

Tracking and Sorting in the German Educational System

Literature review and analyses of the birth cohorts 1970-1980

DIAL Working Paper Series 14/2019

Miriam Henninges, Claudia Traini and
Corinna Kleinert

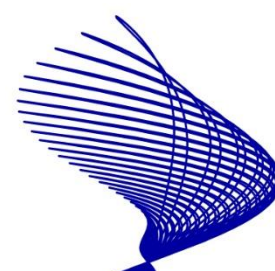


Dynamics of Inequality
Across the Lifecourse:
structures and process

dynamicsofinequality.org



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 724363



NORFACE
NETWORK

Tracking and Sorting in the German Educational System

Literature review and analyses of the birth cohorts 1970-1980

Miriam Henninges, Claudia Traini¹ and Corinna Kleinert²

Abstract

This report reviews the key modes of creating social dispersion in the German educational system by sorting students into distinct groups based on performance or choice. It describes the basic structure of the German educational system and the specific modes of sorting at the different stages of education from early childhood education and care until tertiary education, building on country-specific literature, administrative documents and official data. It places a specific focus on secondary schooling, where formal tracking is most prevalent. The report is complemented by descriptive analyses for the birth cohorts 1970-1980 in West Germany based on data from the National Educational Panel Study, Starting Cohort 6. It describes their educational pathways, the role of social origin in track placement, the long-term consequences of tracking, and its contribution to long-term social inequality. Findings based on new data covering detailed educational biographies show that the three different tracks lead to different educational and vocational trajectories; at the same time, there are manifold ways to reach similar attainment and to upgrade previous certificates. Parental resources (in terms of education or occupational class) are strongly associated with track placement. While students' track location at different ages increases its importance in predicting educational outcomes, occupational measures are found to be less sensitive to respondents' track location. This is especially true for unemployment and earnings. Finally, track placement at the beginning of lower secondary education accounts from one third to half of the difference in educational and labour market attainment due to social background and subsequent track mobility further mediates social background differences. A next step will be to investigate to which extent the effect of track placement is due to individuals' self-selection into tracks.

1. Claudia Traini, Leibniz Institute for Educational Trajectories, Bamberg, claudia.traini@lifbi.de

2. Corinna Kleinert, Leibniz Institute for Educational Trajectories, Bamberg, corinna.kleinert@lifbi.de

1. Objectives, concepts and data

Previous research has identified the design and the institutional rules of educational systems as key factors influencing the emergence and intergenerational transmission of social inequality (Brunello & Checchi, 2007; Esser & Relikowski, 2015; Gamoran, 2010; Hanushek & Wößmann, 2006; Mijs & Van de Werfhorst, 2010). Therefore, as a prerequisite for an informed and evidence-based social and education policy, a comprehensive understanding of the impact of educational institutions on inequality is necessary. In particular, the role of educational sorting, most commonly in secondary education, has received much attention in this respect. This country report aims at contributing to this goal by describing formal and informal modes of allocating students to distinct groups at all the stages of the German educational system, based on official documents, previous literature and empirical analyses.

Throughout this report, the term ‘sorting’ will be used to denote all kinds of differentiation, describing a wide array of institutional practices of allocating students at different ages for a short or longer period to distinct groups, such as courses, classes or schools, which differ in terms of learning conditions, peer and teacher contexts. This allocation may be either based on parents’ and students’ choice or on performance criteria. In contrast, we use the term ‘tracking’ to distinguish formal ways of sorting from informal ways. In formally tracked systems it is officially recognized that students are separated for instructional purposes and the regulations for doing so are transparent for every observer. In contrast, informal sorting is a result of everyday practices, such as parents’ effort to secure advantages for their children, teachers’ practices to organize class, or employers’ practises to evaluate graduates’ future performance, in the absence of formally recognized tracks.

The empirical analyses used in this report are based on data of the National Educational Panel Study, Starting Cohort 6 (Adults, NEPS-SC6) (Blossfeld, Roßbach, & von Maurice, 2011).³, which comprises detailed retrospective information on educational biographies. From this database, we selected adults born from 1970 to 1980 who spend their educational careers in West Germany. Two criteria were central for cohort selection: on the one hand, these cohorts have reached occupational maturity, which is a necessary precondition to observe long-term effects of sorting. On the other hand, they are still relatively young and have visited the (West) German educational system after its main reforms in the late 1960s and early 1970s.

The first part of the country report (Chapter 2) is dedicated to describing the general features of the German educational system in broad terms (2.1) and to outline the most important changes and reforms over time (2.2). We supplement this stylized description by showing the pathways through the educational system of the German population born in 1970-1980 based on NEPS-SC6 data (2.3). The second part of the report (Chapter 3) describes formal and

3 This paper uses data from the National Educational Panel Study (NEPS): Starting Cohort 6 – Adults, doi:10.5157/NEPS:SC6:8.0.0. From 2008 to 2013, NEPS data were collected as part of the Framework Program for the Promotion of Empirical Educational Research funded by the German Federal Ministry of Education and Research (BMBF). As of 2014, the NEPS survey is carried out by the Leibniz Institute for Educational Trajectories (LIfBi) at the University of Bamberg in cooperation with a nationwide network.

informal sorting processes at every stage of the system in detail, starting from early childhood education and care (3.1) up to tertiary education (3.6), covering also the multiple differences between federal states. The third part of the report is dedicated to describe the relationship of school tracking and social inequality. To this end, we investigate associations between social origin, tracking and educational as well as occupational destination based on the same data and cohorts as used in Chapter 2.3. The report concludes with a summary and outlook.

2. The structure of the German educational system

2.1 General characteristics

In Germany, full-time schooling is compulsory from age six for nine or ten years, dependent on regulations in different federal states. If students do not continue to participate in general schooling after this phase, they are usually obliged to attend vocational schooling or training for another three years, at least in part-time. Full-time schooling in Germany traditionally meant to spend only half a day in school, while full-day schools expanded in the 2000s (Helbig & Nikolai, 2015).⁴

In the literature, Germany (together with Austria, Switzerland, Belgium, or the Netherlands) is classified as a *traditional tripartite* educational system, due to the separation of students into three educational tracks in lower secondary education, which takes place early in the life course, usually at age ten to twelve (for details, see Figure 1). Other countries are considered to have a more inclusive approach (Scandinavian countries), a greater freedom of choice (Anglo-Saxon countries) or they are regarded as mixed educational models (for example France, Estonia or Italy) (Blossfeld, Buchholz, Skopek, & Triventi, 2016).

Students visit a comprehensive primary school usually until fourth grade.⁵ Afterwards, they are channelled into three different educational tracks at lower secondary level, which traditionally have been organised in different types of secondary schools (for details and changes over time, see the next section). Teachers' track recommendations, which reflect the students' prior school performance,⁶ and parental choice steer allocation to the different tracks.

The tracks and school types in secondary education are clearly hierarchically ordered according to learning requirements, curricula and difficulty, track duration and attainable school-leaving certificates. Constantly over federal states and birth cohorts, regular secondary

4 In 2002, the Assembly of Ministers of Education of the German States (*Kultusministerkonferenz*) agreed that schools are considered as full-day schools if they offer education at least for 7 hours per day at least 3 days per week. Afternoon programs in full-day schools are not always obligatory and often organized by non-school bodies in cooperation with the teaching staff (KMK, 2015).

5 In *Brandenburg* and *Berlin* joint primary school lasts until grade 6 (95% resp. 88% of the student distribution in grade 5 in 2010). In grade 5 and 6, some secondary schools in *Hesse* and *Hamburg* offer a comprehensive two-year orientation stage (16% resp. 7% of the student distribution in grade 5 in 2010) (Destatis, 2018b).

6 Teacher recommendations are usually based on grades plus teachers' expectations about children's development, which leaves room for biased evaluations.

schools are leading to either lower (*Hauptschulabschluss*), intermediate (*Realschulabschluss*) or upper (*Abitur*) secondary school certificates.⁷ With a lower school certificate, students typically take up vocational training for jobs in handicraft, industry and services, whereas the intermediate certificate permits entry into white-collar, business or skilled trade occupations and the semi-professions (Blossfeld et al., 2016; KMK, 2015; Neugebauer, Reimer, Schindler, & Stocké, 2013). Only the upper secondary degree opens the pathway to tertiary education. As we will show in the following section, there is a considerable degree of track mobility.

Besides regular schools, schools for special educational needs (*Förderschulen*) cater children with physical disabilities as well as difficulties in mental development or learning (KMK, 2015). Students visiting these schools mainly attain special school or lower secondary certificates.

Privately maintained schools, which are supervised by the state in Germany, play a minor role in inequality formation. Even though about ten percent of secondary level students attended private schools in 2014/15 (Malecki, 2016), they are not considered to perform better with respect to student learning (Jungbauer-Gans, Lohmann, & Spiess, 2012; Weiß, 2011). They rather complement public schools by offering specific orientations, for example regarding confession, pedagogics or multilingualism.⁸ The increasing share of private schools and social selective attendance however raise concerns regarding the growth of socially selective school environments (Helbig, Nikolai, & Wrase, 2017).

In Germany, the 16 federal states (*Bundesländer*) are responsible for educational policy-making; therefore, detailed educational structures differ within the country. Due to the heterogeneity of educational policy, study results on the country-level must be interpreted with caution (Blossfeld et al., 2016). This particularity should be taken into account when describing the basic, overarching features of the school system in Germany.

2.2 Main reforms and current state

Figure 1 gives a graphical overview over the educational system in Germany and its most important changes over time. Dotted school types indicate reforms intended to open up educational pathways and offset the strong interlinkage of school types and certificates.

As mentioned above, the traditional structure of lower secondary education in West Germany has been the tripartite school system, which consisted of lower (*Hauptschule*), intermediate (*Realschule*) and upper (*Gymnasium*) secondary schools organized as single-track

7 In this report, English translations of German school types and certificates reflect the terms used by official bodies. In case of inconsistent translations, terms considered to be more meaningful were chosen (Federal Office for Migration and Refugees (2018); OECD (2013); Authoring Group Educational Reporting (2016). Some public institutions use German terms only (European Commission/EACEA/Eurydice (2018); KMK (2015)). It has to be noted that some school types or certificates have different German names across federal states.

8 Most important in terms of a particular type of comprehensive secondary schools are the Rudolf Steiner schools (*Waldorfschulen*), where mainly intermediate or upper secondary certificates are attained. However, only 0.6% of the 1970-80 born NEPS-SC6 respondents visited this school type (for details, see Appendix 1).

schools.⁹ Since the 1970s, comprehensive schools (*Gesamtschulen*) were incrementally introduced as an additional school type (extended tripartite system) in most federal states. Contrary to their name, cooperative comprehensive schools (*kooperative Gesamtschulen*) only replaced between-school tracking by within-school tracking by channelling students into the three above-mentioned educational tracks, which are organized under the roof of the same school.

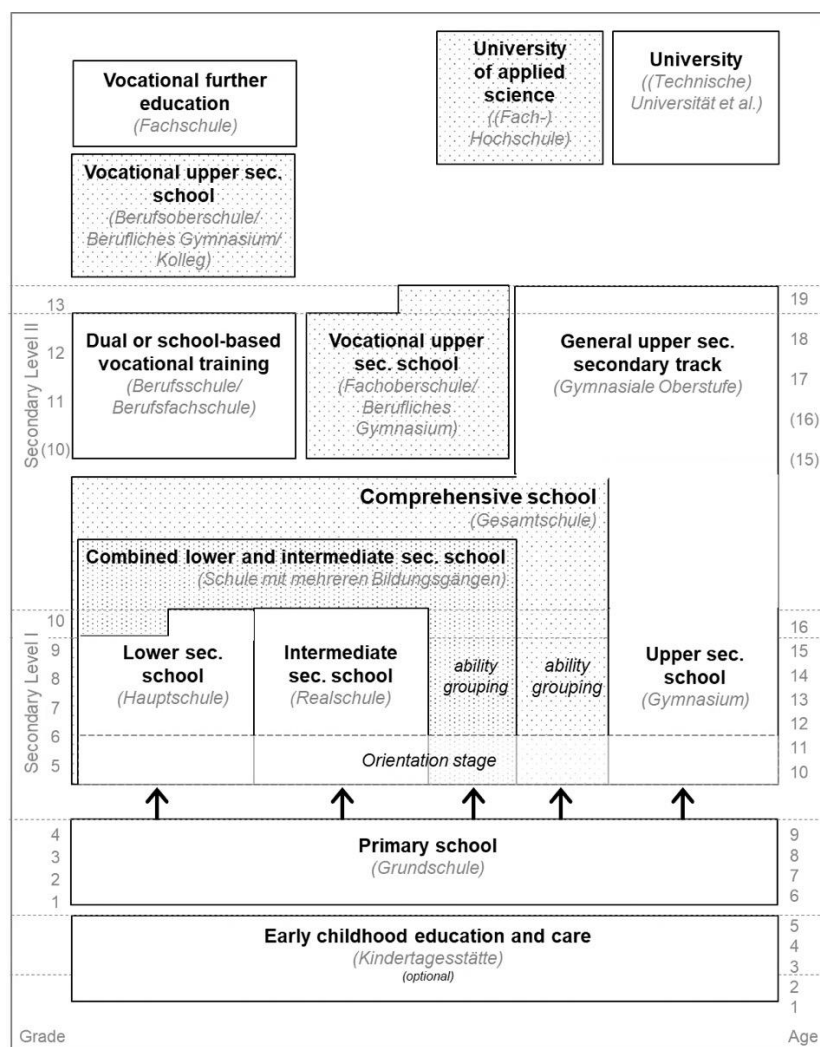


Figure 1. Structure of the German educational system from ECEC to tertiary education
Source: KMK (2015), own adjustments

In contrast, integrative comprehensive schools (*integrative Gesamtschulen*) do not separate pupils by educational track, but usually use ability grouping in specific subjects (Helbig

⁹ The German Democratic Republic (GDR) pursued a school system with comprehensive schooling until grade 10 and a small selective track of upper secondary education, which enabled graduates to enter tertiary education for another three years. After reunification in 1990, the East German school system was abolished.

& Nikolai, 2015).¹⁰ After reunification in 1990, the East German states introduced bipartite school systems. They combined the lower and medium secondary schools into one school type (*Schulen mit mehreren Bildungsgängen*), which offers lower as well as intermediate secondary certificates. As an answer to educational expansion and image problems of lower secondary schools, also West German states gradually started to reform their educational systems accordingly at the turn of the century.¹¹ Upper secondary schools (*Gymnasien*) as single-track schools have been left untouched by these reforms in all federal states until today.

At the upper secondary and tertiary level, the most important reforms took place in the late 1960s and 1970s. At the upper secondary level, vocational upper secondary schools were introduced in most federal states. These schools were targeted to school leavers with an intermediate degree to enable acquiring an upper secondary certificate. They could be entered either directly after obtaining an intermediate school degree (*Fachoberschule, Berufliches Gymnasium*) or after vocational training (*Berufsoberschule, Berufsfachschule, Kolleg, Berufliches Gymnasium*).

At the tertiary level, universities of applied science (*Fachhochschulen*)¹² were set up besides traditional universities. Vocational upper secondary programs are often specialized to a broad field of study and typically provide an entrance qualification for universities of applied science (*Fachhochschulreife*), whereas they grant a full upper secondary certificate (*Abitur*) which allows entering universities only under certain conditions. Universities of applied science are more restricted to specific fields of study, most importantly business administration, social work and engineering, and offer more practical and applied knowledge than traditional research universities (Destatis, 2017c; KMK, 2015). A very recent change relates to the entry requirements both at universities and universities of applied science. Since 2009, it is possible to enter specific fields of study in both institutions without an upper secondary school certificate, but with an appropriate vocational qualification and professional experience. In practice, up to now only very few of these non-traditional students are found in higher education (Wolter, Kamm, Otto, Dahm, & Kerst, 2017).

Today, the structure of the educational system in Germany is characterized by a high degree of heterogeneity and fragmentation at the secondary level. Here, the availability of school types and attendance rates vary strongly with the school structure in the federal states. Latest (2016) data of official school statistics on students' distribution over school types for all the federal states can be found in Appendix 1. It shows that a strict tripartite system with the three traditional single-track schools exclusively is left only in one state (Bavaria). Four other large states have extended the tripartite structure by combined lower and intermediate secondary schools and/or by integrated comprehensive schools (Baden-Württemberg, Hesse, North-Rhine-Westphalia, Lower Saxony). In the five Eastern German states and in Rhineland-

10 This difference is reflected in German school statistics, where students in cooperative comprehensive schools are listed together with the respective school types Hauptschule, Realschule, Gymnasium. Only integrative comprehensive schools are listed separately (Destatis, 2017a).

11 It should be noted that the term *Schulen mit mehreren Bildungsgängen* is a summary term used mainly in official statistics. The federal states have introduced a multitude of different terms for this new type of schools.

12 Recently, these institutions were officially re-named (*Hochschulen für angewandte Wissenschaften*).

Palatinate, the main school type besides the *Gymnasium* are multi-track schools, i.e. combined lower and intermediate schools plus integrative comprehensive schools. In the three city-states Berlin, Hamburg and Bremen, in Saarland and Schleswig-Holstein students either attend a *Gymnasium* or an integrative comprehensive school. In effect, in these states all available school types offer the upper secondary certificate and thus the pathway to university.

2.3 Pathways through the educational system in the 1970-1980 cohort

Official statistics in Germany only provide cross-sectional indicators of educational participation and success, but do not give any information on pathways through the German educational system and their relative importance. To this end, we supplement the stylized description of the German educational system provided in the previous sections by empirical analyses of the educational pathways of the German population born in 1970-1980 based on NEPS-SC6 data. In order to restrict the sample to persons who underwent regular education in the (West) German system, we excluded persons who were educated in East Germany, persons who immigrated to Germany by the age of 6 or after, persons with at least 1.5 years of schooling abroad, and persons who ever attended a non-regular school such as Waldorf schools or schools for special educational needs. Our analyses are based on 1,178 persons who meet these restrictions. Educational pathways of the study population are traced up to the age of 30.

Figure 2 shows a strongly simplified pattern of pathways for this population in form of a Sankey chart where the widths of links and nodes represent the shares of people pursuing the respective educational path.¹³ As illustrated, all the students of the 1970-1980 cohort enter some form of lower secondary school after primary school (shown in light blue). Entrants to lower and intermediate schools make up similarly high shares, whereas entrance to upper secondary schools is slightly more selective. Comprehensive schools are still of minor importance.¹⁴

The first school type corresponds strongly to the first school certificate attained (shown in green), particularly at intermediate schools. Attaining a comprehensive school leads most often to an intermediate certificate, while lower shares attain higher or lower secondary school degrees. Nevertheless, a considerable number of students upgrade their initial degree. More than one third of students from lower secondary schools and around one fifth of students from intermediate secondary schools acquire a higher secondary school certificate. Students from lower secondary schools often report to have obtained an intermediate certificate directly, while most students from intermediate secondary schools first attained an intermediate certificate before continuing their education in general or vocational upper secondary schools, where they

13 Paths making up for less than one percent of the sample were excluded. Observations are weighted according to the Microcensus distribution of the highest educational attainment (ISCED97). Calculations with the Microcensus 2011 show that in NEPS school dropouts are underestimated. The flow chart thus serves to show overall patterns, but does not allow conclusions about the precise magnitude of pathways leading to final attainment. The same limitation applies to Figure 3.

14 Due to the retrospective data in NEPS-SC6, we cannot distinguish between cooperative and integrative comprehensive schools.

obtain a higher secondary certificate. Vocational upper secondary schools make up a relatively small share compared to general upper secondary schools and are mainly entered by students from intermediate secondary schools. Downgrading from the initial school tracks is found as well in our study population, but is reported less frequently than upgrading.¹⁵ Only very few students in intermediate secondary schools end their secondary schooling career with a lower secondary certificate. In upper secondary schools, downgrading is more common, possibly due to the fact that in many federal states intermediate secondary certificates are granted automatically when passing grade 10 at upper secondary schools, without a specific examination. School drop-outs from *Gymnasium* therefore leave school with an intermediate certificate in most cases.¹⁶

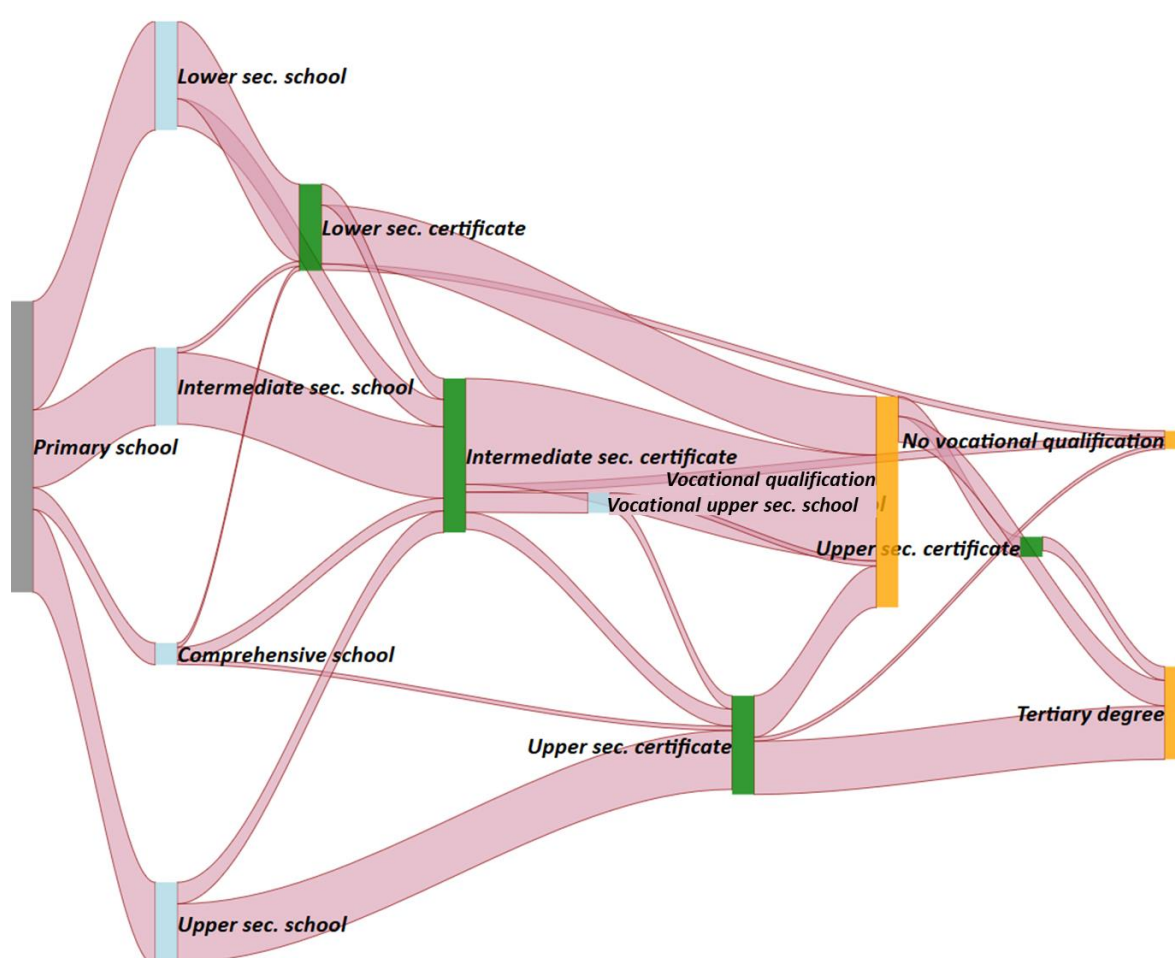


Figure 2. Educational trajectories of the birth cohort 1970-1980 in West Germany

Source: Own calculation based on weighted NEPS SC6 data (release: 8.0.0)

¹⁵ This result might be partly due to recall error.

