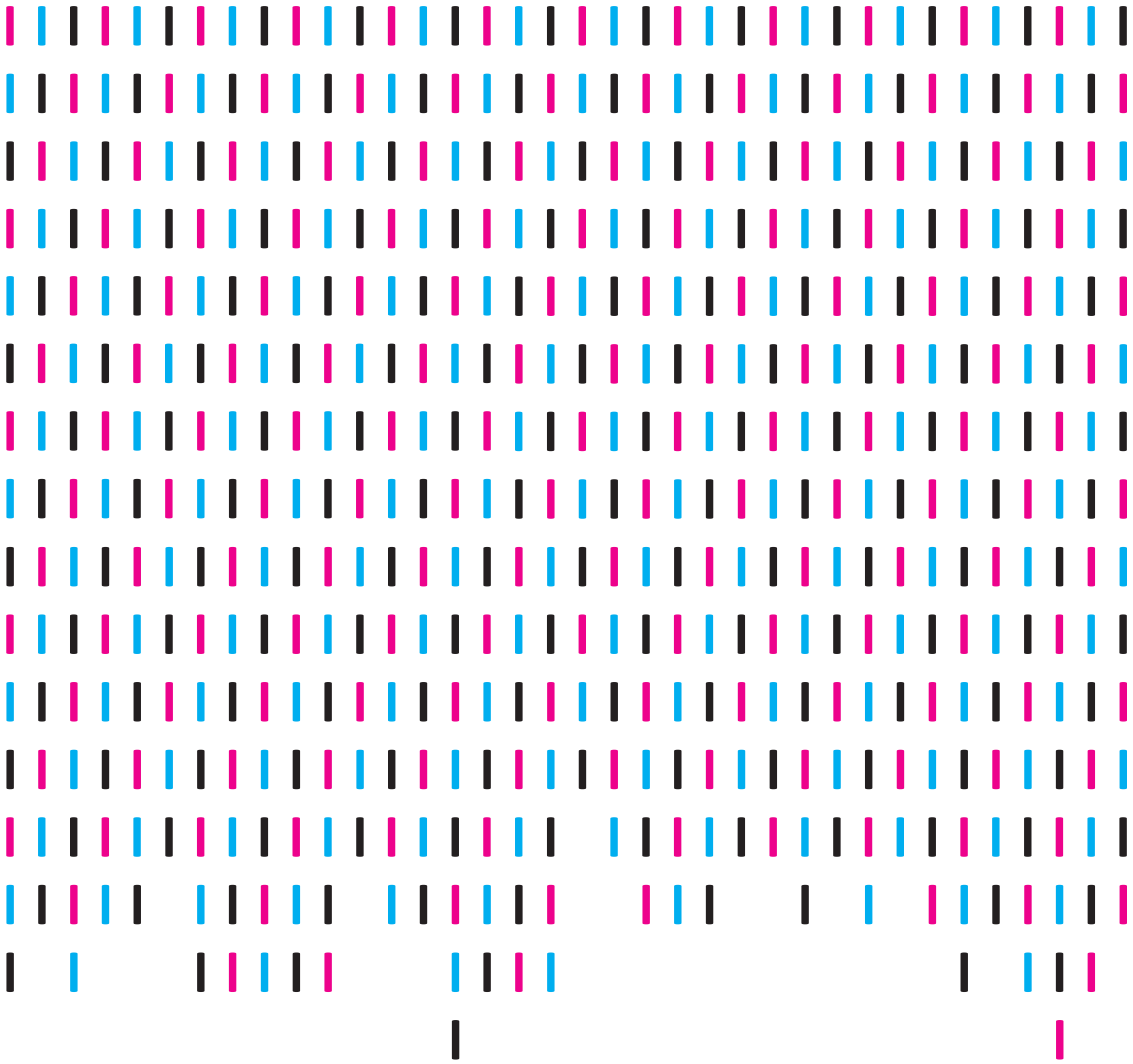

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TRACKING AND SORTING IN THE GERMAN EDUCATIONAL SYSTEM

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Tracking and Sorting in the German Educational System

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Literature review and analyses of the birth cohorts 1970-1980

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Tracking and Sorting in the German Educational System

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 on third to half of the difference in educational and labor 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.

Keywords

tracking, sorting, educational system, social inequality, OED triangle, Germany

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' practices 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).[1], 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 informal sorting processes at every stage of the system in detail, starting from early childhood

[1] 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.

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 has meant to spend only half a day in school, while full-day schools expanded in the 2000s (Helbig & Nikolai, 2015).[2]

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 grade 4.[3] Afterwards, they are channeled into three different educational tracks at lower secondary level, which traditionally have been organized 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,[4] 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 schools are leading to either lower *(Hauptschulabschluss)*, intermediate *(Realschulabschluss)* or to upper *(Abitur)* secondary school certificates.[5] With a lower school certificate, students

[2] 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).

[3] 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).

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

[5] 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);

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 (Statistisches Bundesamt, 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.[6] 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, because for nearly every rule some exceptions can be found, at least for a limited space and time.

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 schools.[7] Since the 1970s, comprehensive schools *(Gesamtschulen)* were incrementally introduced as an additional school type (extended tripartite system) in most federal states. Contrary to their

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.

[6] 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).

[7] 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.

name, cooperative comprehensive schools *(kooperative Gesamtschulen)* only replaced between-school tracking by within-school tracking by channeling students into the three above-mentioned educational tracks, which are organized under the roof of the same school. In contrast, integrative comprehensive schools *(integrative Gesamtschulen)* do not separate pupils by educational track, but usually use ability grouping in specific subjects (Helbig & Nikolai, 2015).[8] 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.[9] Upper secondary schools *(Gymnasien)* as single-track schools have been left untouched by these reforms in all federal states until today.

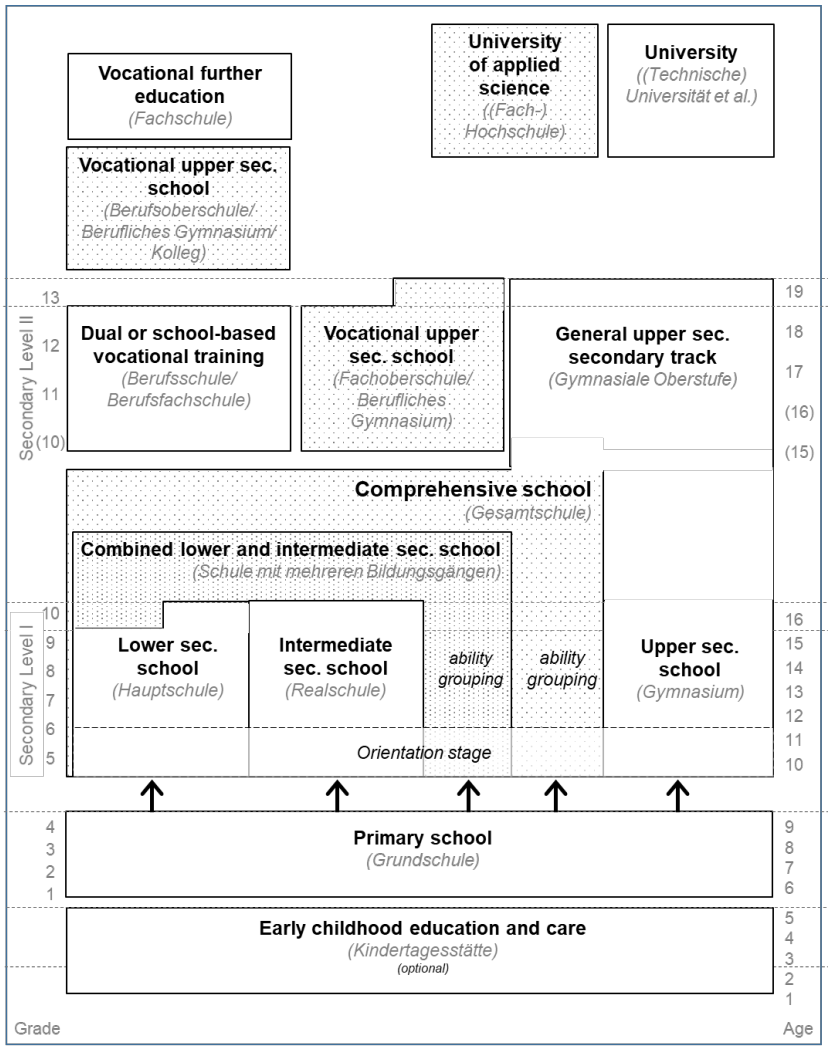
At the upper secondary and tertiary level, the most important reforms took place in the late 1960s and 1970s. At the upper secondary level, vocational upper secondary schools were introduced in most federal states. These schools were targeted to school leavers with an intermediate degree to enable acquiring 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)*[10] 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).

