variation in the magnitude of the gender gap.

The five educational outcomes we studied provide an overview of gender and ethnic disparities throughout a large part of the educational career. Starting from test scores or grades at age 15 or 16 years, we observed female advantages in education among both majority populations and most immigrant groups. Regarding continuation in full-time education after compulsory school, the results indicate a more modest female advantage. However, our analyses of continuation did not control for prior achievement. Assuming that better academic achievement increases the likelihood to continue, and taking the female advantage in achievement into account, it is plausible that the gender gap in continuation would be more modest or even reversed when controlling for prior achievement.<sup>8</sup> Among later educational outcomes, that is, enrollment in academic versus vocational tracks and completion of upper-secondary and

**Table 6.** Gender differences in completion of upper-secondary education (probit regression).

	Belgium	France	Netherlands	Sweden	England and Wales	United States of America
N	115,045	11,869	2,037	272,520	7,648	10,950
Majority Female	0.33*	0.34*	-0.32*	0.21*	0.22*	0.19*
<b>East Asian</b>						
Female Ethnicity				East Asian	Chinese	East Asian
				0.60*	0.23	-3.36*
				0.19	0.50	3.71*
<b>South East/South Asian</b>						
Female Ethnicity				South East Asian	Bangladeshi	
				0.19	0.34	
				0.15*	0.44	
Female Ethnicity					Indian	
					0.15	
					0.40*	
Female Ethnicity					Pakistani	
					0.21	
					0.11	
<b>West Asian</b>						
Female Ethnicity				Iranian		
				0.28		
				0.01		
Female Ethnicity				Iraqi		
				0.48*		
				-0.32*		
Female Ethnicity				Turkish		
				0.48*		
				-0.41*		
Female Ethnicity	Turkish		Turkish			
	0.30		0.03*			
	-0.34*		-0.61*			
Female Ethnicity				Middle East		
				0.37*		
				-0.32*		
<b>Other Asian</b>						
Female Ethnicity				Other Asian		Other Asian
				0.37		0.74*
				-0.10		0.24
<b>East European</b>						
Female Ethnicity				East European		
				0.30		
				-0.08		
Female Ethnicity				Ex-Yugoslav		
				0.38*		
				-0.11*		
Female Ethnicity				Polish		
				0.23		
				0.06		
<b>South European</b>						
Female Ethnicity	Italian	Portuguese		South European		
	0.35	0.68		0.24		
	-0.18*	0.04		-0.15*		

(continued)

Table 6. (continued)

	Belgium	France	Netherlands	Sweden	England and Wales	United States of America
West European						
				Danish		White
Female				0.23		-0.27
Ethnicity				-0.22*		-0.09
				Finnish		
Female				0.25		
Ethnicity				-0.17*		
				Norwegian		
Female				0.27		
Ethnicity				-0.22*		
African						
				Africa's Horn		
Female				0.60*		
Ethnicity				-0.15		
	Moroccan	Maghreb	Moroccan	North African		
Female	0.27	0.83*	-0.07	0.51*		
Ethnicity	-0.25*	0.09	-0.29	-0.45*		
		Sub-Saharan		Sub-Saharan	Black	
		African		African	African	Black
Female		0.81		0.52*	0.90	-3.75*
Ethnicity		-0.28		-0.46*	0.68	3.80*
Caribbean						
		DOM-TOM	Surinam/ Antilles		Caribbean	
Female		0.62*	0.35*		0.10	
Ethnicity		-0.14*	-0.38*		-0.01	
South American						
				Chilean		Mexican
Female				0.29		0.41
Ethnicity				-0.37*		-0.17
				South American		Other Latino
Female				0.27		0.43
Ethnicity				0.24*		-0.32

Note. Cell values represent probit regression coefficients of the effect of being female (majority) and the sum of the coefficients of being female and the interaction between being female and belonging to a particular second-generation group (minorities). For the second-generation groups, the second row refers to the ethnic coefficient. All results are controlled for parental occupation, parental education and family composition.

