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Contextualizing Disparities: The Case for Comparative Research on Social Inequalities in Health*

Sigrun Olafsdottir,

Department of Sociology, Boston University, 96 Cummington Mall, Boston, MA 02215

Jason Beckfield, and

Department of Sociology, Harvard University, 33 Kirkland Street, Cambridge, MA 02138

Elyas Bakhtiari

Department of Sociology, Boston University, 96 Cummington Mall, Boston, MA 02215

Abstract

Purpose—Research on healthcare disparities is making important descriptive and analytical strides, and the issue of disparities has gained the attention of policymakers in the US, other nation-states, and international organizations. Still, disparities scholarship remains US-centric and too rarely takes a cross-national comparative approach to answering its questions. The US-centricity of disparities research has fostered a fixation on race and ethnicity that, although essential to understanding health disparities in the United States, has truncated the range of questions researchers investigate. In this article, we make a case for comparative research that highlights its ability to identify the institutional factors may affect disparities.

Methodology/Approach—We discuss the central methodological challenges to comparative research. After describing current solutions to such problems, we use data from the World Values Survey to show the impact of key social fault lines on self-assessed health in Europe and the U.S.

Findings—The negative impact of SES on health is more generalizable across context, than the impact of race/ethnicity or gender.

Research limitations/implications—Our analysis includes a limited number of countries and relies on one measure of health.

Originality/Value of Paper—The paper represents a first step in a research agenda to understand health inequalities within and across societies.

Keywords

Health; Stratification; Race/Ethnicity; Cross-National Research

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Disparities in health care and health outcomes are key concerns to researchers, providers, and policymakers alike. The Institute of Medicine defines health care disparities as differences in treatment or access between population groups that cannot be explained by different preferences for services or differences in health (McGuire et al. 2006). While much of the focus on health care disparities in the United States has focused on differences in access and quality across racial and ethnic groups, there are multiple other social characteristics that potentially matter, including education, income, geographical location, gender and sexuality. Ultimately, we care about health care disparities as they likely result in health disparities, defined as differences in health outcomes across population groups (Schnittker and McLeod 2005). Understanding health disparities in a cross-national perspective is important because they can, among other things, reflect a) differences in treatment; b) differences in healthcare system performance; and c) differential need for healthcare.

Theoretical frameworks for understanding health care and health disparities often include “upstream” factors such as national social policy arrangements and health care systems as societal determinants of disparities, but too rarely are such factors incorporated into empirical research on disparities (Beckfield and Krieger 2009, Olafsdottir 2007; Olafsdottir and Beckfield 2011). While some research has begun to do this within a single country (e.g. McGuire 2006) and to a lesser extent across selected countries (e.g. Olafsdottir 2007) a cross-national perspective can offer unique insights into the relationships among broader societal arrangements, individual social location, health care disparities, and health disparities. It is clear that health care disparities identified by empirical research are likely to be understated or misunderstood if they are limited to a single institutional setting. Further, the history of racial inequality in the United States has led to a specific bias when considering inequalities in health care: in the US, “disparities” tends to mean “racial disparities.” While race is a key axis of stratification in the US, other social contexts may have produced different fault lines that generate different disparities in different social contexts. Only comparative research can reveal the particularities and universals of health and health care disparities.

In this article, we: (1) specify the advantages of cross-national comparative research; (2) provide an overview of common challenges faced by cross-national comparative research and discuss some working solutions toward these challenges; and (3) provide empirical evidence from 25 European countries and the U.S., illustrating how health disparities are shaped across contexts.

Why Compare?

Comparison is essential to describing and interpreting disparities. For example, knowing that an individual utilized a specific type of health services and improved afterward (or not) does not tell us what would have happened if he or she had not used the services. Similarly, an experience of a black woman within the health care system becomes more meaningful when we know how her experience compares to the experiences of black men, white women, and white men. More specifically, comparison allows us to evaluate health disparities as “large” or “small” in relative context. To take a contemporary-classic example of health care

disparities research, it has been shown that a 70-year old Black female actor was referred for cardiac catheterization by 73% of the physicians tested, compared to 89% for a 70-year old White female actor, and 90% for the 70-year old White male actor (Schulman et al. 1999). The headline-grabbing absolute disparity in this case is 27 percentage points.