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

[9] It should be notes 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.

[10] Recently, these institutions were officially renamed *(Hochschulen für angewandte Wissenschaften)*.



Source: KMK (2015), own adjustments

Figure 1. Structure of the German educational system from ECEC to tertiary education

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-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 attends 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 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 age 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.[11] As illustrated, all the students of the 1970-1980 cohorts enter some form of lower secondary school after primary school (shown in light blue). Entrants to lower and intermediate schools make up similar shares, whereas entrance to upper secondary schools is slightly more selective. Comprehensive schools are still of minor importance.[12]

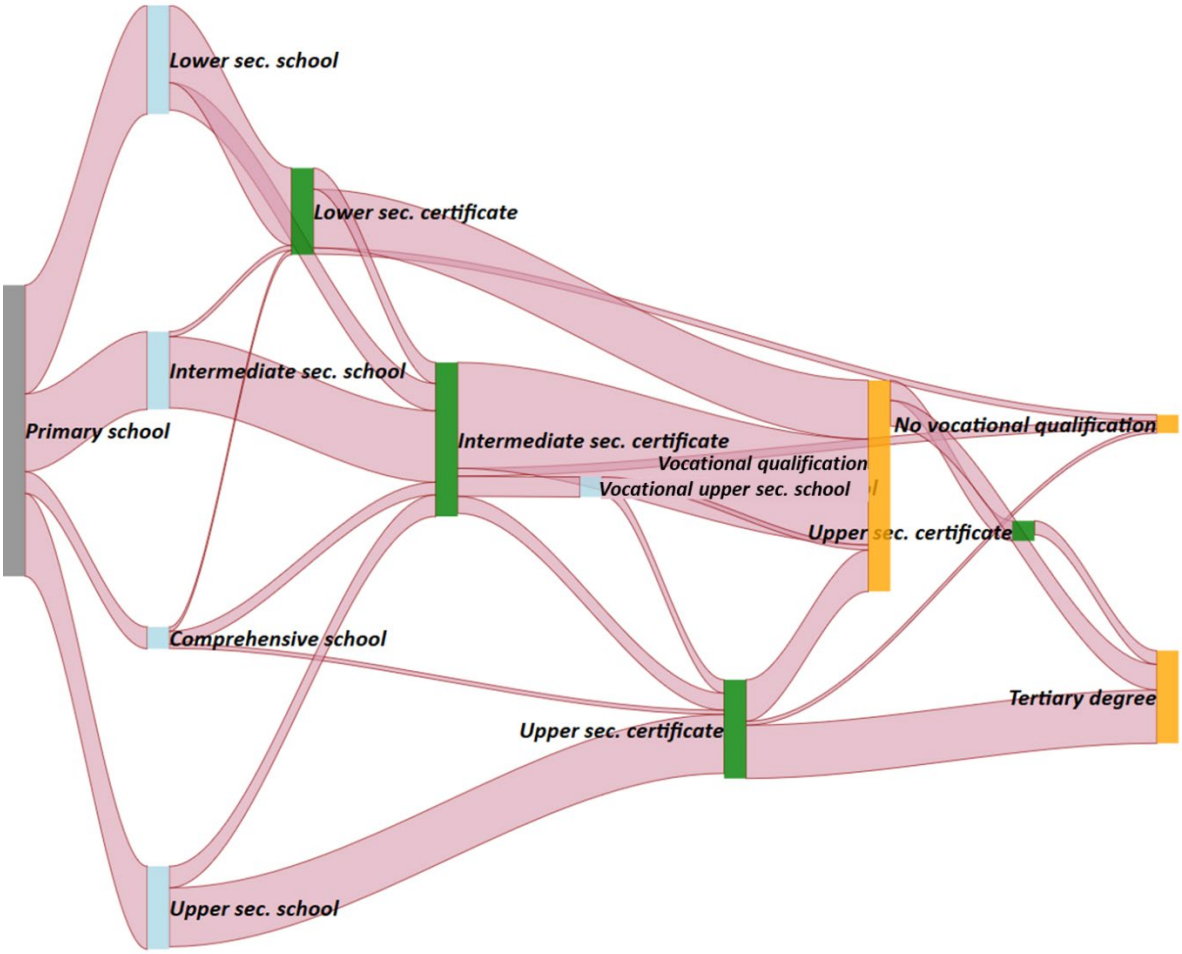
The first school type corresponds strongly to the first school certificate attained (shown in green), particularly at intermediate schools. Attaining a comprehensive school leads most often to an intermediate certificate, while lower shares attain higher or lower secondary school degrees. Nevertheless, 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 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.[13] 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 than in many federal states intermediate secondary certificates are granted automatically when passing

[11] 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.

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

[13] This result might be partly due to recall error.

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.



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

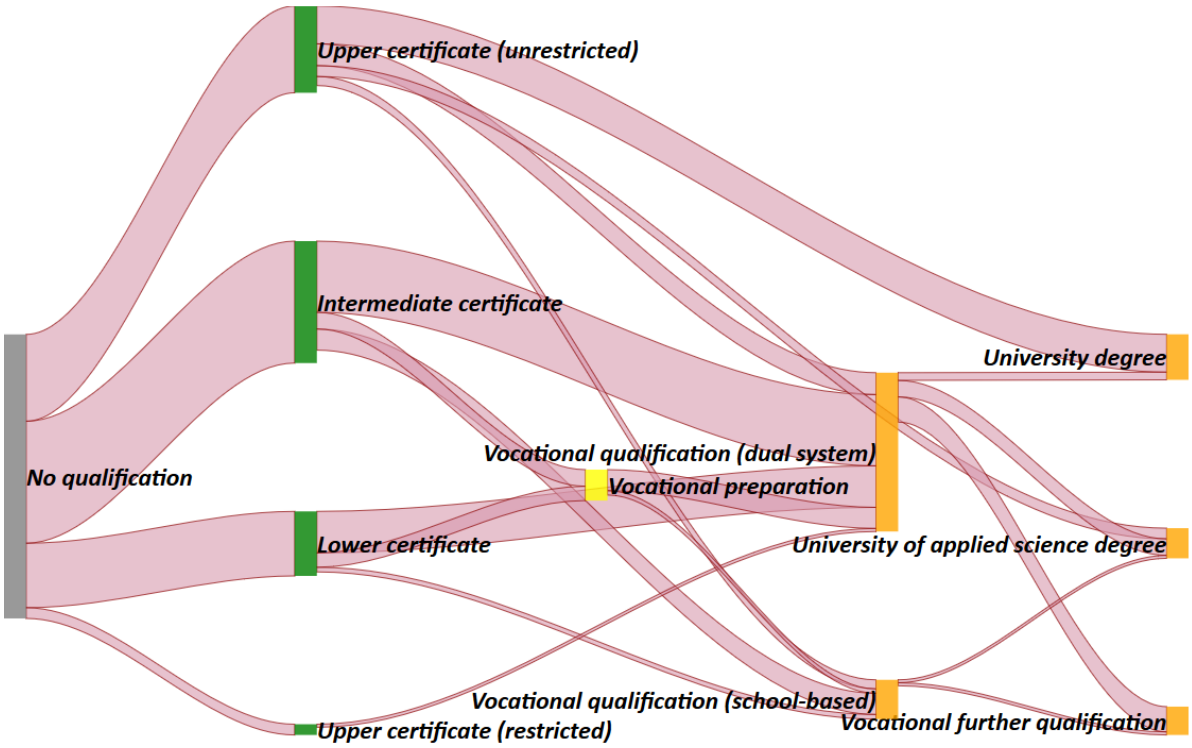
Figure 2. Educational trajectories of the birth cohort 1970-1980 in West Germany

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 small groups 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 show that it often requires an intermediate school certificate.

