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Netz, Nicolai; Finger, Claudia

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Sociology of education

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New Horizontal Inequalities in German Higher Education? Social Selectivity of Studying Abroad between 1991 and 2012

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Nicolai Netz¹ and Claudia Finger²

Abstract

On the basis of theories of cultural reproduction and rational choice, we examine whether access to study-abroad opportunities is socially selective and whether this pattern changed during educational expansion. We test our hypotheses for Germany by combining student survey data and administrative data on higher education entry rates. We find that studying abroad was socially selective during the entire observation period. Selectivity increased between 1991 and 2003 and hardly changed thereafter. Unexpectedly, the expansion of higher education does not explain this development. We also find that students from a high social background are more likely to choose exclusive types of stays abroad, that is, prolonged stays and stays funded through study-abroad scholarships. Regarding access to scholarships, social inequality increased as studying abroad became less exclusive. High-background students thus seem to replace their prior practices with more exclusive study-abroad practices.

Keywords

study abroad, student mobility, higher education, social inequality, cultural reproduction, rational choice, educational expansion

Political rhetoric and initial empirical evidence suggest that studying abroad positively influences students' personality development, intercultural competence, and career prospects (e.g., Leuven/Louvain-la-Neuve Communiqué 2009; Netz 2012; Salisbury, An, and Pascarella 2013; Zimmermann and Neyer 2013).¹ At the same time, research shows that access to study-abroad opportunities is highly socially selective (e.g., Hauthschildt et al. 2015:191–93; Lörz and Krawietz 2011), which can imply that returns to studying abroad are unevenly distributed across social groups. In societies that need high-skilled graduates with international experience, this may constitute a mechanism transferring inequality from the education system to the labor market. During the Bologna Process, policy makers in Europe

acknowledged this source of inequality and formulated a goal to reduce the social selectivity of studying abroad (Powell and Finger 2013).

Several single-year studies corroborate that studying abroad is socially selective, but surprisingly little is known about the development of this selectivity over time. Sociological theories

¹German Centre for Higher Education Research and Science Studies (DZHW), Hannover, Germany

²Berlin Social Science Center (WZB), Berlin, Germany

Corresponding Author:

Nicolai Netz, German Centre for Higher Education Research and Science Studies (DZHW), Goseriede 9, 30159 Hannover, Germany.

Email: netz@dzhw.eu

on educational inequalities suggest that the selectivity of studying abroad should have increased. Due to educational expansion, higher education degrees have become less exclusive (Collins 1979; Schofer and Meyer 2005; Wolter 2014). Faced with decreasing potential to distinguish themselves vertically through a higher education degree, students from a high social background should therefore follow their sense of distinction (Bourdieu 1984) and try to distinguish themselves horizontally within higher education (Lucas 2001). Considering its positive outcomes, studying abroad may function as a means of horizontal distinction (Reimer and Pollak 2010).

We argue that similar dynamics may be at play within the group of study-abroad students. In the past decades, studying abroad has received increased political attention, and the share of students completing a stay abroad has risen substantially (Middendorff et al. 2013; Teichler, Ferencz, and Wächter 2011). The decreasing exclusivity of studying abroad may have led high-background students to choose particularly exclusive and valuable types of studying abroad, such as stays of longer duration and those funded through scholarships.

These theoretical considerations, which suggest that inequalities in access to (exclusive types of) study-abroad opportunities have increased, stand in harsh contrast to policy makers' rising awareness of the selectivity of studying abroad and their repeated promises to introduce compensatory measures. Some countries have adapted national funding plans to specifically support the mobility of underprivileged students. In Germany, for instance, the major government aid program for students from less affluent families (*BAföG*) was reformed in 2001 to make these students eligible for financial assistance even when they study abroad. Such measures may have counterbalanced the theoretically expected amplification of the social selectivity of studying abroad or shifted selectivity to exclusive types of stays abroad. Although relevant to both sociological theory and education policy, it is unclear at present (1) whether the degree of social selectivity of studying abroad has changed over time, (2) whether access to exclusive types of study-abroad opportunities is socially selective, and, if so, (3) whether the degree of selectivity in access to exclusive types of study-abroad opportunities has changed over time.

To address these research gaps, we draw on the DSW/DZHW Social Survey from Germany (*Sozialerhebung*) and generate a pooled data set

on students in German higher education for the years 1991 to 2012. We consider the German higher education system an interesting test case because it is rather homogeneous regarding institutional quality and reputation. Unlike in countries such as the United States, the United Kingdom, and France, it is difficult for students in Germany to distinguish themselves by attending elite institutions. Along with subject choice, the completion of stays abroad should therefore be particularly relevant for horizontal distinction.

To examine the social selectivity of studying abroad, we combine our microlevel survey data with administrative data. First, we estimate the propensity to study abroad for high-background and low-background students—that is, students with at least one parent with a higher education degree and students whose parents do not have a higher education degree—and examine the difference between the two groups over time. We then predict this social background difference conditional on our measure of the exclusivity of higher education (entry rates in the year of students' higher education entry). Second, we examine differences between the two groups in the cumulative time spent abroad and in access to study-abroad scholarships. Then, we predict these differences conditional on our measure of the changing exclusivity of studying abroad (predicted potential study-abroad rates in the year of students' higher education entry). We thus go beyond previous research by not just assuming but explicitly testing the relationship between the expansion of educational opportunities and the development of social inequalities. We conclude by relating our findings to the broader discussion about horizontal inequalities in education systems.

THEORETICAL CONSIDERATIONS

We derive our hypotheses from theories of cultural reproduction and rational choice, which offer explanations for why access to (exclusive types of) study-abroad opportunities should be socially selective and why selectivity may have changed over time. By combining elements of both theories, we can develop a more holistic understanding of the social selectivity of studying abroad.

As explained earlier, we analyze two levels of horizontal inequalities: social selectivity of studying abroad and social selectivity within the group of study-abroad students. For analytic purposes,

we refer to these levels as first-level and second-level inequality.

First-Level Inequality: Social Selectivity of Studying Abroad

From the perspective of cultural reproduction theory, the educational success of privileged social groups results from the match between their habitus and the logic of the education system (Bourdieu 1973). Because higher education is governed by the habitus of academically educated groups, students without an academic habitus cannot easily adapt to the implicit rules of the field of higher education (Bourdieu and Passeron 1990). If these students already struggle at their home university, they are likely hesitant to study in a foreign country, where a foreign culture and language, and the removal from their domestic social network, might aggravate educational challenges. As empirical research shows, high-background students are indeed more likely to develop “a habitus . . . in which it is considered ‘normal’ to travel, and an associated degree of confidence in dealing with new cultures” (Brooks and Waters 2010:148).

Related to their favorable habitus, high-background students’ greater capital endowment should explain their higher propensity to study abroad. Bourdieu (1986) distinguishes between economic, social, and cultural capital. Parental and one’s own financial resources are examples of economic capital, which allow students to cover the costs of a stay abroad. Empirical studies show that high-background students are more likely to receive financial support for a stay abroad from their parents, which decreases the necessity to work while studying (Hauschildt et al. 2015:200).

Social capital may manifest in contact with people who are embedded in international networks and who studied abroad themselves. Acquaintances who know the value of studying abroad can mentally support students who plan to go abroad and provide relevant information or practical assistance (van Mol and Timmerman 2014). In this regard, too, empirical evidence shows that high-background students’ greater embeddedness in family and friendship networks with study-abroad experience (Brooks and Waters 2010) and their closer contact with academic staff (Finger 2013) increase their probability of completing a stay abroad.

Prior mobility experience is a facet of cultural capital that is particularly relevant for studying

abroad. Such experience may be institutionalized in certificates of previous educational mobility, which can ease access to selective study-abroad programs, or it may take the form of an embodied mobility culture inculcated through a family’s international orientation and travels during childhood (Brooks and Waters 2010). Again, empirical evidence shows that high-background students are more likely to gain firsthand international experience before entering higher education and, in turn, to develop the necessary cultural capital for a stay abroad, such as foreign-language skills (Gerhards and Hans 2013; Lörz, Netz, and Quast 2015).²

Rational choice theory also predicts that studying abroad is socially selective, but it focuses on the individual decision process leading to a stay abroad. Following rational choice theory (e.g., Breen and Goldthorpe 1997), studying abroad should be considered an educational option worth pursuing if the expected benefits exceed the anticipated costs. The assessment of benefits should be contingent on an individual’s probability of reaping them, which should, in turn, be a function of students’ earlier performance, experiences, and educational decisions. The likelihood of studying abroad should also depend on students’ current opportunity structures (Lörz and Krawietz 2011).