We suggest that considering context can aid in the evaluation and interpretation of health disparities. The stratification of people into population groups is society-specific. As an example, a difference between racial and ethnic groups may be the key dividing line in one society, whereas citizenship status or immigration status may play a key role in another, and of course other fault lines such as gender, class, and labor market status also matter for health and health care. A cross-national perspective allows us to evaluate what groups are most likely to be disadvantaged in terms of health, whether there are generalizable patterns in what groups are vulnerable, and how institutional arrangements, history, and culture come together to explain who is most (dis-) advantaged within specific health care systems. Such evaluations can, for instance, draw on measures such as the concentration index and the fairness gap, expenditure-based measures developed by health economists and used in international comparisons (Fleurbaey and Schokkaert 2009; van Doorslaer et al. 1992; Wagstaff 2009; Wagstaff and van Doorslaer 2000).

As McKinlay (1996) powerfully demonstrated, medical providers play a critical role in the social construction of heart disease rates. The way in which medical providers interact with patients and the social organization and norms guiding medical practices, are likely to impact health disparities. Health and health care disparities can be created in at least two ways by different norms and organization of the medical profession. On the one hand, providers can systematically provide different care to different patients based on their characteristics (McKinlay 1996; Schulman et al. 1999). On the other hand, differences in the social organization of medical care can result in health disparities, by excluding certain groups from various rights in society (e.g. health care, family benefits, unemployment benefits). Furthermore, the state and the professions adopt different roles in different societies regarding the logic of appropriateness applied to the social practice of medicine. Finally, population health varies greatly across societies, and disease distribution may influence the social practice of medicine in systematically varying ways. Recent research has shown that a diagnosis of an identical situation varies across contexts. A comparison of medical doctors in the U.S., Germany, and the U.K. revealed that American doctors were most certain in diagnosis a coronary heart disease when presented with a scenario on a videotape, and German doctors were the least certain. In addition, to the cross-national differences, it was found that physicians were more insecure about their diagnosis when the patient was younger or female (Lutfey et al. 2009). What all this means is that, while the finding that older white women are more likely than older black women to be referred for cardiac catheterization despite presenting identical symptoms in an experimental context is extremely important and deserves the attention it received, we should not forget that this disparity may well be larger or smaller in other institutional settings, and may translate differently into health disparities across contexts. This variation goes directly both to our theoretical understanding of what causes health and health care disparities, and to the policy lessons that can be drawn from disparities research.

The promise of comparative research on health disparities can further be illustrated by considering the “fundamental cause” theory of health disparities. Link and Phelan (1995) argue that socioeconomic position is a fundamental cause of health disparities in that removing one mechanism linking socioeconomic position to health will merely result in the generation of new linking mechanisms. For instance, while in some contexts poor sanitation may be a risk factor for poor health among the poor, in other contexts smoking may be a risk factor for poor health among the poor (Link and Phelan 1995:86). We think a useful next step in the development of the fundamental cause approach would be a better specification of the kinds of contexts that moderate the effects of position in stratified societies – and the contexts that create systems of stratification themselves.

An advantage of the fundamental cause approach is that it redirects attention to the quality and quantity of social inequality itself; that is, processes of ranking and goods-allocation that characterize stratification systems become the focus. We argue that stratification systems are generated and reproduced by institutional mechanisms, such that a comparative perspective is necessary to understand how and why socioeconomic position can have different effects on health (and how health can have different impacts on socioeconomic position) in different settings. That is, to understand the societal causes of health disparities, it is essential to incorporate variation in societal structure (Olafsdottir and Beckfield 2011). Olafsdottir (2007) offers one model of how cross-national variation (here, between the United States and Iceland) can be used to examine the role that national institutions such as the welfare state play in generating health disparities. With such disparities gaining the attention of US policymakers and international organizations such as the World Health Organization and the European Union, cross-national research has a role to play in exploring what policies are more and less effective in reducing disparities (see Crane et al. [2010] for comparative lessons for healthcare reform in the United States).

Methodological Problems and Current Solutions

While methodological challenges are common to all research, they provide a special kind of challenge in cross-national research. Consequently, we review a few of the major challenges associated with such research and discuss some common approaches. Comparative research faces a number of methodological challenges, some of which are shared with individual-level research (which of course is itself “comparative” in the sense that we always compare cases), and some of which are specific to macro-level research.