¹⁶ Due to the retrospective data in NEPS-SC6, we cannot distinguish between cooperative and integrative comprehensive schools.

The final educational degrees (shown in orange) in Figure 2 reflect the pronounced occupational specificity of the German educational system prevalent in these cohorts. Only a small group with heterogeneous schooling degrees have no vocational degree at the age of 30. The majority of students (more than 70%) earn a vocational qualification (either dual or school-based). This degree is obtained by large fractions of students with lower and intermediary schooling certificates, but it is also chosen by a significant share of students with *Abitur*. The main route to a tertiary degree is attending upper secondary school (*Gymnasium*). 75 percent of all university graduates, but only 50 percent of all universities of applied science graduates initially attended an upper secondary school.

Figure 3 shows the post-school educational trajectories of the 1970-80 born population in West Germany in greater detail, starting with the highest general schooling degree (shown in green), and further post-school stations (shown in yellow) and degrees (shown in orange). Apprenticeships in the dual system that combine vocational training in firms with vocational education in schools make up the highest share of completed vocational training. This form of training is open for all students: graduates brought all types of schooling degrees or made their way to training via vocational preparation. Admission is regulated by employers' decisions and thus via market mechanisms. School-based vocational education made up a much smaller share. Figure 3 shows that it often requires an intermediate school certificate.

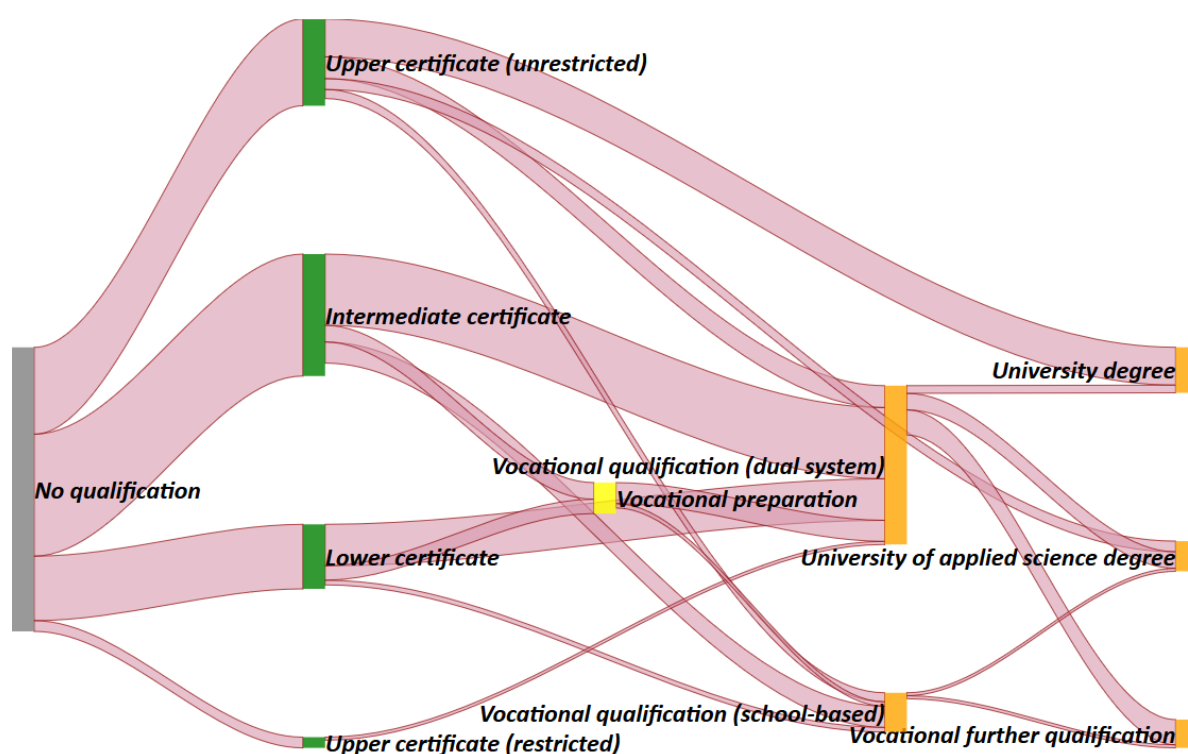


Figure 3. Trajectories in vocational education of the birth cohort 1970-1980 in West Germany

Source: Own calculation based on weighted NEPS SC6 data (release: 8.0.0).⁸

A significant share of vocational training graduates upgrade their secondary vocational degrees by either obtaining further vocational certificates or attaining university of applied science or university degrees. Universities of applied science are entered in this cohort more

often after vocational training than directly after leaving school, while most graduates of traditional universities came directly from school.

2.4 Summary and conclusions

In sum, the descriptions and analyses in this section show that the most visible and presumably most consequential form of sorting in the German education system happens at the transition from primary to lower secondary school, where formal tracking sets in. Since reunification, ongoing reforms in lower secondary schooling have increasingly replaced between-school tracking by within-school tracking in most federal states. However, the decisive decision to send or not to send one's children to *Gymnasium*, which is the most straightforward pathway to university education and academic titles, has been left untouched. Similarly, the distinction between three different, hierarchically ordered general schooling certificates has not been changed.

Previous research has shown consistently that social background strongly determines initial track placement as well as final educational attainment. This is due to systematic variation in primary as well as in secondary effects of education, i.e. in early development of cognitive abilities and achievement as well as in parental educational decisions. School and track differentiation in Germany is characterized by strong path dependencies with respect to subsequent academic and vocational pathways, and is therefore highly consequential for occupational placement.

The pathways of the cohorts born 1970-1980 confirm the high degree of formal tracking in lower secondary education and its strong interrelation with later educational trajectories. At the same time, the flow charts show that the German educational system offers a multitude of options to correct previous educational decisions via changing tracks in secondary schooling and upgrading one's initial educational attainment through second-chance options. Empirically, our analyses suggest that mobility within lower secondary schooling plays a minor role, whereas later upgrading parallel to or after vocational training is substantial. Recent literature, however, shows that these second-chance options are again socially selective and do not seem to change the overall association of social background and education substantially (Buchholz & Pratter, 2017; Buchholz & Schier, 2015; Schindler, 2015).

3. Sorting at different educational levels

Apart from formal tracking in lower secondary education, there are more subtle forms of sorting students at previous as well as later stages of educational trajectories, which have been increasingly discussed in research and which may serve as functional equivalents of formal between-school tracking. Against this background, it might be fruitful to investigate all the different forms of sorting separately for all the different stages of the educational system in Germany. The results are summarized in the following sections from early childhood education and care up to tertiary education.

3.1 Early childhood education and care (ECEC)

Since 1996, children in Germany have a legal right to attend ECEC from the age of three years. Due to state subsidies, parental costs are relatively low.¹⁷ Hence for this age group attendance rates are very high (94% in 2017) and hardly subject to social selection (Bertelsmann Stiftung, 2019). Childcare centres are either run by private welfare organisations or municipalities, which also financially support and supervise privately maintained care centres (KMK, 2015). Traditionally, ECEC in Germany usually means half-day care. Availability of full-day care and places for children under three was very low until recently, particularly in the western part of Germany, while in the former GDR full-day institutional care from early on, combined with early maternal returns to full-time work, had been the norm and survived re-unification. For example, in 2009 45% of all children under three in East Germany participated in ECEC, but only 15% in West Germany. Since the mid-2000s, family policy invested in a gradual extension of institutional care in West Germany, and since 2013 the right to attend ECEC has been extended to children from the age of two. In 2016, enrolment rates of under-three year old children increased to 53% in East and 29% in West Germany.

Despite these changes, availability of ECEC places for children below the age of three still tends to be lower than demand in many regions (Bach, Koebe, & Peter, 2018; Felfe & Lalive, 2013). Admission is organized via waiting lists according to priority criteria, such as parental employment and social need (Kreyenfeld & Krapf, 2010). Nevertheless, attendance rates are socially selective: children from families with higher education, higher income and no migration background are more likely to attend ECEC and start at younger ages than children from other families (Felfe & Lalive, 2013; Fuchs-Rechlin & Bergmann, 2014; Krapf, 2014; Kreyenfeld & Krapf, 2010). Furthermore, two studies suggest that children from lower educated families and children with a migration background attend ECEC with lower quality levels (Kuger & Kluczniok, 2009; Stahl, Schober, & Spiess, 2017).

3.2 Primary school

Primary school attendance is compulsory, and no formal sorting of children happens at this stage. Some freedom of primary school choice comes with differential learning environments due to compositional differences of student bodies and due to attendance of full-day versus half-day schooling. Traditionally, primary schools were organised as part-time schools with morning classes only, and full-day primary schools are still an exception today.

With the exception of two federal states (North Rhine-Westphalia and Schleswig-Holstein), children have to attend the primary school nearest to their home or in a defined catchment area (KMK, 2015). Some parents bypass this regulation by formal requests to enrol their children in another school area or by choosing a private primary school. Private primary schools are still

¹⁷ According to a recent study, parents use on average 5.6% of their net income on ECEC costs (Bertelsmann Stiftung 2018). Since federal states differ in their rules on subsidizing (e.g. Berlin has abolished all costs), regional variation is considerable, though. Depending on child age and parental income they range from 0-370 EUR (Geis-Thöne 2018).

an exception with an average attendance rate of only 3.5% in the school year 2016/17. Attendance rates of private primary schools are higher in East German states and in the big cities than in the territorial states in West Germany, and reach up to ten percent in Mecklenburg-Vorpommern and in Hamburg (Destatis, 2017b). Choosing public primary schools outside the catchment area or private schools is mainly a phenomenon in large cities with bypassing rates of more than ten percent (Groos, 2015; Katzenbach, Rauer, Schuck, & Wudtke, 1999; Kristen, 2005; Riedel, Andreas, Schneider, Schuchart, & Weishaupt, 2010), chosen mainly by highly educated parents when residing in an socioeconomically disadvantaged neighbourhood (Jurczok & Lauterbach, 2014; Riedel et al., 2010). In effect, school choice reinforces social and ethnic segregation, which is primarily a result of residential segregation (for North Rhine-Westphalia see Groos, 2015; Makles, 2014; for Berlin see Baur, 2014; Fincke & Lange, 2012). Especially higher-educated native parents actively choose primary schools for their children (Groos, 2015; Kristen, 2005; Schneider, Schuchart, Weishaupt, & Riedel, 2011).

3.3 Lower secondary education

The most visible and presumably most consequential form of tracking happens at the transition from primary to lower secondary schooling, when formal sorting into the three secondary tracks (lower, intermediate, upper) between or within schools sets in. Multi-track schools such as integrative comprehensive schools or combined lower and medium secondary schools sort their students as well formally in core subjects to different teaching levels that correspond the ability levels of the traditional tracks.

3.3.1 Formal tracking

The transition from primary to secondary school. At the end of primary school children receive a report assessing their aptitude for the secondary school tracks, particular with regard to enter *Gymnasium*. For the cohort born in 1970-1980 the teacher recommendation was obligatory in half of the federal states, i.e. families' track choice was restricted and students were formally not allowed to enter a higher track than suggested by the teacher. Nevertheless, parents had the possibility to bypass the teacher recommendation.¹⁸ In 2015, parents were free to decide the secondary school track in most federal states, except for Bavaria, Brandenburg, Sachsen and Thüringen. Tracking regulations differ as well across federal states with respect to the timing of tracking (after grade 6 in Berlin and Brandenburg, after grade 4 in all other states).

¹⁸ Bypassing the teacher recommendation and attending a higher track usually involves a legal process, entry examinations or trial periods (Helbig & Nikolai, 2015). There has been substantial variation in compliance with a binding recommendation between states (Pietsch, 2007). Despite obligatory teacher recommendations, for example in Baden-Württemberg less than 10% and in Bavaria more than 20% of all students entered a higher track than recommended in 2001 (Pietsch, 2007).

School types and curricula. Depending on the school structure, students and parents may choose between two to five available tracked or partly tracked school types (see Figure 1). The upper secondary school (*Gymnasium*) is the only school type available in all federal states. Comprehensive schools admit students with all track recommendations, but mostly students with a lower or intermediate and rarely with an upper track recommendation actually chose them (Pietsch, 2007).

Furthermore, students have different opportunities to acquire specific knowledge in different types of secondary schools. Core subjects such as German, mathematics, a foreign language (usually English), natural and social sciences are taught in all tracks, but on different proficiency levels (KMK, 2015). The qualification of teachers, didactic traditions and weekly class hours differ as well (Vereinbarung über die Schularten und Bildungsgänge im Sekundarbereich I, 1993). In integrative comprehensive schools from grade 7 on, core subjects are usually taught on two or more proficiency levels that are oriented towards a specific certificate.¹⁹ To attain the intermediate secondary certificate and the qualification to continue in an upper track requires participation and sufficient performance in a higher course level in specific subjects (Vereinbarung über die Schularten und Bildungsgänge im Sekundarbereich I, 1993). Regardless of school type or track, students with insufficient performance need to repeat grades or may be downgraded to a lower track within their secondary school career.

Electives. Students have some subject specialization in all school types, but usually it does not affect admission to vocational or academic programs, whereas final grades in core subjects often become relevant (KMK, 2015). The choice to learn a second foreign language may become formally relevant for students in intermediate secondary tracks. Vocational upper secondary schools, which are typically entered by students after completing the intermediate secondary track, award only entrance qualification for universities of applied science if students catch up on a second foreign language. Learning a second foreign language may be offered as an elective in intermediate secondary tracks, it is obligatory in upper and usually not offered in lower secondary tracks.²⁰

Academic vs. vocational streams. No explicit distinction in academic and vocational streams within schools is made at the secondary level. As described earlier, the lower and intermediate secondary tracks typically lead to vocational education, while the upper secondary track is explicitly meant to prepare for higher education. Accordingly, the tracks differ in their academic standards, and lower secondary schools also teach work-related prevocational subjects such as household arts (KMK, 2015).

19 Teaching at different levels at integrated comprehensive schools concerns in grade 7 mathematics and the first foreign language, in grade 8 or 9 German and a scientific subject (KMK, 2015).

20 Learning a second foreign language is obligatory at the upper secondary track from grade 6 or 7 to grade 10. Intermediate schools do offer second a language in some schools and states, but are not obliged to do so by national school regulation (Vereinbarung über die Schularten und Bildungsgänge im Sekundarbereich I, 1993).

3.3.2 Informal ways of sorting

Public vs. private. Private schools are slightly more common at the secondary level than at the primary level in Germany, particularly among intermediate and upper secondary schools. In 2016/17, ten percent of all students at this level visited private schools. Private schools may not charge school fees in some federal states (e.g. in Rhineland-Pfalz), but may do so in others, for example in Berlin (Helbig, Nikolai, & Wrase, 2017). Whether secondary schools are public or private is considered as being of minor importance in educational inequality formation in Germany, compared to the choice of school track. Cognitive competencies and grading levels do not differ strongly between public and private schools of the same type (Jungbauer-Gans et al., 2012; Nikolai & Helbig, 2013; Weiß, 2011, 2013). Nevertheless, selective private school choice of pupils from privileged social backgrounds has increased in recent years. This social discrepancy is much higher in large cities (Helbig, Nikolai, & Wrase, 2017).

High-quality vs. low-quality. Traditionally, there are no elite institutions in secondary education preparing for leading positions in society comparable to Anglo-American countries (Bloch, Kreckel, Mitterle, & Stock, 2014; Deppe & Kastner, 2014). However, there is some variation in learning conditions across schools of the same type and some freedom of school choice. Similar as in primary schools, regulations regarding catchment areas vary by type of secondary school and federal state. Usually, students in lower secondary schools are bound to a catchment area or local school, whereas students at intermediate and higher secondary schools have more freedom in school choice. However, students are not necessarily accepted at other schools as long a school of the same type is available in the catchment area (KMK, 2015). In the public discussion, 10 to 15 percent of schools which offer lower and intermediate certificates in Germany are considered as “problem schools” due to a high concentration of underprivileged children and social problems. They tend to be situated in less affluent neighbourhoods in cities, and consequentially more advantaged parents living in these neighbourhoods try to avoid them.

Centre vs. periphery. While in the 1960s children in rural areas, particularly girls and children with working-class background, were disadvantaged with regard to educational opportunities, the strong extension of secondary schools from the late 1960s onwards has decreased spatial inequalities. However, even today the chance to attend an upper secondary school is significantly higher in urban agglomerations compared to rural areas (Sixt, 2013).

All-day vs. half-day schooling. School classes at the lower secondary level typically end at 1.30 pm (KMK, 2015). All-day schools were not very common for the birth cohorts 1970-80, but their expansion started in the 2000s (Helbig & Nikolai, 2015). Overall, afternoon programs and their objectives are very heterogeneous.

3.4 Upper secondary and post-secondary education

In the German educational system, the main differentiation of students at the upper secondary level is the channelling of students into two large streams: One group leaves general schooling after grade 9 or grade 10 with lower or intermediate certificates and enters purely vocational education, mainly in the form of dual vocational training. The other group continues schooling at the upper secondary level, which enables them to acquire the necessary entry ticket for tertiary education.

3.4.1 Upper secondary general education

Formal tracking. Upper secondary general education is acquired mainly in upper secondary schools (*Gymnasien*) or respective tracks in integrated comprehensive schools (*integrierte Gesamtschulen*), which end after 12 or 13 years, depending on the federal state. Completing an upper secondary general track always leads to an unrestricted university entrance qualification. As an alternative to the latter, students with an intermediate secondary certificate, sufficient performance at an upper secondary track at grade 10 or with a vocational qualification in a skilled occupation may continue general education in the so-called vocational upper secondary schools. The main school types in this sector are *Fachoberschule*, *Berufsoberschule* and *Berufliches Gymnasium*, which offer two or three-year courses.²¹ Besides full-time courses also part-time upper secondary tracks are offered (KMK, 2015). Depending on type of the vocational school, program length and proficiency in a second foreign language, the awarded university entrance qualification is either unrestricted or restricted to universities of applied science or to specific fields of study.

Whereas general upper secondary schools mainly teach general skills, more specialized practical knowledge in specific vocational fields, for example business administration or health and social work, is acquired at vocational upper secondary schools (KMK, 2015). The latter are typically entered by students from intermediate secondary or vocational training schools, while students in the *Gymnasium* or the upper track in comprehensive schools usually continue this track at the upper secondary level. Track choice at the upper secondary level in Germany is rather a consequence of previous track selection processes, where upper secondary vocational schools serve as opportunity to upgrade initial track placement.

Consequently, students in vocational schools lag behind students in general schools at this level. For example in Baden-Württemberg, math and English competence of students entering grade 11 in general upper secondary schools is about one standard deviation higher than of those entering non-technical vocational upper secondary schools (Köller & Trautwein, 2004; Watermann, Nagy, & Köller, 2004). Competence gaps maintain significant over time, and assessment standards between general and vocational upper secondary schools differ (Köller & Trautwein, 2004; Watermann et al., 2004).

²¹ Other types of upper secondary vocational schools may exist in small numbers and in some federal states only.

Electives. In upper secondary general tracks, students chose in the last two years which subjects to attend at a basic or increased level of intensity (Vereinbarung zur Gestaltung der gymnasialen Oberstufe in der Sekundarstufe II, 1972). Course choice does not formally affect the admission to vocational or study programs (KMK, 2015). Core subjects have to be attended by all students, at least at a basic level of intensity. Grades in these subjects may become relevant for university admission.

3.4.2 Vocational education

The system of vocational education in Germany is known for its high standardization, stratification and occupational specificity. An acknowledged vocational certificate is regarded as a basic requirement for a skilled position on the labour market, and direct entry into the labour market after leaving school is rare (Jacob & Solga, 2015; Kleinert & Jacob, 2013). A wide range of certified vocational programs are offered by different types of institutions.

Formal tracking. Vocational education opportunities with lower secondary certificates vary across federal states (Gresch, Baumert, & Maaz, 2010), but are mainly restricted to dual vocational training (Helbig & Nikolai, 2015; KMK, 2015). In the dual system of vocational training, more than 300 different programs are available, which combine practical training in firms with education in specialized vocational schools (*Berufsschulen*) and provide standardized exams and certificates. Depending on the degree of specialization and expertise, vocational training programs have a duration from two to three and a half years. Admission to dual training is regulated by market principles; i.e. employers are free in their decision whether they offer apprenticeships, in which occupations they do so, how many positions they offer and whom they hire. Educational credentials are among the most important hiring criteria. Additionally, large firms, where dual training is particularly attractive, often use standardized admission tests for hiring.

In recent years many applicants for training positions, particular lower educated youth, did not succeed in entering training directly after school (Kleinert & Jacob, 2013). Unsuccessful school leavers who are still in compulsory schooling age have to participate in some form of vocational preparation. The Federal Employment Agency is responsible for supporting matching between employers and applicants for training positions and decides about admission as applicants. School leavers who are not considered to be mature to training due to school dropout, low school performance, language deficits, or behavioural problems are referred to vocational preparations programs or to programs where they can acquire a missing lower school certificate.