This theoretical model explains the social selectivity of studying abroad by pointing to differences between social groups in the decision-making process. Empirical applications of the model show that in Germany, the social selectivity of studying abroad is attributable to the choice of different scholastic pathways. Whereas low-background students more often attend vocational schools and thus develop a technically oriented skills portfolio before entering higher education, high-background students more often attend academically oriented schools, which offer better opportunities to learn foreign languages and to gain mobility experience through international school exchanges (Gerhards and Hans 2013). When entering higher education, high-background students already have better (self-perceived and factual) performance-related preconditions and thus more confidence that they can complete a stay abroad. Linked to their prior experience, high-background students consider a stay abroad more beneficial to their personality development and career prospects. Low-background students, in contrast, see higher financial and social costs of studying abroad—the latter resulting from

being separated from partners, family, or friends (Lörz et al. 2015). Moreover, low-background students are more likely to attend practically oriented institutions, such as universities of applied sciences, which are less internationally oriented than research universities and therefore offer fewer opportunities for studying abroad (Lörz and Krawietz 2011; Netz 2015).

Drawing on these sociological theories, several empirical studies confirm that studying abroad is socially selective, and they explain the mechanisms leading to this phenomenon (e.g., Brooks and Waters 2010; Finger 2013; Kratz 2012; Lörz et al. 2015; Netz 2015; Salisbury et al. 2009). However, we do not know whether the observed pattern of inequality is consistent over time. Two German studies provide first evidence on this: Lörz and Krawietz (2011) show that the social selectivity of studying abroad increased between 1990 and 2005—or, more precisely, across cohorts who left school in 1990, 1994, 1999, and 2002—if measured by percentage point differences in study-abroad rates between students from academic and nonacademic backgrounds. Looking at the odds of studying abroad, they report a persistence of social inequality. Estimating average marginal effects, Finger (2013) finds a slight increase in social inequality between 1997 and 2006. Thus, both studies suggest that inequality has increased if measured by estimated percentage point differences between social groups. Although highly valuable, these studies are limited concerning the period covered, the number of measurement points, and their timeliness (the analyzed time series last only until 2005 and 2006, respectively).³ Furthermore, these studies do not empirically examine the interplay between the exclusivity of higher education and the development of social selectivity of studying abroad.

Theoretically, the development of social selectivity of studying abroad can be understood as the formation of a new form of horizontal inequality. According to Bourdieu (1973), high-background students safeguard their advantageous position in society by acquiring prestigious educational credentials. These credentials allow them to distinguish themselves from members of less privileged groups and thereby access lucrative jobs. The most prestigious educational credentials are traditionally awarded by higher education institutions. However, the scarcity value of these degrees has drastically diminished in the twentieth century, due to the worldwide expansion of higher

education (Schofer and Meyer 2005). In Germany, where higher education entry rates are traditionally substantially lower than in the United States and in many other OECD countries (Organisation for Economic Co-operation and Development 2014), the share of an age cohort entering higher education has risen steadily, from about 5 percent in 1950 to above 50 percent in 2012, with an especially pronounced increase since 2007 (Wolter 2014).

Bourdieu (1984) suggests that once the scarcity value of a social practice diminishes, privileged groups will reproduce their social status by gradually replacing their prior practice with a more exclusive one. They do so using their inherited sense of distinction—a habitual strategy to distinguish themselves from less privileged peers. Accordingly, the expansion of higher education may lead privileged students to choose more distinctive forms of higher education.

Rational choice theory predicts a similar reaction of high-background students to educational expansion, but it posits their motive to avoid downward social mobility as the main explanatory mechanism (Reimer and Pollak 2010). Assuming that individuals strive to maintain their parents' status, high-background students need to obtain a higher education degree for intergenerational status maintenance, whereas low-background students would need only a vocational qualification (Breen and Goldthorpe 1997). Because educational expansion has massively enabled upward mobility and eroded the function of higher education degrees as a status guarantee for high-background students, they will likely attempt to safeguard their privileged position by acquiring additional qualifications, for instance, through studying abroad (Lörz et al. 2015).

In line with both theoretical approaches, Lucas (2001) suggests that privileged groups respond to educational expansion in a twofold manner. High-background students should try to distinguish themselves vertically through educational credentials of higher formal rank. Furthermore, these students should simultaneously attempt to distinguish themselves horizontally by “us[ing] their advantages to secure quantitatively similar but qualitatively better education” (Lucas 2001:1652).

Previous research provides evidence of marked horizontal inequalities within higher education. High-background students are more likely to enroll in research universities, whereas low-

background students are more likely to study at less prestigious universities of applied sciences (Reimer and Pollak 2010). High-background students are also more likely to get access to selective, top-ranked institutions (Davies and Guppy 1997; Karen 2002; Triventi 2013) and to choose prestigious fields of study that promise higher labor market returns (Lörz 2012; van de Werfhorst, Sullivan, and Cheung 2003). Considering its positive outcomes for students' personality development, intercultural competence, and career prospects, studying abroad may also be considered a (rather new) form of horizontal inequality.

We assume that high-background students should first and foremost feel a necessity for horizontal distinction if the potential for vertical distinction abates or ceases to exist. Previous research demonstrates that educational expansion has decreased the exclusivity of higher education (Schofer and Meyer 2005; Wolter 2014) and thereby restricted the potential for vertical distinction (Reimer and Pollak 2010). Therefore, we expect that the social selectivity of studying abroad has increased in the past decades.

Hypothesis 1: The social selectivity of studying abroad should have increased with the decreasing exclusivity of higher education.

Second-Level Inequalities: Social Selectivity of Exclusive Types of Stays Abroad

The question of the selectivity of studying abroad also emerges regarding access to exclusive types of stays abroad. In Germany, studying abroad has become more and more popular since the late 1980s. The share of students studying abroad has risen substantially since initiation of the ERASMUS program in 1987, which quickly became Europe's largest exchange plan to foster stays abroad (Heublein, Schreiber, and Hutzsch 2011). Policy makers have also strongly promoted studying abroad since the beginning of the Bologna Process in 1999 (Powell, Bernhard, and Graf 2012). Thus, studying abroad itself has become less exclusive over the last decades. To replace their prior practice, high-background students may have reacted to this development by choosing particularly exclusive types of study-abroad opportunities, such as longer stays and stays funded through scholarships.

Research indicates that longer stays abroad are especially helpful in acquiring solid foreign-language skills and competence in dealing with foreign cultures (Dwyer 2004; Netz 2012). This should also make them more valuable than shorter stays for personality development and labor market prospects. In addition, longer stays abroad have become more exclusive since the beginning of the Bologna Process: in Germany, the replacement of traditionally longer national degrees with shorter European bachelor's and master's degrees has been accompanied by a decrease in the average duration of stays abroad (Isserstedt and Link 2008:56; Middendorff et al. 2013:169-70).

High-background students should be more likely to complete longer stays abroad for several reasons. From a rational choice perspective, longer stays have higher costs than shorter stays. These costs can be direct (e.g., higher accommodation costs in destination countries, possibly accruing in addition to housing costs at home) or indirect, as longer stays abroad increase the likelihood of delaying students' graduation, thereby leading to a later labor market (re)entry and thus to forgone earnings (opportunity costs). High-background students are less dependent on their own income, and they receive more financial support for studying abroad from their parents (Hauschildt et al. 2015:129, 200), so they should more easily be able to cover the direct costs of longer stays abroad. Because of their stronger financial independence and the longer time horizon during which they expect educational investments to amortize (Hillmert and Jacob 2003), high-background students should also find it easier to bear the indirect costs of studying abroad.