Comparability

In order to evaluate health and healthcare disparities in different settings, comparability of data is essential. This means that variables should be measured consistently across cases, a substantial challenge when measuring health and healthcare disparities across societies with different legal systems, languages, cultures, and social structures. Even something as seemingly simple as access to care can be difficult to measure in a way that affords cross-national comparison. Fortunately, cross-nationally comparable data on healthcare arrangements and national institutions are available to researchers. These data can be crudely

divided into two types: data on the scope and the nature of the healthcare system itself and survey data on the publics' evaluations of health care system.

Both the OECD and the World Health Organization offer data on health care systems, with the former limited to the 30 OECD countries (mostly advanced, industrialized nations) and the latter offering a larger sample of nations. Data include spending on health care, the proportion of the population with access to health care, the number of certain medical procedures performed annually, and the number of medical doctors. Some research has used this kind of data to evaluate differences in health care systems and develop typologies (Wendt, Grimmeisen, and Rothgang 2005; Wendt, Frisina, and Rothgang 2009).

Several cross-national studies offer insights into how the public evaluates the health care system. For example, the International Social Survey Program (ISSP) offers questions on the role of the government in health care and the European Social Survey (ESS) has included rotating modules in health care. Research using this kind of data has shown that health care trajectories are important in explaining what role the public views as appropriate for the government in the health care system (Kikuzawa, Olafsdottir, and Pescosolido 2008). Further, it is possible to use this data to evaluate group differences in attitudes toward the health care system. An analysis of public attitudes in 33 countries showed that those in the labor force consistently evaluate the effectiveness of the health care system more negatively. Age and education also correlate with evaluations of health care systems (Olafsdottir and Pescosolido 2010). Still, even given data collected with the goal of comparability, the problem does not disappear. Other ways to address comparability include comparing relative and absolute differences. Further, multiple measures of key concepts can be used in an effort to triangulate associations: a good example is education, where the analyst often has data on years of schooling and degree attained, which can be harmonized using an ISCED educational classification scheme.

Black boxes and lag structures

While the strengths of comparative research include its ability to identify the institutional correlates of healthcare disparities and place healthcare disparities into a broader context, such research also faces the challenge of analyzing causal mechanisms in divergent settings. The inability to examine processes inside the black boxes theorized to connect cause and effect is related to the problem of complex lag structures, where an institutional change at time t may not affect the outcome until $t + 1, 2, 3$, etc. Theoretical development and the measurement of mechanisms are both required to address these problems. Theoretical work that traces the possible connections from social institutions to disparities in health and health care is ongoing, and stress and material resources are two commonly proposed sets of mechanisms. Research at the intersection of genetics and sociology is currently opening the “black box of the body” in spelling out how social structure (of which the healthcare system can be conceptualized as one element) causes health and illness (Bearman 2008; Pescosolido et al. 2008). The challenge of identifying causal mechanisms is probably the most difficult one that stands in the way of comparative research on healthcare disparities. Two very general approaches to identifying causal social mechanisms in ways that link theory tightly

to data are discussed by Gross (2009), who draws on pragmatist theory, and Liebersson and Horwich (2008), who develop implication analysis.

Galton's problem

Many statistical techniques rely on the assumption that the cases analyzed are independent, but this is not a reasonable assumption where the cases are nation-states (to say nothing of its reasonability where the cases are individuals). Galton's problem is perhaps more problematic than ever in the so-called “era of globalization,” which finds national societies deeply embedded in transnational networks. Europe is arguably the clearest example of how health-care systems can influence each other, given the efforts of the European Union toward the harmonization of social systems. One of the aims of that effort is labor mobility, and so there is pressure for the “portability” of healthcare benefits, and pressure on healthcare institutions to provide similar qualities of service across increasingly permeable national boundaries. A variety of regression-based techniques have been developed to address the non-independence of cases, including spatial regression. Moran's *I* is a common test for spatial autocorrelation in data. Beck and Katz (2009) have developed the technique of OLS regression with panel-corrected standard errors, based on a covariance matrix estimator that adjusts for the non-independence of cases; this approach has been applied in comparative research on welfare states by political scientists and sociologists.