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.



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

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

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.[14] Hence for this age group attendance rates are very high (94% in 2017) and hardly subject to social selection (Bertelsmann Stiftung, 2019). Childcare centers are either run by private welfare organizations or municipalities, which also financially support and supervise privately maintained care centers (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

[14] According to a recent study, parents use on average 5.6% or 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).

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). 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; 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, 2018).

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 organized 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 enroll their children in another school area or by choosing a private primary school. Private primary schools are still an exception with an average attendance rate of only 3.5% in the school year 2016/17. Attendance rates 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 neighborhood (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.[15] 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).

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.[16] 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.

[15] 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-Wurttemberg less than 10% and in Bavaria more than 20% of all students entered a higher track than recommended in 2001 (Pietsch, 2007).

[16] 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).

***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.[17]

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 academic education.[18] Accordingly, the tracks differ in their academic standards, and lower secondary schools also teach work-related prevocational subjects such as household arts (KMK, 2015).

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). 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). Hence 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. 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

[17] 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).

[18] A special case are vocational upper secondary schools *(Berufliche Gymnasien)*, which mainly exist in Baden-Württemberg. Their final certificates are similar to regular upper secondary schools, but they offer a mire vocationally oriented curriculum.

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 neighborhoods in cities, and consequentially more advantaged parents living in these neighborhoods 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 where 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 channeling of students into two large streams: One groups 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.[19] 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.

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

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).

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 labor market, and direct entry into the labor 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 behavioral problems are referred to vocational preparations programs *(Übergangssystem)* 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 (Authoring Group Educational Reporting, 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 (Authoring Group Educational Reporting, 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 (Authoring Group Educational Reporting, 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 are granted 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 through upper secondary school *(Gymnasium)* is supplemented as well by several options. First, dependent on performance, students with an intermediate certificate may change to upper secondary schools and upgrading their degrees directly. Second, 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 (Authoring Group Educational Reporting, 2016, p. 125).

General upper secondary school certificate entitles to enter all university programs without internal restrictions or a general numerus clauses. 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 clauses 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 (Authoring Group Educational Reporting, 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, [20] 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 labor 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.

[20] In the mid-2000s some federal states introduced admission charges (usually 500 EUR per semester), which were abolished again in 2010 in all states.

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. Descriptive 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 list wise deletion.

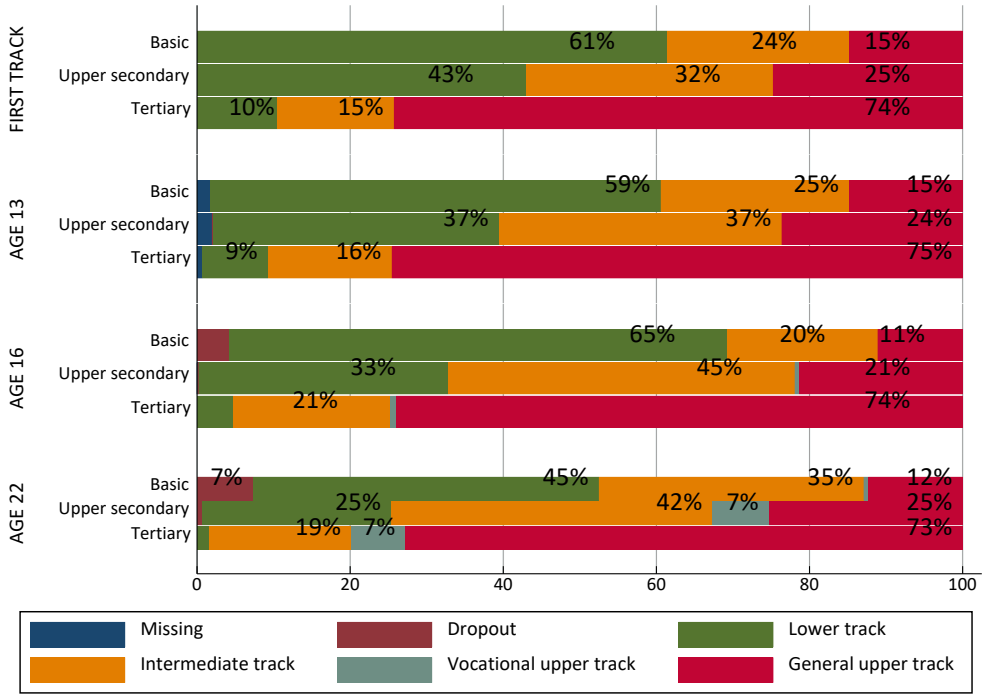
4.1 Social origin and track placement

Figure 4 displays the distribution of respondents' track placement by social origin, measured by three broad groups of parental education.[21] 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 enroll in the lower and 32 percent in the intermediate track, while

[21] 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).

among respondents with tertiary educated parents only 10 percent and 15 percent respectively attend the lower and the intermediate track.



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

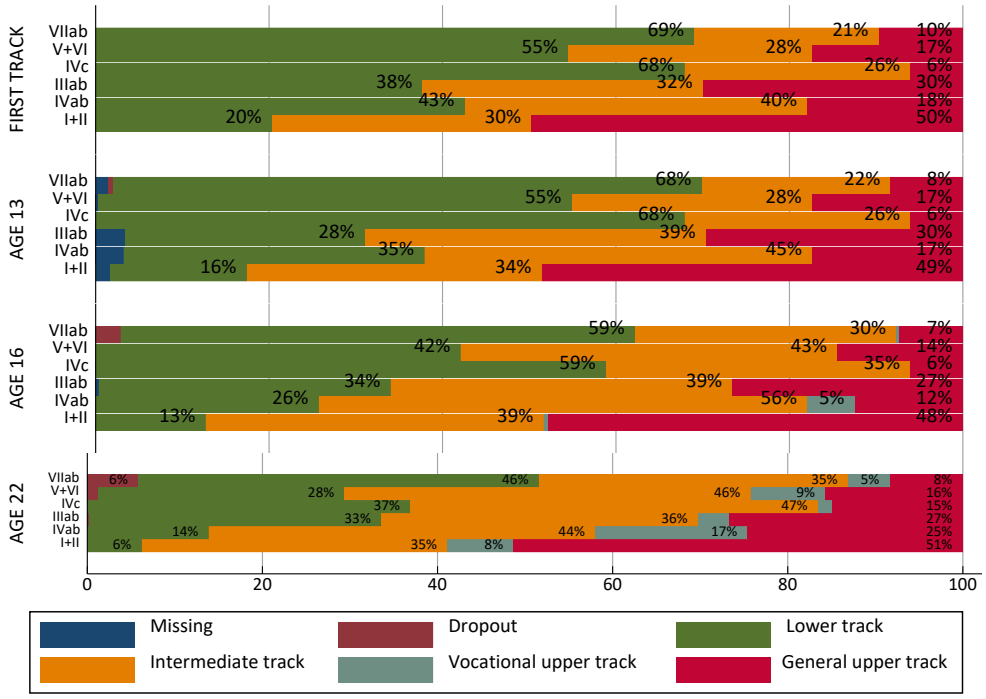
Figure 4. Track attendance over time by parental education, birth cohort 1970-80

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 enroll 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 enroll in the intermediate track (42 percent among medium and 19 percent among highly educated families).

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 patterns 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.