Sources. Belgium: Belgian Census 1991, 2001; France: Panel-95; Netherlands: Social Integration of Minorities Survey (SIM) 2006; Sweden: STAR database (register data); England and Wales: Longitudinal Study (LS) 1991, 2001; United States of America: Education Longitudinal Study (ELS) 2002. Table A1 in the online supplement provides information about the samples and measures.

\*Group-specific interaction with female gender or main effect of ethnicity is significant ( $p < .05$ ).

**Table 7.** Gender differences in completion of tertiary education (probit regression).

	Belgium	Netherlands	Sweden	England and Wales	United States of America
N	39,527	2,037	272,520	23,007	10,090
Majority Female	0.39*	-0.15*	0.31*	0.07	0.20*
<hr/>					
East Asian					
			East Asian	Chinese	
Female Ethnicity			0.74*	-0.33	
			0.80*	1.21*	
<hr/>					
South East/South Asian					
			South East Asian	Bangladeshi	
Female Ethnicity			0.10*	-0.56*	
			0.80*	0.12	
				Indian	
Female Ethnicity				-0.17	
				0.81*	
				Pakistani	
Female Ethnicity				-0.09	
				0.19	
<hr/>					
West Asian					
			Iranian		
Female Ethnicity			0.16*		
			0.74*		
			Iraqi		
Female Ethnicity			0.41		
			0.37*		
	Turkish	Turkish	Turkish		
Female Ethnicity	0.18	-0.08	0.41		
	-0.32*	-0.38*	0.34*		
			Middle East		
Female Ethnicity			0.41		
			0.27*		
<hr/>					
Other Asian					
			Other Asian		Other Asian
Female Ethnicity			0.18		0.44
			0.79*		0.47*
<hr/>					
East European					
			East European		
Female Ethnicity			0.28		
			0.33*		
			Ex-Yugoslav		
Female Ethnicity			0.39		
			0.25*		
			Polish		
Female Ethnicity			0.18*		
			0.56*		

(continued)

Table 7. (continued)

	Belgium	Netherlands	Sweden	England and Wales	United States of America
<b>South European</b>					
	Italian		South European		
Female	0.38		0.30		
Ethnicity	-0.05		0.31*		
<b>West European</b>					
			Danish		
Female			0.28		
Ethnicity			-0.10		
			Finnish		
Female			0.34		
Ethnicity			-0.01		
			Norwegian		
Female			0.17		
Ethnicity			0.10		
<b>African</b>					
			Africa's Horn		
Female			0.44		
Ethnicity			0.43*		
	Moroccan	Moroccan	North African		
Female	0.23	-0.23	0.58		
Ethnicity	-0.18*	-0.29	0.28*		
			Sub-Saharan African	Black African	
Female			0.35	0.60	
Ethnicity			0.13	0.05	
<b>Caribbean</b>					
	Surinam/Antilles		Caribbean		Puerto Rican
Female	0.00		0.39		0.46
Ethnicity	-0.15		0.16		-0.55
<b>South American</b>					
			Chilean		Mexican
Female			0.23		0.51
Ethnicity			0.19*		-0.10
			South American		Hispanic
Female			0.34		-0.30
Ethnicity			0.27*		0.72*

Note. Cell values represent probit regression coefficients of the effect of being female (majority) and the sum of the coefficients of being female and the interaction between being female and belonging to a particular second-generation group (minorities). For the second-generation groups, the second row refers to the ethnic coefficient. All results are controlled for parental occupation, parental education, and family composition.

Sources. Belgium: Belgian Census 1991, 2001; France: Panel-95; Netherlands: Social Integration of Minorities Survey (SIM) 2006; Sweden: STAR database (register data); England and Wales: Longitudinal Study (LS) 1991, 2001; United States of America: National Education Longitudinal Study 1998 (NELS-88). Table A1 in the online supplement provides information about the samples and measures.

\*Group-specific interaction with female gender or main effect of ethnicity is significant ( $p < .05$ ).



tertiary education, we found female advantages of similar size as for school achievement in most countries. Although we did not explicitly address the question of whether the gender gap is widening or narrowing throughout the educational career or after particular transitions, our findings, with the exception of continuation, show consistent female advantages throughout the educational career. A possible explanation for the relatively modest size of the gender gap in continuation rates may lie in generally high rates of continuation after compulsory school (e.g., 90 percent in Finland). Where continuation is nearly universal, there is little room for gender disparities.