Moreover, high-background students might profit from their greater likelihood of having gained mobility experience and language skills at an early age (Brooks and Waters 2010). As Bourdieu (1984) highlights, exposure to specific values during socialization engenders a habitus that incorporates these values. Accordingly, early-age exposure to educational mobility and internationally oriented social environments should increase students' self-confidence when planning longer stays abroad and decrease the psychological and emotional strain resulting from prolonged separation from one's partner, family, and friends. Finally, related to their early-age exposure to international experiences and their consequential cosmopolitan habitus and cultural capital, high-background students might see the benefits of longer stays more clearly.

Hypothesis 2: Students from a high social background should spend more time abroad than students from a low social background.

Besides reducing the direct financial costs of studying abroad, merit-based scholarships are attractive because they function as institutionalized evidence of distinction, which can positively affect chances in later selection processes (e.g., job interviews). In Germany, both German and EU scholarships are available for studying abroad. ERASMUS is the most important EU scholarship program in terms of mobility. Contrary to widespread belief, access to this program depends on students' prior performance in higher education (Di Pietro and Page 2008). Generally, no provisions are taken to prevent social inequality. Apart from the needs-based *BAföG*, all major German scholarships are explicitly awarded based on previous accomplishments. This holds true for scholarships awarded by the German Academic Exchange Service (DAAD), which advocates "an elitist system of funding based purely on performance,"⁴ and for scholarships awarded by most other academic foundations, that is, the *Begabtenförderungswerke* (Middendorff, Isserstedt, and Kandulla 2009). Moreover, EU and especially German study-abroad scholarships are still exclusive, because despite their expansion in recent years, they are available only to a minority of students (Middendorff et al. 2013:183; Orr, Gwosć, and Netz 2011:181).

High-background students should be more likely to prevail in selection procedures for study-abroad scholarships. Due to their better access to social networks with study-abroad experience, these students can more easily gain information on the existence of scholarships and the application modalities (Finger 2013). After applying for a study-abroad scholarship, they should have a higher probability of being interviewed and eventually selected because of the better grades they receive at previous educational levels and in higher education (De Graaf 1988; van de Werfhorst et al. 2003). Moreover, their academic habitus, prior mobility experience, and language skills should provide them with better preconditions to convince selection committees of their suitability.

Hypothesis 3: Students from a high social background should be more likely to obtain

a study-abroad scholarship than students from a low social background.

Regarding the development of selectivity over time, we again assume that high-background students will feel the need for further horizontal distinction if a previously rare practice becomes less exclusive. Therefore, we expect that decreasing exclusivity of studying abroad will be associated with increasing selectivity of exclusive types of stays abroad.

Hypothesis 4: The difference between social groups regarding the time spent abroad should increase with decreasing exclusivity of studying abroad.

Hypothesis 5: The difference between social groups regarding the likelihood of obtaining a study-abroad scholarship should increase with decreasing exclusivity of studying abroad.

DATA, VARIABLES, AND METHODS

Data

To test our hypotheses, we generated a data set that combines microlevel data on higher education students with macrolevel data on higher education entry rates. The microlevel data were collected through the DSW/DZHW Social Survey (*Sozialerhebung*). First carried out in 1951, this survey is funded by the German Federal Ministry of Education and Research (BMBF), commissioned by the German National Association for Student Affairs (DSW), and carried out by the German Centre for Higher Education Research and Science Studies (DZHW). It provides nationally representative data on the social background, demographic characteristics, previous educational history, and current situation of students in German higher education.

Data from the DSW/DZHW Social Survey have three strengths that make them the best data available for our analytic purposes. First, they contain detailed information on study-related stays abroad. Second, this information has been collected in a comparable manner for reunited Germany since 1991. The eight surveys between 1991 and 2012 thus enable analysis of the social selectivity of studying abroad over time. Third, the survey design ensures rather large sample

sizes. This allows us to analyze social selectivity even within the group of study-abroad students.

The paper-based survey addresses cross-sections of students every three years in the summer semester based on a simple random sampling procedure. It samples roughly every 30th student at all participating public and private higher education institutions in Germany apart from the federal colleges of administration (*Verwaltungsfachhochschulen*), universities of the armed forces, and institutions exclusively offering distance education (for details, see Middendorff et al. 2013:42-52). According to Middendorff (2013:5), the included institutions hosted between 99 percent (1991 to 2003) and 91 percent (2012) of enrolled students in Germany; response rates varied between 27 and 50 percent in the surveys we use (1991, 48 percent; 1994, 50 percent; 1997, 37 percent; 2000, 27 percent; 2003, 42 percent; 2006, 31 percent; 2009, 32 percent; and 2012, 28 percent). The DSW/DZHW publications stress that the survey samples tend to adequately represent the population of students in Germany. However, to correct minor inaccuracies resulting from unit nonresponse, the Social Survey provides population weights. These are constructed using information from official statistics on the distribution of the student population across federal states, types of institutions, fields of study, and gender in a given survey year. We use these weights for all analyses presented here. Estimating our models without weights changes the results only very marginally.

To homogenize our samples and further improve comparability over time, we impose some sample restrictions. We focus on students with German citizenship, because the formerly small group of foreign nationals were not captured systematically in surveys before the year 2000. Furthermore, we exclude postgraduate students (*Studierende im Zweitstudium*) and doctoral students, because we do not know when these students entered higher education for the first time and whether they went abroad during their undergraduate or postgraduate studies.⁵ Finally, we focus on active students and therefore exclude long-term students who continuously reenroll to maintain their beneficial student status; this practice is possible in German higher education, and it was particularly common before the temporary introduction of tuition fees and the Bologna degree structure. We thus cut off students at the top percentage of the distribution across semesters

(separately for research universities and universities of applied sciences, because our data show that students at research universities are in more advanced semesters, on average). Our sample thus includes students between their 1st and 22nd semester at research universities and students between their 1st and 18th semester at universities of applied sciences.

After applying these sample restrictions, we excluded cases with missing information on the regression variables through listwise deletion.⁶ For the first analytic level, we excluded 7,767 incomplete cases and were left with 133,218 cases for analyzing the social selectivity of studying abroad. For the second level, we additionally excluded 252 cases for analysis of time spent abroad (analytic sample: 19,751) and 300 cases for analysis of access to scholarships (analytic sample: 17,487). The notes to the figures in the results section provide details on the construction of the three analytic samples.

To measure educational expansion, we merged higher education entry rates to our pooled micro-level data set (see the next section for details). We obtained these administrative data from the Federal Statistical Office. These data are regularly collected from all German higher education institutions, which are obliged by law to report these figures. Data on East German states for 1980 to 1989 come from the annals of the German Democratic Republic presented in Köhler and Stock (2004:62).

Variables

The dependent variable for the analysis of first-level inequality is a dichotomous variable indicating whether students have studied abroad. Under studying abroad, we subsume periods of enrollment, internships, language courses, and other study-related activities abroad (e.g., fieldwork, clinical electives, and summer schools). This definition comprises the full range of study-abroad options through which students may distinguish themselves. Our conclusions are therefore not limited to specific study-abroad programs.

For the analysis of second-level inequalities, we first analyze the cumulative time students spent abroad. Second, we examine whether students funded their stay abroad through a non-needs-based scholarship. To capture possible differences between scholarship types, we distinguish

between EU scholarships (primarily ERASMUS) and German scholarships (awarded by private bodies or public institutions, such as academic foundations and the DAAD). The scholarship variables are available only from the year 1994 onward.

Our primary independent variable is students' social background. This is defined as high if at least one parent holds a higher education degree and as low if neither parent does. Social background is a multidimensional construct, but we are restricted to operationalization through parental education because our data do not contain alternative measures (e.g., parents' occupational prestige or class). However, for analyzing the selectivity of studying abroad, we consider parental education a good measure because it approximates cultural capital transmitted in the family, which Bourdieu (1973) identifies as the most relevant form of capital for success in higher education. Moreover, Lörz and colleagues (2015) show that parents' education and occupational prestige are equally valid predictors of study-abroad intentions. As a sensitivity check, we reestimated our models using a three-category measure of parental education (no parent, one parent, or two parents with a higher education degree). As expected, the estimated social background differences are most pronounced if we compare students whose parents do not have a higher education degree with students whose parents both have a higher education degree; students with one parent with a higher education degree fall between these two groups (results available upon request).