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

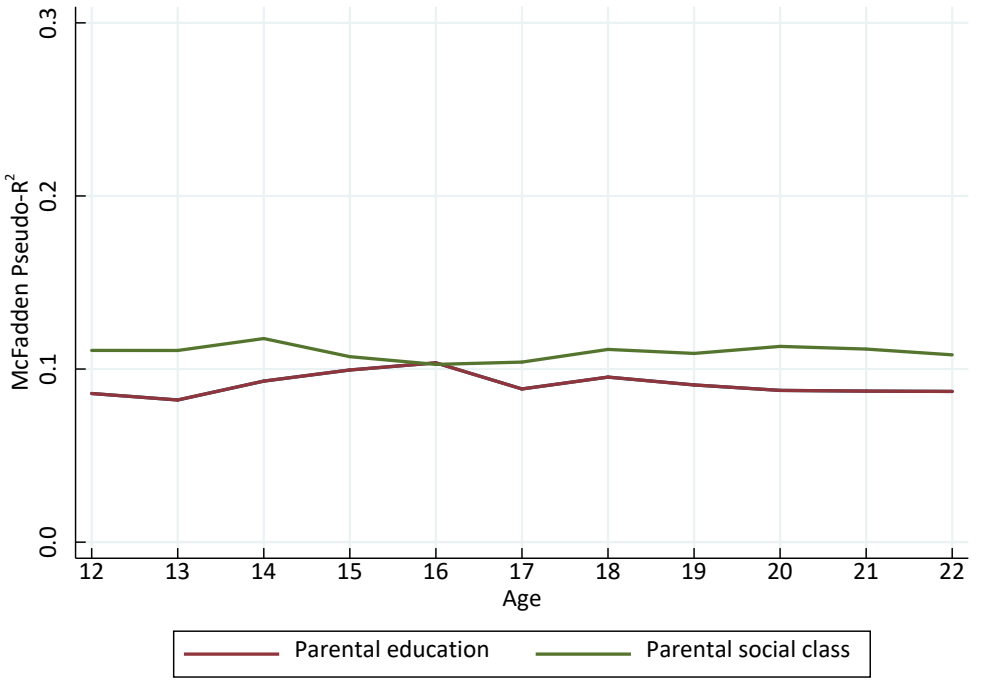
Figure 5. Track attendance over time by parental class, birth cohort 1970-80

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 lover 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.[22] 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).

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 (green 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.



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

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

4.2 Long-term consequences of tracking

This section describes the extent to which early and subsequent track placements are associated with educational and labor market outcomes at 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. Labor market outcomes are all measured at or until occupational maturity at age 35 and include:

[22] 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.

- social status, measured by international socio-economic index (ISEI),
- social class, measured by the EGP class scheme, collapsed again to six classes,
- annual net earnings[23],
- general unemployment experience, measured as share of the time being active in the labor 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 as well as for track placement at two points in time: at age 10 when entering lower secondary education and at age 22, when students have left school.

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
General unemployment experience	994		963	
Mean	0.05		0.05	
SD	0.12		0.12	

[23] 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.

Table 1. *Continued.*

	Unweighted		Weighted	
	N	Percent	N	Percent
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	
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)

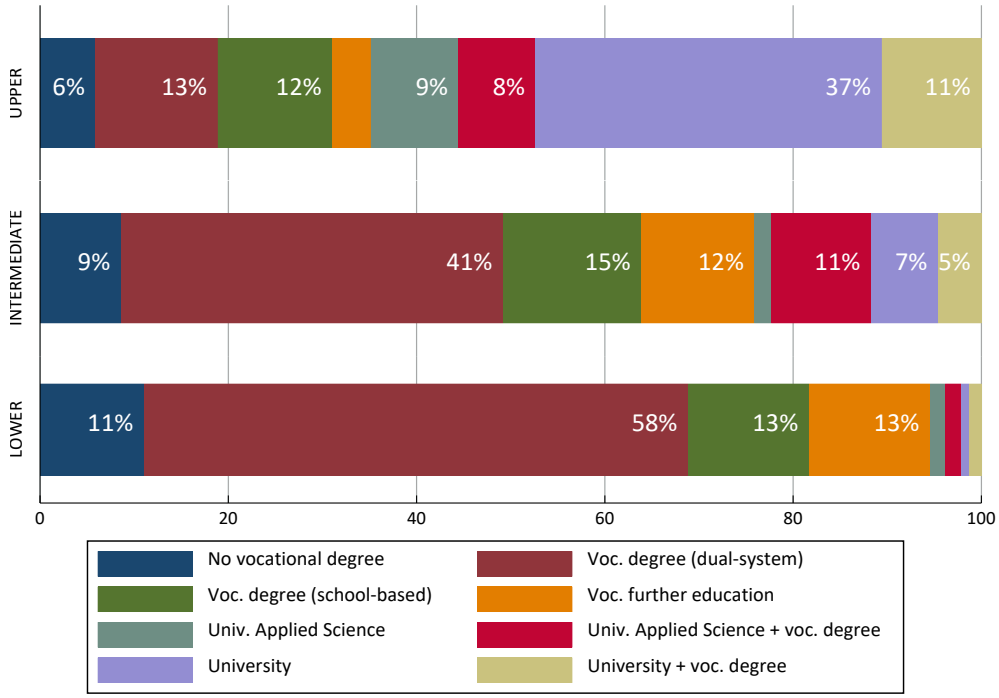
4.2.1 Educational outcomes

Figure 7 illustrates vocational and tertiary educational attainment of the respondents at occupational maturity, distinguished by their first track placement in lower secondary education. The figure clearly shows 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 labor in the highly vocational specific German labor market), and tertiary degrees are the exception with only a 6 percent share. Turning to the respondents who attended the upper secondary track at age 10, the share of those with at maximum a dual training degree declines, while school-based and further vocational training are as frequent as among the ones of 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, pursue 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 19 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, 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.



Notes: Numbers report the percentages (only if equal or greater than 5%).

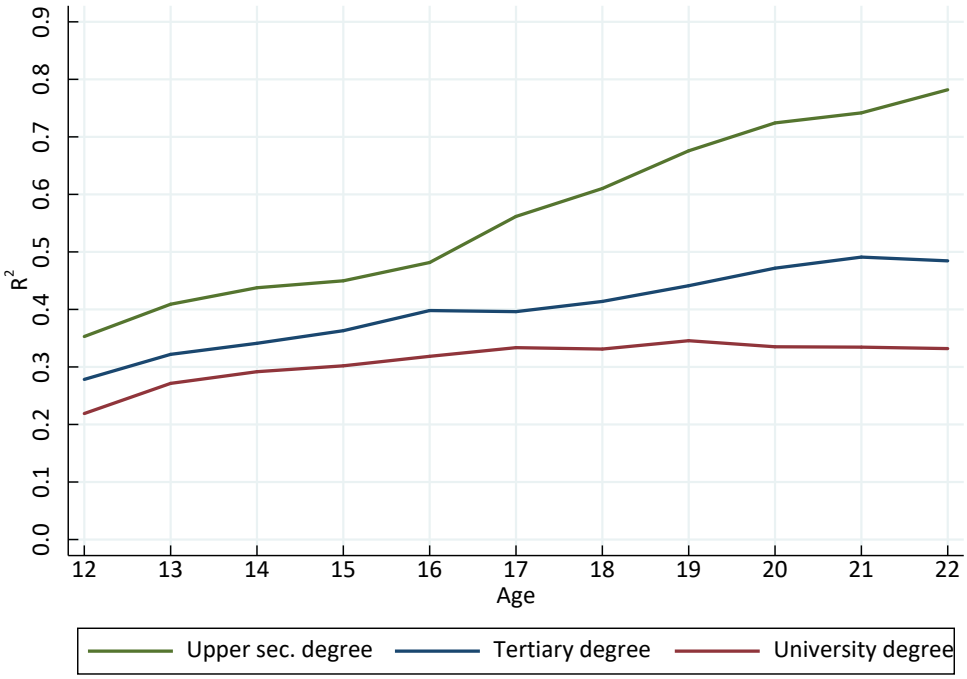
Source: Own calculation based on NEPS SC6 data (release: 8.0.0)

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

To understand how much variance in educational and labor market outcomes is explained by track placement we carried out a series of OLS regressions. By regressing educational and labor 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)* (green 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 (blue line), and again its importance grows over time, explaining almost half of the variance at age 22.



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

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

The red 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 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.