Case selection and unmeasured heterogeneity

The importance of carefully defining the population of interest (Krieger 2011) applies as well to comparisons of nation-states as it does to research on individuals. For example, discrepant findings on the role of income inequality at the national level in explaining international variation in population health sometimes result from the use of narrower vs. broader selection of cases. While an association between income inequality and population health may exist among a sample of nine countries (Wilkinson 1992), such an association does not generalize to a broader sample of countries (Beckfield 2004). The importance of case selection in this literature has been noted by Kondo et al. (2009) in a meta-analysis. A deeper problem related to case selection is “methodological nationalism” (Wimmer and Glick-Schiller 2002), or the tendency for comparative researchers to take the nation-state as the “natural” unit of analysis. Lynch (2009) illustrates an alternative approach, where sub-national regions are taken as the units of analysis. This is currently a forefront area with more questions than answers, so our recommendation for those interested in conducting comparative healthcare disparities is to allow for variation in the geographical scale of the institutional factors that might relate to disparities (Krieger 2011).

Comparative researchers use a range of guidelines in selecting cases for comparison (Bollen et al. 1993). Mill's method of agreement, for instance, leads to the selection of cases with similar outcomes or effects. The logic is that if some candidate causes are absent from cases where effects are present, those candidate causes can be ruled out, in favor of causes that are present in all cases. In contrast, Mill's method of difference leads to the selection of cases with different outcomes or effects, and candidate causes that hold true for all cases can be ruled out, in favor of causes that are only present where effects are observed. Mill's methods are most often used in conjunction with comparative research on a small number of cases;

Ragin's work on Qualitative Comparative Analysis generalizes Mill's approach to larger-N comparisons and comparisons that involve larger sets of causes and effects.

Practical considerations often drive case selection in comparative research, whether these considerations are reported or not by researchers (Bollen et al. 1993). Comparable data on healthcare institutions and healthcare disparities, although they exist to a greater degree than is recognized by many researchers, are still very limited. Such research will make little progress until harmonized, individual-level data are made available to the research community as the Luxembourg Income Study has done with income data. Currently, comparative researchers select cases based on familiarity, convenience, data availability, or heterogeneity on the variables of interest. As Beckfield and Krieger (2009) note, most comparative research on health inequities is conducted with data on advanced capitalist democracies, which obviously limits our knowledge of the generalizability of findings. Even more importantly, the range of research questions has been drastically truncated by data considerations. Lieberman and Horwich (2008) offer an extremely useful guide to elaborating the empirical implications of theory, in the context of the realities of social research.

Two methodological approaches – Bayesian inference for apparent populations, and panel estimation techniques – are particularly helpful in strengthening causal inferences from comparative data. Often, comparative research relies on a sample that can be characterized as an “apparent population” in that the sample cannot be replicated (Berk et al. 1995). Examples include research using OECD nation-states, where clearly one could replicate a random sampling of individuals within OECD nation-states, but one has complete or near-complete macro-data on all the member countries of the OECD. Bayesian techniques for the analysis of cross-national survey data are discussed by Garip and Western (2009). Where the researcher has repeated observations on the same units over time, such as are available on healthcare systems from the OECD Health Data, fixed-effects and random-effects approaches can be used to address the problem of unmeasured heterogeneity (Halaby 2004). As usual, though, there is no free lunch, as random-effects estimation requires the assumption that the errors are uncorrelated with the regressors (this assumption can be tested using the Hausman framework), and fixed-effects estimation requires the assumption that the unit effects do not vary over time (we are unaware of any available statistical assessment of this strong assumption).

Operationalizing Race and Ethnicity outside of the U.S. Context

Health services researchers in the US often focus on racial and ethnic disparities when discussing disparities. This is natural given the critical relevance of “the problem of the color line” (DuBois 1903) to understanding social inequality in the US, but such a focus masks the uniqueness of the US case as a social context with a specific history of troubled race relations, and a specific structure of racial/ethnic stratification. Consequently, it is important to understand whether similar relationships are found in other contexts, as well as critically evaluate the appropriateness of focusing on race and ethnicity as a key fault line in other societies.