Vocational training programs are highly heterogeneous with regard to remuneration during training, subsequent employment chances and wage prospects. Thus, they may be ordered hierarchically into four segments according to the dominance of participants' previous school attainment. In the *upper segment* mainly entrants with an upper degree and several with intermediate degrees are found. Here, well-paid white-collar fields in commercial, administrative, IT and media occupations prevail. In the *top middle segment* mainly entrants with an intermediate degree and several with upper degrees are found, who are trained in

industrial, technical and commercial occupations. The *lower middle segment* comprises mainly entrants with an intermediate degree and several with lower degrees and represents as well industrial, technical and commercial occupations. Craft, retail, construction and body care occupations prevail in the *bottom segment*, which is filled mainly by entrants with lower and several with intermediate degree (Autorengruppe Bildungsberichterstattung, 2016). The four segments differ with respect to branches, income, job position and development prospects. The homogeneity of occupations in the segments over time indicates stable recruiting patterns of firms (Autorengruppe Bildungsberichterstattung, 2016, pp. 110–112).

The sector of vocational education in full-time schools is much smaller as the sector of dual training in Germany. Many school-based training programs require an intermediate school certificate and mostly they train for white-collar occupations in early child education, social and health care, as well as in clerical occupations. These programs are mostly entered by women (Autorengruppe Bildungsberichterstattung, 2016), while males rather enter industrial and craft as well as commercial dual training positions (Jacob & Solga, 2015, p. 164).

3.5 Rigidity and reversibility of tracking in secondary education

Within lower secondary education, students may change from one school track to another if they perform particularly well, or are advised to do so due to low performance. According to our empirical data of the cohorts born in 1970-80 de-facto track mobility during grade 5 to 9 is relatively low. This finding corresponds to previous research (Bellenberg, 2012; Buchholz & Schier, 2015; Ditton, 2013; Helbig & Nikolai, 2015; Jacob & Tieben, 2009; Lauterbach & Fend, 2016; Zielonka, 2017). Due to the fact that official statistics in Germany does not provide data on individual educational trajectories, the studies come to different conclusions regarding the prevalence of upward or downward mobility.

More important are the manifold options to upgrade school-leaving certificates or to make up for missed chances via second-chance options. A remarkable share of students upgrade their initial school-leaving degrees (Buchholz & Pratter, 2017; Buchholz & Schier, 2015; Schindler, 2015). At the lowest level of secondary education, school dropouts may attain a lower secondary certificate via one-year vocational preparation years or they receive it automatically when completing an apprenticeship.

In some federal states lower secondary schools offer grade 10 for well-performing students in order to acquire an extended lower qualification (*erweiterter Hauptschulabschluss*) or an intermediate secondary qualification. Other states distinguish between basic and qualifying lower degrees (*qualifizierender Hauptschulabschluss*) based on the performance of graduates, and try this way to provide clearer signal to prospective employers. Nearly all federal states have now introduced combined lower and intermediate secondary schools, where both lower and intermediate certificates can be acquired.

Intermediate secondary certificates are often attained jointly with the completion of dual training or school-based vocational education if sufficient knowledge in general core subjects is proven. Both dual and school-based vocational training may be combined with courses to attain the upper secondary degree if students already hold an intermediate secondary certificate

at a particular performance level (KMK, 2015; Vereinbarung über den Erwerb der Fachhochschulreife in beruflichen Bildungsgängen, 1998).

The main direct route to tertiary education is through upper secondary school (*Gymnasium*). However, this route is supplemented by several options. First, dependent on performance, students with an intermediate certificate may change to upper secondary schools and upgrading their degrees directly. The majority of upgrades to upper secondary degrees are attained at vocational upper secondary schools. For this reason, many upgraded university entrance qualifications are restricted to universities of applied science.

3.6 Higher education

Formal tracking. Traditional academically oriented universities are considered as more prestigious as universities of applied science, that are much closer to applied and vocationally oriented education (Weiss & Schindler, 2017). Both types lead to formally equivalent Bachelor and Master degrees or state examinations (KMK, 2015). In recent years, these two main routes to tertiary education are complemented by an increasing number of other institutions, such as universities of cooperative education (*Berufs-/Studienakademie*), which combine academic training with practical professional in-company training and also lead to Bachelor degrees (KMK, 2015). Dual study programs were introduced in order to transfer the system of dual vocational training to the tertiary level. In 2014, these tracks contributed to five percent of all tertiary level programs (Autorengruppe Bildungsberichterstattung, 2016, p. 125).

General upper secondary school certificate entitles to enter all university programs without internal restrictions or a general numerus clausus. Today, almost half of the programs in universities and universities of applied science are restricted. Admission is granted by a large variety of criteria, for example final average school grade, grades in specific subjects, subject specializations in school, aptitude tests, professional experience, or selection interviews (KMK, 2015, p. 128). Restriction varies strongly across fields of study and federal states and varies between universities and universities of applied science. In 2013, the rates of programs with a numerus clausus regulation ranged from more than 90 percent of STEM programs in Hamburg to less than ten percent of engineering programs in Thuringia (Herdin & Hachmeister, 2014).

Since 2009, admission to university programs is also granted to applicants without a respective academic qualification who bring a field-specific vocational qualification and occupational experience (KMK, 2015). Their share is low, comprising 3.5% of entrants in 2014 (Autorengruppe Bildungsberichterstattung, 2016).

While before the Bologna reform, most university programs in Germany had been one-cycle programs, they now have been changed into bachelor's and master's cycles. Consequently, this process has resulted in a new hierarchy of tertiary degrees. Neugebauer, Neumeyer, and Alesi (2016) show that this reform has increased social selectivity at the master's level.

Elite vs. standard institutions. Just as in secondary education, also in tertiary education there are traditionally no elite institutions preparing for leading positions in society. In recent years, however, an increased competition and vertical differentiation of tertiary institutions of

the same type could be observed. Institutions tried to position their teaching or research as superior, political actors induced competitions such as the *German Universities Excellence Initiative* and third-party ranking lists got more popular (Bloch et al., 2014; Deppe & Kastner, 2014). Weiss and Schindler (2017) find hints that top-rated universities (by scientific quality indicators) compared to other universities are more likely to be chosen by students from higher social classes.

The formerly marginal share of private institutions in higher education has increased as well in Germany to around six percent, particularly in business administration and economics, where private universities are often ranked highly. Whereas public universities are free of admission, private institutions may charge tuition fees (Bloch & Mitterle, 2017, pp. 935–938). Nevertheless, few private tertiary institutions claim for elitism.

4. OED associations of the birth cohort 1970-1980

This section of the report investigates the associations of the mobility triangle – associations between social origin (O), education (E) and destination (D) – based on empirical data for the population in West Germany born in between 1970 and 1980. The next section shows how social origin and track placement are associated. Findings concerning the effects of tracking on educational trajectories and labour market outcomes are discussed in section 4.2. Section 4.3 is dedicated to the mediating effect of track placement between social origin and educational and occupational attainment.

All the analyses focus on formal differences between tracks at the lower and upper secondary level of general schooling. Briefly, at the lower secondary level these formal differences are mirrored by the tripartite system with lower, intermediate, and upper tracks, while at the upper secondary level they correspond to general and vocational upper secondary schools. To harmonize the track options available throughout the educational career the category ‘general upper track’ also includes the upper track at lower secondary level. After respondents have left secondary general education, they are assigned the track they have acquired their highest certificate, e.g. they are assigned to ‘general upper track’ if they have left school and made their *Abitur*. Hence, we distinguish five track categories in our analyses: school dropouts, lower, intermediate and upper tracks of secondary education, and vocational upper secondary schools. The category ‘vocational upper secondary track’ is available only from age 16 onwards.

Social origin is measured by parental education and social class. The former is operationalized in three broad groups. Basic corresponds to families where both parents have up to an intermediate degree and no vocational training; the second category represents those families where one parent has an intermediate degree and the other has a general upper secondary degree and vocational training (or those families where both parents have the latter degree plus vocational training), while the third category includes all the families where at least one parent has a tertiary degree. Descriptives are reported in Appendix 2. To measure parental social class we employ the EGP class schema with 6 categories: 1) Service class [I and II]; 2) Routine non manual [IIIa and IIIb]; 3) Small scale self-employed [IVa and IVb]; 4) Self-

employed farmers [IVc]; 5) Skilled manual and lower grade technicians [V and VI]; 6) Unskilled manual [VIIa and VIIb]. Also in this case the dominance criterion has guided the allocation into the categories. Missing data has been handled via listwise deletion.

4.1 Social origin and track placement

Figure 4 displays the distribution of respondents' track placement by social origin, measured by three broad groups of parental education.²² The figure shows how the distribution changes over the educational career of individuals born between 1970 and 1980.

If we look at the first track placement, which takes place usually at age 10, about three quarters of the respondents from highly educated families attend the general upper track, while this is the case for one quarter of the individuals whose parents have an upper secondary degree. The proportion drops at 15 percent in the group of respondents from less educated backgrounds. Vice versa, 61 percent in this group choose the lower track and 24 percent the intermediate one. The ratio between the two educational alternatives is smaller for students from higher educated families. For instance, if we consider medium educated parents, 43 percent of their children enrol in the lower and 32 percent in the intermediate track, while among respondents with tertiary educated parents only 10 percent and 15 percent respectively attend the lower and the intermediate track.

This pattern hardly changes when we consider respondents' track placement at age 13, except for individuals from medium educated families. In this group, quite similar percentages attend the lower and the intermediate track (37 percent).

At age 16, social selectivity of tracking increases: the share of respondents from poorly educated families who enrol in the upper track declines, whereas their share in the lower track (plus dropouts) increases. Among medium and highly educated families fewer 16-year-old students attend the lower track than at age 13 (33 percent among medium and 5 percent among highly educated parents) and more enrol in the intermediate track (42 percent among medium and 19 percent among highly educated families).

22 When we use a more detailed variable of parents' education -differentiating the parents with a basic vocational training from those having an intermediate or vocationally specific training- the patterns do not change much (see figure reported in Appendix 3).

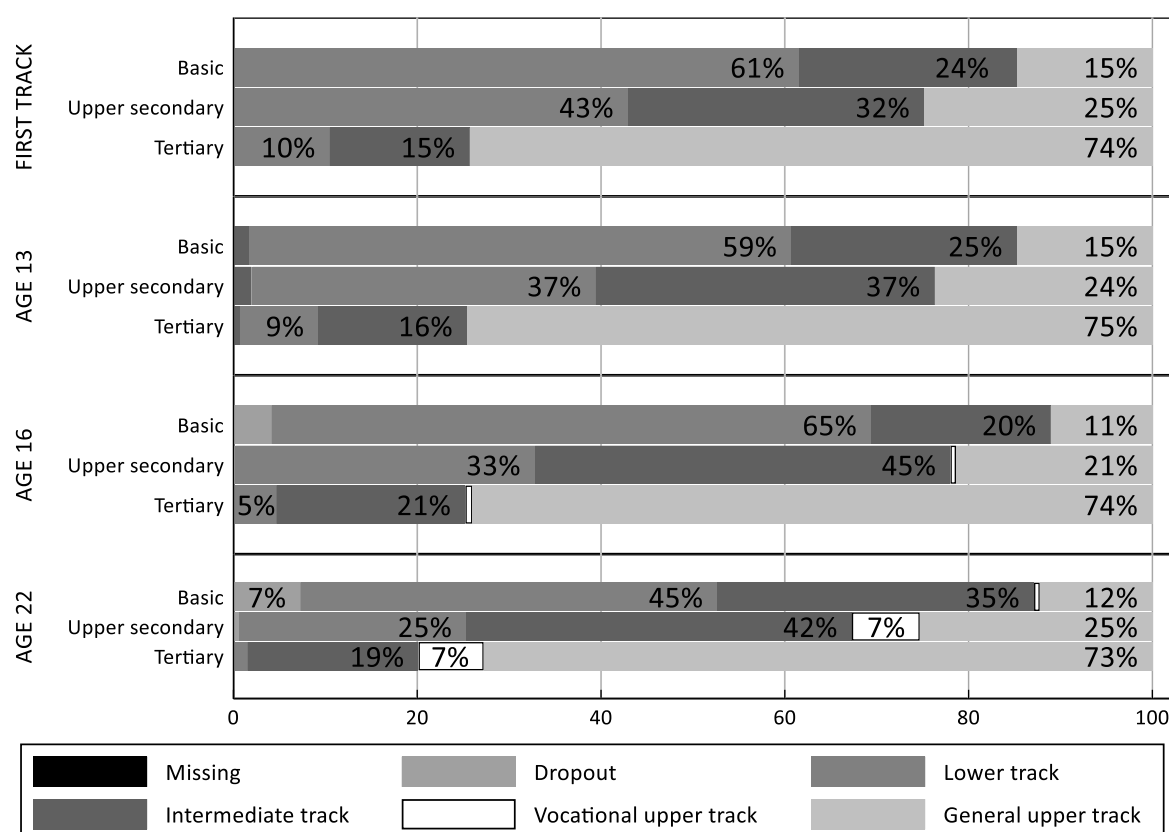


Figure 4. Track attendance over time by parental education, birth cohort 1970-80

Source: Own calculation based on weighted NEPS SC6 data (release: 8.0.0)

At 22 years of age, all three social background groups show increases in educational attainment. Even though 45 percent of the students coming from poorly educated families attend the lower track, those who attend the intermediate grows from 20 percent at age 16 to 35 percent. Students from medium educated families improve their placement as well: less attend the lower track (25 percent) and more attend the general (25 percent) and vocational (7 percent) upper track. A similar pattern shows up for students from highly educated families. The share attending the lower and intermediate tracks decreases, and a small share attend (or have attended) vocational upper secondary education.

Figure 5 shows the same distributions considering parental class instead of education. The categories unskilled manual workers and workers in agriculture (VIIab), self-employed farmers (IVc) and, to a lesser degree, also skilled manual workers and lower grade technicians (V and VI) show the pattern discussed above for poorly educated families. It is interesting to note that among students from three classes (routine non-manual workers [IIIa], small-scale self-employed [IVab] and the service class [I and II]) shares in the intermediate track increase already at age 13, compared to shares in the lower track. With the exception of routine non-manual workers (IIIab), after another three years fewer respondents are enrolled in the lower track and more attend the intermediate track. At this age, nearly exclusively children of self-employed (IVab) opt for an upper vocational track

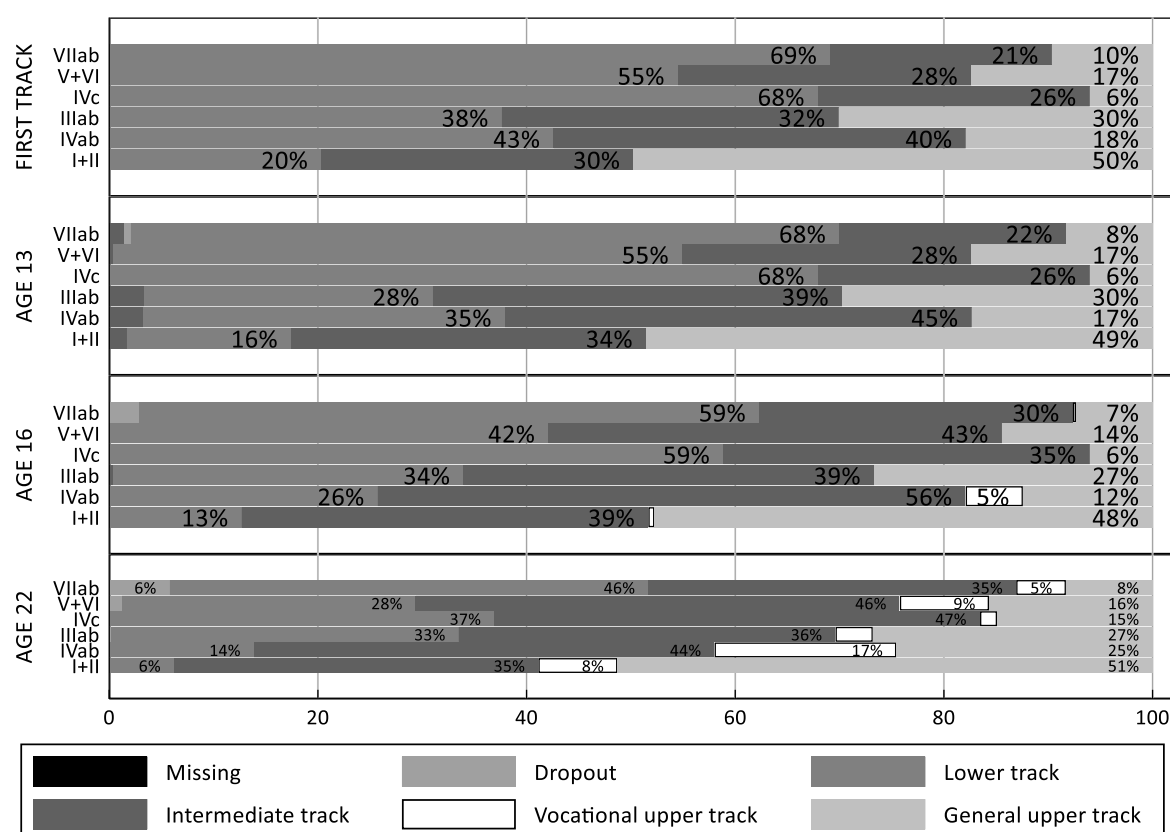


Figure 5. Track attendance over time by parental class, birth cohort 1970-80

Source: Own calculation based on weighted NEPS SC6 data (release: 8.0.0)

At the last measurement point at age 22, we see again increasing shares in the intermediate and upper tracks for most classes, which point to trajectories from the lower to the intermediate track (visible among unskilled manual [VIIab] and skilled manual workers [V and VI], self-employed farmers [IVc], and the service class [I and II]), and from the lower to the upper vocational track (visible among all social classes). Upgrades to the general upper track, however, only take place among self-employed farmers (IVc) and other small-scale self-employed (IVab) as well as the service class (I and II).

To understand how much variance in track placement is explained by social origin we carried out a series of multinomial logistic regression models. First, we regress track placement on social origin (parental education first and parental social class second). Second, we compare the McFadden Pseudo R^2 that reports the share of variance of the dependent variable, which is reduced (or “explained”) by considering social background. In contrast to the previous figures here we trace students’ track placement every year from age 12 up to 22.²³ Figure 6 shows plotted results of these regressions. The horizontal axis reports at which age track location refers to while the vertical axis shows the share of the explained variance (the complete regression tables are reported in the Appendix, Tables 4 and 5).

²³ As almost 30 percent of the respondents did not indicate the transition to a secondary school track before age 12 this represents our starting point. Since secondary school certificates are rarely attained after turning 22, this age represents the end point of our observational window.

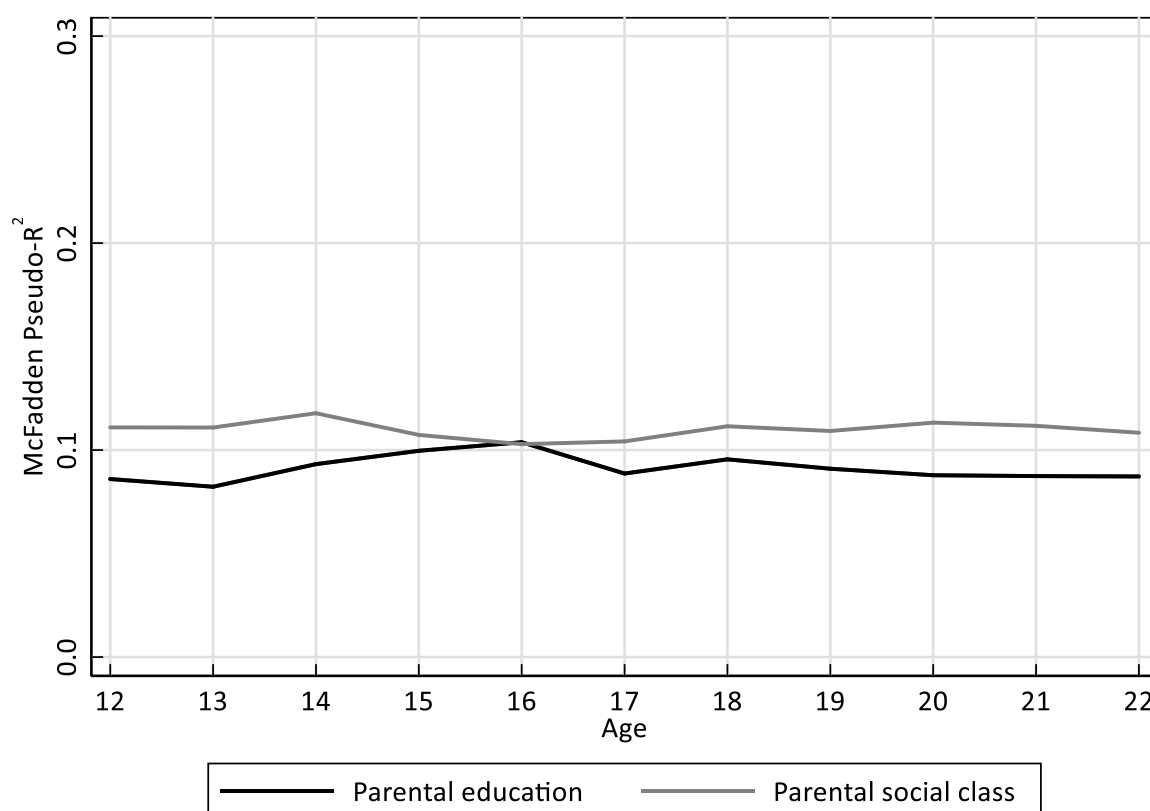


Figure 6. Track placement over life course, share of variance explained by social background

Source: Own calculation based on NEPS SC6 data (release: 8.0.0)

Figure 6 illustrates that social origin explains about 10 percent of the variance in track placement at the beginning of lower secondary education. Parental social class (grey line) explains a bit more than parental education (11 percent versus 9 percent). After a small increment, from age 13 to 16 where the latter catches the former up, such shares hardly change over time.

