



Immigration, Educational Attainment, and Happiness in Europe

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Abstract

Introduction: Educational attainment is one of the main social determinants of health, however, based on a literature from the US, high educational attainment is associated with fewer health advantages for marginalized groups such as immigrants. In the current study, built on the Marginalization-related Diminished Returns (MDRs) theory, the differential association between educational attainment and happiness in Europe by nativity status is tested.

Methods: For this cross-sectional study, we borrowed data from European Social Survey 2020 (ESS 2020). Participants included 9560 individuals who identified as either native-born (n = 9052) or immigrant (n = 508) individuals who had worked in the past week and were residing in one of these ten countries: Bulgaria, Czechia, Estonia, Finland, France, Croatia, Hungary, Lithuania, Slovenia, and Slovakia. Age, sex, and self-rated health were control variables, while educational attainment was the independent variable. Happiness was the outcome. Linear regression was used for data analysis. Poisson regression was used for sensitivity analysis.

Results: Overall, high educational attainment was associated with higher levels of happiness. We documented a statistical interaction between nativity status and education on happiness, indicating a weaker association between educational attainment and happiness for immigrant than native-born individuals. The results remained similar using linear or Poisson regression models.

Conclusion: Similar to the US, the link between educational attainment and happiness also depends on nativity in Europe. Countries of host undervalue the educational attainment of immigrants. Future research should explore the role of labor market discrimination and other racialization and xenophobia on reducing the return of education for immigrants. Given the existing MDRs, and because diminished returns are a mechanism behind disparities, policymakers should go beyond equal Social Determinants of Health (SDoH) and equalize the return of SDoHs. Policies such as equal pay and additional enforcement of antidiscrimination may help. The results are important given the anti-immigrant sentiment and nationalist movements in Europe and around the world.

Keywords: Education, income, immigrants, happiness, socioeconomic status, population groups, nativity

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Introduction

The positive association between educational attainment and health/wellbeing is not specific to any domain. As shown by Marmot^{1,2}, Hayward³⁻⁵, Link,⁶ Ross and Mirowsky⁷⁻⁹, House¹⁰, Lantz^{11,12}, Williams^{13,14} and others¹⁵, high educational attainment and other socioeconomic status (SES) indicators are associated with better subjective and objective health. Recent work by Farah¹⁶⁻²⁰, Noble¹⁶, and others^{21,22} have explored the effects of such SES indicators on neurodevelopmental outcomes, such as cognition.

However, SES indicators, such as educational attainment, do not similarly boost health outcomes

across all population groups. As documented and discussed by the Marginalization-related Diminished Returns (MDRs) theory^{23,24}, the effects of SES indicators, particularly educational attainment on health outcomes, tend to be weaker for marginalized populations – specifically weaker in Black populations compared to White populations²⁵⁻³¹. However, most of this research is done in the US and is comparable to the effects of SES on the health of Black and White children and adults³²⁻³⁴. These patterns are shown for stress³⁵, depression³⁶, chronic disease^{37,38}, substance use³⁹, and happiness⁴⁰⁻⁴², and some recent research has shown a similar pattern in Europe⁴³ and for US immigrants.

For many reasons, education may generate unequal health returns for population groups. First, the quality of education may vary across groups. Second, due to labor market discrimination, social stratification, and job market segregation, education may differently open occupational opportunities for groups²⁴. One group may work in worse jobs than others³⁵, groups may be differently treated in the society⁴⁴, and people with similar SES may live in qualitatively different neighborhoods⁴⁵. Thus, the effects of an SES indicator, such as education, may be weaker for marginalized groups than for privileged populations.