To understand how the European context is different, Table 1 shows the number of respondents in the 2002 European Social Survey self-identifying as a minority, and the number of respondents who report having a parent born outside the country the respondent resides in. With the exception of Estonia, fewer than 10% self-report minority status, and Switzerland, the United Kingdom, Slovakia, and Ukraine are the only countries with between 5 and 10% of respondents identifying as a minority. All other countries have fewer than 5% identifying in such a way. The percentage goes up in most cases when we consider whether the respondents have at least one foreign-born parent. Here, the proportions are highest in Estonia (35%), Switzerland (30%), and Ukraine (25%).

Comparing these percentages to those obtained from the World Fact Book highlights the problem associated with constructing race and ethnicity in a meaningful way within the European context. While in some cases, it can be argued that there is a “true” ethnic minority, for example Turks in Germany, it is more common that the largest minority group is culturally similar to the majority population. For example, both Estonia and Ukraine have a large minority population, yet the largest minority consists of Russians. The issue is further complicated by deciding which information to use to capture race and ethnicity. For example, 95% of those residing in Estonia and Ukraine are either Estonian/Ukrainian or Russian, yet over 20% identify as a minority in Estonia and only about 5% in Ukraine. This reality highlights the importance of a careful understanding of each national context as well as the likelihood that race or ethnicity may not be the central axis of disparities in the European context. Consequently, we provide an illustration of the impact of different social fault lines on health across these same European countries and the United States.

Data

To examine dimensions of health disparities in Europe, we pool five rounds of the European Social Survey (2002, 2004, 2006, 2008, 2010) for comparisons across 20 European countries. As already discussed, a cross-national analysis of race/ethnicity faces the problems of low numbers of minorities/immigrants in some countries and as a solution, we pool the data across years. Other researchers have used similar strategies when working with the ESS. The European Social Survey is a cross-national study that was initiated and seed-funded by the European Science Foundation, with the aim of comparing attitudes across European countries. Countries were dropped if missing data for two or more ESS rounds or if the foreign-born population was too small for comparison. The 20 countries that met the criteria for inclusion in the final dataset were: Belgium, Switzerland, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, United Kingdom, Greece, Hungary, Ireland, Netherlands, Norway, Portugal, Sweden, Slovenia, Slovakia, and Ukraine.

For the United States, we pooled corresponding years from the General Social Survey, which is conducted by NORC and uses a full probability sampling design of noninstitutionalized adults 18 years of age or older in the United States. It is possible to add the U.S. case to our analysis, as there are identical questions in the GSS and the ESS for our survey years. For both datasets, missing values were imputed using a multiple imputations by chained equations (ICE) approach in the Stata statistical package (Marchenko 2011). Imputation by chained equations is an iterative multivariate regression technique that allows imputed

datasets based on a set of imputation models for each specified variable with missing values (Royston 2004). All variables listed below were included in the model, and 5 imputation cycles were performed.

Measures

Our dependent variable is self-assessment of health. Self-assessed measures of health can be powerful predictors of mortality and morbidity (Idler & Benyamini 1997) and have been recommended as suitable for comparative research by the World Health Organization (de Bruin, Picavet, and Nossikov 1996). Respondents to the GSS were asked, “Would you say your own health, in general, is excellent, good, fair, or poor?” with excellent coded 1 and poor coded 4. The ESS measures health on a five-point scale ranging from very good (coded 1) to very bad (coded 5) in response to the question, “How is your health in general?” Responses were dichotomized with “fair”, “bad” and “very bad” indicating poor health in the ESS and “fair” and “poor” indicating poor health in the GSS. Although the question wording and coding differs between the two surveys, dichotomizing the variables as poor or less-than-good health allows for comparison across the datasets.

For independent variables, immigration status is measured as a binary variable indicating if the respondent is foreign born (1 = immigrant). Age is measured in years. Sex is measured with a binary variable (0 = male, 1 = female). For unemployment status, GSS respondents were coded as 1 if they reported being laid off or temporarily not working, and ESS respondents were coded 1 if they reported being unemployed and either looking or not working for work in the previous seven days. In order to more easily compare across contexts, education and income were coded based on relative in-country comparisons. Respondents in the ESS were coded as having relatively low education if they had less than tertiary education (based UNESCO's International Standard Classification of Education (ISCED), levels 1-3); GSS respondents were coded similarly if they reported less than 12 years of education. In both surveys, low relative income was coded as the bottom quartile within each country based on a continuous measure of household income.