Our *explanatory* independent variables are measures of the exclusivity of higher education and of studying abroad. To analyze first-level inequality, we examine whether decreasing exclusivity of higher education is associated with increasing social selectivity of studying abroad. We operationalize the exclusivity of higher education through the higher education entry rate, using the already described data from the Federal Statistical Office and the annals of the German Democratic Republic. The Statistical Office obtains this rate by dividing the number of new entrants into higher education by the size of the total population in the corresponding age group (for details, see Scharfe 2010:552). We assume that students' perceptions of the exclusivity of higher education—and thereby the necessity for horizontal distinction—are framed by the share of same-age peers entering higher education together with them. Therefore, we assigned all students in our

data set the entry rate of the year in which they entered higher education for the first time.

The assumed educational expansion took place in the past decades. At the national level, higher education entry rates rose from 20 percent in 1980 to 50 percent in 2012. These rates also increased in all 16 German federal states (see Figure 1).⁷ However, the level and development of entry rates differ between federal states, which should lead to state-specific perceptions of the exclusivity of higher education. We therefore assigned students entry rates depending on their entry year *and* the federal state where they studied. These entry rates were available from 1980 onward.

In the analysis of second-level inequality, our explanatory independent variable is a measure of the exclusivity of studying abroad. We obtained this measure through a regression-based prediction of the share of students who completed a stay abroad or definitively planned to go abroad during their studies. This approximates the share of students who will have studied abroad upon graduation. We therefore refer to our second exclusivity measure as the potential study-abroad rate.

Our prediction of the potential study-abroad rate includes the year of students' higher education entry, their field of study, and their type of institution, because we assume that students' perceptions of the exclusivity of studying abroad depends on the practices of their peers who entered higher education with them and chose the same subject area and type of institution. This assumption is supported by evidence that the exclusivity of studying abroad varies over time (Heublein et al. 2011; Middendorff et al. 2013; Teichler et al. 2011) and between fields of study and types of institutions (Kratz 2012; Lörz and Krawietz 2011; Netz 2015).⁸

As expected, the predicted potential study-abroad rate varies substantially between fields of study and types of institutions (see Figure 2). It also increased across student cohorts in all fields and types of institutions. This indicates that studying abroad indeed became less exclusive. To capture differences in the exclusivity of studying abroad over time and by study context, we assigned students the averaged potential study-abroad rates shown in Figure 2, depending on their year of higher education entry, field of study, and type of institution.

Our regressions also include several control variables: number of semesters in higher education, number of semesters squared, type of

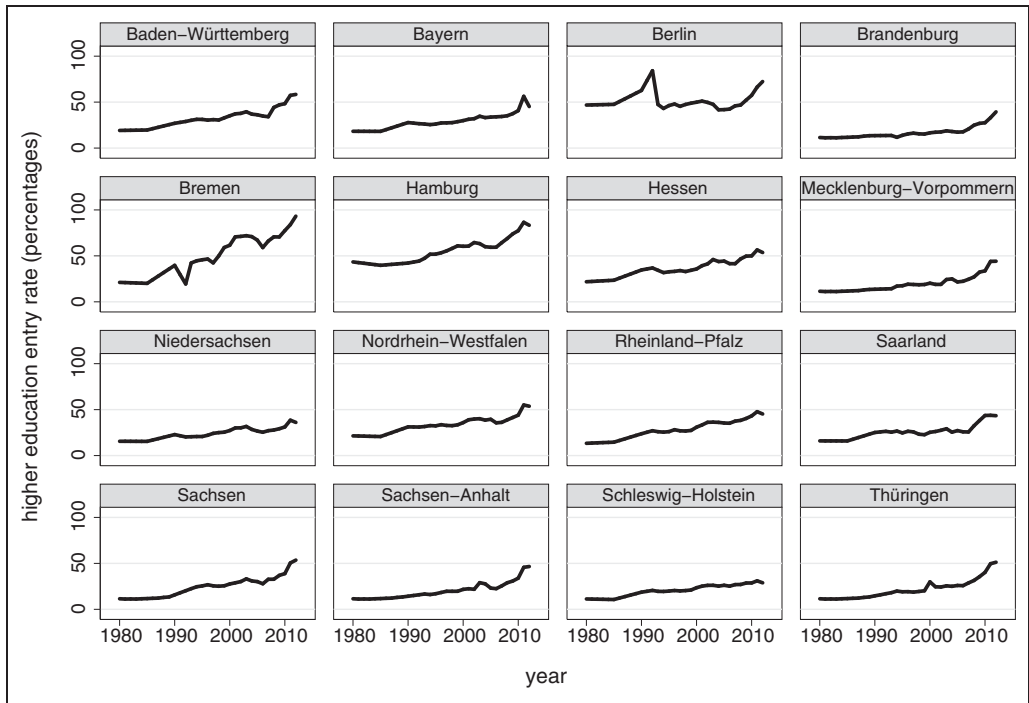


Figure 1. Higher education entry rates in Germany between 1980 and 2012, by federal state (percentages).

Source: Federal Statistical Office of Germany (2014); Köhler and Stock (2004:62).

Note: To match the microlevel data (see the Data section for details), the presented entry rates refer to students with German citizenship. Entry rates for some early years had to be estimated because they were not available in the database of the Federal Statistical Office (1981-1984, 1986-1989, and 1991 for West German federal states as well as Berlin, and 1990-1992 for East German federal states). Data on East German states for 1980 to 1989 come from the annals of the German Democratic Republic (GDR) presented in Köhler and Stock (2004:62) and do not differ between states because they are available only for the GDR on the whole. Berlin, Bremen, and Hamburg have comparatively high entry rates because they are city-states, where many higher education institutions are concentrated and the group of students is large in relation to the overall population in the corresponding age group.

institution, field of study, and sex. All control variables have the function of adjusting for differences in the composition of our eight survey samples. The number of semesters accounts for the fact that we use cross-sectional data on students in different semesters. By additionally including a squared term, we take account of the inverted-U relationship between semesters and the likelihood of studying abroad (Middendorff et al. 2013:161). By incorporating the type of institution and the field of study, we control for social background effects resulting from other, already substantiated strategies of horizontal distinction that are also related to the propensity to study abroad (e.g., choice of prestigious types of institutions

and study areas). High-background students are more likely to enroll in research universities (Reimer and Pollak 2010). In turn, research universities tend to offer better opportunities to study abroad than do universities of applied sciences, because they are more cosmopolitan by tradition and more deeply embedded in international networks (Netz 2015). Moreover, opportunities to study abroad differ between fields of study (Hauschildt et al. 2015:194-95; Kratz 2012). One’s chosen field of study, in turn, depends on one’s social background (Lörz 2012; van de Werfhorst et al. 2003).⁹ Finally, we consider students’ sex to control for the gender-specific propensity to study abroad and selection into different fields of