4.2 Long-term consequences of tracking

This section describes the extent to which early and subsequent track placements are associated with educational and labour market outcomes up to occupational maturity (which for Germany we define at 35 years of age). In order to describe educational outcomes, we use shares of upper secondary degrees (acquired at either general or vocational upper secondary schools), tertiary graduates in total, and university graduates. Labour market outcomes are all measured at or until occupational maturity at age 35 and include:

- social status, measured by international socio-economic index (ISEI),
- social class, measured by the EGP class scheme, collapsed again to six classes,

- annual net earnings²⁴,
- general unemployment experience, measured as share of the time being active in the labour market,
- long-term unemployment experience, measured as share of persons who experienced six or more consecutive months of unemployment.

Table 1 provides summary statistics for the outcomes used in the following analyses.

Table 1. Educational and occupational outcomes, birth cohort 1970-80

	Unweighted		Weighted	
	N	Percent	N	Percent
First track placement	1031	100.00	995	100.00
Lower track	304	29.53	396	39.81
Intermediate track	280	27.11	283	28.50
Upper track	447	43.37	315	31.69
Track placement at age 17	1031	100.00	995	100.00
Dropout	4	0.39	8	0.82
Lower track	200	19.38	270	27.15
Intermediate track	335	32.46	371	37.31
Upper track	492	47.77	344	34.72
Track placement at age 22	1031	100.00	995	100.00
Dropout	6	0.58	11	1.08
Lower track	165	16.07	229	23.11
Intermediate track	318	30.78	374	37.59
Vocational upper track	97	9.39	65	6.62
General upper track	445	43.18	314	31.61
Upper secondary degree	1031	100.00	995	100.00
No	484	46.95	596	59.97
Yes	547	53.05	399	40.03
Tertiary degree	1031	100.00	995	100.00
No	612	59.44	700	70.44
Yes	419	40.56	295	29.56
University degree	1031	100.00	995	100.00
No	754	73.18	804	80.81
Yes	277	26.82	191	19.19

Table 1. Continued

General unemployment experience	994		963	
Mean	0.05		0.05	
SD	0.12		0.12	
Long-term unemployment experience	994	100.00	963	100.00
No	729	73.29	696	72.35
Yes	265	26.71	266	27.65
Social status (ISEI)	860		837	
Mean	56.06		51.90	
SD	20.55		20.36	
Net annual earnings	545		531	
Mean	29,403		27,430	

²⁴ In NEPS SC6 this information is only asked to respondents who either were working at the moment of the interview or worked the month before.

SD	19,927		19,685	
Social class	860	100.00	837	100.00
VIIab: Unskilled manual	59	6.69	79	9.53
V+VI: Skilled manual	84	9.74	103	12.32
IVc: Self-employed farmers	6	0.70	11	1.26
IIIab: Routine non-manual	159	18.56	177	21.17
IVab: Self-employed	29	3.36	30	3.63
I+II: Service class	523	60.67	436	52.08

Source: Own calculation based on NEPS SC6 data (release: 8.0.0)

4.2.1 Educational outcomes

Figure 7 illustrates vocational and tertiary educational attainment of the respondents at occupational maturity, distinguished by their first track placement in lower secondary education.

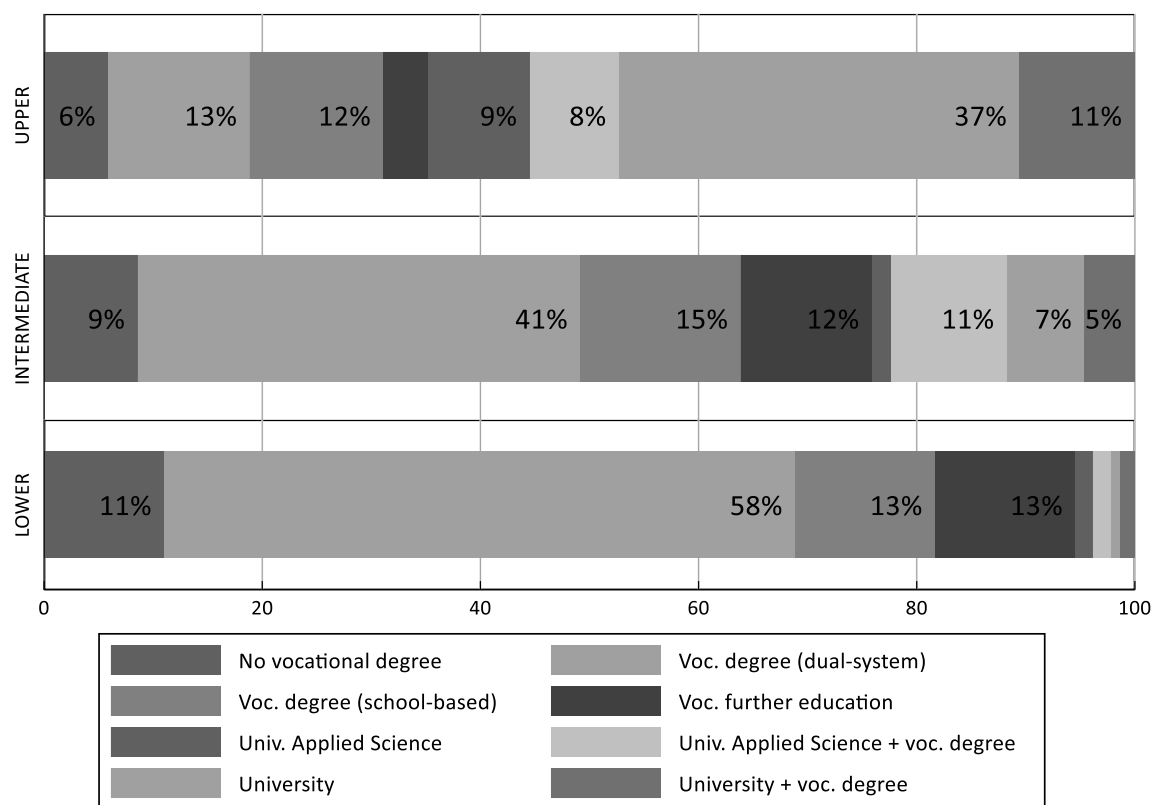


Figure 7. Post-school educational attainment at age 35 by first track placement, birth cohort 1970-80

Notes: Numbers report the percentages (only if equal or greater than 5%). Source: Own calculation based on NEPS SC6 data (release: 8.0.0)

The figure shows impressively that track placement at age 10 is highly predictive for subsequent educational outcomes. Among those who attended the lower track at age 10 more than 80 percent hold a vocational certificate, which was mostly acquired in dual training, 11 percent have no vocational degree (which is required as entrance ticket to skilled labour in the highly vocational specific German labour market), and tertiary degrees are the exception with only a six percent share. In the group of the respondents who attended the upper secondary track at age 10, the groups of persons without a vocational degree and most importantly with a dual training degree decline, while school-based and further vocational training are as frequent as among the ones in the lower track. Vice versa, higher education certificates are found more frequently in this group. In the group of persons who attained the upper track at age 10, academic certificates prevail: more than 60 percent possess a tertiary degree, whereas the shares of dual training and further training are considerably smaller compared to those who attained the intermediate track at age 10.

If we look closer at the different subgroups with tertiary education, we are able to distinguish between direct paths and indirect paths, pursued by graduates who attained a vocational degree before studying. Among those who started secondary schooling in the upper track, 46 percent followed the straight path, while 18 percent obtained their tertiary degrees after vocational training. Among the attendees of the intermediate track, only 9 percent attained their tertiary degree directly, whereas 16 percent followed the alternative path. Among those who attended the upper track in school, universities are preferred over universities of applied science, whereas for those who attended the intermediate track credentials are more likely to be achieved in universities of applied science after vocational training.

To understand how much variance in educational and labour market outcomes is explained by track placement we carried out a series of OLS regressions. By regressing educational and labour market outcomes on track placement and comparing the coefficient of determination (R^2) it is possible to calculate the share of variance of the dependent variable, which is reduced (or “explained”) by considering track location. These regressions were performed for track placement at different ages to examine how the relevance of track placement changes over the educational career. Figures 8-9 show plotted results of these regressions. On the horizontal axis they display the age at which respondents were asked about track location and on the vertical axis the share of the explained variance (for the underlying regression tables see Appendix, Tables 6 and 7).

Figure 8 shows how much of the variance in attaining different levels of education is predicted by track placement and how this changes over time. Considering the probability of achieving a general or vocational upper secondary school degree (*Fachhochschulreife*, *Hochschulreife*, *Abitur*) (black line), 40 percent of its variance is explained already by early track placement. From age 16 on, in the age span when upper secondary degrees are usually obtained, the relevance of track location increases steeply and at age 22 explained variance reaches nearly 80 percent. Early secondary track placement predicts one third of the variance of attaining a tertiary degree (grey line), and again its importance grows over time, explaining almost half of the variance at age 22.

The dotted black line, which only marks university (and not university of applied science) certificates, appears to be lower and flatter. This points to the fact that in explaining the chances of having a tertiary degree at occupational maturity, track placements at later stages explain more or less the same amount of variance predicted by initial track placement. Similar conclusions can be reached by looking at the regression tables (see Table 6 in the Appendix). The coefficients displaying the advantage of those who attended the upper track remain constant over time. Regardless of age, the probability of attaining a university degree at occupational maturity is 50 percentage points higher for persons who attained the upper track at school compared to that of those who attended the lower track. This result illustrates that straightforward academic careers are decided very early in Germany, while second-chance options to enter tertiary education seem not to heighten their chances.

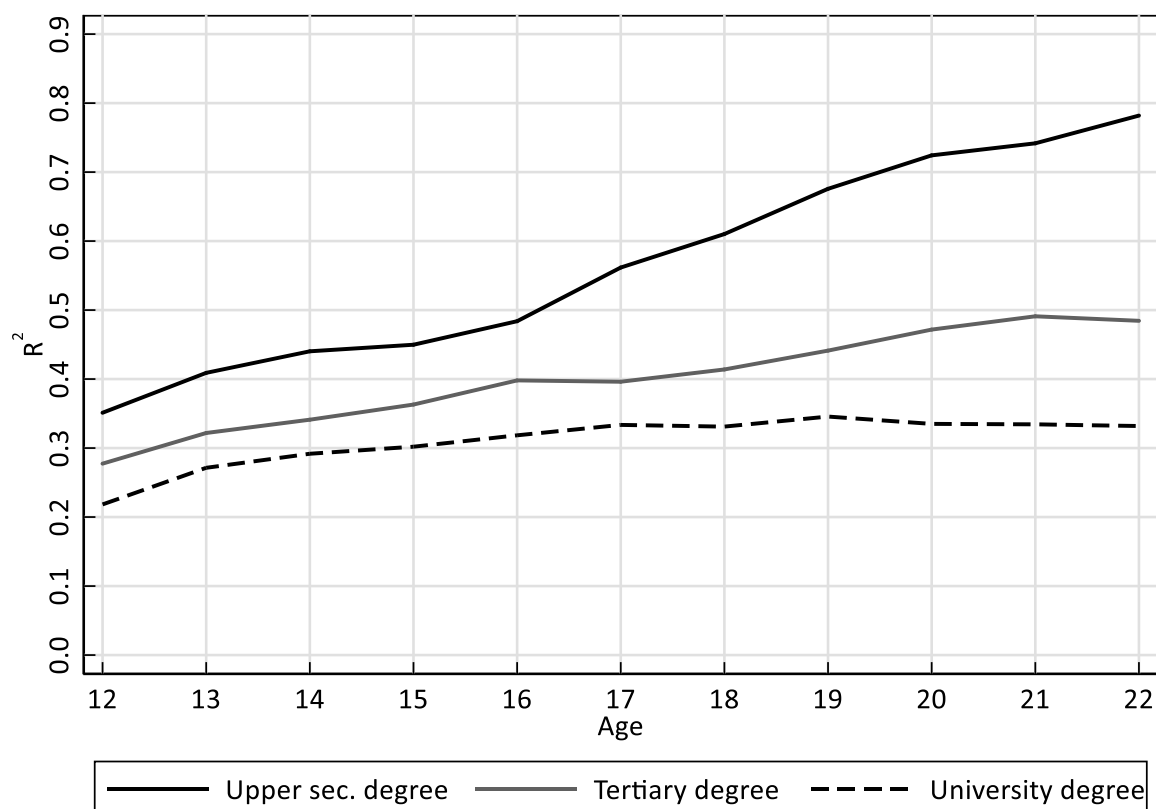


Figure 8. Educational attainment at age 35, share of variance explained by track placement by age

Source: Own calculation based on NEPS SC6 data (release: 8.0.0)

4.2.2 Labour market outcomes

Turning to labour-market outcomes, Figure 9 shows that track placement is most predictive in explaining socio-economic status (23% explained variance), whereas it is not very predictive in explaining annual earnings, with class membership playing a middle role.

Regarding socio-economic status (ISEI), subsequent measurements of track placement increase its predictive power up to six percentage points. Considering the regression coefficients in Table 6 in the Appendix, the advantage of those who attended the upper track reaches from 23 ISEI points for track placement at age 12 to 28 ISEI points for track placement at age 22. The same trend emerges for adults who were placed in the intermediate track, although their increment is smaller (9 ISEI points at age 12 and 11 points at age 22).

Considering categorical measures, the probability of being in the higher service class I at age 35 does not seem to be sensitive to track placement, and this situation does not change over time. This is mirrored in the regression coefficients of the different track placements, which remain quite stable. More sensitive to early track placement is instead the likelihood of belonging to the working class (V+VI+VII, dotted black line). While about ten percent of its variance is predicted by track location at age 12, this percentage increases by 11 percentage points for track placement in the following ten years. The regression coefficients in Table 5 in the Appendix show that the difference in the likelihood between having attained a lower and a

higher track at age 12 is 30 percentage points. For track placement at age 22 it amounts to 50 percentage points. Track placement between 15 and 17 seems to be quite important in explaining the chances of being an unskilled worker at age 35 (VII, black solid line). The regression coefficients in Table 6 in the Appendix reveal that this effect is mainly due to school dropouts.

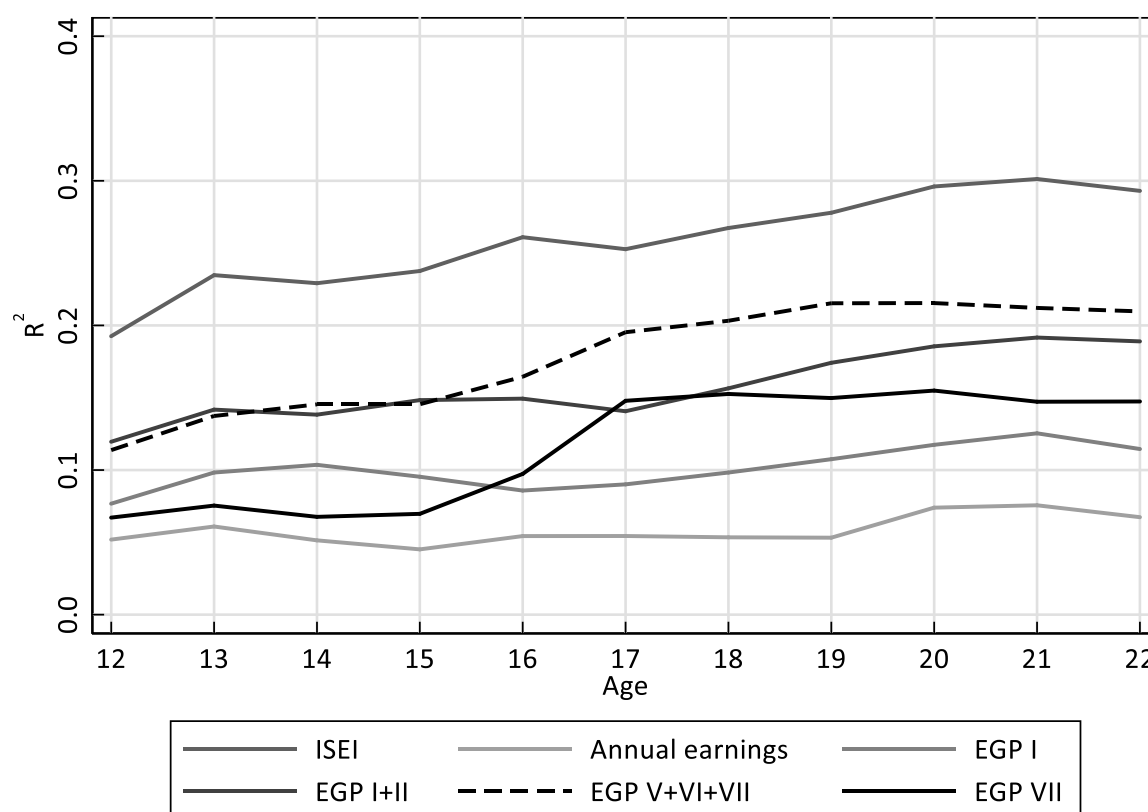


Figure 9. Occupational outcomes at age 35, share of variance explained by track placement by age

Source: Own calculation based on NEPS SC6 data (release: 8.0.0)

Figure 10 shows that unemployment experience is hardly predicted by track placement. Regardless of the measures considered (the proportion of time after education spent unemployed, grey line; or the probability of experiencing at least 6 months of unemployment, black line), secondary track placement seems to be a bad predictor in explaining variation in unemployment episodes. Interestingly, explained variance is consistently higher for long-term unemployment than for unemployment in total, suggesting that track placement might either act as signal for employers after a phase of unemployment or it might be connected systematically with resources which help to end unemployment soon.

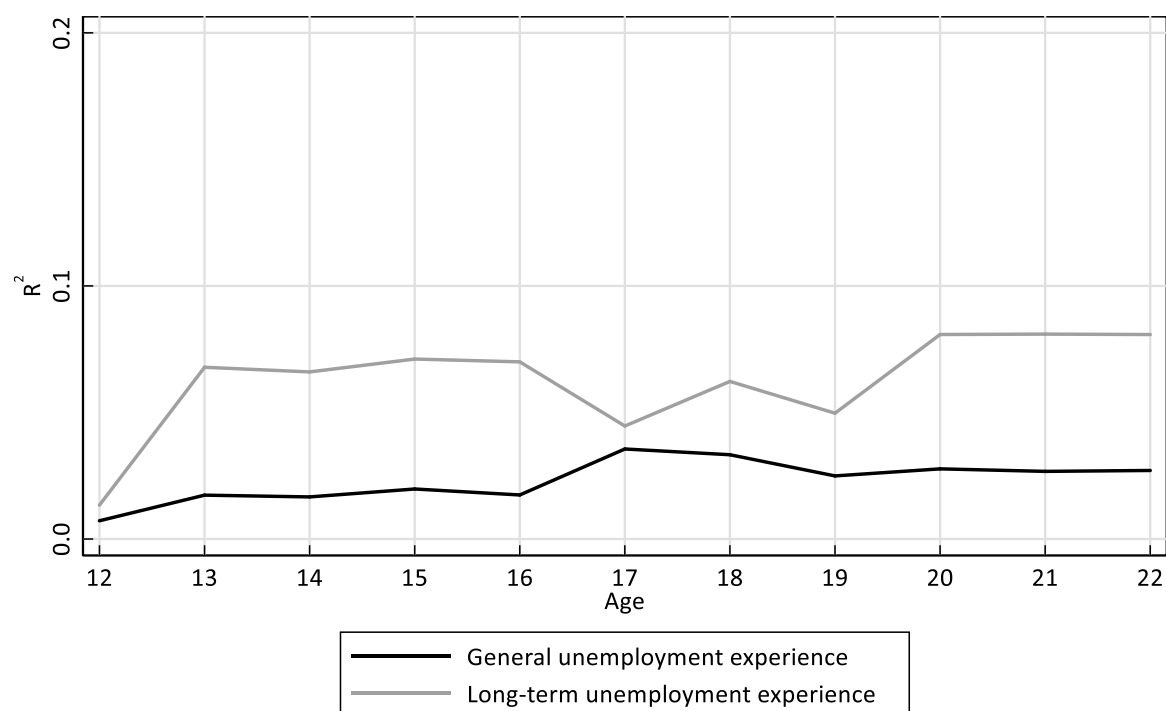


Figure 10. Unemployment experience at age 35, share of variance explained by track placement by age

Source: Own calculation based on NEPS SC6 data (release: 8.0.0)

4.3 Decomposition of long-term social inequality

In the last empirical section of this report, we examine how track placement mediates the effect of social origin on educational and labour market outcomes. In other words, in the following we aim to understand to what extent track placement in secondary education accounts for the association between social background and own educational and labour market destination at the age of occupational maturity. The outcomes analysed are the same as in the above section.

The following two tables show OLS regression estimations (in case of binary dependent variables linear probability models), which contain the main independent variable (social background) and a series of mediator variables (track placement at different ages), without including additional sociodemographic controls. Each column represents a different model specification: Model 1 only includes parental background (either measured by education or by social class) and the values reported are the original regression coefficients. The subsequent models introduce respondents' track placement when they started lower secondary education (model 2), when they were 17 (model 3), and when they were 22 years old (model 4). For these models, the percentage of the difference in educational and occupational outcomes due to parental background, which is mediated by track placement, is reported. Complete regression tables can be found in the Appendix from Table 8 to 29. Table 3 contains the original regression tables for educational attainment (probability of attaining an upper secondary, tertiary and university degree), whereas Tables 4, 5 and 6 report the original regression coefficients for

labour market outcomes (ISEI, probability of reaching higher service class, service class, manual class, unskilled class, earnings, and probability of experiencing unemployment). To make things easier, while explaining the first result we also provide detail descriptions of how the percentages were computed.

Table 2 shows that compared to a poorly educated household, growing up in a family with at least one parent with a tertiary degree conveys an advantage of 67 percentage points in obtaining an upper secondary degree.