Both surveys rely on self-reported assessments of minority status, however they differ in the level of detail provided. The ESS asks respondents to identify whether they belong to an ethnic minority group in their country, but it does not ask respondents to specify the particular minority group. The GSS follows the procedures used in the U.S. decennial Census and asks respondents for a racial self-identification, recording up to three mentions. Respondents were coded as belonging to a minority group if they reported any race or ethnicity other than white. Descriptive statistics for all variables are listed in Table 2.

Illustrating Health Disparities

For each country we ran a baseline weighted binary logistic regression model to test the effects of the combined independent variables on self-assessed poor health status. For post-estimation analysis, we calculated the change in predicted probability of poor health as each independent variable moves from 0 to 1.

Figure 1 graphs the change in predicted probabilities for immigration status, minority status, and gender, revealing both between-country and within-country variation in the magnitudes of health differences between groups. For instance, while minorities appear to have a higher probability of poor health in France, the U.S., and parts of Eastern Europe, in many countries there is no significant association between minority identification and self-rated health. Similarly, the coefficients for immigration status range from negative (indicating better self-reported health status for immigrants, relative to natives) to positive (indicating poor health for migrants). For gender, as well, predicted changes in probabilities of poor health varied substantially, from a small probability that women are less likely to report poor health in Finland to a substantial probability of poorer health for women in Ukraine.

Figure 2 similarly graphs changes in predicted probability of poor health for each of the indicators of socioeconomic status. Low education, relative poverty, and unemployment are more consistently associated with poor self-reported health than the demographic variables in Figure 1, and nearly all coefficients are positive. However, there are also significant differences in the magnitude of each effect across countries.

Table 3 shows the Spearman rank correlations for the marginal change coefficients in Figures 1 and 2. There does not appear to be a significant correlation between any two of the independent variables. Both the figures and the correlation coefficients suggest that the relevant indicators of health disparities may differ across context. Race/ethnicity, gender, migration status, and socioeconomic position all appear to be potential cleavages for health disparities, but cross-national comparisons may better reveal how and why each matters in a particular social, economic, and political conditions.

Discussion

We have argued that comparative analysis of health disparities is essential, because without comparison we do not know how large or small disparities are in a given context, or how and why disparities are related to social institutions – the “rules of the game” that generate, entrench, and reproduce the social inequalities that are at the root of healthcare disparities. We have acknowledged that comparative research of the sort we advocate faces a number of specific challenges, and we have identified the solutions to these problems that are currently being implemented by comparative researchers in the fields of sociology, political science, and economics. We have also illustrated a comparative approach to health disparities using data from the European Social Survey and the General Social Survey.

Substantively, we have shown that there is more variation in the association between health and social characteristics such as being an immigrant, a minority or female, than to characteristics that reflect economic advancement (or lack therefore) within a country. This indicates that residing on the lower end of the social hierarchy within the market translates fairly generally into worse health across advanced, industrialized nations. However, understanding health disparities based on gender or race/ethnicity is more complex in a cross-national perspective, as the impact of such group membership appears to be more country specific and embedded within specific national arrangements. Here, we have provided a starting point for exploring this variation and pointed out both the promise and

challenges of cross-national work on health disparities. We argue that engaging in such work has the potential to help us solve some of the major questions of health disparities research, most importantly by linking together the macro-levels of social policy, cultural traditions, and institutional arrangements and the lived health experiences of individuals residing in different nations.

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Figure 1. Marginal Change in Predicted Probability for Poor Health by Minority Status, Immigration, and Gender

Values represent change in predicted probability when variables change from 0 to 1. Based on logistic regression of poor health with age, low education, gender (1=female), relative poverty, minority status (1=minority), immigration status, and unemployment status as independent variables. Data from the European Social Survey and General Social Survey (2002, 2004, 2006, 2008, 2010)

Figure 2. Marginal Change in Predicted Probability for Poor Health by Socioeconomic Status
 Values represent change in predicted probability when variables change from 0 to 1. Based on logistic regression of poor health with age, low education, gender (1=female), relative poverty, minority status (1=minority), immigration status, and unemployment status as independent variables. Data from the European Social Survey and General Social Survey (2002, 2004, 2006, 2008, 2010)

Table 1
Percentage of Respondents Belonging to Various Minority Categories in Each European Country