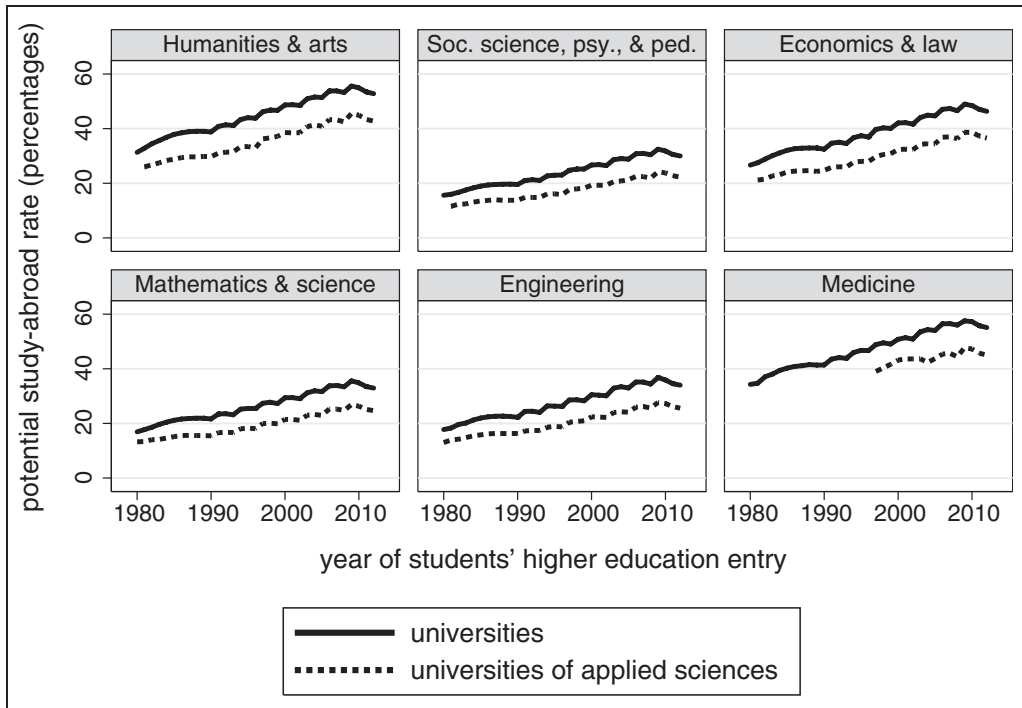


Figure 2. Potential study-abroad rates in Germany between 1980 and 2012, by field of study and type of institution (percentages).

Source: DSW/DZHW Social Surveys (1991-2012).

Note: The potential study-abroad rate indicates the predicted share of students who completed or plan a study-related stay abroad. Our sample does not include students at universities of applied sciences who started to study humanities and arts, social sciences, or economics and law before 1981 or medicine before 1997. This explains the incomplete lines.

study. Online Appendix A compiles the variables and their frequency distributions by survey year.

Methods

We examine first- and second-level inequality in three analytic steps. First, we estimate shares of study-abroad students, the time spent abroad, and shares of students funded through study-abroad scholarships by social background to describe how high- and low-background students “behaved” between 1991 and 2012—and thus whether possible changes in inequalities are attributable to changing behavior of one or both groups. Second, we estimate social background *differences* across survey years for our three dependent variables. This allows us to determine whether inequalities have

increased, decreased, or remained stable. Third, we estimate the social background differences conditional on our measures of the exclusivity of higher education and of studying abroad to examine whether the development of inequalities is related to changes in the scarcity value of higher education and of studying abroad, respectively.¹⁰

We estimated our regressions using Stata and report effect sizes as average marginal effects (AME). These have the advantage of being comparable across survey samples and student groups (Mood 2010). They indicate the expected change in the dependent variable associated with a one-unit change in an independent variable, holding all other independent variables constant. We illustrate our results using the marginsplot command available in Stata (Williams 2012).

EMPIRICAL RESULTS

First-level Inequality: Study-abroad Rates by Social Background (1991 to 2012)

During the observed time period, between 9 and 14 percent of low-background students studied abroad, compared to between 12 and 20 percent of high-background students (see Figure 3a). Study-abroad rates increased between 1991 and 2000, especially among high-background students. Among low-background students, these rates slightly decreased between 2000 and 2009, and among high-background students, they slightly decreased between 2003 and 2009.

The social background differences in study-abroad rates are highly significant in all survey years (see Figure 3b and the regression table in Online Appendix B). Social selectivity significantly increased, by three percentage points between 1991 and 2003. In 2003, it ranged at roughly six percentage points, which is substantial considering that the overall study-abroad rate lay at roughly 17 percent that year (see Online Appendix A). After 2003, we do not observe significant changes in the level of selectivity between survey years.

If we plot the social background difference conditional on the state-specific entry rate in the year of students' higher education entry, we do not find the expected positive relationship. We do find a highly significant effect of social background, but it does not significantly change conditional on the entry rate (see Figure 3c and the regression table in Online Appendix C). As a robustness check, we reestimated this conditional effect plot using higher education entry rates at the national level as our exclusivity measure. The results look similar, with the difference that the estimated social background effect becomes insignificant from an entry rate of 75 percent onward. We additionally estimated both plots excluding students who entered higher education in years for which we had to estimate entry rates (for details, see the note to Figure 1). However, this does not substantially change our results (robustness checks available upon request).

Second-level Inequalities

Cumulative time spent abroad by social background (1991 to 2012). During the period of investigation, the average cumulative

time spent abroad was between six and seven months (see Online Appendix A). Across all survey years, high-background students stayed abroad for a longer time (see Figure 4a).

With an estimated difference of under one month, the social background differences are not large, but they are significant in all years apart from 1994 (see Figure 4b and Online Appendix B). The level of selectivity remained rather stable over time, that is, we do not observe significant changes between survey years.

If we estimate the social background difference conditional on the institution- and field-specific potential study-abroad rate in the year of students' higher education entry, we do not find the expected association. A higher potential study-abroad rate—and thus a lower exclusivity of studying abroad—is associated with a declining social background effect (see Figure 4c and Online Appendix C). At a potential study-abroad rate of 100 percent, the estimated social background difference is even close to zero. However, the difference remains positive and significant for potential study-abroad rates of up to roughly 60 percent.

Access to study-abroad scholarships by social background (1994 to 2012).

The share of students who went abroad on a scholarship increased markedly, from 29 percent in 1994 to about 41 percent in 2012 (see Online Appendix A). Between 1997 and 2000—and thus, interestingly, concurrent with the beginning of the Bologna Process—this share rose first among high-background students (see Figure 5a). Low-background students caught up between 2000 and 2003. A similar pattern was again visible between 2003 and 2012.

The social background differences were comparatively small and not significant in 1994, but significant and increasing toward the later years (see Figure 5b and Online Appendix B). The difference, for instance, between the social background coefficients for the years 1994 and 2009 is statistically significant at a 90 percent level. With an increase of 5.3 percentage points, selectivity more than doubled between these years, from 3.5 percentage points in 1994 to 8.8 percentage points in 2009.

As hypothesized, a lower exclusivity of studying abroad is associated with a higher selectivity of study-abroad scholarships—at least up to a potential study-abroad rate of 70 percent (see