In line with the Marginalization-related Diminished Returns (MDRs) phenomenon,^{23,24} Marmot has mentioned that not only is the access to SES indicator important, but also what the specific social determinant can do in terms of changing life conditions and reducing exposure to stress^{1,2,46-51}. Thus Assari^{23,24}, Ferarro⁵², Thorpe⁵³⁻⁵⁵, Hudson⁵⁶⁻⁵⁸, Kaufman⁵⁹, Braveman⁶⁰, Shapiro^{61,62}, Williams^{63,64}, Ceci⁶⁵, and Navarro⁶⁶⁻⁶⁸, and others⁶⁹ have mentioned that SES indicators may differently impact various populations. However, as most of this literature is in US, there is a need to study how educational attainment as an SES indicator can affect diverse groups in Europe⁷⁰. More specifically, this study aimed to compare the association between educational attainment and household income by nativity status. We expected weaker boosting effect of educational attainment on happiness in immigrants than in native-born people Europeans.

Methods

European Social Survey

This study was a secondary analysis of existing data. We used the ESS 2020 data which is publicly available. Using a cross-sectional design, the data were collected between 17-09-2020 and 30-01-2022. Participating countries included Bulgaria, Czechia, Estonia, Finland, France, Croatia, Hungary, Lithuania, Slovenia, and Slovakia. Our analytical sample included those who had complete non-missing data on age, sex, self-rated health, employment during last week, immigration status, education, and happiness. This number was 9560 individuals who identified as either Native (n = 9052) or immigrant (n = 508).

The European Social Survey (ESS) is an academically driven cross-national survey in Europe, which started from 2001. This study has been administered in 40 countries to date. The main aim is to monitor and interpret changing public attitudes and values within European countries. The survey applied random probability sampling, and the ESS has high response rate and rigorous translation protocols. ESS data are partially collected in an hour-long face-to-face interview. Due to the COVID-19 pandemic, at Round 10, a self-completion approach was used in countries where face-to-face fieldwork was not possible. Some countries also included video interviews as a back-up for the in-person interviews.

Ethics

Given that ESS data is fully de-identified and that this was a secondary analysis of publicly available data, our investigation was exempt from a full ethics review.

Variables

Dependent Variable (Outcome)

Happiness was measured using a single item measure with 11 options. Participants were asked "Taking all things together, how happy would you say you are?" 0 was for Extremely unhappy and 10 was for Extremely happy. This variable was treated as a continuous measure with a higher score indicating higher happiness.

Independent Variable (Predictor)

Participants were asked "What is the highest level of education you have successfully completed?" Education was then treated as a continuous measure ranging from 0 to 8, as shown in the appendix.⁷¹

Moderator (Effect Modifier)

Immigration/Nativity was determined by this question: Were you born in [country]. Immigrants coded as 1 and native-born coded as 0.

Confounders

Age, sex, and country of survey were the covariates. Age, a continuous variable ranging from 15 to 90, sex, a dichotomous variable, was coded 1 for male and 0 for female, and country of survey was a nominal variable

Data Analysis

We performed all our analyses including univariate, bivariate, and multivariable analyses in SPSS 21. Univariate analysis was to report the mean (SD) and frequency (%) for our variables overall and by immigration status. Our bivariate analyses included Chi-square and t test to compare all variables across immigration groups. For our multivariable analysis, first we used linear regression models in which the independent variable was education, the outcome was perceived happiness, and the covariates were gender, age, and country of survey. Then, we ran Poisson regression models for replication with the same variables as the outcome, independent variable, and covariates. Four models were performed: *Model 1* only included the main effects, *Model 2* included immigration by educational attainment interaction variable, and last two models (*Model 3* and *Model 4*) were stratified models in groups defined based on immigration status. For our models, the moderator was immigration status as a proxy of racialization and discrimination. Regression coefficient, standard errors (SEs), and p-values were reported. Any p-value of less than 0.05 was significant.

Results

Participants included 9560 individuals who identified as either Native (n = 9052) or immigrant (n = 508). As shown in Table 1, immigrants and native-born individuals differed in country, age, education, SRH, and gender.