Table 2. Linear probability models regressing educational outcomes at age 35 on social origin, percentage of inequality of outcomes explained by track placement, birth cohort 1970-1980

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Obtaining an upper secondary degree				
Parental education (ref. tertiary, N = 978)				
Basic	-0.67***	53%	78%	90%
Upper secondary	-0.45***	62%	84%	93%
R ²	0.14	0.40	0.56	0.78
Parental class (Ref. service class I+II, N = 941)				
VIIab Unskilled manual	-0.44***	66%	84%	95%
V+VI Skilled manual	-0.35***	66%	74%	91%
IVc Self-employed farmer	-0.44***	68%	80%	86%
IIIab Routine non-manual	-0.30***	43%	67%	87%
IVab Self-employed	-0.19*	105%	115%	84%
R ²	0.14	0.42	0.57	0.80
Obtaining a tertiary degree				
Parental education (ref. tertiary, N = 978)				
Basic	-0.61***	46%	62%	67%
Upper secondary	-0.45***	49%	60%	62%
R ²	0.15	0.33	0.41	0.49
Parental class (Ref. service class I+II, N = 941)				
VIIab Unskilled manual	-0.38***	60%	74%	79%
V+VI Skilled manual	-0.30***	60%	63%	73%
IVc Self-employed farmer	-0.40***	62%	67%	67%
IIIab Routine non-manual	-0.24***	42%	58%	75%
IVab Self-employed	-0.24**	67%	67%	46%
R ²	0.12	0.33	0.40	0.49
Obtaining a university degree				
Parental education (ref. tertiary, N = 978)				
Basic	-0.48***	42%	56%	56%
Upper secondary	-0.42***	38%	48%	43%
R ²	0.16	0.29	0.36	0.37
Parental class (Ref. service class I+II, N = 941)				
VIIab Unskilled manual	-0.31***	52%	61%	61%
V+VI Skilled manual	-0.28***	46%	53%	53%
IVc Self-employed farmer	-0.32***	56%	45%	56%
IIIab Routine non-manual	-0.22***	36%	50%	54%
IVab Self-employed	-0.23***	52%	56%	30%
R ²	0.12	0.28	0.35	0.35

Notes: + p<.10, * p<.05, ** p<.01, *** p<.001. The mediation percentages are computed only for coefficients significant at the 10% level or above; otherwise they are displayed as *n.s.* Source: NEPS SC6 data (release: 8.0.0), own calculations

53 percent of this advantage is accounted for by track placement at the beginning of lower secondary school. As showed in Table 8 in the Appendix, such percentage is computed by subtracting -0.31 from the regression coefficient of model 1 (-0.67) and by dividing the result by the latter coefficient. Mathematically: $(-0.67 - (-0.31)) / -0.67 = 53\%$. Controlling for track location at age 17 explains 78 percent of the gap between highly and poorly educated families in achieving an upper secondary degree (i.e., $(-0.67 - (-0.15)) / -0.67 = 78\%$). Track location at age 22 explains 90 percent (i.e., $(-0.67 - (-0.07)) / -0.67 = 90\%$) of the gap.

When we consider the probability of attaining tertiary and university degrees, the mediating role of track placement diminishes although considering students mobility over his/her educational career further explains part of the social background differences. This means that not only first track placement, but subsequent track placements explain part of the association between origin and own educational outcomes.

Turning to labour market outcomes, Table 4 shows that also the association between social origin and socio-economic status (ISEI) at age 35 is mediated by track placement and its mediating role increases over the educational career. In contrast, when considering the probability of reaching the higher service class, the mediating power of track placement in general is lower than for the case of socio-economic status (it rarely reaches 50%). Although to a lesser extent, also the likelihood to enter the service class show lower percentages than socio-economic status.

The social background differences in the probability of ending up in the manual class instead are almost entirely explained by track mobility. Especially when social origin is measured through parental education. This is especially true for the probability of belonging to the unskilled class. Origin differences due to parental education are already totally explained when the model does not control for track mobility after the first placement. This seems to suggest that track mobility levels off individuals' chances of ending up at the bottom of social strata.

Table 3. OLS & linear probability models regressing occupational outcomes at age 35 on social origin, percentage explained of inequality of outcomes by track placement, birth cohort 1970-1980

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Socio-economic status (ISEI)				
Parental education (ref. tertiary, N = 824)				
Basic	-25.40***	42%	50%	57%
Upper secondary	-14.24***	55%	58%	66%
R ²	0.10	0.24	0.27	0.30
Parental EGP (Ref. service class I+II, N = 796)				
VIIab Unskilled manual	-18.44***	42%	50%	54%
V+VI Skilled manual	-11.43***	53%	50%	60%
IVc Self-employed farmer	-23.05***	38%	34%	37%
IIIab Routine non-manual	-11.00***	31%	47%	61%
IVab Self-employed	-9.01*	57%	55%	48%
R ²	0.14	0.26	0.27	0.31
Higher service class I (EGP)				
Parental education (ref. tertiary, N = 824)				
Basic	-0.35***	37%	43%	48%
Upper secondary	-0.21***	48%	52%	57%
R ²	0.05	0.10	0.10	0.12
Parental class (ref. service class I+II, N = 796)				
VIIab Unskilled manual	-0.32***	28%	28%	31%
V+VI Skilled manual	-0.25***	28%	28%	32%
IVc Self-employed farmer	-0.30***	33%	30%	30%
IIIab Routine non-manual	-0.13**	31%	46%	54%
IVab Self-employed	-0.06	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
R ²	0.09	0.13	0.13	0.15
Service class I+II (EGP)				
Parental education (ref. tertiary, N = 824)				
Basic	-0.54***	37%	42%	54%
Upper secondary	-0.25***	56%	60%	76%
R ²	0.07	0.15	0.15	0.20
Parental class (ref. service class I+II, N = 796)				
VIIab Unskilled manual	-0.42***	31%	36%	43%
V+VI Skilled manual	-0.26***	42%	38%	50%
IVc Self-employed farmer	-0.37***	40%	35%	43%
IIIab Routine non-manual	-0.21***	24%	38%	57%
IVab Self-employed	-0.10	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
R ²	0.10	0.16	0.16	0.20
Manual class V+VI+VIIab (EGP)				
Parental education (ref. tertiary, N = 824)				
Basic	0.28**	61%	82%	93%
Upper secondary	0.15***	73%	87%	100%
R ²	0.03	0.12	0.19	0.20

Notes: + p<.10, * p<.05, ** p<.01, *** p<.001. The mediation percentages are computed only for coefficients significant at the 10% level or above; otherwise they are displayed as *n.s.* Source: NEPS SC6 data (release: 8.0.0), own calculations

Table 3. Continued

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Manual class V+VI+VIIab (EGP)				
Parental class (ref. service class I+II, N =796)				
VIIab Unskilled manual	0.29***	45%	62%	65%
V+VI Skilled manual	0.18**	50%	50%	61%
IVc Self-employed farmer	0.20*	70%	60%	70%
IIIab Routine non-manual	0.16**	37%	62%	75%
IVab Self-employed	-0.03	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
R ²	0.07	0.15	0.20	0.21
Unskilled class VIIab (EGP)				
Parental education (ref. tertiary, N =824)				
Basic	0.11 ⁺	73%	100%	109%
Upper secondary	0.05 ⁺	120%	120%	140%
R ²	0.01	0.07	0.14	0.14
Parental class (ref. service class I+II, N =796)				
VIIab Unskilled manual	0.15**	40%	67%	73%
V+VI Skilled manual	0.09*	55%	55%	55%
IVc Self-employed farmer	0.05	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
IIIab Routine non-manual	0.08 ⁺	25%	63%	75%
IVab Self-employed	-0.03*	133%	133%	100%
R ²	0.04	0.08	0.15	0.15
Log earnings				
Parental education (ref. tertiary, N =523)				
Basic	-0.24*	104%	96%	112%
Upper secondary	-0.23**	87%	83%	87%
R ²	0.01	0.06	0.05	0.07
Parental class (ref. service class I+II, N =505)				
VIIab Unskilled manual	-0.34**	56%	47%	59%
V+VI Skilled manual	-0.03	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
IVc Self-employed farmer	-0.09	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
IIIab Routine non-manual	-0.26 ⁺	35%	39%	54%
IVab Self-employed	-0.18	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
R ²	0.03	0.08	0.07	0.08
General unemployment experience				
Parental education (ref. tertiary, N =948)				
Basic	0.07**	28%	28%	43%
Upper secondary	0.02 ⁺	50%	50%	100%
R ²	0.02	0.03	0.05	0.09
Parental class (ref. service class I+II, N =912)				
VIIab Unskilled manual	0.04 ⁺	50%	75%	75%
V+VI Skilled manual	0.04	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
IVc Self-employed farmer	-0.03***	-67%	-67%	-33%
IIIab Routine non-manual	0.00	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
IVab Self-employed	-0.01	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
R ²	0.02	0.04	0.06	0.10

Notes: + p<.10, * p<.05, ** p<.01, *** p<.001. The mediation percentages are computed only for coefficients significant at the 10% level or above; otherwise they are displayed as *n.s.* Source: NEPS SC6 data (release: 8.0.0), own calculations

Table 3. Continued

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Long-term unemployment experience				
Parental education (ref. tertiary, N =948)				
Basic	0.17*	18%	23%	35%
Upper secondary	0.02	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
R ²	0.01	0.01	0.04	0.03
Parental class (ref. service class I+II, N =912)				
VIIab Unskilled manual	0.11 ⁺	27%	55%	55%
V+VI Skilled manual	0.07	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
IVc Self-employed farmer	-0.07	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
IIIab Routine non-manual	0.03	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
IVab Self-employed	-0.08	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
R ²	0.01	0.02	0.04	0.03

Notes: + p<.10, * p<.05, ** p<.01, *** p<.001. The mediation percentages are computed only for coefficients significant at the 10% level or above; otherwise they are displayed as *n.s.* Source: NEPS SC6 data (release: 8.0.0), own calculations

4.4 Summary and conclusions

Our descriptive empirical analyses based on the West German birth cohorts 1970-80 largely confirm previous research. In Germany, formal tracking in lower secondary education seems to be the crucial mode of sorting students.

On the one hand, parental social background is tightly associated with track placement. Students from advantaged families, either in terms of parental education or occupational class, are more likely to choose the upper track. Additionally to previous research, our analyses show as well that there is a considerable amount of track mobility until early adolescence in Germany. Although initially enrolled in the lower and intermediate tracks, less advantaged students improve their track location over time. However, the same trend can be observed for more advantaged students. Upper vocational secondary schools, which enable to acquire at least a limited university entrance degree, have a particular important role in upgrading early track placement.

On the other hand, being placed in one of the three lower secondary school tracks results in different educational and occupational outcomes. Track placement strongly explains the likelihood of obtaining different educational credentials, most importantly upper secondary and tertiary degrees. In both cases, track placement gets more consequential the later it is measured. Hence, track mobility and second chance options seem to play a considerable role in the German educational system and enable chances to upgrade early track placement. Track placement at different points in the educational career also decides to a considerable and increasing degree about socio-economic status and occupational class (particularly of ending up in one of the lower classes) at occupational maturity. In contrast, the variation of other labour market outcomes is only weakly associated with respondents' track location in the German educational system. This accounts in particular for earnings and unemployment experience. Hence both dimensions, which are crucial regarding welfare and poverty risks,

seem to be less coupled to educational attainment in the German labour market and welfare state context than occupations.

Finally and consequently, our results show that early track placement at the beginning of lower secondary education mediates most of the differences in educational attainment which are due to social background. Turning to labour market outcomes, the mediating power of initial and subsequent track placements in explaining social background differences becomes smaller when we consider socio-economic status and the probability of belonging to the higher and service class. In contrast, when we analyse the probability of ending up at the bottom of the social ladder (manual and unskilled positions), early and subsequent track placements explain away the social background differences due to educational attainment. This result holds but to a lesser extent when social background differences are measured by social classes.

Since our analyses so far are descriptive, future research should investigate to what extent the effects of track placement are due to individuals' self-selection into school tracks trying to account for these differences in order to measure the "true" effect of track placement. Second, future research should also identify which mechanisms are responsible for the effect exerted by tracking on educational and occupational attainment. As our analyses have shown, track placement is not finished at age 12, as many of the stylized studies on the German educational system suggest, but sorting processes continue during lower and upper secondary education up until early adulthood and determine final educational outcomes and occupational placement to an increasing degree. Hence, future research is needed to examine the mechanisms behind these processes of track mobility.

Appendix

Appendix 1. Student distribution in lower secondary schools at grade 7 across federal states (year of reference 2016)

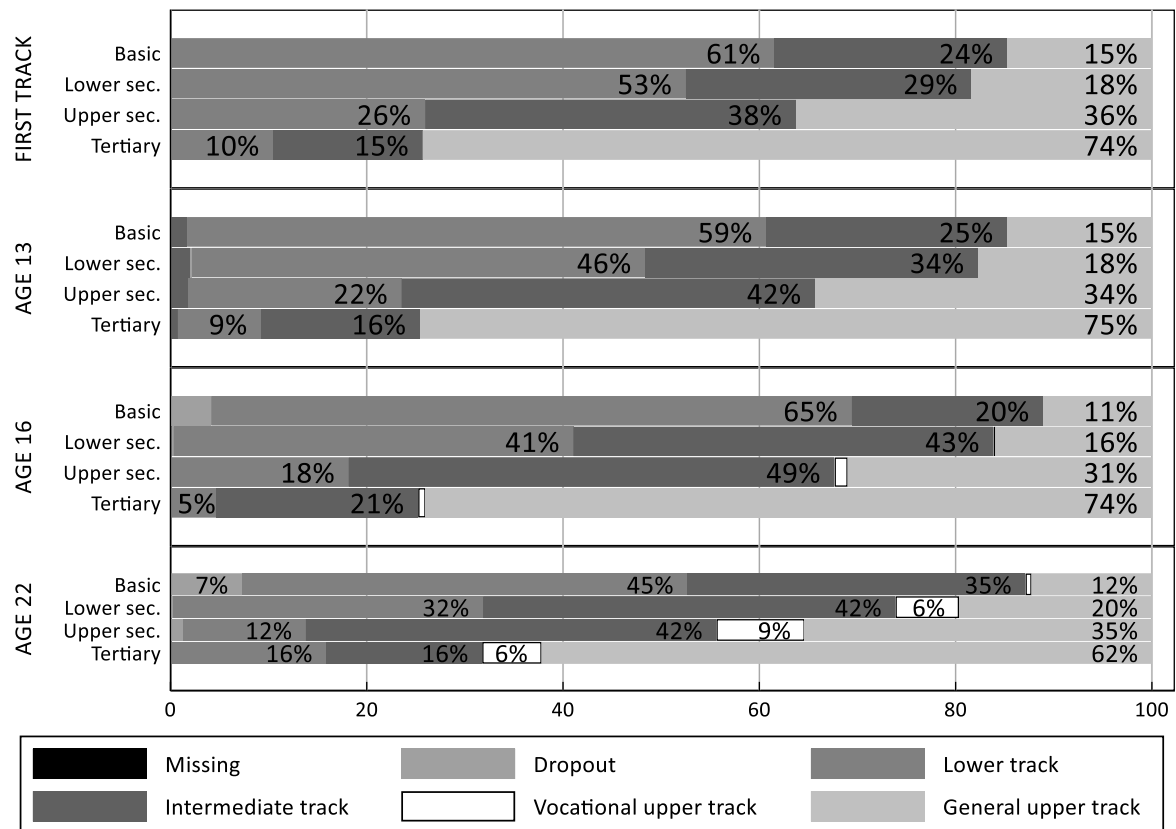
	Lower secondary schools	Intermedia te secondary schools	Upper secondary schools	Combined lower/inter m. schools	Integrated comprehen sive schools	Waldorf schools	Special needs schools
	Hauptschule n	Realschulen	Gymnasien	Sec. schools Schulen mit mehr. Bild. gg.	Integrierte Gesamtschule n	Waldorf- schulen	Förderschul en
Bavaria	30%	33%	33%	0%	0%	1%	3%
Baden-Württemberg	13%	34%	38%	0%	12%	2%	1%
Hesse	8%	21%	44%	2%	20%	1%	4%
North Rhine-Westphalia	7%	20%	36%	7%	25%	1%	4%
Lower Saxony	6%	15%	39%	22%	15%	1%	2%
Saxony	0%	0%	39%	55%	0%	0%	5%
Mecklenburg- Vorpommern	0%	0%	43%	43%	8%	1%	5%
Saxony-Anhalt	0%	0%	42%	42%	9%	1%	6%
Thuringia	0%	0%	40%	43%	14%	1%	3%
Brandenburg	0%	0%	43%	39%	15%	1%	3%
Rhineland-Palatinate	0%	2%	40%	38%	17%	1%	4%
Bremen	0%	0%	26%	0%	71%	2%	1%
Schleswig-Holstein	0%	0%	35%	0%	62%	1%	2%
Saarland	0%	2%	38%	0%	58%	1%	N/A
Berlin	0%	0%	46%	0%	51%	1%	2%
Hamburg	0%	0%	45%	0%	51%	2%	3%

Source: Destatis, 2018a

Appendix 2. Sample description, birth cohort 1970-1980

	Unweighted		Weighted	
	N	Percent	N	Percent
Social background (education)	1014	100.00	978	100.00
Basic	63	6.30	83	8.48
Upper secondary	722	71.16	734	75.06
Tertiary	229	22.54	161	16.46
Social background (4 categories)	1014	100.00	978	100.00
Basic	63	6.30	83	8.48
Lower secondary	449	44.29	469	48.01
Upper secondary	273	26.87	265	27.05
Tertiary	229	22.54	161	16.47
Social background (social classes)	941	100.00	941	100.00
VIIab Unskilled manual	118	12.62	151	16.08
V+VI Skilled manual	121	12.83	129	13.78
IVc Self-employed farmer	40	4.24	48	5.09
IIIab Routine nonmanual	168	17.92	173	18.42
IVab Self-employed	47	4.98	53	5.58
I+II Service class	447	47.40	387.14	41.05
Higher service class I	860	100.00	837	100.00
No	623	72.51	646	77.28
Yes	237	27.49	190	22.72
Service class I+II	860	100.00	837	100.00
No	337	39.33	400	47.92
Yes	523	60.67	436	52.08
Manual working class V+VI+VIIab	860	100.00	837	100.00
No	717	83.29	654	78.14
Yes	143	16.71	182	21.86
Unskilled VIIab	860	100.00	837	100.00
No	801	93.04	758	90.47
Yes	59	6.96	79	9.53

Source: Own calculation based on NEPS SC6 data (release: 8.0.0).



Appendix 3. Track attendance over time by parental education

Source: Own calculation based on NEPS SC6 data (release: 8.0.0)

Appendix 4. Multinomial logistic models regressing track placement on social background, birth cohort 1970-80 (parental education)

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Lower (ref. category)											
Intermediate											
Parental education (ref. tertiary)											
Basic	-1.91** (0.59)	-1.51** (0.53)	-1.95*** (0.54)	-2.52*** (0.56)	-2.68*** (0.63)	-2.03** (0.68)	-2.57** (0.96)	-2.58** (0.89)	-2.74** (0.96)	-2.72** (0.96)	-2.75** (0.97)
Upper secondary	-1.24** (0.44)	-0.65 (0.40)	-0.82* (0.42)	-1.17** (0.45)	-1.15** (0.53)	-1.15+ (0.60)	-1.93* (0.90)	-1.89* (0.83)	-2.04* (0.91)	-2.02* (0.91)	-1.95* (0.91)
Constant	0.83+ (0.43)	0.64+ (0.39)	0.92* (0.40)	1.28** (0.43)	1.48** (0.52)	1.54** (0.59)	2.37** (0.89)	2.43** (0.82)	2.57** (0.90)	2.55** (0.90)	2.48** (0.90)
Upper											
Parental education (ref. tertiary)											
Basic	-3.74*** (0.56)	-3.55*** (0.54)	-4.13*** (0.55)	-4.40*** (0.58)	-4.54*** (0.65)	-4.47*** (0.69)	-5.42*** (0.96)	-5.46*** (0.90)	-5.47*** (0.96)	-5.47*** (0.96)	-5.19*** (0.96)
Upper secondary	-2.96*** (0.37)	-2.63*** (0.34)	-2.83*** (0.36)	-3.11*** (0.40)	-3.16*** (0.50)	-3.09*** (0.56)	-3.88*** (0.88)	-3.65*** (0.80)	-3.66*** (0.88)	-3.64*** (0.88)	-3.66*** (0.88)
Constant	2.43*** (0.35)	2.17*** (0.32)	2.34*** (0.35)	2.62*** (0.39)	2.77*** (0.48)	3.07*** (0.55)	3.96*** (0.87)	3.82*** (0.80)	3.92*** (0.87)	3.92*** (0.87)	3.94*** (0.87)
Dropout											
Parental education (ref. tertiary)											
Basic	-1.61*** (0.37)	-1.61*** (0.37)	-1.91*** (0.39)	-1.69*** (1.16)	-1.69*** (1.16)	-1.69*** (1.16)	-1.69*** (1.16)	-1.69*** (1.16)	-1.69*** (1.16)	-1.69*** (1.16)	-1.69*** (1.16)
N	840	962	977	976	976	979	974	979	979	979	979
Pseudo-R ²	0.09	0.08	0.09	0.10	0.10	0.09	0.10	0.09	0.09	0.09	0.09

Note: sensitivity analysis by excluding the category "Missing/Not assigned yet". To obtain estimates of the standard errors, the category dropout has been deleted at age 15, age 16, and age 18. Source: NEPS SC6 data (release: 8.0.0), own calculations, log-odds & standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 5. Multinomial logistic models regressing track placement on social background, birth cohort 1970-80 (parental social class)

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Lower (ref. category)											
Intermediate											
I+II: Service class (ref. category)											
VIIab:											
Unskilled manual	-1.58*** (0.35)	-1.91*** (0.32)	-1.99*** (0.32)	-1.82*** (0.32)	-1.80*** (0.32)	-1.64*** (0.35)	-1.66*** (0.37)	-2.00*** (0.40)	-1.96*** (0.40)	-1.95*** (0.41)	-1.99*** (0.41)
V+VI:											
Skilled manual	-1.09** (0.34)	-1.45*** (0.32)	-1.47*** (0.32)	-1.39*** (0.31)	-1.09*** (0.33)	-0.93** (0.36)	-1.16** (0.38)	-1.30** (0.41)	-1.29** (0.42)	-1.23** (0.42)	-1.22** (0.42)
IVc: Self-employed farmer	-1.46** (0.56)	-1.73*** (0.49)	-1.82*** (0.49)	-1.63*** (0.48)	-1.64*** (0.47)	-0.99* (0.49)	-1.18* (0.50)	-1.55** (0.53)	-1.42** (0.54)	-1.45** (0.55)	-1.49** (0.55)
IIIab: Routine nonmanual	-0.26 (0.34)	-0.42 (0.33)	-0.37 (0.32)	-0.48 (0.32)	-0.96** (0.33)	-1.13** (0.35)	-1.27*** (0.37)	-1.60*** (0.40)	-1.63*** (0.40)	-1.65*** (0.41)	-1.64*** (0.41)
IVab: Self-employed	-0.27 (0.49)	-0.52 (0.48)	-0.17 (0.46)	-0.21 (0.47)	-0.34 (0.48)	-0.15 (0.54)	-0.23 (0.59)	-0.72 (0.61)	-0.52 (0.66)	-0.55 (0.66)	-0.57 (0.67)
Constant	0.24 (0.22)	0.77*** (0.20)	0.86*** (0.20)	0.84*** (0.20)	1.12*** (0.22)	1.18*** (0.24)	1.39*** (0.27)	1.74*** (0.31)	1.73*** (0.32)	1.73*** (0.32)	1.72*** (0.32)