4.2.2 Labor market outcomes

Turning to labor-market outcomes, Figure 9 shows that track placement is most predictive in explaining socio-economic status (23 percent 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 6 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

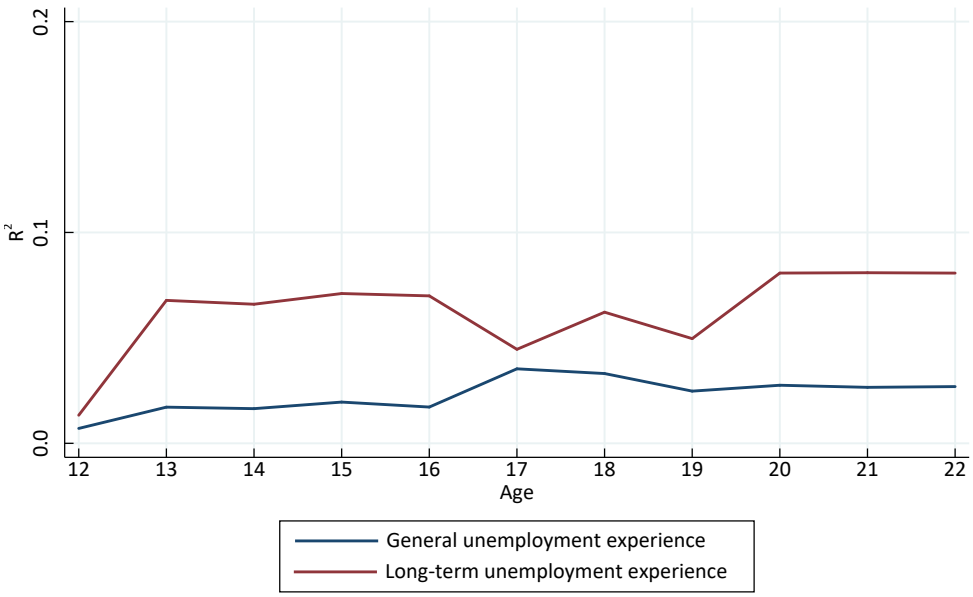
at age 22. The same trend emerges for adults who were placed in the intermediate track, although their increment is smaller (9 ISEI points at age 12 and 11 points at age 22).

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

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

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, grey line). While about 10 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, red line).

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, red line; or the probability of experiencing at least 6 months of unemployment, blue 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.



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

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

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 labor 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 labor market destination at the age of occupational maturity. The outcomes analyzed 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 2 contains the original regression tables for educational attainment (probability of attaining an upper secondary, tertiary and university degree), whereas Table 3 reports the original regression coefficient for labor market outcomes (ISEI and probability of reaching service class I as well as service class I and II). 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. 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. While track mobility up to age 22 still explains away part of the background differences in obtaining a tertiary degree, the mediating role of track placement reaches its maximum at age 17 when we look at the probability of graduating from university. Generally speaking, not only first track placement, but subsequent track placements explain part of the association between social origin and own educational outcomes.

Turning to labor market outcomes, Table 3 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 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

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	n.s.	n.s.	n.s.
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	n.s.	n.s.	n.s.
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	*n.s.*	*n.s.*	*n.s.*
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	n.s.	n.s.	n.s.
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	*n.s.*	*n.s.*	*n.s.*
IVc Self-employed farmer	-0.09	*n.s.*	*n.s.*	*n.s.*
IIIab Routine non-manual	-0.26+	*35%*	*39%*	*54%*
IVab Self-employed	-0.18	*n.s.*	*n.s.*	*n.s.*
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	*n.s.*	*n.s.*	*n.s.*
IVc Self-employed farmer	-0.03***	-67%	-67%	-33%
IIIab Routine non-manual	0.00	*n.s.*	*n.s.*	*n.s.*
IVab Self-employed	-0.01	*n.s.*	*n.s.*	*n.s.*
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	*n.s.*	*n.s.*	*n.s.*
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	*n.s.*	*n.s.*	*n.s.*
IVc Self-employed farmer	-0.07	*n.s.*	*n.s.*	*n.s.*
IIIab Routine non-manual	0.03	*n.s.*	*n.s.*	*n.s.*
IVab Self-employed	-0.08	*n.s.*	*n.s.*	*n.s.*
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 labor market outcomes is only weekly 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 labor 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 labor 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 analyze 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.

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6. Appendix

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

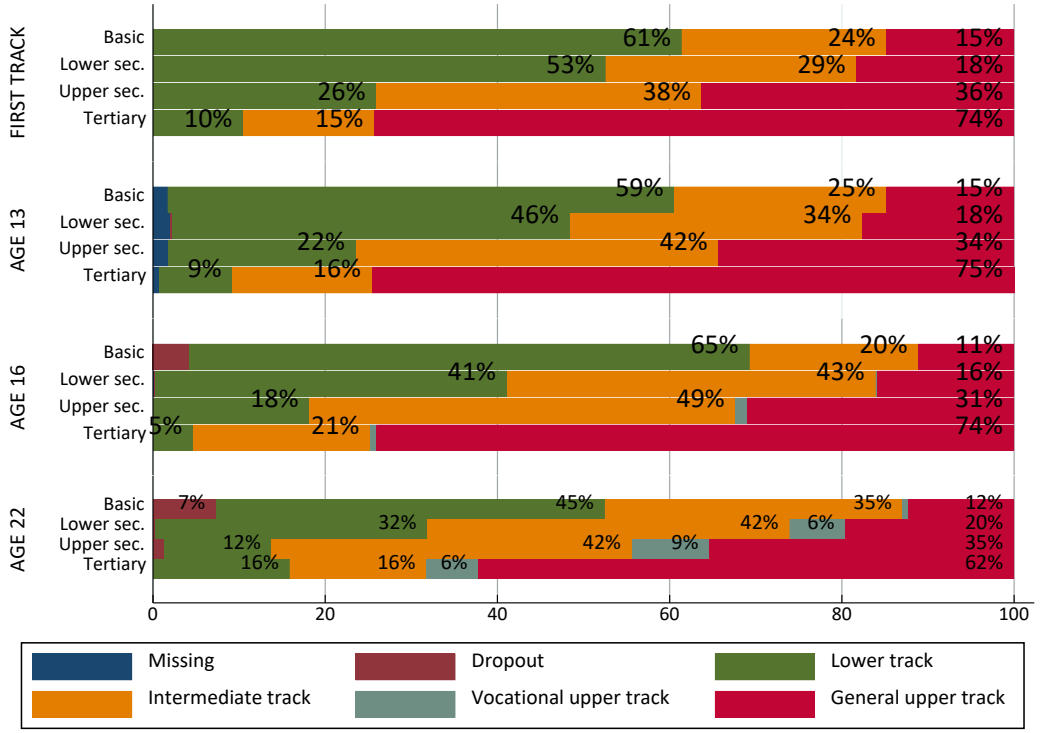
	Lower secondary schools	**Intermediate secondary schools**	**Upper secondary schools**	**Combined lower/interm. Sec. schools**	**Integrated compreh. schools**	**Waldorf schools**	**Special needs schools**
	Hauptschulen	Realschulen	Gymnasien	Schulen mit mehr. Bild.gg.	Integrierte Ges.schulen	Waldorf-schulen	Förderschulen
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

Table A.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).