Table 1. Descriptive statistics in the pooled sample and overall

	Native		Immigrant		All		P
	N=9052	%	N=508	%	N=9560	%	
Country							*
Bulgaria	1371	15.1	10	2.0	1381	14.4	
Czechia	1359	15.0	46	9.1	1405	14.7	
Estonia	863	9.5	102	20.1	965	10.1	
Finland	793	8.8	36	7.1	829	8.7	
France	949	10.5	126	24.8	1075	11.2	
Croatia	664	7.3	64	12.6	728	7.6	
Hungary	983	10.9	12	2.4	995	10.4	
Lithuania	794	8.8	21	4.1	815	8.5	
Slovenia	600	6.6	82	16.1	682	7.1	
Slovakia	676	7.5	9	1.8	685	7.2	
Sex							
Female	4650	51.4	241	47.4	4891	51.2	*
Male	4402	48.6	267	52.6	4669	48.8	
	Mean	SD	Mean	SD	Mean	SD	
Age	44.6992	12.38725	47.2323	12.54393	44.8338	12.40798	*
Education (1-8)	4.3274	1.74642	4.2953	1.97205	4.3257	1.75904	
SRH (1-5)	1.9912	.76586	2.1319	.82391	1.9986	.76966	*
Happiness (0-10)	7.3578	1.83015	7.5906	1.93730	7.3702	1.83664	*

*p<0.05 for comparison of immigrant and native-born people

As Table 2 shows, high educational attainment was associated with higher happiness overall, this association was stronger in native-born but not in immigrant individuals.

Table 2. Summary of linear regressions in the pooled sample

	Unstandardized B	Coefficients Standardized Coefficients	Beta	P	95.0% Confidence Interval for B	
Model 1						
Immigrant	.329	.080	.040	.000	.172	.486
Male	-.117	.036	-.032	.001	-.188	-.046
Age	-.002	.002	-.015	.145	-.005	.001
Self-rated Health (SRH) (1-5)	-.598	.025	-.251	.000	-.646	-.549
Educational Attainment (1-8)	.111	.010	.107	.000	.091	.131
Model 2						
Immigrant	.697	.193	.085	.000	.318	1.076
Male	-.116	.036	-.032	.001	-.187	-.045
Age	-.002	.002	-.015	.150	-.005	.001
Self-rated Health (SRH) (1-5)	-.598	.025	-.251	.000	-.647	-.550
Educational Attainment (1-8)	.117	.011	.112	.000	.096	.138
Immigrant x Educational Attainment (1-8)	-.086	.041	-.050	.037	-.166	-.005

Dependent Variable: happiness (0-10)

As Table 3 shows, high educational attainment was associated with higher happiness in native-born but not in immigrant individuals.

Table 3. Summary of linear regressions in native-born and immigrant individuals

	Unstandardized B	Coefficients Standardized Coefficients	Beta	P	95.0% Confidence Interval for B	
Model 3 (Native-Born)						
Male	-.103	.037	-.028	.005	-.176	-.030
Age	-.003	.002	-.020	.056	-.006	.000
Self-rated Health (SRH) (1-5)	-.595	.025	-.249	.000	-.645	-.545
Educational Attainment (1-8)	.117	.011	.112	.000	.096	.138
Model 4 (Immigrant)						
Male	-.372	.168	-.096	.027	-.701	-.043
Age	.012	.007	.079	.081	-.002	.026
Self-rated Health (SRH) (1-5)	-.679	.109	-.289	.000	-.892	-.465
Educational Attainment (1-8)	.024	.043	.024	.581	-.060	.107

Dependent Variable: happiness (0-10)

Sensitivity analysis (Poisson regression)

The results remained similar using Poisson regression models as sensitivity analysis. As the results remained unchanged, we only reported the numbers for linear regression models.

Discussion

High educational attainment was associated with perceived happiness; however, immigration status moderated the association between educational attainment and perceived happiness. This meant a weaker association between high education and high happiness for immigrant individuals compared to native-born individuals. As a result, highly educated immigrants are unhappier in comparison to their native-born counterparts with identical educational attainment. This indicates diminished returns of education on happiness levels due to immigration.