Note: sensitivity analysis by excluding the category "Missing/Not assigned yet". To obtain estimates of the standard errors, the category dropout has been deleted at age 15, age 16, and age 19. NEPS SC6 data (release: 8.0.0), own calculations, log-odds & standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 5. Continued

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Upper											
Parental social class (ref. I+II)											
VIIab: Unskilled manual	-3.12*** (0.41)	-3.23*** (0.38)	-3.27*** (0.39)	-3.26*** (0.40)	-3.38*** (0.42)	-3.29*** (0.38)	-3.41*** (0.38)	-3.72*** (0.42)	-3.61*** (0.41)	-3.61*** (0.41)	-3.50*** (0.41)
V+VI: Skilled manual	-2.16*** (0.35)	-2.27*** (0.34)	-2.39*** (0.33)	-2.44*** (0.33)	-2.41*** (0.35)	-2.11*** (0.35)	-2.27*** (0.37)	-2.50*** (0.40)	-2.47*** (0.41)	-2.40*** (0.41)	-2.40*** (0.41)
IVc: Self-employed farmer	-3.76*** (0.68)	-3.55*** (0.55)	-3.57*** (0.55)	-3.49*** (0.55)	-3.62*** (0.57)	-3.14*** (0.56)	-3.53*** (0.59)	-3.48*** (0.56)	-3.33*** (0.56)	-3.20*** (0.55)	-3.05*** (0.54)
IIIab: Routine nonmanual	-1.05*** (0.31)	-1.05*** (0.31)	-1.22*** (0.31)	-1.27*** (0.31)	-1.57*** (0.32)	-1.73*** (0.33)	-2.16*** (0.35)	-2.38*** (0.38)	-2.36*** (0.38)	-2.33*** (0.38)	-2.34*** (0.38)
IVab: Self-employed	-1.90*** (0.50)	-1.82*** (0.50)	-1.72*** (0.51)	-1.36*** (0.52)	-1.70*** (0.57)	-1.43*** (0.57)	-1.57*** (0.61)	-1.57*** (0.63)	-1.19*** (0.66)	-1.16*** (0.65)	-1.14*** (0.65)
Constant	0.99*** (0.18)	1.13*** (0.18)	1.15*** (0.18)	1.12*** (0.18)	1.34*** (0.21)	1.65*** (0.23)	1.96*** (0.26)	2.22*** (0.30)	2.24*** (0.30)	2.24*** (0.30)	2.25*** (0.30)

Note: To obtain estimates of the standard errors, the categories missing and dropout have been deleted at age 15, age 16, and age 19. This slightly changes the number of observations (N is equal to 940 for age 15 and 16 and equal to 938 for age 19). Source: NEPS SC6 data (release: 8.0.0), own calculations, log-odds & standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 5. Continued

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Dropout											
Parental social class (ref. I+II)											
VIIab: Unskilled manual	12.98*** (0.23)	12.95*** (1.03)	12.95*** (1.03)	12.95*** (1.03)	12.95*** (1.03)	15.19*** (0.69)	13.63*** (0.70)	14.27*** (0.67)	14.27*** (0.67)	14.27*** (0.67)	14.14*** (0.67)
V+VI: Skilled manual	-1.20*** (0.23)	-1.24*** (0.24)	-1.24*** (0.24)	-1.24*** (0.24)	-1.24*** (0.24)	-1.11*** (0.29)	12.55*** (1.05)	13.19*** (1.06)	13.15*** (1.06)	13.19*** (1.06)	13.07*** (1.06)
IVc: Self-employed farmer	-1.61*** (0.30)	-1.65*** (0.30)	-1.65*** (0.30)	-1.65*** (0.30)	-1.65*** (0.30)	-1.39*** (0.37)	-1.65*** (0.39)	-1.79*** (0.44)	-1.80*** (0.44)	-1.79*** (0.44)	-1.78*** (0.44)
IIIab: Routine nonmanual	-0.48+ (0.26)	-0.50+ (0.26)	-0.50+ (0.26)	-0.50+ (0.26)	-0.50+ (0.26)	12.36*** (1.04)	10.71*** (1.05)	11.21*** (1.06)	11.21*** (1.06)	11.21*** (1.06)	11.08*** (1.06)
IVab: Self-employed	-0.75* (0.36)	-0.58 (0.36)	-0.58 (0.36)	-0.58 (0.36)	-0.58 (0.36)	-0.59 (0.47)	-0.69 (0.52)	-0.70 (0.59)	-0.70 (0.59)	-0.70 (0.59)	-0.70 (0.59)
Constant	-17.69*** (0.17)	-17.67*** (0.17)	-17.67*** (0.17)	-17.67*** (0.17)	-17.67*** (0.17)	-17.49*** (0.22)	-15.85*** (0.24)	-16.33*** (0.29)	-16.34*** (0.29)	-16.33*** (0.29)	-16.20*** (0.29)
N	805	925	940	939	939	942	942	937	942	942	942
McFadden pseudo-R ²	0.11	0.11	0.12	0.11	0.10	0.10	0.11	0.11	0.11	0.11	0.11

Note: To obtain estimates of the standard errors, the categories missing and dropout have been deleted at age 15, age 16, and age 19. This slightly changes the number of observations (N is equal to 940 for age 15 and 16 and equal to 938 for age 19). Source: NEPS SC6 data (release: 8.0.0), own calculations, log-odds & standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 6. Linear probability models regressing educational outcomes at occupational maturity on track placement, birth cohort 1970-1980

Obtaining an upper secondary degree, N = 995													
	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22		
Track (ref. lower)													
Intermediate	0.24*** (0.04)	0.23*** (0.04)	0.21*** (0.03)	0.21*** (0.03)	0.21*** (0.03)	0.15*** (0.03)	0.13*** (0.03)	0.11*** (0.02)	0.08*** (0.02)	0.07*** (0.02)	0.05* (0.02)		
Upper	0.73*** (0.03)	0.76*** (0.03)	0.79*** (0.03)	0.80*** (0.03)	0.84*** (0.02)	0.85*** (0.02)	0.86*** (0.02)	0.90*** (0.02)	0.91*** (0.02)	0.91*** (0.02)	0.92*** (0.02)		
Dropout		-0.09*** (0.02)	-0.09*** (0.02)	-0.09*** (0.02)	-0.07*** (0.02)	-0.05*** (0.01)	-0.04*** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)		
Missing	0.30*** (0.05)	0.20*** (0.12)	0.91*** (0.02)	0.91*** (0.02)	0.93*** (0.02)								
Constant	0.10*** (0.02)	0.09*** (0.02)	0.09*** (0.02)	0.09*** (0.02)	0.07*** (0.02)	0.05*** (0.01)	0.04*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.03*** (0.01)		
R ²	0.35	0.41	0.44	0.45	0.48	0.56	0.61	0.68	0.72	0.74	0.78		
Obtaining a tertiary degree, N = 995													
Track (ref. lower)													
Intermediate	0.19*** (0.03)	0.15*** (0.03)	0.15*** (0.03)	0.14*** (0.03)	0.16*** (0.02)	0.12*** (0.02)	0.11*** (0.02)	0.10*** (0.02)	0.08*** (0.02)	0.07*** (0.02)	0.07*** (0.02)		
Upper	0.60*** (0.03)	0.62*** (0.03)	0.64*** (0.03)	0.66*** (0.03)	0.70*** (0.03)	0.66*** (0.03)	0.67*** (0.03)	0.69*** (0.03)	0.69*** (0.02)	0.70*** (0.02)	0.69*** (0.02)		
Dropout		-0.05*** (0.01)	-0.05*** (0.01)	-0.05*** (0.01)	-0.03*** (0.01)	-0.02*** (0.01)	-0.01*** (0.01)	-0.01*** (0.01)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)		
Missing	0.22*** (0.04)	0.25*** (0.15)	-0.05*** (0.01)	-0.05*** (0.01)	-0.03*** (0.01)								
Constant	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.03*** (0.01)	0.02*** (0.01)	0.01*** (0.01)	0.01*** (0.01)	0.01*** (0.0)	0.01*** (0.0)	0.01*** (0.0)		
R ²	0.28	0.32	0.34	0.36	0.40	0.40	0.41	0.44	0.47	0.49	0.49		

Source: NEPS SC6 data (release: 8.0.0), own calculations, log-odds & standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 6. Continued

Obtaining a university degree, N = 995

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Track (ref. lower)											
Intermediate	0.10*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.07*** (0.02)	0.03** (0.01)	0.03* (0.01)	0.03** (0.01)	0.03** (0.01)	0.02** (0.01)	0.02** (0.01)
Upper	0.45*** (0.03)	0.48*** (0.03)	0.50*** (0.03)	0.51*** (0.03)	0.52*** (0.03)	0.49*** (0.03)	0.49*** (0.03)	0.50*** (0.03)	0.49*** (0.03)	0.48*** (0.02)	0.48*** (0.02)
Dropout		-0.02* (0.01)	-0.01* (0.01)	-0.01* (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.00)	-0.00 (0.00)	0.00 (.)	0.00 (.)	0.00 (0.00)
Missing	0.18*** (0.03)	0.08 (0.07)	-0.01* (0.01)	-0.01* (0.01)	-0.01 (0.01)						
Constant	0.02* (0.01)	0.02* (0.01)	0.01* (0.01)	0.01* (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.00)	-0.00 (.)	-0.00 (.)	-0.00 (0.00)
R ²	0.22	0.27	0.29	0.30	0.32	0.33	0.33	0.35	0.34	0.34	0.33

Source: NEPS SC6 data (release: 8.0.0), own calculations, log-odds & standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 7. OLS & linear probability models regressing occupational outcomes at occupational maturity on track placement, birth cohort 1970-1980

ISEI, N = 837

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Track (ref. lower)											
Intermediate	9.14*** (2.18)	11.16*** (1.98)	11.07*** (1.99)	11.79*** (1.97)	14.29*** (1.93)	12.99*** (2.07)	13.31*** (2.07)	12.85*** (2.09)	11.3*** (2.14)	10.99*** (2.16)	11.14*** (2.17)
Upper	22.77*** (1.94)	24.33*** (1.87)	24.40*** (1.92)	24.92*** (1.90)	26.77*** (1.89)	26.17*** (1.91)	27.06*** (1.93)	27.95*** (1.92)	28.06*** (1.93)	28.12*** (1.94)	27.75*** (1.94)
Dropout						-7.87*** (4.90)	-6.98 (4.90)	-6.87 (4.91)	-10.34 (4.16)	-10.30 (4.17)	-10.30* (4.17)
Missing	10.12*** (2.70)	9.58*** (5.55)	27.56*** (1.56)								
Constant	41.55*** (1.58)	40.28*** (1.52)	40.38*** (1.56)	39.92*** (1.55)	37.99*** (1.53)	37.41*** (1.61)	36.51*** (1.63)	36.41*** (1.66)	36.67*** (1.69)	36.63*** (1.71)	36.63*** (1.71)
R ²	0.19	0.23	0.23	0.24	0.26	0.25	0.27	0.28	0.30	0.30	0.29
Higher service class I, N = 837											
Track (ref. lower)											
Intermediate	0.15*** (0.04)	0.17*** (0.04)	0.17*** (0.04)	0.17*** (0.04)	0.13*** (0.04)	0.10** (0.04)	0.10** (0.04)	0.09* (0.04)	0.07 (0.04)	0.06 (0.04)	0.06 (0.04)
Upper	0.30*** (0.04)	0.32*** (0.03)	0.34*** (0.03)	0.33*** (0.04)	0.31*** (0.04)	0.31*** (0.04)	0.32*** (0.04)	0.33*** (0.04)	0.33*** (0.04)	0.34*** (0.04)	0.33*** (0.04)
Dropout						0.01 (0.12)	0.02 (0.12)	0.02 (0.12)	-0.00 (0.09)	-0.00 (0.09)	-0.00 (0.09)
Missing	0.16*** (0.05)	0.00*** (0.07)	-0.06** (0.02)								
Constant	0.08*** (0.02)	0.07*** (0.02)	0.06*** (0.02)	0.06** (0.02)	0.08*** (0.02)	0.08** (0.03)	0.07*** (0.03)	0.07*** (0.03)	0.07** (0.03)	0.07*** (0.03)	0.07** (0.03)
R ²	0.08	0.10	0.10	0.10	0.09	0.090	0.10	0.11	0.12	0.13	0.11

Source: NEPS SC6 data (release: 8.0.0), own calculations, log-odds & standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 7. Continued

Service class I+II, N = 837

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Track (ref. lower)											
Intermediate	0.18** (0.06)	0.25*** (0.05)	0.23*** (0.05)	0.25*** (0.05)	0.26*** (0.05)	0.22*** (0.06)	0.25*** (0.06)	0.24*** (0.06)	0.21*** (0.06)	0.20*** (0.06)	0.20*** (0.06)
Upper	0.44*** (0.05)	0.46*** (0.05)	0.47*** (0.05)	0.48*** (0.05)	0.50*** (0.05)	0.48*** (0.05)	0.51*** (0.05)	0.54*** (0.05)	0.55*** (0.05)	0.55*** (0.05)	0.54*** (0.05)
Dropout						0.17 (0.12)	-0.14 (0.12)	-0.13 (0.12)	-0.16 (0.10)	-0.16 (0.10)	-0.16 (0.10)
Missing	0.25*** (0.07)	0.29*** (0.18)	0.71*** (0.04)								
Constant	0.31*** (0.04)	0.29*** (0.04)	0.29*** (0.04)	0.28*** (0.04)	0.26*** (0.04)	0.26*** (0.04)	0.23*** (0.04)	0.22*** (0.04)	0.23*** (0.04)	0.23*** (0.04)	0.23*** (0.04)
R ²	0.12	0.14	0.14	0.15	0.15	0.14	0.16	0.17	0.19	0.19	0.19

Manual class V+VI+VIIab, N = 837

Track (ref. lower)											
Intermediate	-0.23*** (0.06)	-0.25*** (0.05)	-0.27*** (0.05)	-0.26*** (0.05)	-0.31*** (0.05)	-0.34*** (0.06)	-0.35*** (0.06)	-0.36*** (0.06)	-0.35*** (0.06)	-0.33*** (0.06)	-0.34*** (0.06)
Upper	-0.35*** (0.05)	-0.37*** (0.04)	-0.38*** (0.04)	-0.39*** (0.04)	-0.41*** (0.05)	-0.45*** (0.05)	-0.47*** (0.05)	-0.50*** (0.05)	-0.50*** (0.06)	-0.49*** (0.06)	-0.49*** (0.06)
Dropout						0.40*** (0.13)	0.38*** (0.13)	0.36*** (0.13)	0.38*** (0.10)	0.39*** (0.10)	0.39*** (0.10)
Missing	-0.21*** (0.06)	-0.28*** (0.11)	-0.43*** (0.04)								
Constant	0.41*** (0.04)	0.42*** (0.04)	0.43*** (0.04)	0.43*** (0.04)	0.47*** (0.05)	0.51*** (0.05)	0.53*** (0.05)	0.55*** (0.05)	0.54*** (0.05)	0.54*** (0.05)	0.54*** (0.05)
R ²	0.11	0.14	0.14	0.14	0.16	0.19	0.20	0.21	0.21	0.21	0.21

Source: NEPS SC6 data (release: 8.0.0), own calculations, log-odds & standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 7. Continued

Unskilled class VIIab, N = 837

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Track (ref. lower)											
Intermediate	-0.14** (0.04)	-0.15*** (0.04)	-0.14*** (0.04)	-0.14*** (0.04)	-0.19*** (0.04)	-0.22*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)	-0.22*** (0.05)	-0.20*** (0.05)	-0.20*** (0.05)
Upper	-0.12*** (0.05)	-0.19*** (0.04)	-0.18*** (0.04)	-0.18*** (0.04)	-0.21*** (0.04)	-0.24*** (0.05)	-0.25*** (0.05)	-0.25*** (0.05)	-0.25*** (0.05)	-0.24*** (0.05)	-0.24*** (0.05)
Dropout											
Missing	-0.12* (0.05)	-0.11*** (0.10)	-0.20*** (0.04)								
Constant	0.20*** (0.04)	0.21*** (0.04)	0.20*** (0.04)	0.20*** (0.04)	0.24*** (0.04)	0.26*** (0.04)	0.27*** (0.05)	0.28*** (0.05)	0.27*** (0.05)	0.27*** (0.05)	0.27*** (0.05)
R ²	0.07	0.07	0.07	0.07	0.10	0.148	0.15	0.15	0.15	0.15	0.15

Ln annual earnings, N = 531

Track (ref. lower)											
Intermediate	0.23* (0.11)	0.20 (0.10)	0.15 (0.10)	0.15 (0.10)	0.16 (0.11)	0.15 (0.12)	0.18 (0.12)	0.20 (0.13)	0.19 (0.13)	0.17 (0.13)	0.18 (0.13)
Upper	0.42*** (0.10)	0.44*** (0.09)	0.42*** (0.10)	0.40*** (0.10)	0.45*** (0.10)	0.44*** (0.11)	0.45*** (0.12)	0.46*** (0.12)	0.52*** (0.12)	0.51*** (0.13)	0.49*** (0.12)
Dropout											
Missing	0.08*** (0.14)	-0.20*** (0.27)	0.21* (0.08)								
Constant	9.81*** (0.09)	9.79*** (0.08)	9.82*** (0.08)	9.82*** (0.08)	9.80*** (0.09)	9.78*** (0.10)	9.76*** (0.11)	9.75*** (0.11)	9.72*** (0.12)	9.73*** (0.12)	9.73*** (0.12)
R ²	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.07	0.08	0.07

Source: NEPS SC6 data (release: 8.0.0), own calculations, log-odds & standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 7. Continued

General unemployment experience, N = 963

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Track (ref. lower)											
Intermediate	-0.03 (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.05** (0.02)	-0.04* (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)
Upper	-0.03** (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.05** (0.02)	-0.05** (0.02)	-0.03* (0.01)	-0.04* (0.01)	-0.04** (0.01)	-0.04* (0.01)
Dropout		0.81*** (0.01)	0.81*** (0.01)	0.81*** (0.01)	0.81*** (0.01)	0.17 (0.17)	0.27 (0.17)	0.28 (0.17)	0.35 (0.18)	0.35 (0.18)	0.35 (0.18)
Missing	-0.02*** (0.02)	0.04*** (0.07)	-0.07*** (0.01)	-0.08*** (0.01)	-0.08*** (0.01)						
Constant	0.07*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.08*** (0.01)	0.08*** (0.01)	0.09*** (0.02)	0.08*** (0.02)	0.07*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.07*** (0.01)
R ²	0.01	0.07	0.03	0.07	0.07	0.04	0.06	0.05	0.08	0.08	0.08

Long-term unemployment experience, N = 963

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Track (ref. lower)											
Intermediate	-0.04 (0.05)	-0.10* (0.05)	-0.10* (0.05)	-0.12* (0.05)	-0.11* (0.05)	-0.17*** (0.05)	-0.15** (0.05)	-0.10 (0.05)	-0.09 (0.06)	-0.08 (0.06)	-0.08 (0.06)
Upper	-0.10* (0.04)	-0.12** (0.04)	-0.11* (0.04)	-0.13** (0.04)	-0.13** (0.05)	-0.14** (0.05)	-0.12* (0.05)	-0.11* (0.05)	-0.12* (0.05)	-0.11* (0.05)	-0.11* (0.05)
Dropout		0.66*** (0.04)	0.65*** (0.04)	0.64*** (0.04)	0.64*** (0.4)	0.54*** (0.10)	0.57*** (0.08)	0.59*** (0.08)	0.60*** (0.07)	0.61*** (0.07)	0.61*** (0.07)
Missing	-0.04*** (0.06)	0.06*** (0.16)	0.35*** (0.04)	-0.36*** (0.04)	-0.36*** (0.04)						
Constant	0.32*** (0.04)	0.34*** (0.04)	0.35*** (0.04)	0.36*** (0.04)	0.36*** (0.04)	0.39*** (0.04)	0.37*** (0.04)	0.35*** (0.05)	0.35*** (0.05)	0.35*** (0.05)	0.35*** (0.05)
R ²	0.01	0.02	0.02	0.02	0.02	0.04	0.03	0.02	0.03	0.03	0.03

Source: NEPS SC6 data (release: 8.0.0), own calculations, log-odds & standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 8. Linear probability models probability of obtaining an upper secondary degree at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 978)				
Basic	-0.67*** (0.05)	-0.31*** (0.07)	-0.15* (0.06)	-0.07+ (0.04)
Upper secondary	-0.45*** (0.04)	-0.17*** (0.04)	-0.07+ (0.04)	-0.03 (0.03)
First track (ref. lower)				
Intermediate		0.20*** (0.04)		
Upper		0.64*** (0.04)		
Track at 17 (ref. lower)				
Intermediate			0.15*** (0.03)	
Upper			0.81*** (0.03)	
Dropout			-0.03 (0.03)	
Track at 22 (ref. lower)				
Intermediate				0.05* (0.02)
Upper				0.91*** (0.02)
Dropout				-0.01 (0.01)
Constant	0.80*** (0.04)	0.29*** (0.05)	0.13** (0.04)	0.07+ (0.04)
R^2	0.14	0.40	0.56	0.78