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

Figure A. 1. Track attendance over time by parental education

Table A.3. 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**	-1.51**	-1.95***	-2.52***	-2.68***	-2.03**	-2.57**	-2.58**	-2.74**	-2.72**	-2.75**
	(0.59)	(0.53)	(0.54)	(0.56)	(0.63)	(0.68)	(0.96)	(0.89)	(0.96)	(0.96)	(0.97)
Upper sec.	-1.24**	-0.65	-0.82*	-1.17**	-1.15*	-1.15+	-1.93*	-1.89*	-2.04*	-2.02*	-1.95*
	(0.44)	(0.40)	(0.42)	(0.45)	(0.53)	(0.60)	(0.90)	(0.83)	(0.91)	(0.91)	(0.91)
Constant	0.83+	0.64+	0.92*	1.28**	1.48**	1.54**	2.37**	2.43**	2.57**	2.55**	2.48**
	(0.43)	(0.39)	(0.40)	(0.43)	(0.52)	(0.59)	(0.89)	(0.82)	(0.90)	(0.90)	(0.90)
Upper											
Parental education (ref. tertiary)											
Basic	-3.74***	-3.55***	-4.13***	-4.40***	-4.54***	-4.47***	-5.42***	-5.46***	-5.47***	-5.47***	-5.19***
	(0.56)	(0.54)	(0.55)	(0.58)	(0.65)	(0.69)	(0.96)	(0.90)	(0.96)	(0.96)	(0.96)
Upper sec.	-2.96***	-2.63***	-2.83***	-3.11***	-3.16***	-3.09***	-3.88***	-3.65***	-3.66***	-3.64***	-3.66***
	(0.37)	(0.34)	(0.36)	(0.40)	(0.50)	(0.56)	(0.88)	(0.80)	(0.88)	(0.88)	(0.88)
Constant	2.43***	2.17***	2.34***	2.62***	2.77***	3.07***	3.96***	3.82***	3.92***	3.92***	3.94***
	(0.35)	(0.32)	(0.35)	(0.39)	(0.48)	(0.55)	(0.87)	(0.80)	(0.87)	(0.87)	(0.87)
Dropout											
Parental education (ref. tertiary)											
Basic		-1.61***	-1.91***			11.69***		11.83***	11.78***	12.78***	12.29***
		(0.37)	(0.39)			(1.16)		(1.12)	(1.11)	(1.12)	(1.11)
Upper sec.		9.65***	9.95***			10.40***		10.17***	9.95***	10.95***	10.46***
		(1.05)	(1.06)			(0.94)		(1.10)	(1.16)	(1.17)	(1.16)
Constant		-15.33***	-15.62***			-14.20***		-13.84***	-13.60***	-14.59***	-14.10***
		(0.31)	(0.34)			(0.54)		(0.79)	(0.87)	(0.88)	(0.87)
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<.00

Table A.4. 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***	-1.91***	-1.99***	-1.82***	-1.80***	-1.64***	-1.66***	-2.00***	-1.96***	-1.95***	-1.99***
	(0.35)	(0.32)	(0.32)	(0.32)	(0.32)	(0.35)	(0.37)	(0.40)	(0.40)	(0.41)	(0.41)
V+VI: Skilled manual	-1.09**	-1.45***	-1.47***	-1.39***	-1.09***	-0.93**	-1.16**	-1.30**	-1.29**	-1.23**	-1.22**
	(0.34)	(0.32)	(0.32)	(0.31)	(0.33)	(0.36)	(0.38)	(0.41)	(0.42)	(0.42)	(0.42)
IVc: Self-employed farmer	-1.46**	-1.73***	-1.82***	-1.63***	-1.64***	-0.99*	-1.18*	-1.55**	-1.42**	-1.45**	-1.49**
	(0.56)	(0.49)	(0.49)	(0.48)	(0.47)	(0.49)	(0.50)	(0.53)	(0.54)	(0.55)	(0.55)
IIIab: Routine nonmanual	-0.26	-0.42	-0.37	-0.48	-0.96**	-1.13**	-1.27***	-1.60***	-1.63***	-1.65***	-1.64***
	(0.34)	(0.33)	(0.32)	(0.32)	(0.33)	(0.35)	(0.37)	(0.40)	(0.40)	(0.41)	(0.41)
IVab: Self-employed	-0.27	-0.52	-0.17	-0.21	-0.34	-0.15	-0.23	-0.72	-0.52	-0.55	-0.57
	(0.49)	(0.48)	(0.46)	(0.47)	(0.48)	(0.54)	(0.59)	(0.61)	(0.66)	(0.66)	(0.67)
Constant	0.24	0.77***	0.86***	0.84***	1.12***	1.18***	1.39***	1.74***	1.73***	1.73***	1.72***
	(0.22)	(0.20)	(0.20)	(0.20)	(0.22)	(0.24)	(0.27)	(0.31)	(0.32)	(0.32)	(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

Table A.4. 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***	-3.23***	-3.27***	-3.26***	-3.38***	-3.29***	-3.41***	-3.72***	-3.61***	-3.61***	-3.50***
	(0.41)	(0.38)	(0.39)	(0.40)	(0.42)	(0.38)	(0.38)	(0.42)	(0.41)	(0.41)	(0.41)
V+VI: Skilled manual	-2.16***	-2.27***	-2.39***	-2.44***	-2.41***	-2.11***	-2.27***	-2.50***	-2.47***	-2.40***	-2.40***
	(0.35)	(0.34)	(0.33)	(0.33)	(0.35)	(0.35)	(0.37)	(0.40)	(0.41)	(0.41)	(0.41)
IVc: Self-employed farmer	-3.76***	-3.55***	-3.57***	-3.49***	-3.62***	-3.14***	-3.53***	-3.48***	-3.33***	-3.20***	-3.05***
	(0.68)	(0.55)	(0.55)	(0.55)	(0.57)	(0.56)	(0.59)	(0.56)	(0.56)	(0.55)	(0.54)
IIIab: Routine nonmanual	-1.05***	-1.05***	-1.22***	-1.27***	-1.57***	-1.73***	-2.16***	-2.38***	-2.36***	-2.33***	-2.34***
	(0.31)	(0.31)	(0.31)	(0.31)	(0.32)	(0.33)	(0.35)	(0.38)	(0.38)	(0.38)	(0.38)
IVab: Self-employed	-1.90***	-1.82***	-1.72***	-1.36**	-1.70**	-1.43*	-1.57**	-1.57*	-1.19+	-1.16+	-1.14+
	(0.50)	(0.50)	(0.51)	(0.52)	(0.57)	(0.57)	(0.61)	(0.63)	(0.66)	(0.65)	(0.65)
Constant	0.99***	1.13***	1.15***	1.12***	1.34***	1.65***	1.96***	2.22***	2.24***	2.24***	2.25***
	(0.18)	(0.18)	(0.18)	(0.18)	(0.21)	(0.23)	(0.26)	(0.30)	(0.30)	(0.30)	(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

Table A.4. 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***	12.95***			15.19***	13.63***		14.27***	14.27***	14.14***
		(1.03)	(1.03)			(0.69)	(0.70)		(0.67)	(0.67)	(0.67)
V+VI: Skilled manual		-1.20***	-1.24***			-1.11***	12.55***		13.15***	13.19***	13.07***
		(0.23)	(0.24)			(0.29)	(1.05)		(1.06)	(1.06)	(1.06)
IVc: Self-employed farmer		-1.61***	-1.65***			-1.39***	-1.65***		-1.80***	-1.79***	-1.78***
		(0.30)	(0.30)			(0.37)	(0.39)		(0.44)	(0.44)	(0.44)
IIIab: Routine nonmanual		-0.48+	-0.50+			12.36***	10.71***		11.21***	11.21***	11.08***
		(0.26)	(0.26)			(1.04)	(1.05)		(1.06)	(1.06)	(1.06)
IVab: Self-employed		-0.75*	-0.58			-0.59	-0.69		-0.70	-0.70	-0.70
		(0.36)	(0.36)			(0.47)	(0.52)		(0.59)	(0.59)	(0.59)
Constant		-17.69***	-17.67***			-17.49***	-15.85***		-16.34***	-16.33***	-16.20***
		(0.17)	(0.17)			(0.22)	(0.24)		(0.29)	(0.29)	(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

Table A.5. Linear probability models regressing educational outcomes at occupational maturity on track placement, birth cohort 1970-1980