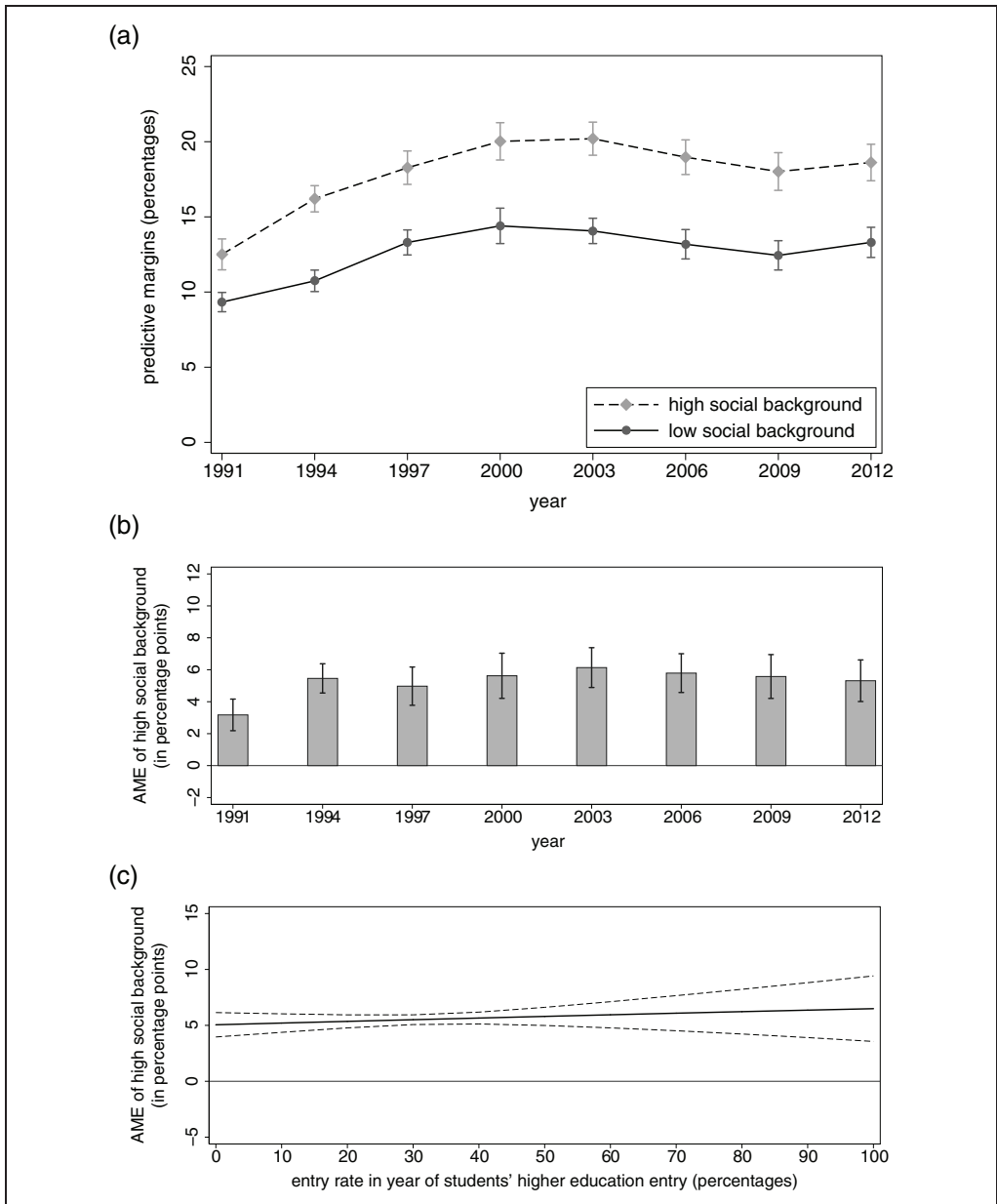


Figure 3. Study-abroad rates by social background (1991 to 2012). (a) Estimated share of students with study-abroad experience, by social background and year (predictive margins with 95 percent confidence intervals in percentages). (b) Average marginal effect of high social background on propensity to study abroad, by year (in percentage points). (c) Average marginal effect of high social background on propensity to study abroad, by federal-state-specific higher education entry rate (in percentage points). Source: DSW/DZHW Social Surveys (1991-2012).

Note: Sample comprises students with information on all regression variables: study-abroad experience, social background, survey year (included only in regressions 3a and 3b), higher education entry rate by entry year and federal state (included only in regression 3c), type of institution, field of study, number of semesters, semesters squared, and sex. Weighted data, missings excluded through listwise deletion (see the Data section for details). $N = 133,218$.

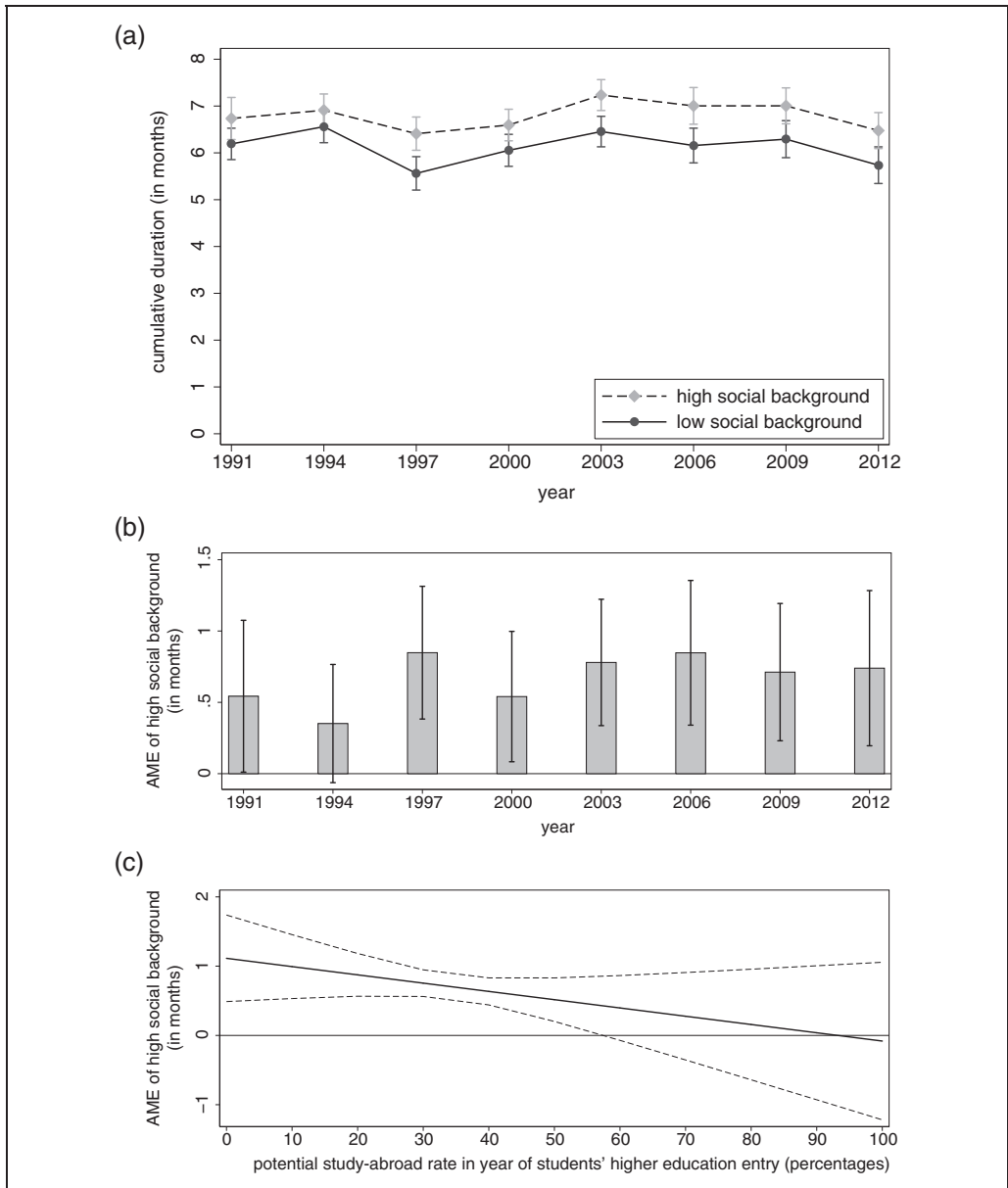


Figure 4. Cumulative time spent abroad by social background (1991 to 2012). (a) Estimated cumulative duration of study-abroad experience, by social background and year (predictive margins with 95 percent confidence intervals in months). (b) Average marginal effect of high social background on cumulative duration of study-abroad experience, by year (in months). (c) Average marginal effect of high social background on cumulative duration of study-abroad experience, by potential study-abroad rate (in months). Source: DSW/DZHW Social Surveys (1991-2012).

Note: Sample comprises study-abroad students with information on all regression variables: cumulative duration, social background, survey year (included only in regressions 4a and 4b), potential study-abroad rate by entry year and field (included only in regression 4c), type of institution, field of study, number of semesters, semesters squared, and sex. Weighted data, missings excluded through listwise deletion (see the Data section for details). $N = 19,751$.