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 9. Linear probability models probability of obtaining an upper secondary degree at age 35, birth cohort 1970-1980 (parental social class)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental EGP (ref. I+II Service class, N = 941)				
VIIab Unskilled manual	-0.44*** (0.04)	-0.15** (0.05)	-0.07 (0.04)	-0.02 (0.03)
V+VI Skilled manual	-0.35*** (0.05)	-0.12* (0.05)	-0.09* (0.04)	-0.03 (0.03)
IVc Self-employed farmer	-0.44*** (0.06)	-0.14* (0.06)	-0.09+ (0.05)	-0.06** (0.02)
IIIab Routine non-manual	-0.30*** (0.05)	-0.17*** (0.04)	-0.10** (0.03)	-0.04 (0.02)
IVab Self-employed	-0.19* (0.09)	0.01 (0.09)	0.03 (0.07)	-0.03 (0.03)
First track (ref. lower)				
Intermediate		0.20*** (0.04)		
Upper		0.68*** (0.04)		
Track at 17 (ref. lower)				
Intermediate			0.14** (0.03)	
Upper			0.81*** (0.03)	
Dropout			-0.05+ (0.03)	
Track at 22 (ref. lower)				
Intermediate				0.03 (0.02)
Upper				0.91*** (0.02)
Dropout				-0.04* (0.02)
Constant	0.61*** (0.03)	0.21*** (0.04)	0.12** (0.03)	0.06* (0.02)
R^2	0.14	0.42	0.57	0.80

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 10. Linear probability models probability of obtaining a tertiary degree at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 978)				
Basic	-0.61*** (0.05)	-0.33*** (0.06)	-0.23*** (0.05)	-0.20*** (0.04)
Upper secondary	-0.45*** (0.04)	-0.23*** (0.04)	-0.18*** (0.04)	-0.17*** (0.04)
First track (ref. lower)				
Intermediate		0.17*** (0.03)		
Upper		0.50*** (0.04)		
Track at 17 (ref. lower)				
Intermediate			0.10*** (0.02)	
Upper			0.59*** (0.03)	
Dropout			0.00 (0.02)	
Track at 22 (ref. lower)				
Intermediate				0.05** (0.02)
Upper				0.63*** (0.03)
Dropout				0.01 (0.01)
Constant	0.69*** (0.04)	0.29*** (0.04)	0.21*** (0.04)	0.18*** (0.04)
R^2	0.15	0.33	0.41	0.49

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 11. Linear probability models probability of obtaining a tertiary degree at age 35, birth cohort 1970-1980 (parental social class)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental EGP (ref. I+II Service class, N = 941)				
VIIab Unskilled manual	-0.38*** (0.04)	-0.15*** (0.04)	-0.10** (0.04)	-0.08* (0.03)
V+VI Skilled manual	-0.30*** (0.05)	-0.12* (0.05)	-0.11* (0.04)	-0.08+ (0.04)
IVc Self-employed farmer	-0.40*** (0.04)	-0.15*** (0.04)	-0.13* (0.04)	-0.13*** (0.04)
IIIab Routine non-manual	-0.24*** (0.04)	-0.14*** (0.04)	-0.10** (0.04)	-0.06+ (0.03)
IVab Self-employed	-0.24** (0.08)	-0.08 (0.07)	-0.08 (0.06)	-0.13* (0.07)
First track (ref. lower)				
Intermediate		0.16*** (0.03)		
Upper		0.55*** (0.04)		
Track at 17 (ref. lower)				
Intermediate			0.10*** (0.02)	
Upper			0.61*** (0.03)	
Dropout			-0.00 (0.02)	
Track at 22 (ref. lower)				
Intermediate				0.05* (0.02)
Upper				0.65*** (0.03)
Dropout				0.00 (0.01)
Constant	0.48*** (0.03)	0.16*** (0.03)	0.11** (0.03)	0.08* (0.03)
R ²	0.12	0.33	0.40	0.49

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 12. Linear probability models probability of obtaining a university degree at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 978)				
Basic	-0.48*** (0.05)	-0.28*** (0.05)	-0.21*** (0.05)	-0.21*** (0.05)
Upper secondary	-0.42*** (0.04)	-0.26*** (0.04)	-0.22*** (0.04)	-0.24*** (0.04)
First track (ref. lower)				
Intermediate		0.08*** (0.02)		
Upper		0.36*** (0.03)		
Track at 17 (ref. lower)				
Intermediate			0.02 (0.01)	
Upper			0.42*** (0.03)	
Dropout			-0.01 (0.01)	
Track at 22 (ref. lower)				
Intermediate				0.01 (0.01)
Upper				0.40*** (0.03)
Dropout				-0.01 (0.01)
Constant	0.55*** (0.04)	0.27*** (0.04)	0.22*** (0.04)	0.23*** (0.04)
R^2	0.16	0.29	0.36	0.37

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 13. Linear probability models probability of obtaining a university degree at age 35, birth cohort 1970-1980 (parental social class)

	Model 1	Model 2	Model 3	Model 4
	(unadjusted)	(+ first track)	(+ track at 17)	(+ track at 22)
Parental EGP (ref. I+II Service class, N = 941)				
VIIab Unskilled manual	-0.31*** (0.03)	-0.15*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)
V+VI Skilled manual	-0.28*** (0.03)	-0.15*** (0.03)	-0.13*** (0.03)	-0.13*** (0.03)
IVc Self-employed farmer	-0.32*** (0.03)	-0.14*** (0.03)	-0.12*** (0.03)	-0.14*** (0.03)
IIIab Routine non-manual	-0.22*** (0.04)	-0.14*** (0.03)	-0.11*** (0.03)	-0.10** (0.03)
IVab Self-employed	-0.23*** (0.05)	-0.11* (0.05)	-0.10+ (0.05)	-0.16* (0.06)
First track (ref. lower)				
Intermediate		0.07** (0.02)		
Upper		0.40*** (0.03)		
Track at 17 (ref. lower)				
Intermediate			0.01 (0.01)	
Upper			0.43*** (0.03)	
Dropout			0.01 (0.01)	
Track at 22 (ref. lower)				
Intermediate				-0.01 (0.01)
Upper				0.41*** (0.03)
Dropout				0.02 (0.01)
Constant	0.35*** (0.03)	0.13*** (0.02)	0.11*** (0.02)	0.11*** (0.02)
R ²	0.12	0.28	0.35	0.35

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 14. OLS models regressing ISEI at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 824)				
Basic	-25.40*** (3.23)	-14.70*** (3.14)	-12.76*** (3.39)	-10.85** (3.33)
Upper secondary	-14.23*** (1.90)	-6.35*** (1.83)	-5.99** (1.87)	-4.79* (1.76)
First track (ref. lower)				
Intermediate		9.06*** (2.02)		
Upper		19.57*** (1.95)		
Track at 17 (ref. lower)				
Intermediate			11.81*** (2.15)	
Upper			22.93*** (2.14)	
Dropout			-9.19 ⁺ (4.95)	
Track at 22 (ref. lower)				
Intermediate				10.24*** (2.25)
Upper				25.05*** (2.14)
Dropout				-10.26** (3.79)
Constant	64.84*** (1.62)	48.80*** (2.26)	44.71*** (2.61)	42.65*** (2.56)
<i>R</i> ²	0.10	0.24	0.27	0.30

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 15. OLS models regressing ISEI at age 35, birth cohort 1970-1980 (parental social class)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental EGP (ref. I+II Service class, N = 796)				
VIIab Unskilled manual	-18.44*** (2.45)	-10.72*** (2.59)	-9.14*** (2.66)	-8.21** (2.59)
V+VI Skilled manual	-11.43*** (2.51)	-5.37* (2.48)	-5.67* (2.49)	-4.60+ (2.50)
IVc Self-employed farmer	-23.05*** (3.44)	-14.47*** (3.50)	-15.14*** (3.81)	-14.45*** (3.53)
IIIab Routine non-manual	-11.00*** (2.38)	-7.54*** (2.21)	-5.80** (2.17)	-4.27* (2.16)
IVab Self-employed	-9.01* (3.67)	-3.91 (3.71)	-4.08 (3.70)	-4.65 (3.76)
First track (ref. lower)				
Intermediate		7.55*** (2.08)		
Upper		18.60*** (2.09)		
Track at 17 (ref. lower)				
Intermediate			10.89*** (2.26)	
Upper			21.44*** (2.34)	
Dropout			-5.79 (4.86)	
Track at 22 (ref. lower)				
Intermediate				8.95*** (2.40)
Upper				23.54*** (2.42)
Dropout				-8.49+ (4.37)
Constant	60.04*** (1.27)	48.31*** (2.16)	44.16*** (2.47)	42.75*** (2.59)
R ²	0.14	0.26	0.27	0.31

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 16. Linear probability models probability of reaching higher service class (I) at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 824)				
Basic	-0.35*** (0.05)	-0.22*** (0.06)	-0.20*** (0.06)	-0.18** (0.06)
Upper secondary	-0.21*** (0.05)	-0.11* (0.05)	-0.10* (0.05)	-0.09+ (0.05)
First track (ref. lower)				
Intermediate		0.13*** (0.04)		
Upper		0.24*** (0.04)		
Track at 17 (ref. lower)				
Intermediate			0.08* (0.04)	
Upper			0.26*** (0.04)	
Dropout			-0.00 (0.12)	
Track at 22 (ref. lower)				
Intermediate				0.05 (0.04)
Upper				0.28*** (0.04)
Dropout				0.00 (0.10)
Constant	0.42*** (0.04)	0.21*** (0.05)	0.20*** (0.06)	0.18** (0.06)
R^2	0.05	0.10	0.10	0.12

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 17. Linear probability models probability of reaching higher service class (I) at age 35, birth cohort 1970-1980 (parental social class)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental EGP (ref. I+II Service class, N = 796)				
VIIab Unskilled manual	-0.32*** (0.03)	-0.23*** (0.04)	-0.23*** (0.04)	-0.22*** (0.04)
V+VI Skilled manual	-0.25*** (0.04)	-0.18*** (0.05)	-0.18*** (0.05)	-0.17** (0.05)
IVc Self-employed farmer	-0.30*** (0.04)	-0.20*** (0.05)	-0.21*** (0.05)	-0.21*** (0.05)
IIIab Routine non-manual	-0.13** (0.05)	-0.09+ (0.05)	-0.07 (0.05)	-0.06 (0.05)
IVab Self-employed	-0.06 (0.10)	-0.00 (0.10)	0.00 (0.10)	-0.01 (0.10)
First track (ref. lower)				
Intermediate		0.09* (0.04)		
Upper		0.21*** (0.04)		
Track at 17 (ref. lower)				
Intermediate			0.06 (0.04)	
Upper			0.21*** (0.04)	
Dropout			0.09 (0.10)	
Track at 22 (ref. lower)				
Intermediate				0.02 (0.04)
Upper				0.23*** (0.05)
Dropout				0.07 (0.08)
Constant	0.35*** (0.03)	0.22*** (0.04)	0.22*** (0.05)	0.21*** (0.05)
R ²	0.09	0.13	0.13	0.15

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 18. Linear probability models probability of reaching service class (I+II) at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 824)				
Basic	-0.54*** (0.08)	-0.34*** (0.08)	-0.31*** (0.09)	-0.25** (0.08)
Upper secondary	-0.25*** (0.05)	-0.11* (0.05)	-0.10* (0.05)	-0.06 (0.05)
First track (ref. lower)				
Intermediate		0.20*** (0.05)		
Upper		0.36*** (0.05)		
Track at 17 (ref. lower)				
Intermediate			0.19*** (0.06)	
Upper			0.41*** (0.06)	
Dropout			-0.21+ (0.13)	
Track at 22 (ref. lower)				
Intermediate				0.18** (0.06)
Upper				0.49*** (0.06)
Dropout				-0.15 (0.11)
Constant	0.76*** (0.04)	0.46*** (0.06)	0.40*** (0.07)	0.33*** (0.07)
R^2	0.07	0.15	0.15	0.20

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 19. Linear probability models probability of reaching service class (I+II) at age 35, birth cohort 1970-1980 (parental social class)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental EGP (ref. I+II Service class, N = 796)				
VIIab Unskilled manual	-0.42*** (0.06)	-0.29*** (0.06)	-0.27*** (0.07)	-0.24*** (0.06)
V+VI Skilled manual	-0.26*** (0.07)	-0.15* (0.07)	-0.16* (0.07)	-0.13+ (0.07)
IVc Self-employed farmer	-0.37*** (0.10)	-0.22* (0.11)	-0.24* (0.11)	-0.21+ (0.11)
IIIab Routine non-manual	-0.21*** (0.06)	-0.16** (0.06)	-0.13* (0.06)	-0.09 (0.06)
IVab Self-employed	-0.10 (0.10)	-0.01 (0.10)	-0.01 (0.10)	-0.01 (0.10)
First track (ref. lower)				
Intermediate		0.16** (0.05)		
Upper		0.32*** (0.05)		
Track at 17 (ref. lower)				
Intermediate			0.15** (0.06)	
Upper			0.35*** (0.06)	
Dropout			-0.09 (0.12)	
Track at 22 (ref. lower)				
Intermediate				0.13* (0.06)
Upper				0.42*** (0.06)
Dropout				-0.08 (0.09)
Constant	0.69*** (0.03)	0.47*** (0.05)	0.44*** (0.06)	0.38*** (0.06)
R ²	0.10	0.16	0.16	0.20

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 20. Linear probability models reaching manual class (V+VI+VIIab) at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 824)				
Basic	0.28** (0.09)	0.11 (0.08)	0.05 (0.09)	0.02 (0.09)
Upper secondary	0.15*** (0.04)	0.04 (0.04)	0.02 (0.04)	0.00 (0.04)
First track (ref. lower)				
Intermediate		-0.21*** (0.05)		
Upper		-0.31*** (0.05)		
Track at 17 (ref. lower)				
Intermediate			-0.34*** (0.06)	
Upper			-0.44*** (0.06)	
Dropout			0.41** (0.13)	
Track at 22 (ref. lower)				
Intermediate				-0.33*** (0.06)
Upper				-0.48*** (0.06)
Dropout				0.40*** (0.10)
Constant	0.08** (0.03)	0.35*** (0.05)	0.49*** (0.06)	0.53*** (0.07)
R^2	0.03	0.12	0.19	0.20

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 21. Linear probability models reaching manual class (V+VI+VIIab) at age 35, birth cohort 1970-1980 (parental social class)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental EGP (ref. I+II Service class, N = 796)				
VIIab Unskilled manual	0.29*** (0.07)	0.16* (0.07)	0.11+ (0.06)	0.10 (0.07)
V+VI Skilled manual	0.18** (0.06)	0.09 (0.06)	0.09 (0.06)	0.07 (0.06)
IVc Self-employed farmer	0.20* (0.10)	0.06 (0.10)	0.08 (0.10)	0.06 (0.10)
IIIab Routine non-manual	0.16** (0.05)	0.10* (0.05)	0.06 (0.05)	0.04 (0.05)
IVab Self-employed	-0.03 (0.04)	-0.10+ (0.06)	-0.10+ (0.06)	-0.10+ (0.06)
First track (ref. lower)				
Intermediate		-0.19*** (0.05)		
Upper		-0.29*** (0.04)		
Track at 17 (ref. lower)				
Intermediate			-0.30*** (0.06)	
Upper			-0.39*** (0.06)	
Dropout			0.37** (0.13)	
Track at 22 (ref. lower)				
Intermediate				-0.30*** (0.06)
Upper				-0.43*** (0.06)
Dropout				0.36*** (0.11)
Constant	0.11*** (0.02)	0.32*** (0.05)	0.43*** (0.06)	0.47*** (0.06)
R ²	0.07	0.15	0.20	0.21

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 22. Linear probability models reaching unskilled class (VIIab) at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 824)				
Basic	0.11 ⁺ (0.06)	0.03 (0.06)	0.00 (0.06)	-0.01 (0.06)
Upper secondary	0.05 ⁺ (0.03)	-0.01 (0.03)	-0.01 (0.02)	-0.02 (0.02)
First track (ref. lower)				
Intermediate		-0.13 ^{***} (0.04)		
Upper		-0.17 ^{***} (0.03)		
Track at 17 (ref. lower)				
Intermediate			-0.21 ^{***} (0.05)	
Upper			-0.23 ^{***} (0.05)	
Dropout			0.66 ^{***} (0.13)	
Track at 22 (ref. lower)				
Intermediate				-0.19 ^{***} (0.05)
Upper				-0.24 ^{***} (0.05)
Dropout				0.67 ^{***} (0.10)
Constant	0.05 [*] (0.02)	0.20 ^{***} (0.04)	0.27 ^{***} (0.05)	0.27 ^{***} (0.06)
R ²	0.01	0.07	0.14	0.14

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 23. Linear probability models reaching unskilled class (VIIab) at age 35, birth cohort 1970-1980 (parental social class)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental EGP (ref. I+II Service class, N = 796)				
VIIab Unskilled manual	0.15** (0.06)	0.09 (0.06)	0.05 (0.05)	0.04 (0.05)
V+VI Skilled manual	0.09* (0.04)	0.04 (0.05)	0.04 (0.04)	0.04 (0.05)
IVc Self-employed farmer	0.05 (0.06)	-0.02 (0.07)	-0.01 (0.07)	-0.02 (0.07)
IIIab Routine non-manual	0.08+ (0.04)	0.06 (0.04)	0.03 (0.04)	0.02 (0.04)
IVab Self-employed	-0.03* (0.02)	-0.07** (0.02)	-0.07** (0.03)	-0.06** (0.02)
First track (ref. lower)				
Intermediate		-0.12** (0.04)		
Upper		-0.15*** (0.04)		
Track at 17 (ref. lower)				
Intermediate			-0.20*** (0.05)	
Upper			-0.22*** (0.05)	
Dropout			0.63*** (0.13)	
Track at 22 (ref. lower)				
Intermediate				-0.19*** (0.05)
Upper				-0.22*** (0.05)
Dropout				0.65*** (0.11)
Constant	0.04** (0.01)	0.16*** (0.04)	0.24*** (0.05)	0.24*** (0.06)
R ²	0.04	0.08	0.15	0.15

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 24. OLS models log earnings at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 523)				
Basic	-0.24* (0.11)	0.01 (0.11)	-0.01 (0.11)	0.03 (0.11)
Upper secondary	-0.23** (0.08)	-0.03 (0.08)	-0.04 (0.08)	-0.03 (0.08)
First track (ref. lower)				
Intermediate		0.16 (0.11)		
Upper		0.43*** (0.09)		
Track at 17 (ref. lower)				
Intermediate			0.14 (0.12)	
Upper			0.42*** (0.12)	
Track at 22 (ref. lower)				
Intermediate				0.16 (0.14)
Upper				0.47*** (0.13)
Dropout				-0.56*** (0.12)
Constant	10.19*** (0.06)	9.83*** (0.10)	9.82*** (0.13)	9.77*** (0.14)
R^2	0.01	0.06	0.05	0.07

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 25. OLS models log earnings at age 35, birth cohort 1970-1980 (parental social class)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental EGP (ref. I+II Service class, N = 505)				
VIIab Unskilled manual	-0.34** (0.12)	-0.15 (0.11)	-0.18 (0.13)	-0.14 (0.13)
V+VI Skilled manual	-0.03 (0.10)	0.13 (0.11)	0.08 (0.10)	0.11 (0.10)
IVc Self-employed farmer	-0.09 (0.15)	0.12 (0.16)	0.06 (0.15)	0.06 (0.15)
IIIab Routine non-manual	-0.26+ (0.14)	-0.17 (0.12)	-0.16 (0.12)	-0.12 (0.12)
IVab Self-employed	-0.18 (0.17)	-0.07 (0.17)	-0.08 (0.17)	-0.10 (0.17)
First track (ref. lower)				
Intermediate		0.15 (0.10)		
Upper		0.45*** (0.10)		
Track at 17 (ref. lower)				
Intermediate			0.12 (0.12)	
Upper			0.40*** (0.12)	
Track at 22 (ref. lower)				
Intermediate				0.16 (0.14)
Upper				0.46*** (0.14)
Dropout				-0.42** (0.13)
Constant	10.13*** (0.05)	9.85*** (0.09)	9.86*** (0.12)	9.79*** (0.14)
R^2	0.03	0.08	0.07	0.08

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 26. Linear probability models general unemployment experience at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 948)				
Basic	0.07** (0.03)	0.05* (0.02)	0.05* (0.02)	0.04+ (0.02)
Upper secondary	0.02+ (0.01)	0.01 (0.01)	0.01 (0.01)	0.00 (0.01)
First track (ref. lower)				
Intermediate		-0.02+ (0.01)		
Upper		-0.03* (0.01)		
Track at 17 (ref. lower)				
Intermediate			-0.04* (0.02)	
Upper			-0.04* (0.02)	
Dropout			0.18 (0.17)	
Track at 22 (ref. lower)				
Intermediate				-0.01 (0.02)
Upper				-0.02+ (0.01)
Dropout				0.35* (0.17)
Constant	0.03*** (0.01)	0.06*** (0.01)	0.07*** (0.02)	0.05*** (0.01)
R^2	0.02	0.03	0.05	0.09

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 27. Linear probability models general unemployment experience at age 35, birth cohort 1970-1980 (parental social class)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental EGP (ref. I+II Service class, N = 912)				
VIIab Unskilled manual	0.04 ⁺ (0.02)	0.02 (0.02)	0.01 (0.02)	0.01 (0.02)
V+VI Skilled manual	0.04 (0.02)	0.03 (0.02)	0.02 (0.02)	0.02 (0.02)
IVc Self-employed farmer	-0.03*** (0.01)	-0.05*** (0.01)	-0.05*** (0.01)	-0.04*** (0.01)
IIIab Routine non-manual	0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)
IVab Self-employed	-0.01 (0.01)	-0.02 (0.01)	-0.02 (0.01)	-0.02 (0.01)
First track (ref. lower)				
Intermediate		-0.03* (0.01)		
Upper		-0.03** (0.01)		
Track at 17 (ref. lower)				
Intermediate			-0.05** (0.02)	
Upper			-0.05** (0.02)	
Dropout			0.16 (0.17)	
Track at 22 (ref. lower)				
Intermediate				-0.02 (0.02)
Upper				-0.03* (0.02)
Dropout				0.34 ⁺ (0.18)
Constant	0.04*** (0.01)	0.07*** (0.01)	0.09*** (0.02)	0.07*** (0.02)
R ²	0.02	0.04	0.06	0.10