In most cases, including interactions between gender and ethnicity did not result in better model fit, indicating few significant interactions between gender and ethnicity in terms of educational achievement and attainment. This implies that the female advantage prevalent in majority populations generalizes to the second generation from most countries and for most educational outcomes, even if the magnitude of this female advantage differs significantly in some cases. We found no evidence for a consistent double disadvantage for girls or boys such that they were systematically penalized or systematically benefitted from both their ethnicity and their gender throughout their educational careers. Rather, the manifold ethnic differences—both penalties and premiums—in educational outcomes highlight that the second generation does not yet perform on a par with the majority.

We derived the expectation of double disadvantage from the gender role socialization argument as an explanation for differential gender gaps in achievement and attainment among children of immigrants from countries with prevalent male advantage in education. To the extent that parents' gendered orientations and behaviors encourage boys and discourage girls to succeed in education, we would expect a smaller female advantage, or even a male advantage, among minorities from these countries. However, these same gender values may instead benefit girls more than boys if stricter parental monitoring and more time spent at home contribute to better schooling outcomes. The overall null finding, that is, the absence of male advantage in education, may suggest that gender role socialization in immigrant families has no influence on the education of the second generation. However, it is also possible that opposing influences cancel

each other out. Future research should go beyond our descriptive approach and assess the various processes related to gender ideology.

The fact that second-generation girls whose parents migrated from countries with a male advantage in education did not consistently lag behind boys in education is consistent with the expectation of assimilation in gender gaps and may be related to different processes. For example, selective migration may extend to parents' gender orientations, such that individuals who migrate have more progressive attitudes. Or, in the case of immigrants with more traditional beliefs, parents' norms and behaviors may change after migration. In addition, teachers, schools, majority peers, and the wider societal context may influence gendered patterns of behavior and related educational outcomes. When the majority society's prevalent norm of gender equality stands in contrast to more traditional gender norms among immigrant parents, we would expect parents' gender norms to have a stronger influence on educational outcomes that are open to students' and parents' decisions. A good example of such a decision is whether to continue education after compulsory schooling, at least in educational systems where this decision is not heavily restricted by prior achievement (e.g., in the comprehensive systems in Finland and Sweden). Yet, we found no significant ethnic variation in the gender gap in continuation in Finland or Sweden; the female advantage was as large in the second generation as among the majority group.

The finding of a female advantage in educational outcomes is also in line with the argument about returns to women's education. Increasing returns to education for women in industrialized societies are an important explanation for the reversal of the gender gap over the past decades. Extending this argument to ethnic minorities, the stark contrast in returns to education for women from countries with low female labor force participation should serve as a powerful motivator for educational attainment among second-generation girls. However, if contrasts regarding returns to female education between countries of origin and destination were driving our results, we should see exacerbated female advantage, particularly with regard to the completion of tertiary education and for second-generation groups with large differences in female labor force participation rates between countries of origin and destination. Yet, East Asians in Sweden are the only group that

shows a significantly larger female advantage in tertiary education. Compared to their peers from, for instance, North Africa and Turkey, this group does not show a particularly large gap in terms of returns to female education between their origin and destination countries. It therefore seems that returns to education cannot explain our results, but we cannot draw firm conclusions because we did not test this mechanism directly.

Our cross-national comparative account has several limitations. First, although we carefully selected the data sets, standardization of variables, and methods of analysis, we relied on separate country-by-country analyses, thus limiting comparability across countries. Utilizing cross-nationally comparative data sets provides an important alternative (e.g., Dronkers and Kornder 2014). However, these data sets bear their own shortcomings, usually allowing one to analyze only a single stage in the educational career. Use of separate country analyses enabled us to study a wide range of educational outcomes, extending beyond achievement in mid-adolescence and including attainment at later stages of the educational career.

A second limitation was our inability to directly assess the influence of the mechanisms that would create ethnic variation in gender gaps in education, such as gender role socialization, differences in returns to female education between origin and destination countries, selective migration, and the influence of peer groups and institutions. Because some of these expectations go in opposite directions, we cannot determine the extent to which these explanations account for gender gaps in the education of the second generation. We also could not study whether they differentially affect the second generation and the majority. These questions should be addressed in future research with data that include the relevant information.