Our first finding was a positive association between education and happiness. As suggested by the fundamental cause theory, the social determinants of health framework, and other theories, SES indicators such as educational attainment impact the wellbeing and health of individuals. As shown by Marmot and others, education is one of the main social determinants of health. One reason individuals with higher education are happier is that they have better living conditions and endure less adversities and stress, including financial difficulties⁷². However, other mechanisms, such as perceived control, may have a role in explaining why education impacts wellbeing⁷³⁻⁷⁶.

Our second finding on diminished returns of educational attainment on happiness aligns with a growing literature on differential effects of SES indicators particularly education on health and wellbeing of population groups, with effects being weaker for marginalized than

privileged individuals. Regardless of the outcome, SES indicators, age groups, and context, education has shown to generate more gains for privileged groups. However, most past research is on Black-White differences in US and no previous studies in Europe have focused on the effects of education on happiness.

In the US, education has shown weaker protective effects on health outcomes such as obesity⁷⁷, depression⁷⁸, suicide³⁶, internalization⁷⁹, externalization, and self-rated health⁸⁰ for Black than White individuals. These differential effects are shown for chronic diseases⁸¹⁻⁸³, disability⁸⁴, hospitalization⁸⁵, and mortality^{86,87}. Similar patterns are shown for stress³⁵ and trauma^{88,89}. They also exist for mental⁹⁰, behavioral^{91,92}, and physical health⁹³, as well as healthcare^{94,95}, and substance use³⁹. In addition, poor mental health^{77,96}, poor sleep⁹⁷, poor diet⁹⁸, and high substance use^{92,99,100} but these are based on race^{101,102}. The unique contribution of this work is the expansion of this literature to immigration in Europe.

The MDRs theory is a change in studying social determinants of health^{23,24} because unlike most previous work, it goes beyond attributing health disparities to the SES gap. While the SES gap has a role, MDRs acknowledge that inequalities and disparities can occur across the full SES spectrum. Quantitative modeling of disparities should allow variation of SES effects by group membership. Modelers should test non-linear and non-additive effects of group membership and SES, MDRs allow the effects of each SES indicator to vary by race and demographic factors. This is more realistic than the assumption of universality in SES effects. One size never fits all: researchers should study laws, policies, and other structural and environmental mechanisms that explain diminished returns of education for marginalized groups. Research that is built on MDRs is essential to understand why health gaps sometimes widen, rather than narrow,

as SES increases, and why such gaps have sustained or sometimes widened despite economic gaps narrow over time^{23,24}. MDRs framework suggests that we should not reduce the problem of inequalities and disparities to the problem of SES gap.

A wide range of structural and societal mechanisms may explain these MDRs. It is difficult to decompose the mechanism, particularly because many social mechanisms and processes can interfere with the return of SES indicators such as income and how they reflect employment, wealth, and residential area. Most of these processes are racialized in the US, generating fewer outcomes for racial minorities^{23,24}. For example, high SES Black people are likely to work in jobs with lower pay and lower occupational prestige than their White counterparts. Similarly, high SES racial minority people work in jobs with higher stress and exposure to toxins¹⁰³. Racial compositions of jobs may also be associated with discrimination for highly educated racial minority employees¹⁰⁴. As a result, high SES racial minorities^{23,24} remain at risk of economic insecurity¹⁰⁵, stress³⁵, living in poor residential areas⁴⁵, and low wealth¹⁰⁶. Thus, interwoven, complex social processes may explain why high SES racial minority individuals remain at economic risk.

Future research should test if work conditions, income, occupational prestige, and employment benefits are why educational attainment generates less health and wellbeing for racial minorities than non-Latino White individuals. Past work shows that diet¹⁰⁷, exercise¹⁰⁸, sleep¹⁰⁹, and substance use¹¹⁰ are all worse for highly educated, high-income, and employed racial minority people. What is left unknown is whether time use patterns also play a role in explaining the diminishing returns of SES for minority people.