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 28. Linear probability models long-term unemployment experience at age 35, birth cohort 1970-1980 (parental education)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental education (ref. tertiary, N = 948)				
Basic	0.17* (0.09)	0.14 (0.09)	0.13 (0.09)	0.11 (0.09)
Upper secondary	0.02 (0.04)	-0.01 (0.05)	-0.00 (0.05)	-0.01 (0.04)
First track (ref. lower)				
Intermediate		-0.04 (0.05)		
Upper		-0.06 (0.04)		
Track at 17 (ref. lower)				
Intermediate			-0.14** (0.05)	
Upper			-0.10* (0.05)	
Dropout			0.58*** (0.10)	
Track at 22 (ref. lower)				
Intermediate				-0.04 (0.06)
Upper				-0.08 (0.05)
Dropout				0.61*** (0.08)
Constant	0.25*** (0.04)	0.30*** (0.05)	0.35*** (0.06)	0.32*** (0.06)
R^2	0.01	0.01	0.04	0.03

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

Appendix 29. Linear probability models long-term unemployment experience at age 35, birth cohort 1970-1980 (parental social class)

	Model 1 (unadjusted)	Model 2 (+ first track)	Model 3 (+ track at 17)	Model 4 (+ track at 22)
Parental EGP (ref. I+II Service class, N = 912)				
VIIab Unskilled manual	0.11 ⁺ (0.06)	0.08 (0.06)	0.05 (0.06)	0.05 (0.06)
V+VI Skilled manual	0.07 (0.06)	0.04 (0.06)	0.04 (0.06)	0.03 (0.06)
IVc Self-employed farmer	-0.07 (0.08)	-0.11 (0.09)	-0.11 (0.09)	-0.11 (0.09)
IIIab Routine non-manual	0.03 (0.05)	0.02 (0.05)	-0.00 (0.05)	-0.00 (0.05)
IVab Self-employed	-0.08 (0.07)	-0.10 (0.07)	-0.09 (0.07)	-0.10 (0.07)
First track (ref. lower)				
Intermediate		-0.04 (0.05)		
Upper		-0.07 (0.05)		
Track at 17 (ref. lower)				
Intermediate			-0.16 ^{**} (0.06)	
Upper			-0.12 [*] (0.06)	
Dropout			0.51 ^{***} (0.10)	
Track at 22 (ref. lower)				
Intermediate				-0.06 (0.06)
Upper				-0.10 ⁺ (0.06)
Dropout				0.58 ^{***} (0.08)
Constant	0.26 ^{***} (0.03)	0.30 ^{***} (0.05)	0.37 ^{***} (0.06)	0.33 ^{***} (0.06)
R ²	0.01	0.02	0.04	0.03

Source: NEPS SC6 data (release: 8.0.0), own calculations, standard errors in parentheses, + p<.10, * p<.05, ** p<.01, *** p<.001

References

- Authoring Group Educational Reporting. (2016). *Education in Germany 2016: An indicator-based report including an analysis of education and migration*. Bielefeld: Bertelsmann. Retrieved from <https://www.bildungsbericht.de/en/the-national-report-on-education/education-in-germany>
- Bach, M., Koebe, J., & Peter, F. H. (2018). *Früher Kita-Besuch beeinflusst Persönlichkeitseigenschaften bis ins Jugendalter*.
- Baur, C. (2014). *Schule, Stadtteil, Bildungschancen* (1. Aufl.). Pädagogik. Bielefeld: transcript.
- Bellenberg, G. (2012). *Schulformwechsel in Deutschland: Durchlässigkeit und Selektion in den 16 Schulsystemender Bundesländer innerhalb der Sekundarstufe I*.
- Bertelsmann Stiftung. (2018). Ländermonitor - Frühkindliche Bildungssysteme: Art der Einrichtungen. Retrieved from https://www.laendermonitor.de/de/vergleich-bundeslaender-daten/personal-und-einrichtungen/kita-strukturen/art-der-einrichtung/?tx_itaohyperion_pluginview%5Baction%5D=chart&tx_itaohyperion_pluginview%5Bcontroller%5D=PluginView&cHash=5ba092adc444f342fedc2d7b58303ff8
- Bertelsmann Stiftung. (2019). Ländermonitor Frühkindliche Bildungssysteme: Bildungsbeteiligung in KiTas und Kindertagespflege (Gesamt). Retrieved from https://www.laendermonitor.de/de/vergleich-bundeslaender-daten/kinder-und-eltern/bildungsbeteiligung/bildungsbeteiligung-in-kitas-und-kindertagespflege-gesamt/?tx_itaohyperion_pluginview%5Baction%5D=chart&tx_itaohyperion_pluginview%5Bcontroller%5D=PluginView&cHash=bdee3b8e3343feb907ddb366f76621a1
- Bloch, R., Kreckel, R., Mitterle, A., & Stock, M. (2014). Stratifikationen im Bereich der Hochschulbildung in Deutschland. *Zeitschrift Für Erziehungswissenschaft*, 17(S3), 243–261. <https://doi.org/10.1007/s11618-014-0531-4>
- Bloch, R., & Mitterle, A. (2017). On stratification in changing higher education: The “analysis of status” revisited. *Higher Education*, 73(6), 929–946. <https://doi.org/10.1007/s10734-017-0113-5>
- Blossfeld, H.-P., Buchholz, S., Skopek, J., & Triventi, M. (Eds.). (2016). *eduLIFE lifelong learning series: Vol. 3. Models of secondary education and social inequality: An international comparison*. Cheltenham, UK, Northampton, MA: Edward Elgar.
- Blossfeld, H.-P., Roßbach, H.-G., & Maurice, J. von (Eds.). (2011). *Zeitschrift für Erziehungswissenschaft: Sonderheft 14. Education as a lifelong process: The German National Educational Panel Study (NEPS)*.
- Brunello, G., & Checchi, D. (2007). Does school tracking affect equality of opportunity?: New international evidence. *Economic Policy*, 781–861. <https://doi.org/10.1111/j.1468-0327.2007.00189.x>
- Buchholz, S., & Pratter, M. (2017). Wer profitiert von alternativen Bildungswegen? Alle seine Frage des Blickwinkels!: Eine systematische Rekonstruktion des Effektes sozialer Herkunft für alternative Wege zur Hochschulreife. *KZfSS Kölner Zeitschrift Für Soziologie Und Sozialpsychologie*, 69(3), 409–435. <https://doi.org/10.1007/s11577-017-0484-8>
- Buchholz, S., & Schier, A. (2015). New game, new chance?: Social inequalities and upgrading secondary school qualifications in West Germany. *European Sociological Review*, 31(5), 603–615. <https://doi.org/10.1093/esr/jcv062>

- Deppe, U., & Kastner, H. (2014). Exklusive Bildungseinrichtungen in Deutschland. Entwicklungstendenzen und Identifizierungshürden. *Zeitschrift Für Erziehungswissenschaft*, 17(S3), 263–283. <https://doi.org/10.1007/s11618-014-0532-3>
- Destatis. (2017a). *Bildung und Kultur: Allgemeinbildende Schulen*. Schuljahr 2016/2017 (Fachserie 11, Reihe 1). Wiesbaden. Retrieved from Statistisches Bundesamt (Destatis) website: <https://www.destatis.de/DE/Publikationen/Thematisch/BildungForschungKultur/Schulen/AllgemeinbildendeSchulen.html>
- Destatis. (2017b). *Bildung und Kultur: Private Schulen*. Schuljahr 2016/2017 (Fachserie 11 Reihe 1.1). Retrieved from Statistisches Bundesamt website: <https://www.destatis.de/DE/Publikationen/Thematisch/BildungForschungKultur/Schulen/PrivateSchulen.html>
- Destatis. (2017c). *Studierende an Hochschulen: Daten zu Studierenden und Studienanfänger/-innen an deutschen Hochschulen im Wintersemester 2016/2017* (Fachserie 11 Reihe 4.1). Retrieved from Statistisches Bundesamt website: <https://www.destatis.de/DE/Publikationen/Thematisch/BildungForschungKultur/Hochschulen/StudierendeHochschulenEndg.html>
- Destatis. (2018a). *Allgemeinbildende Schulen: Schulen, Schüler nach Schulart. Tabelle 21111-01-03-4-B: Tabelle 21111-01-03-4-B*. Retrieved from <https://www.regionalstatistik.de/genesis/online/data>
- Destatis. (2018b). *Schüler: Bundesländer, Schuljahr, Geschlecht, Jahrgangsstufen, Schulart: Ergebnis 21111-0005*. Retrieved from <https://www-genesis.destatis.de/genesis/online/>
- Ditton, H. (2013). Bildungsverläufe in der Sekundarstufe: Ergebnisse einer Längsschnittstudie zu Wechseln der Schulform und des Bildungsgangs. *Zeitschrift Für Pädagogik*, 59, 887–911.
- Esser, H., & Relikowski, I. (2015). *Is ability tracking (really) responsible for educational inequalities in achievement?: A comparison between the country states Bavaria and Hesse in Germany* (IZA Discussion Paper No. 9082). Retrieved from <https://ssrn.com/abstract=2612334>
- European Commission/EACEA/Eurydice. (2018). *The structure of the European education systems 2017/18:: schematic diagrams* (Eurydice - Facts and Figures). Luxembourg: Publications Office of the European Union.
- Federal Office for Migration and Refugees. (2018). The education system. Retrieved from <http://www.wir-sind-bund.de/WSB/EN/Eltern/Bildungssystem/bildungssystem-node.html>
- Felfe, C., & Lalive, R. (2013). Early child care and child development: For whom it works and why. *SSRN Electronic Journal*. Advance online publication. <https://doi.org/10.2139/ssrn.2214874>
- Fincke, G., & Lange, S. (2012). *Segregation an Grundschulen:: Der Einfluss der elterlichen Schulwahl* (Policy Brief). Retrieved from <https://www.svr-migration.de/publikationen/segregation-an-grundschulen-der-einfluss-der-elterlichen-schulwahl/>
- Fuchs-Rechlin, K., & Bergmann, C. (2014). Der Abbau von Bildungsbenachteiligung durch Kindertagesbetreuung für unter 3-Jährige – zwischen Wunsch und Wirklichkeit. *Zeitschrift Für Erziehungswissenschaft*, 17(S2), 95–118. <https://doi.org/10.1007/s11618-013-0464-3>
- Gamoran, A. (2010). Tracking and inequality: New directions for research and practice. In Apple, Michael, W., Ball, Stephen, J., & Gandin, Luis, Armando (Eds.), *The routledge international handbook of the sociology of education* (1st ed., pp. 213–228). London: Routledge.

- Geis-Thöne, W. (2018). Familien müssen für die gleiche Betreuung in der Kita unterschiedlich viel zahlen: Ein Vergleich der Gebührenordnungen der größten Städte in Deutschland.
- Gresch, C., Baumert, J., & Maaz, K. (2010). Empfehlungsstatus, Übergangsempfehlung und der Wechsel in die Sekundarstufe I: Bildungsentscheidungen und soziale Ungleichheit. In J. Baumert, K. Maaz, & U. Trautwein (Eds.), *Bildungsentscheidungen* (pp. 230–256). Wiesbaden: VS Verlag für Sozialwissenschaften.
- Groos, T. (2015). *Gleich und gleich gesellt sich gern: Zu den sozialen Folgen freier Grundschulwahl* (Werkstattbericht „Kein Kind zurücklassen!“).
- Hanushek, E. A., & Wößmann, L. (2006). Does educational tracking affect performance and inequality?: Difference-in-difference evidence across countries. *The Economic Journal*, 116(510), 63–76. Retrieved from <http://www.jstor.org/stable/3590413>
- Helbig, M., & Nikolai, R. (2015). *Die Unvergleichbaren: Der Wandel der Schulsysteme in den deutschen Bundesländern seit 1949*. Bad Heilbrunn: Verlag Julius Klinkhardt. Retrieved from <https://content-select.com/de/portal/media/view/56e19194-6c00-4c86-baa7-29b5b0dd2d03>
- Helbig, M., Nikolai, R., & Wrase, M. (2017). Privatschulen und die soziale Frage. Wirkung rechtlicher Vorgaben zum Sonderungsverbot in den Bundesländern. *Leviathan*, 45(3), 357–380. <https://doi.org/10.5771/0340-0425-2017-3-357>
- Herdin, G., & Hachmeister, C.-D. (2014). *Der CHE Numerus Clausus-Check 2013/14: Eine Analyse des Anteils von NC-Studiengängen in den einzelnen Bundesländern* (Arbeitspapier No. 178).
- Jacob, M., & Solga, H. (2015). Germany's Vocational Education and Training System in Transformation: Changes in the Participation of Low- and High-Achieving Youth Over Time. *European Sociological Review*, 31(2), 161–171. <https://doi.org/10.1093/esr/jcv016>
- Jacob, M., & Tieben, N. (2009). Social selectivity of track mobility in secondary schools. *European Societies*, 11(5), 747–773. <https://doi.org/10.1080/14616690802588066>
- Jungbauer-Gans, M., Lohmann, H., & Spiess, C. K. (2012). Bildungsungleichheiten und Privatschulen in Deutschland. In R. Becker & H. Solga (Eds.), *Kölner Zeitschrift für Soziologie und Sozialpsychologie Sonderhefte. Soziologische Bildungsforschung* (Vol. 52, pp. 64–85). Wiesbaden: Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-00120-9_3
- Jurczok, A., & Lauterbach, W. (2014). Schulwahl von Eltern: Zur Geografie von Bildungschancen in benachteiligten städtischen Bildungsräumen. In P. A. Berger, C. Keller, A. Klärner, & R. Neef (Eds.), *Urbane Ungleichheiten* (pp. 135–155). Wiesbaden: Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-01014-0_7
- Katzenbach, D., Rauer, W., Schuck, K. D., & Wudtke, H. (1999). Die Integrative Grundschule im sozialen Brennpunkt. Ergebnisse empirischer Längsschnittuntersuchungen des Hamburger Schulversuchs. *Zeitschrift Für Pädagogik*, 45(4), 567–590. Retrieved from <urn:nbn:de:0111-opus-59656>
- Kleinert, C., & Jacob, M. (2013). Demographic changes, labor markets and their consequences on post-school-transitions in West Germany 1975–2005. *Research in Social Stratification and Mobility*, 32, 65–83. <https://doi.org/10.1016/j.rssm.2013.01.004>
- KMK. (2015). *The education system in the Federal Republic of Germany 2014/2015: A description of the responsibilities, structures and developments in education policy for the exchange of information in Europe*. Bonn. Retrieved from Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of

- Germany (KMK) website: <https://www.kmk.org/dokumentation-statistik/informationen-zum-deutschen-bildungssystem/dossier-englisch.html>
- Köller, O., & Trautwein, U. (2004). Englischleistungen von Schülerinnen und Schülern an allgemein bildenden und beruflichen Gymnasien. In O. Köller, R. Watermann, U. Trautwein, & O. Lüdtke (Eds.), *Wege zur Hochschulreife in Baden-Württemberg: TOSCA - Eine Untersuchung an allgemein bildenden und beruflichen Gymnasien* (pp. 285–326). Opladen: Leske + Budrich.
- Krapf, S. (2014). Who uses public childcare for 2-year-old children?: Coherent family policies and usage patterns in Sweden, Finland and Western Germany. *International Journal of Social Welfare*, 23(1), 25–40. <https://doi.org/10.1111/ijsw.12031>
- Kreyenfeld, M., & Krapf, S. (2010). Soziale Ungleichheit und Kinderbetreuung: Eine Analyse der sozialen und ökonomischen Determinanten der Nutzung von Kindertageseinrichtungen. In R. Becker & W. Lauterbach (Eds.), *Bildung als Privileg* (pp. 107–128). Wiesbaden: VS Verlag für Sozialwissenschaften.
- Kristen, C. (2005). *School choice and ethnic school segregation: Primary school selection in Germany*. *Internationale Hochschulschriften*.
- Kuger, S., & Kluczniok, K. (2009). Prozessqualität im Kindergarten – Konzept, Umsetzung und Befunde. In H.-G. Roßbach & H.-P. Blossfeld (Eds.), *Zeitschrift für Erziehungswissenschaft Sonderheft: Vol. 11. Frühpädagogische Förderung in Institutionen: Zeitschrift für Erziehungswissenschaft* (pp. 159–178). Wiesbaden: VS Verlag für Sozialwissenschaften / GWV Fachverlage GmbH Wiesbaden.
- Lauterbach, W., & Fend, H. (2016). Educational mobility and equal opportunity in different German tracking systems: Findings from the Life study. In H.-P. Blossfeld, S. Buchholz, J. Skopek, & M. Triventi (Eds.), *eduLIFE lifelong learning series: Vol. 3. Models of secondary education and social inequality: An international comparison* (pp. 93–109). Cheltenham, UK, Northampton, MA: Edward Elgar.
- Makles, A. (2014). *Bildungsinvestitionen und bildungspolitische Maßnahmen im Spannungsfeld von Gerechtigkeit und Effizienz*. Wiesbaden: Springer Fachmedien Wiesbaden.
- Malecki, A. (2016). *Schulen auf einen Blick: Ausgabe 2016*. Wiesbaden. Retrieved from www.destatis.de/publikationen
- Mijs, J. J.B., & Van de Werfhorst, H. G. (2010). Achievement inequality and the institutional structure of educational systems: A comparative perspective. *Annual review of Sociology*, 36(1), 407–428. <https://doi.org/10.1146/annurev.soc.012809.102538>
- Neugebauer, M., Neumeyer, S., & Alesi, B. (2016). More diversion than inclusion? Social stratification in the Bologna system. *Research in Social Stratification and Mobility*, 45, 51–62. <https://doi.org/10.1016/j.rssm.2016.08.002>
- Neugebauer, M., Reimer, D., Schindler, S., & Stocké, V. (2013). Inequality in transitions to secondary school and tertiary education in Germany. In M. Jackson (Ed.), *Determined to succeed?* (pp. 56–88). Stanford University Press. <https://doi.org/10.11126/stanford/9780804783026.003.0003>
- Nikolai, R., & Helbig, M. (2013). Schulautonomie als Allheilmittel?: Über den Zusammenhang von Schulautonomie und schulischen Kompetenzen der Schüler. *Zeitschrift Für Erziehungswissenschaft*, 16(2), 381–403. <https://doi.org/10.1007/s11618-013-0359-3>
- OECD. (2013). *Education policy outlook: Germany*. Retrieved from <http://www.oecd.org/education/profiles.htm>

- Pietsch, M. (2007). Schulformwahl in Hamburger Schülerfamilien und die Konsequenzen für die Sekundarstufe I. In W. Bos (Ed.), *HANSE - Hamburger Schriften zur Qualität im Bildungswesen: Vol. 2. KESS 4 - Lehr- und Lernbedingungen in Hamburger Grundschulen* (pp. 127–166). Münster: Waxmann.
- Riedel, Andreas, Schneider, K., Schuchart, C., & Weishaupt, H. (2010). School choice in German primary schools: how binding are school districts? *Journal for Educational Research Online*, 2, 94–120. Retrieved from URN: urn:nbn:de:0111-opus-45695
- Schindler, S. (2015). Soziale Ungleichheit im Bildungsverlauf – alte Befunde und neue Schlüsse? *KZfSS Kölner Zeitschrift Für Soziologie Und Sozialpsychologie*, 67(3), 509–537. <https://doi.org/10.1007/s11577-015-0333-6>
- Schneider, K., Schuchart, C., Weishaupt, H., & Riedel, A. (2011). *The effect of free primary school choice on ethnic groups: Evidence from a policy reform* (Schumpeter Discussion Papers No. 2011-007). Retrieved from <http://hdl.handle.net/10419/68702>
- Sixt, M. (2013). Wohnort, Region und Bildungserfolg. Die strukturelle Dimension bei der Erklärung von regionaler Bildungsungleichheit. In R. Becker & A. Schulze (Eds.), *Bildungskontexte* (pp. 457–481). Wiesbaden: Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-531-18985-7_16
- Stahl, J. F., Schober, P. S., & Spiess, C. K. (2017). Parental socio-economic status and childcare quality: Early inequalities in educational opportunity? *Early Childhood Research Quarterly*. Advance online publication. <https://doi.org/10.1016/j.ecresq.2017.10.011>
- Vereinbarung zur Gestaltung der gymnasialen Oberstufe in der Sekundarstufe II, Standing Conference of Ministers of Education and Cultural Affairs in the Federal Republic of Germany 07.07.1972.
- Vereinbarung über den Erwerb der Fachhochschulreife in beruflichen Bildungsgängen, Standing Conference of Ministers of Education and Cultural Affairs in the Federal Republic of Germany 05.06.1998.
- Vereinbarung über die Schularten und Bildungsgänge im Sekundarbereich I, Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany 03.12.1993.
- Watermann, R., Nagy, G., & Köller, O. (2004). Mathematikleistungen in allgemein bildenden und beruflichen Gymnasien. In O. Köller, R. Watermann, U. Trautwein, & O. Lüdtke (Eds.), *Wege zur Hochschulreife in Baden-Württemberg: TOSCA - Eine Untersuchung an allgemein bildenden und beruflichen Gymnasien* (pp. 205–283). Opladen: Leske + Budrich.
- Weiss, F., & Schindler, S. (2017). EMI in Germany: Qualitative Differentiation in a Tracked Education System. *American Behavioral Scientist*, 61(1), 74–93. <https://doi.org/10.1177/0002764216682811>
- Weiß, M. (2011). *Allgemeinbildende Privatschulen in Deutschland: Bereicherung oder Gefährdung des öffentlichen Schulwesens?* (1. Aufl.). *Schriftenreihe des Netzwerk Bildung: Vol. 20*. Berlin: Friedrich-Ebert-Stiftung.
- Weiß, M. (2013). Schulleistungen an Privatschulen – Ergebnisse deutscher Vergleichsstudien. In A. Gürlevik, C. Palentien, & R. Heyer (Eds.), *Privatschulen versus staatliche Schulen* (pp. 227–234). Wiesbaden: Springer Fachmedien Wiesbaden.
- Wolter, A., Kamm, C., Otto, A., Dahm, G., & Kerst, C. (2017). *Nicht-traditionelle Studierende: Studienverlauf, Studienerfolg und Lernumwelten*. Hannover/Berlin.
- Zielonka, M. (2017). *Revision und Stabilisierung von Schulwahlentscheidungen in der Sekundarstufe I*. Berlin: Logos.