Finally, we did not relate our findings to contextual characteristics of the origin and destination countries. Regarding destination countries, the policy regimes governing immigration and integration, educational systems, or gender inequality in domains other than education may affect the patterns we observed. Regarding origin countries, characteristics such as female labor force participation may yield additional insights. An important caveat when replacing origin countries with macro variables, however, is that immigrants are not representative of their origin country's population, but mostly positively selected on educational attainment (Feliciano 2005). Whether this

selectivity extends to gender roles, meaning immigrants would be more similar to the majority population in their destinations than to their non-migrant peers, remains a topic for future research. The use of cross-sectional data and the lack of information on parents' attitudes and values do not allow us to empirically address these questions.

In conclusion, the comparative findings of this study, covering nine Western countries and numerous ethnic minorities, show that the female advantage in educational achievement and attainment that we find among majority populations is replicated among the second generation, although the magnitude of this female advantage differs significantly in some cases. Girls receive higher grades and perform better on standardized reading and language tests and are more likely to continue full-time education after compulsory schooling and enroll in academic tracks and complete upper-secondary and tertiary education more often than boys, all else being equal. For second-generation children whose parents came from countries where male advantage in education prevails, the replication of destination countries' female advantage provides a substantial contrast with gender gaps in their parents' origin countries. Although girls are catching up with boys in countries and regions where they are most disadvantaged, our results indicate that the reversal of the gender gap occurs much faster, in the course of one generation, in the context of migration to destination countries where female advantage in education is the rule.

## ACKNOWLEDGMENTS

This article is a product of the international collaborative research project Ethnic Educational Inequalities (EEI), led by Anthony F. Heath and Yaël Brinbaum, as part of the Equalsoc Network of Excellence. The two primary authors are responsible for the text and interpretations of these findings, and they gratefully acknowledge the work of the colleagues listed as secondary authors, who provided country-specific data and analyses as well as expert knowledge or assistance in preparing the manuscript.

## NOTES

1. We list immigrants from DOM-TOM origins as Caribbean in the tables, although only parts of these territories are located in the Caribbean (e.g., Guadeloupe and Martinique), whereas others are located in the Pacific (e.g., New Caledonia) and Indian

- Ocean (e.g., Réunion) or on the South American continent (French Guyana).
2. Because we use different measures of achievement in different countries, we cannot be sure whether a pupil who is at the mean of the distribution in one country performs similar to a student at the mean of the distribution in another country. However, we are interested in the relative position of boys and girls and ethnic majorities and minorities within the same country, rather than the absolute comparability of achievement scores across countries. Cross-nationally standardized achievement tests are better suited to address the latter question.
  3. Although compulsory schooling is generally free of costs, the countries under study differ in costs for non-compulsory schooling at the upper-secondary and tertiary levels. We do not directly control for these costs in our analyses, but we expect them primarily to lead to different educational outcomes for children from different social class backgrounds. Because we control for social background and estimated ethnic differentials in reference to the majority population in the same school system, and because we are mainly interested in the relative completion rates of boys and girls and ethnic majorities and minorities within the same country, we believe country differences in costs for non-compulsory education do not jeopardize the comparability of our findings. Nevertheless, we cannot rule out that costs for higher education affect immigrant children more strongly than children of non-immigrant parents of comparable socioeconomic status.
  4. We include the categories "mixed" and "other ethnicity" in the analyses, but these results are not shown in the tables due to difficulties in providing a substantive interpretation for these miscellaneous groups.
  5. The absence of a substantial gender gap in the Netherlands could be due to the outcome measure under study, which is a standardized test that includes different subject matters, averaging across subjects in which girls consistently show higher achievement (e.g., language) and subjects in which boys perform better (e.g., math).
  6. Recent OECD data also reveal a consistent female advantage in the completion of upper-secondary education in the Netherlands (OECD 2010). However, because these OECD data refer to the youngest age cohort (25 to 34 years old in 2010), this recent change may not yet appear among the relatively older cohorts in the analysis.
  7. A comparison of these findings with recent data from the OECD (2010) confirms the female advantage in the completion of tertiary education in Belgium, Sweden, and the United States and the male advantage in the Netherlands. For the United Kingdom, OECD data indicate a modest female advantage in the completion of tertiary education.