Limitations

Our outcome was happiness and we did not measure health. Given the cross-sectional design, we cannot draw causal inferences. The association between education and happiness can be bi-directional. Not only can high education increase happiness, but individuals with positive psychological traits such as happiness can also have a higher tendency to pursue education. Thus, we should use associational, not causal language to describe our findings. Another limitation is that we did not include other SES indicators and other relevant confounders. The study also did not include other marginalized groups and did not analyze data on years in the host country, legal status, and other characteristics related to immigration such as country of origin. However, despite all these limitations, this is the first study on MDRs of education on happiness of immigrants in Europe.

Conclusion

To conclude, educational attainment does not similarly correlate with happiness across diverse groups in Europe. While highly educated native-born individuals report high happiness, this pattern does not show for their highly educated immigrant counterparts. As a

result, some of the disparities between immigrant and native-born individuals may remain across the full SES spectrum. Some of the effects of immigration is beyond SES. Such diminished returns of education of immigrants in host countries may reflect discrimination and racism that may hinder immigrants from reaping advantage of their investments.

Review Highlights

What is known?

Educational attainment is associated with better health and higher wellbeing.

Educational attainment is associated with better health and higher wellbeing.

In the US, an increase in education is associated with smaller gain in health for immigrants than native-born individuals.

What this study adds?

Education shows a weaker association with happiness in immigrant than native-born individuals.

Across each education level, happiness is lower in immigrants than native-born individuals.

Similar to the US, we observe diminished returns of education in immigrants in Europe.

Conflict of Interests

The authors have no conflicts of interest.

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Author Contribution

SA and BN: Conceptual Design, SA: Statistical Analysis; MS: First Draft, SA, BN: Revision, SA, BN, and MS: Approval of the Final Draft.

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Appendix 1

Appendix 1: Coding of educational attainment

0	0	Not completed ISCED level 1
1	113	ISCED 1, completed primary education
1	129	Vocational ISCED 2C < 2 years, no access ISCED 3
1	212	General/pre-vocational ISCED 2A/2B, access ISCED 3 vocational
2	213	General ISCED 2A, access ISCED 3A general/all 3
2	221	Vocational ISCED 2C >= 2 years, no access ISCED 3
2	222	Vocational ISCED 2A/2B, access ISCED 3 vocational
2	223	Vocational ISCED 2, access ISCED 3 general/all
2	229	Vocational ISCED 3C < 2 years, no access ISCED 5
3	311	General ISCED 3 >=2 years, no access ISCED 5
3	312	General ISCED 3A/3B, access ISCED 5B/lower tier 5A
3	313	General ISCED 3A, access upper tier ISCED 5A/all 5
3	321	Vocational ISCED 3C >= 2 years, no access ISCED 5
3	322	Vocational ISCED 3A, access ISCED 5B/ lower tier 5A
3	323	Vocational ISCED 3A, access upper tier ISCED 5A/all 5
4	412	General ISCED 4A/4B, access ISCED 5B/lower tier 5A
4	413	General ISCED 4A, access upper tier ISCED 5A/all 5
4	421	ISCED 4 programs without access ISCED 5
4	422	Vocational ISCED 4A/4B, access ISCED 5B/lower tier 5A
4	423	Vocational ISCED 4A, access upper tier ISCED 5A/all 5
5	510	ISCED 5A short, intermediate/academic/general tertiary below bachelor
5	520	ISCED 5B short, advanced vocational qualifications
6	610	ISCED 5A medium, bachelor/equivalent from lower tier tertiary
6	620	ISCED 5A medium, bachelor/equivalent from upper/single tier tertiary
7	710	ISCED 5A long, master/equivalent from lower tier tertiary
7	720	ISCED 5A long, master/equivalent from upper/single tier tertiary
8	800	ISCED 6, doctoral degree

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