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Obtaining an upper secondary degree, N = 995											
Track (ref. lower)											
Intermediate	0.24***	0.23***	0.21***	0.21***	0.21***	0.15***	0.13***	0.11***	0.08***	0.07**	0.05*
	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Upper	0.73***	0.76***	0.79***	0.80***	0.84***	0.85***	0.86***	0.90***	0.91***	0.91***	0.92***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Dropout		-0.09***	-0.09***	-0.09***	-0.07**	-0.05***	-0.04**	-0.03*	-0.03*	-0.03*	-0.03*
		(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Missing	0.30***	0.20***	0.91***	0.91***	0.93***						
	(0.05)	(0.12)	(0.02)	(0.02)	(0.02)						
Constant	0.10***	0.09***	0.09***	0.09***	0.07***	0.05***	0.04**	0.03*	0.03*	0.03*	0.03*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(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***	0.15***	0.15***	0.14***	0.16***	0.12***	0.11***	0.10***	0.08***	0.07***	0.07***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Upper	0.60***	0.62***	0.64***	0.66***	0.70***	0.66***	0.67***	0.69***	0.69***	0.70***	0.69***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Dropout		-0.05	-0.05***	-0.05***	-0.03**	-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)
Missing	0.22***	0.25	-0.05***	-0.05***	-0.03**						
	(0.04)	(0.15)	(0.01)	(0.01)	(0.01)						
Constant	0.05***	0.05***	0.05***	0.05***	0.03**	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)	(0.01)	(0.0)	(0.0)	(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

Table A.5. Continued

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Obtaining a university degree, N = 995											
Track (ref. lower)											
Intermediate	0.10***	0.08***	0.08***	0.08***	0.07***	0.03**	0.03*	0.03**	0.03**	0.02**	0.02**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Upper	0.45***	0.48***	0.50***	0.51***	0.52***	0.49***	0.49***	0.50***	0.49***	0.48***	0.48***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Dropout		-0.02*	-0.01*	-0.01*	-0.01	-0.01	-0.01	-0.00	0.00	0.00	0.00
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(.)	(.)	(0.00)
Missing	0.18***	0.08	-0.01*	-0.01*	-0.01						
	(0.03)	(0.07)	(0.01)	(0.01)	(0.01)						
Constant	0.02*	0.02*	0.01*	0.01*	0.01	0.01	0.01	0.01	-0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(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

Table A.6. OLS & linear probability models regressing occupational outcomes at occupational maturity on track placement, birth cohort 1970-1980

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

Table A.6. Continued

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Service class I+II, N = 837											
Track (ref. lower)											
Intermediate	0.18**	0.25***	0.23***	0.25***	0.26***	0.22***	0.25***	0.24***	0.21***	0.20***	0.20***
	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Upper	0.44***	0.46***	0.47***	0.48***	0.50***	0.48***	0.51***	0.54***	0.55***	0.55***	0.54***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Dropout						0.17	-0.14	-0.13	-0.16	-0.16	-0.16
						(0.12)	(0.12)	(0.12)	(0.10)	(0.10)	(0.10)
Missing	0.25***	0.29***	0.71***								
	(0.07)	(0.18)	(0.04)								
Constant	0.31***	0.29***	0.29***	0.28***	0.26***	0.26***	0.23***	0.22***	0.23***	0.23***	0.23***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(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***	-0.25***	-0.27***	-0.26***	-0.31***	-0.34***	-0.35***	-0.36***	-0.35***	-0.33***	-0.34***
	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Upper	-0.35***	-0.37***	-0.38***	-0.39***	-0.41***	-0.45***	-0.47***	-0.50***	-0.50***	-0.49***	-0.49***
	(0.05)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)
Dropout						0.40**	0.38**	0.36**	0.38**	0.39***	0.39***
						(0.13)	(0.13)	(0.13)	(0.10)	(0.10)	(0.10)
Missing	-0.21***	-0.28***	-0.43								
	(0.06)	(0.11)	(0.04)								
Constant	0.41***	0.42***	0.43***	0.43***	0.47***	0.51***	0.53***	0.55***	0.54***	0.54***	0.54***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(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

Table A.6. Continued

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
Unskilled class VIIab, N = 837											
Track (ref. lower)											
Intermediate	-0.14**	-0.15***	-0.14***	-0.14***	-0.19***	-0.22***	-0.23***	-0.23***	-0.22***	-0.20***	-0.20***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Upper	-0.12***	-0.19***	-0.18***	-0.18***	-0.21***	-0.24***	-0.25***	-0.25***	-0.25***	-0.24***	-0.24***
	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Dropout						-0.65***	0.64***	0.63***	0.65***	0.66***	0.66***
						(0.13)	(0.13)	(0.13)	(0.10)	(0.10)	(0.10)
Missing	-0.12*	-0.11***	-0.20***								
	(0.05)	(0.10)	(0.04)								
Constant	0.20***	0.21***	0.20***	0.20***	0.24***	0.26***	0.27***	0.28***	0.27***	0.27***	0.27***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(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*	0.20	0.15	0.15	0.16	0.15	0.18	0.20	0.19	0.17	0.18
	(0.11)	(0.10)	(0.10)	(0.10)	(0.11)	(0.12)	(0.12)	(0.13)	(0.13)	(0.13)	(0.13)
Upper	0.42***	0.44***	0.42***	0.40***	0.45***	0.44***	0.45***	0.46***	0.52***	0.51***	0.49***
	(0.10)	(0.09)	(0.10)	(0.10)	(0.10)	(0.11)	(0.12)	(0.12)	(0.12)	(0.13)	(0.12)
Dropout									-0.48***	-0.49***	-0.49***
									(0.12)	(0.12)	(0.12)
Missing	0.08***	-0.20***	0.21*								
	(0.14)	(0.27)	(0.08)								
Constant	9.81***	9.79***	9.82***	9.82***	9.80***	9.78***	9.76***	9.75***	9.72***	9.73***	9.73***
	(0.09)	(0.08)	(0.08)	(0.08)	(0.09)	(0.10)	(0.11)	(0.11)	(0.12)	(0.12)	(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

Table A.6. Continued

	Age 12	Age 13	Age 14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22
General unemployment experience, N = 963											
Track (ref. lower)											
Intermediate	-0.03	-0.04**	-0.04**	-0.04**	-0.04**	-0.05**	-0.04*	-0.02	-0.02	-0.02	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Upper	-0.03**	-0.04**	-0.04**	-0.04***	-0.04***	-0.05**	-0.05**	-0.03*	-0.04*	-0.04**	-0.04*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Dropout		0.81***	0.81***	0.81***	0.81***	0.17	0.27	0.28	0.35	0.35	0.35
		(0.01)	(0.01)	(0.01)	(0.01)	(0.17)	(0.17)	(0.17)	(0.18)	(0.18)	(0.18)
Missing	-0.02***	0.04***	-0.07***	-0.08***	-0.08***						
	(0.02)	(0.07)	(0.01)	(0.01)	(0.01)						
Constant	0.07***	0.07***	0.07***	0.08***	0.08***	0.09***	0.08***	0.07***	0.07***	0.07***	0.07***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(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											
Track (ref. lower)											
Intermediate	-0.04	-0.10*	-0.10*	-0.12*	-0.11*	-0.17***	-0.15**	-0.10	-0.09	-0.08	-0.08
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)
Upper	-0.10*	-0.12**	-0.11*	-0.13**	-0.13**	-0.14**	-0.12*	-0.11*	-0.12*	-0.11*	-0.11*
	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Dropout		0.66***	0.65***	0.64***	0.64	0.54***	0.57***	0.59***	0.60***	0.61***	0.61***
		(0.04)	(0.04)	(0.04)	(0.4)	(0.10)	(0.08)	(0.08)	(0.07)	(0.07)	(0.07)
Missing	-0.04***	0.06***	0.35***	-0.36***	-0.36***						
	(0.06)	(0.16)	(0.04)	(0.04)	(0.04)						
Constant	0.32***	0.34***	0.35***	0.36***	0.36***	0.39***	0.37***	0.35***	0.35***	0.35***	0.35***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(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

Table A.7. 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***	-0.31***	-0.15*	-0.07+
	(0.05)	(0.07)	(0.06)	(0.04)
Upper secondary	-0.45***	-0.17***	-0.07+	-0.03
	(0.04)	(0.04)	(0.04)	(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***	0.29***	0.13**	0.07+
	(0.04)	(0.05)	(0.04)	(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