8. Results from Finland, where continuation can be analyzed contingent on prior achievement, are consistent with this reasoning. The nonsignificant main effect of female gender ( $b = -.05$ ,  $SE = .04$ ) shifts to a significant female disadvantage when grades are controlled ( $b = -.38$ ,  $SE = .04$ ). Importantly, including prior achievement does not affect the magnitude and significance of the interactions between gender and ethnic background.

## REFERENCES

- Abada, Teresa and Eric Yeboah Tenkorang. 2009. "Gender Differences in Educational Attainment among the Children of Canadian Immigrants." *International Sociology* 24(4):580–608.
- Alba, Richard and Victor Nee. 1997. "Rethinking Assimilation Theory for a New Era of Immigration." *International Migration Review* 31(4):826–74.
- Birdsall, Nancy, Ruth Levine, and Amina Ibrahim. 2005. *Toward Universal Primary Education: Investments, Incentives, and Institutions*. UN Millennium Project, Task Force on Education and Gender Equality. London: Earthscan.
- Brandon, Paul R. 1991. "Gender Differences in Young Asian Americans' Educational Attainments." *Sex Roles: A Journal of Research* 25(1-2):45–61.
- Breen, Richard, Ruud Luijckx, Walter Müller, and Reinhard Pollak. 2010. "Long-term Trends in Educational Inequality in Europe: Class Inequalities and Gender Differences." *European Sociological Review* 26(1):31–48.
- Buchmann, Claudia, Thomas A. DiPrete, and Anne McDaniel. 2008. "Gender Inequalities in Education." *Annual Review of Sociology* 34:319–37.
- Bussey, Kay. 2011. "Gender Identity Development." Pp. 603–28 in *Handbook of Identity Theory and Research*, edited by S. J. Schwartz, K. Luyckx, and V. L. Vignoles. New York: Springer.
- Cammarota, Julio. 2004. "The Gendered and Racialized Pathways of Latina and Latino Youth: Different Struggles, Different Resistances in the Urban Context." *Anthropology & Education Quarterly* 35(1): 53–74.
- Coley, Richard J. 2001. *Differences in the Gender Gap: Comparisons across Racial/Ethnic Groups in Education and Work*. Princeton, NJ: Policy Information Center.
- Diehl, Claudia, Matthias Koenig, and Karin Ruckdeschel. 2009. "Religiosity and Gender Equality: Comparing Natives and Muslim Migrants in Germany." *Ethnic and Racial Studies* 32(2):278–301.
- DiPrete, Thomas A. and Claudia Buchmann. 2006. "Gender-specific Trends in the Value of Education and the Emerging Gender Gap in College Completion." *Demography* 43(1):1–24.