	Minority	Either Parent Not Born	% Majority	Largest Minority (%)
Belgium	3.16	17.51	Flemish (58%)	Walloon (31%)
Switzerland	6.61	29.53	German (65%)	French (18%)
Czech Republic	2.89	8.72	Czech (90%)	Moravian (3.7)
Germany	4.02	14.11	German (92%)	Turkish (2%)
Denmark	2.16	9.54	NA	NA
Estonia	20.67	35.39	Estonian (69%)	Russian (26%)
Spain	3.21	8.37	NA	NA
Finland	.54	3.47	Finn (93%)	Swede (6%)
France	3.58	17.45	NA	NA
United Kingdom	6.68	16.06	White (92%)	Black (2%)
Greece	3.54	15.29	Greek (93%)	Foreign citizens (7%)
Hungary	3.69	6.15	Hungarian (92%)	Roma (2%)
Ireland	1.94	7.08	Irish (87%)	Other white (8%)
Netherlands	4.73	14.70	Dutch (81%)	EU (5%)
Norway	3.58	11.36	Norwegian (94%)	Other European (4%)
Portugal	1.83	4.44	NA	NA
Sweden	2.16	16.62	NA	NA
Slovenia	1.96	17.38	Slovak (86%)	Hungarian (10%)
Slovakia	5.95	8.74	Slovene (83%)	Serb (2%)
Ukraine	5.07	24.69	Ukrainian (78%)	Russian (17%)

Notes: Data for minority status and foreign-born parent come from the 2002 European Social Survey; Data for % majority and % minority are from the World Factbook (<https://www.cia.gov/library/publications/the-world-factbook/>)

Table 2**Descriptive Statistics for 21 Countries**

	Immigrant (%)	Minority (%)	Female (%)	Low Edu. (%)	Rel. Poverty (%)	Unemployed (%)
Belgium	9.4	3.2	51.0	33.0	26.0	6.0
Switzerland	20.0	6.8	52.0	25.0	25.0	2.3
Czech Republic	2.8	2.7	51.0	15.0	19.0	4.7
Germany	9.6	4.6	50.0	16.0	25.0	5.7
Denmark	5.8	2.6	50.0	24.0	26.0	3.4
Estonia	19.0	21.0	58.0	25.0	26.0	4.6
Spain	7.8	3.2	51.0	57.0	27.0	7.1
Finland	2.8	1.2	52.0	34.0	28.0	4.6
France	8.9	3.9	53.0	32.0	24.0	6.0
United Kingdom	11.0	7.3	52.0	50.0	21.0	4.7
Greece	9.0	4.6	55.0	46.0	30.0	8.7
Hungary	2.3	4.8	55.0	41.0	23.0	5.6
Ireland	12.0	3.5	54.0	39.0	22.0	7.6
Netherlands	8.0	5.8	54.0	43.0	20.0	2.6
Norway	8.0	3.6	48.0	19.0	31.0	2.6
Portugal	6.0	2.4	58.0	75.0	21.0	7.0
Sweden	11.0	2.7	50.0	41.0	33.0	3.7
Slovenia	8.2	2.6	54.0	28.0	40.0	5.7
Slovakia	2.9	6.3	55.0	17.0	20.0	7.0
Ukraine	10.0	5.8	61.0	17.0	39.0	7.0
United States	13.0	24.0	54.0	16.0	22.0	6.5

Table 3
Spearman Rank Correlations for Marginal Effects of Immigration, Gender, Education, Unemployment, Minority Status, and Citizenship

	<i>Immigrant</i>	<i>Minority</i>	<i>Female</i>	<i>Low Ed.</i>	<i>Poverty</i>	<i>Unemployed</i>
<i>Immigrant</i>	1					
<i>Minority</i>	0.1156 (0.6178)	1				
<i>Female</i>	-0.2169 (0.3450)	0.1766 (0.4437)	1			
<i>Low Ed.</i>	-0.3481 (0.1221)	-0.1455 (0.5293)	-0.1052 (0.6500)	1		
<i>Poverty</i>	-0.2519 (0.2706)	0.1078 (0.6419)	-0.1610 (0.4856)	0.0844 (0.7160)	1	
<i>Unemployed</i>	0.2740 (0.2294)	0.0636 (0.7841)	0.0519 (0.8230)	0.0156 (0.9465)	-0.0909 (0.6951)	1

p-values in parentheses