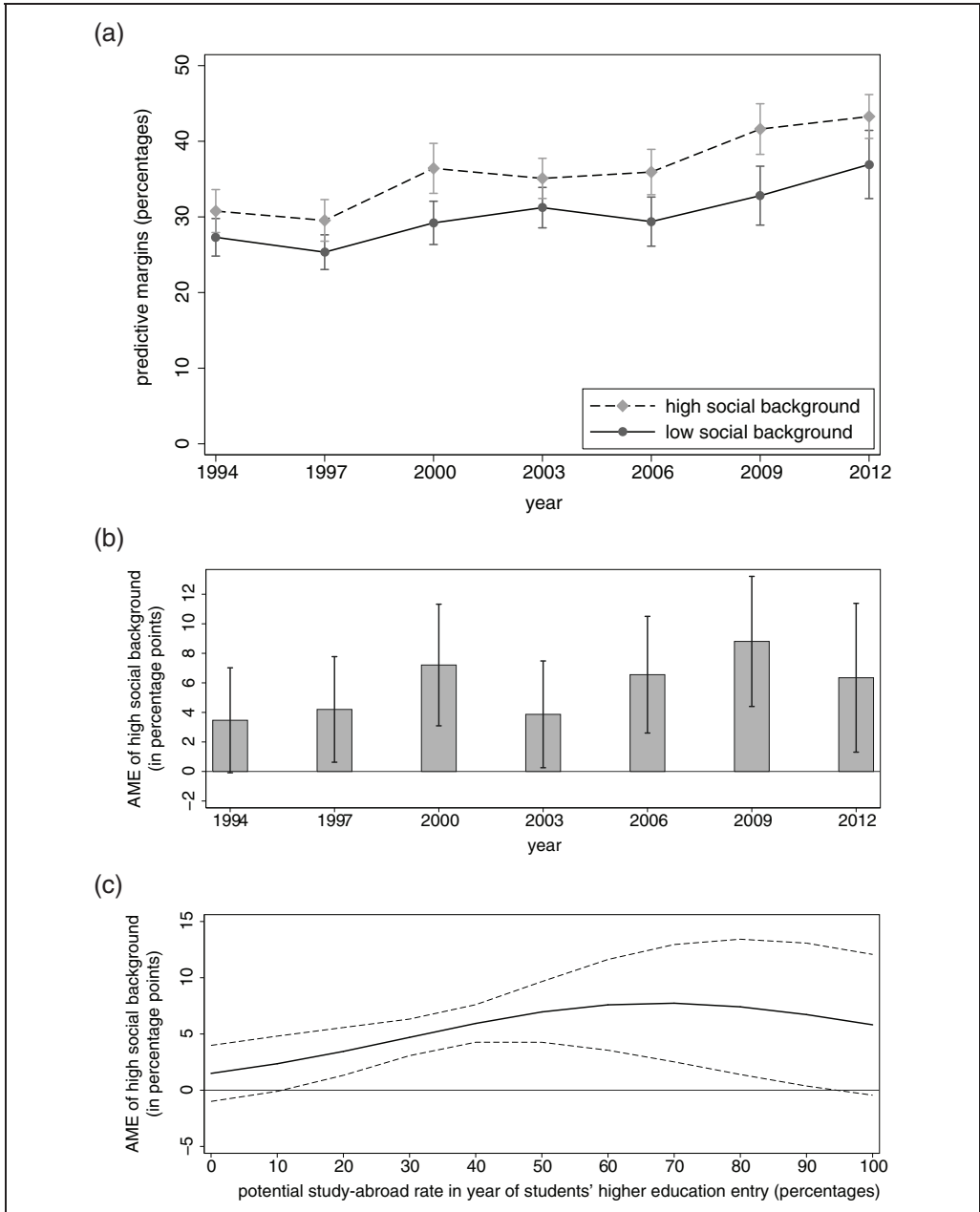


Figure 5. Access to study-abroad scholarships by social background (1994 to 2012). (a) Estimated share of study-abroad students with a scholarship, by social background and year (predictive margins with 95 percent confidence intervals in percentages). (b) Average marginal effect of high social background on propensity to go abroad on a scholarship, by year (in percentage points). (c) Average marginal effect of high social background on propensity to go abroad on a scholarship, by potential study-abroad rate (in percentage points).

Source: DSW/DZHW Social Surveys (1994-2012).

Note: Sample comprises study-abroad students with information on all regression variables: study-abroad scholarship, social background, survey year (included only in regressions 5a and 5b), potential study-abroad rate by entry year and field (included only in regression 5c), type of institution, field of study, number of semesters, semesters squared, and sex. Weighted data, missings excluded through listwise deletion (see the Data section for details). $N = 17,487$.

Figure 5c and Online Appendix C). For potential study-abroad rates beyond 70 percent, this selectivity decreases again slightly. The estimated effect is significant from a potential study-abroad rate of 10 percent onward.

We also observe differences between types of study-abroad scholarships. First, the increase in the share of scholarship holders is mainly attributable to the expansion of EU mobility programs (mainly ERASMUS). This share rose from below 12 percent in 1994 to above 25 percent in 2012. Ranging between 8.5 and 12.8 percent, the share of study-abroad students with a German scholarship remained rather constant (see Online Appendix A). German scholarships thus continued to be particularly exclusive, not only because of the tough selection processes they require but also in quantitative terms. Second, selectivity of EU scholarships sharply declined between 2009 and 2012, whereas selectivity of German scholarships increased between 2003 and 2012 (see Online Appendix E; the former effect is significant only at a 90 percent level). This may be a sign that yet another level of inequality is emerging: high-background students seem to change their study-abroad practices even within the group of scholarship holders.

DISCUSSION

Findings and Contributions

On the basis of hypotheses derived from cultural reproduction and rational choice theories, we analyzed a horizontal inequality that plays a fundamental role in internationalizing societies and labor markets, namely, the social selectivity of study-abroad opportunities. Unlike previous studies on horizontal inequalities in education, we also tested the—most often theoretically assumed but not empirically verified—interplay between the expansion of educational opportunities and the development of social inequalities.

Regarding the first analytic level, our results support the findings of Lörz and Krawietz (2011) and Finger (2013), as well as part of Hypothesis 1, insofar as the social selectivity of studying abroad has increased over time if measured by estimated percentage point differences between social groups. As our more nuanced analyses show, this increase resulted from rising selectivity between the years 1991 and 2003; after 2003, selectivity did not change

significantly. In line with cultural reproduction theory, the study-abroad rate (and the share of students with a study-abroad scholarship in particular) first rose among students from a high social background; students from a low social background tended to catch up later. Contrary to Hypothesis 1, however, we did not find that social selectivity increased as higher education became less exclusive. This might be due to the socially equalizing *BAföG* reform implemented in 2001 (see the next section for alternative explanations).

Within the group of study-abroad students (second-level inequality), high-background students spent slightly but significantly more time abroad than low-background students (Hypothesis 2). As hypothesized, they were also more likely to receive funding for studying abroad through both EU and German scholarships (Hypothesis 3). In line with Hypothesis 5, social inequality in access to study-abroad scholarships increased as studying abroad became less exclusive. These findings correspond to the predictions of both cultural reproduction and rational choice theories. Regarding time spent abroad, however, we did not find that selectivity increased as studying abroad became less exclusive (Hypothesis 4). This may indicate that high-background students spend more time abroad primarily because they have the necessary resources and not (exclusively) because they use longer stays as a means of distinction.

Overall, we found that studying abroad was socially selective during the entire observation period. Similarly, the pattern of high-background students spending slightly more time abroad was rather stable. These forms of horizontal inequality are thus not new, but are only now coming to the attention of politicians and researchers. This observation corresponds to Reimer and Pollak's (2010) finding that inequality levels in access to prestigious types of institutions and fields of study hardly changed in Germany between 1983 and 1999. The rise in selectivity of study-abroad scholarships, however, is a horizontal inequality that developed in the context of the Bologna Process. The development of this selectivity is related to the decreasing exclusivity of studying abroad.

Our findings are also relevant for the broader theoretical debate about the development of social inequalities in education systems. This concerns the question of when horizontal inequalities should emerge. In line with Lucas's (2001) theoretical proposition and subsequent empirical research (e.g., Ayalon and Shavit 2004; Reimer

and Pollak 2010), our findings suggest that horizontal inequalities emerge long before a certain level of education (in our case, access to higher education and study-abroad opportunities) becomes universal.¹¹ Rather, privileged students seem to simultaneously choose multiple ways to distinguish themselves, both vertically through higher-level education (Bourdieu 1984; Collins 1979; Reimer and Pollak 2010; Triventi 2013) and horizontally by choosing more prestigious institutions (Davies and Guppy 1997; Karen 2002; Triventi 2013) and fields of study (Lörz 2012; van de Werfhorst et al. 2003), by studying abroad, and by opting for exclusive types of stays abroad in particular.