- DiPrete, Thomas A. and Jennifer L. Jennings. 2012. "Social and Behavioral Skills and the Gender Gap in Early Educational Achievement." *Social Science Research* 41(1):1–15.
- Downey, Douglas B. and Anastasia S. Vogt Yuan. 2005. "Sex Differences in School Performance during High School: Puzzling Patterns and Possible Explanations." *The Sociological Quarterly* 46(2):299–321.
- Dronkers, Jaap and Nils Kornder. Forthcoming. "Do Migrant Girls Always Perform Better? Differences between the Reading and Math Scores of 15-year-old Daughters and Sons of Migrants in PISA 2009." *Educational Research and Evaluation*.
- Entwisle, Doris R., Karl L. Alexander, and Linda S. Olson. 2007. "Early Schooling: The Handicap of Being Poor and Male." *Sociology of Education* 80(2):114–38.
- Erikson, Robert, John Goldthorpe, and Lucienne Portocarero. 1979. "Intergenerational Class Mobility in Three Western Societies: England, France and Sweden." *British Journal of Sociology* 30(4):415–41.
- Feliciano, Cynthia. 2005. "Educational Selectivity in U.S. Immigration: How Do Immigrants Compare to Those Left Behind?" *Demography* 42(1):131–52.
- Feliciano, Cynthia and Ruben G. Rumbaut. 2005. "Gendered Paths: Educational and Occupational Expectations and Outcomes among Adult Children of Immigrants." *Ethnic and Racial Studies* 28(6): 1087–118.
- Grant, Monica J. and Jere R. Behrman. 2010. "Gender Gaps in Educational Attainment in Less Developed Countries." *Population and Development Review* 36(1):71–89.
- Heath, Anthony F. and Yaël Brinbaum, eds. Forthcoming. *Unequal Attainments. Ethnic Educational Inequalities in Ten Western Countries*. Oxford: Proceedings of the British Academy.
- Inglehart, Ron and Pippa Norris. 2003. *Rising Tide. Gender Equality and Cultural Change around the World*. Cambridge: Cambridge University Press.
- Legewie, Joscha and Thomas A. DiPrete. 2009. "Family Determinants of the Changing Gender Gap in Educational Attainment: A Comparison of the U.S. and Germany." Pp. 1–13 in *Schmollers Jahrbuch* 129. Berlin: Duncker & Humblot.
- Marks, Gary N. 2007. "Accounting for the Gender Gaps in Student Performance in Reading and Mathematics: Evidence from 31 Countries." *Oxford Review of Education* 34(1):89–109.
- OECD. 2006. *Where Immigrants Succeed—a Comparative Review of Performance and Engagement in PISA 2003*. Paris: OECD.
- OECD. 2009. *Equally Prepared for Life? How 15-year-old Boys and Girls Perform in School*. Paris: OECD.
- OECD. 2010. *Education at a Glance 2010*. Paris: OECD.
- Riphahn, Regina T. and Oliver Serfling. 2002. "Neue Evidenz zum Schulerfolg von Zuwanderern der zweiten Generation in Deutschland." *Vierteljahrshefte zur Wirtschaftsforschung* 71(2):230–48.
- Röder, Antje. 2014. "Explaining Religious Differences in Immigrants' Gender Role Attitudes: The Changing Impact of Origin Country and Individual Religiosity." *Ethnic and Racial Studies*. (<http://www.tandfonline.co/doi/abs/10.1080/01419870.2013.854919#preview>).
- Schofield, Janet Ward. 2006. *Migration Background, Minority-group Membership and Academic Achievement. Research Evidence from Social, Educational, and Developmental Psychology*. Berlin: WZB.
- Segeritz, Michael, Oliver Walter, and Petra Stanat. 2010. "Muster des schulischen Erfolgs von jugendlichen Migranten in Deutschland: Evidenz für segmentierte Assimilation?" *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 62(1):113–38.
- UNDP. 2010. *Indicators—Human Development Report 2009*. Retrieved March 2010 (<http://hdrstats.undp.org/en/indicators/>).
- Varner, Fatima and Jelani Mandara. 2013. "Differential Parenting of African American Adolescents as an Explanation for Gender Disparities in Achievement." *Journal of Research on Adolescence* (<http://onlinelibrary.wiley.com/doi/10.1111/jora.12063/abstract>).
- Williams, Nathalie E., Arland Thornton, and Linda C. Young-DeMarco. 2014. "Migrant Values and Beliefs: How Are They Different and How Do They Change?" *Journal of Ethnic and Migration Studies* 40(5):796–813.
- Wils, Annababette and Anne Goujon. 1998. "Diffusion of Education in Six World Regions, 1960–90." *Population and Development Review* 24(2):357–68.
- Zhou, Min and Carl L. Bankston. 2002. "Family Pressure and the Educational Experience of the Daughters of Vietnamese Refugees." *International Migration* 39(4):133–51.

## Author Biographies

**Fenella Fleischmann** is Assistant Professor at the European Research Centre on Migration and Ethnic Relations (ERCOMER) at Utrecht University. Her research interests are immigrant integration in education and on the labour market and immigrant religion and identity.

**Cornelia Kristen** is Professor of Sociology at the University of Bamberg, Germany. In her research interests she addresses processes of immigrants' and their children's integration.