Furthermore, our findings support the view that high-background students are better equipped to exploit newly created and thus initially prestigious educational options (Raftery and Hout 1993). This became evident in the expansion of study-abroad scholarships, especially EU scholarships, which were first used more often by high-background students.

Limitations and Further Research

Our study has several limitations that further research could address. First, we assume that our estimates of social background effects are conservative regarding all three dimensions analyzed (studying abroad, duration, and scholarships). This should be the case not only due to our model specifications but also because our data do not cover students who complete their entire studies in another country, that is, who go abroad either directly after completing school or after an initial degree in Germany. The extent of underestimation might even have increased with the introduction of the Bologna degree structure, as it is plausible that high-background students are particularly likely to go abroad for a master's degree after completing their bachelor's degree in Germany. The fact that we do not witness increasing selectivity of studying abroad during the second half of the observation period—and, consequentially, the fact that the decreasing exclusivity of higher education does not explain the development of the selectivity of studying abroad¹²—could thus result from changing mobility behavior of high-background students, which would remain unobserved in our data. These students may increasingly opt for whole-degree mobility to distinguish

themselves, instead of, or even in addition to, completing temporary stays abroad.

Second, our measures of the exclusivity of higher education and of studying abroad constitute imperfect operationalizations of students' perceived necessity for horizontal distinction. Data on students' subjective assessments of the exclusivity of higher education and of studying abroad and data on the educational choices, opinions, and mobility behavior of students' actual peer groups would allow us to further test the robustness of our results. Generally, a broader discussion is needed about individuals' frame of reference in perceiving changes in exclusivity. Does the expansion of educational opportunities at national, regional, city, or school levels influence educational decision making? So far, the literature linking educational expansion to the development of social inequalities has hardly addressed this issue; expansion is mainly used as a theoretical explanation but seldom empirically operationalized and tested.

We examined the development of the social selectivity of (exclusive types of) stays abroad and its relation to the exclusivity of higher education and studying abroad. It would now be instructive to learn more about the exact microlevel decision processes explaining the observed patterns of inequality. Such mechanisms have been thoroughly investigated by single-year studies (Finger 2013; Lörz and Krawietz 2011; Lörz et al. 2015; Salisbury et al. 2009). However, it is unclear whether the relative importance of the analyzed mechanisms—economic, social, and cultural capital from a Bourdieusian perspective or cost and benefit considerations and path-dependent probabilities of success from a rational choice perspective—has changed over time. Furthermore, no one has tested whether these mechanisms differ between types of stays abroad.

A further aspect of particular relevance is the effectivity of socially equalizing measures. Research could be advanced by quantifying the effect of the *BAföG* reforms, other needs-based study-abroad scholarships, and measures at single institutions on inequality levels.

Further research could also examine other exclusive types of stays abroad. High-background students might also use stays in exclusive destination countries and at renowned institutions abroad as strategies for horizontal distinction.

Finally, research on the outcomes of different types of stays abroad would be instructive. Evidence shows that studying abroad positively influences students' personality development, intercultural

competence, and career prospects (Netz 2012; Salisbury et al. 2013; Zimmermann and Neyer 2013). However, are the particularly selective types of stays abroad also the most transformative for personality and competence development and the best for labor market prospects?

Policy Implications

Policy makers wishing to dismantle social inequalities in higher education should consider our findings alarming: studying abroad was highly socially selective during the entire two decades we examined. Moreover, the pattern that high-background students spent slightly more time abroad was stable over time. At the same time, a rather new form of horizontal inequality has evolved in the context of the Bologna Process, namely, the socially selective access to merit-based study-abroad scholarships.

Although we cannot rule out that other compensatory measures, such as the *Bafög* reforms, have prevented a further increase of selectivity, we can conclude that political measures have failed to eliminate the social selectivity of study-abroad opportunities. High-background students were particularly likely to profit from the expansion of study-abroad programs in the past decades.

Given the increasing evidence of positive effects of studying abroad on students' personal and professional pathways, social inequality in access to study-abroad opportunities may be regarded as a mechanism transferring inequality from the education system to the labor market—and a largely publicly funded mechanism at that.

RESEARCH ETHICS

The data analyzed for this article were collected in line with the ethical standards articulated in the 1964 Declaration of Helsinki and its amendments and with the American Sociological Association's Code of Ethics. Participation in the surveys was voluntary, and participants' confidentiality was protected. The data published in this article do not allow for deductive disclosure of respondents' identities.

ACKNOWLEDGMENTS

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support in the data processing phase and our reviewers for their helpful suggestions.

NOTES

1. Our definition of studying abroad comprises periods of enrollment, internships, language courses, and other study-related activities abroad. In European higher education, this is also referred to as international student mobility (ISM) or credit mobility.
2. Bourdieu (1986) highlights the mutual convertibility of different forms of capital. Accordingly, high levels of cultural and social capital can translate into additional economic capital. For the analysis of stays abroad, this means high-background students may, for instance, use inside knowledge gained from social networks or their prior experience with foreign cultures to succeed in selection procedures for study-abroad grants.
3. Lörz and Krawietz (2011) substantially advanced the discussion about mechanisms explaining the social selectivity of studying abroad. However, their time series analysis is based on odds ratios, which are difficult to compare across survey samples (Mood 2010). Moreover, they look only at students between their first and seventh semesters, although many students go abroad later than that (Middendorff et al. 2013:161-64).
4. See <https://www.daad.de/portrait/wer-wir-sind/programme/08941.en.html> (retrieved November 6, 2014).
5. We define postgraduate students as holders of a master's-level degree who pursue a second master's-level degree. We consider master's students whose highest previous degree is a bachelor's degree as graduate students and include them in our analyses.
6. Listwise deletion should not introduce severe bias in our case because we have—mostly substantially—less than 2 percent missings on all but two variables (social background, 2.8 percent; dependent variable for predicting the potential study-abroad rate, 4 percent).
7. Between 2007 and 2012, entry rates increased sharply because several German states reduced the duration of *Gymnasium* (the standard scholastic pathway to higher education) from nine to eight school years, which led two cohorts to enter higher education in one year. Entry rates rose markedly even accounting for this effect (Scharfe 2010; Wolter 2014).
8. Our prediction also includes the number of semesters spent in higher education and the number of semesters squared, because students' likelihood of completing a stay abroad tends to first increase and then decrease again across semesters (inverted-*U* relationship).
9. Because the variables *type of institution* and *field of study* mediate part of the examined forms of social selectivity, they slightly diminish the effect sizes of our social background estimates. We still prefer to

- include these variables, because doing so should produce conservative and therefore more robust estimates.
10. We acknowledge differences in opportunity structures for studying abroad between higher education institutions and over time. Therefore, we calculated all regressions using the Huber-White sandwich estimator (with institutions \times survey years as clusters).
 11. Concretely, our results are consistent with Lucas's (2001:1652) claim that "the socioeconomically advantaged will use their socioeconomic advantages to secure both quantitatively and qualitatively better outcomes" or, more precisely, with Ayalon and Shavit's (2004:107) corresponding clarification that "the qualitative dimension in the educational stratification process is prevalent irrespective of whether saturation has been reached."
 12. It would also be instructive to test whether the higher education entry rate is a better predictor of the selectivity of studying abroad in countries where higher education is even less exclusive. Although entry rates have risen substantially in Germany, they are still considerably lower than in many other OECD countries (Organisation for Economic Co-operation and Development 2014). Thus, high-background students might not yet perceive a necessity to fundamentally replace their educational practices.

SUPPLEMENTAL MATERIAL

The online appendix is available at <http://soe.sagepub.com/supplemental>.

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Author Biographies

Nicolai Netz is a researcher at the German Centre for Higher Education Research and Science Studies (DZHW) in Hannover, Germany, and a doctoral candidate at Humboldt University of Berlin. His fields of

interest include sociology of education, migration, and returns to education. His dissertation research examines the determinants and effects of studying abroad.

Claudia Finger is a researcher at the Berlin Social Science Center (WZB) in the research unit Skill Formation and Labor Market and a doctoral candidate at Free University of Berlin. Her research interest covers social inequality in education, transition to and completion of higher education. Her dissertation deals with social inequality in the transition to higher education and the influence of institutional constraints.