Table A.8. 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***	-0.15**	-0.07	-0.02
	(0.04)	(0.05)	(0.04)	(0.03)
V+VI Skilled manual	-0.35***	-0.12*	-0.09*	-0.03
	(0.05)	(0.05)	(0.04)	(0.03)
IVc Self-employed farmer	-0.44***	-0.14*	-0.09+	-0.06**
	(0.06)	(0.06)	(0.05)	(0.02)
IIIab Routine non-manual	-0.30***	-0.17***	-0.10**	-0.04
	(0.05)	(0.04)	(0.03)	(0.02)
IVab Self-employed	-0.19*	0.01	0.03	-0.03
	(0.09)	(0.09)	(0.07)	(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***	0.21***	0.12**	0.06*
	(0.03)	(0.04)	(0.03)	(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

Table A.9. 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***	-0.33***	-0.23***	-0.20***
	(0.05)	(0.06)	(0.05)	(0.04)
Upper secondary	-0.45***	-0.23***	-0.18***	-0.17***
	(0.04)	(0.04)	(0.04)	(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***	0.29***	0.21***	0.18***
	(0.04)	(0.04)	(0.04)	(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

Table A.3. 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***	-0.15***	-0.10**	-0.08*
	(0.04)	(0.04)	(0.04)	(0.03)
V+VI Skilled manual	-0.30***	-0.12*	-0.11*	-0.08+
	(0.05)	(0.05)	(0.04)	(0.04)
IVc Self-employed farmer	-0.40***	-0.15***	-0.13*	-0.13***
	(0.04)	(0.04)	(0.04)	(0.04)
IIIab Routine non-manual	-0.24***	-0.14***	-0.10**	-0.06+
	(0.04)	(0.04)	(0.04)	(0.03)
IVab Self-employed	-0.24**	-0.08	-0.08	-0.13*
	(0.08)	(0.07)	(0.06)	(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***	0.16***	0.11**	0.08*
	(0.03)	(0.03)	(0.03)	(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

Table A.4. 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***	-0.28***	-0.21***	-0.21***
	(0.05)	(0.05)	(0.05)	(0.05)
Upper secondary	-0.42***	-0.26***	-0.22***	-0.24***
	(0.04)	(0.04)	(0.04)	(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***	0.27***	0.22***	0.23***
	(0.04)	(0.04)	(0.04)	(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

Table A.12. Linear probability models probability of obtaining a university 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	-0.31***	-0.15***	-0.12***	-0.12***
	(0.03)	(0.03)	(0.03)	(0.03)
V+VI Skilled manual	-0.28***	-0.15***	-0.13***	-0.13***
	(0.03)	(0.03)	(0.03)	(0.03)
IVc Self-employed farmer	-0.32***	-0.14***	-0.12***	-0.14***
	(0.03)	(0.03)	(0.03)	(0.03)
IIIab Routine non-manual	-0.22***	-0.14***	-0.11***	-0.10**
	(0.04)	(0.03)	(0.03)	(0.03)
IVab Self-employed	-0.23***	-0.11*	-0.10+	-0.16*
	(0.05)	(0.05)	(0.05)	(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***	0.13***	0.11***	0.11***
	(0.03)	(0.02)	(0.02)	(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

Table A.13. 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***	-14.70***	-12.76***	-10.85**
	(3.23)	(3.14)	(3.39)	(3.33)
Upper secondary	-14.23***	-6.35***	-5.99**	-4.79*
	(1.90)	(1.83)	(1.87)	(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***	48.80***	44.71***	42.65***
	(1.62)	(2.26)	(2.61)	(2.56)
R^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

Table A.14. 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***	-10.72***	-9.14***	-8.21**
	(2.45)	(2.59)	(2.66)	(2.59)
V+VI Skilled manual	-11.43***	-5.37*	-5.67*	-4.60+
	(2.51)	(2.48)	(2.49)	(2.50)
IVc Self-employed farmer	-23.05***	-14.47***	-15.14***	-14.45***
	(3.44)	(3.50)	(3.81)	(3.53)
IIIab Routine non-manual	-11.00***	-7.54***	-5.80**	-4.27*
	(2.38)	(2.21)	(2.17)	(2.16)
IVab Self-employed	-9.01*	-3.91	-4.08	-4.65
	(3.67)	(3.71)	(3.70)	(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***	48.31***	44.16***	42.75***
	(1.27)	(2.16)	(2.47)	(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

Table A.15. 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***	-0.22***	-0.20***	-0.18**
	(0.05)	(0.06)	(0.06)	(0.06)
Upper secondary	-0.21***	-0.11*	-0.10*	-0.09+
	(0.05)	(0.05)	(0.05)	(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***	0.21***	0.20***	0.18**
	(0.04)	(0.05)	(0.06)	(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

Table A.16. 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***	-0.23***	-0.23***	-0.22***
	(0.03)	(0.04)	(0.04)	(0.04)
V+VI Skilled manual	-0.25***	-0.18***	-0.18***	-0.17**
	(0.04)	(0.05)	(0.05)	(0.05)
IVc Self-employed farmer	-0.30***	-0.20***	-0.21***	-0.21***
	(0.04)	(0.05)	(0.05)	(0.05)
IIIab Routine non-manual	-0.13**	-0.09+	-0.07	-0.06
	(0.05)	(0.05)	(0.05)	(0.05)
IVab Self-employed	-0.06	-0.00	0.00	-0.01
	(0.10)	(0.10)	(0.10)	(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***	0.22***	0.22***	0.21***
	(0.03)	(0.04)	(0.05)	(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

Table A.17. 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***	-0.34***	-0.31***	-0.25**
	(0.08)	(0.08)	(0.09)	(0.08)
Upper secondary	-0.25***	-0.11*	-0.10*	-0.06
	(0.05)	(0.05)	(0.05)	(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***	0.46***	0.40***	0.33***
	(0.04)	(0.06)	(0.07)	(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

Table A.18. 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***	-0.29***	-0.27***	-0.24***
	(0.06)	(0.06)	(0.07)	(0.06)
V+VI Skilled manual	-0.26***	-0.15*	-0.16*	-0.13+
	(0.07)	(0.07)	(0.07)	(0.07)
IVc Self-employed farmer	-0.37***	-0.22*	-0.24*	-0.21+
	(0.10)	(0.11)	(0.11)	(0.11)
IIIab Routine non-manual	-0.21***	-0.16**	-0.13*	-0.09
	(0.06)	(0.06)	(0.06)	(0.06)
IVab Self-employed	-0.10	-0.01	-0.01	-0.01
	(0.10)	(0.10)	(0.10)	(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***	0.47***	0.44***	0.38***
	(0.03)	(0.05)	(0.06)	(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

Table A.19. 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**	0.11	0.05	0.02
	(0.09)	(0.08)	(0.09)	(0.09)
Upper secondary	0.15***	0.04	0.02	0.00
	(0.04)	(0.04)	(0.04)	(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**	0.35***	0.49***	0.53***
	(0.03)	(0.05)	(0.06)	(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

Table A.20. 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***	0.16*	0.11+	0.10
	(0.07)	(0.07)	(0.06)	(0.07)
V+VI Skilled manual	0.18**	0.09	0.09	0.07
	(0.06)	(0.06)	(0.06)	(0.06)
IVc Self-employed farmer	0.20*	0.06	0.08	0.06
	(0.10)	(0.10)	(0.10)	(0.10)
IIIab Routine non-manual	0.16**	0.10*	0.06	0.04
	(0.05)	(0.05)	(0.05)	(0.05)
IVab Self-employed	-0.03	-0.10+	-0.10+	-0.10+
	(0.04)	(0.06)	(0.06)	(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***	0.32***	0.43***	0.47***
	(0.02)	(0.05)	(0.06)	(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

Table A.21. 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^{+}	0.03	0.00	-0.01
	(0.06)	(0.06)	(0.06)	(0.06)
Upper secondary	0.05^{+}	-0.01	-0.01	-0.02
	(0.03)	(0.03)	(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*	0.20***	0.27***	0.27***
	(0.02)	(0.04)	(0.05)	(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

Table A.22. 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**	0.09	0.05	0.04
	(0.06)	(0.06)	(0.05)	(0.05)
V+VI Skilled manual	0.09*	0.04	0.04	0.04
	(0.04)	(0.05)	(0.04)	(0.05)
IVc Self-employed farmer	0.05	-0.02	-0.01	-0.02
	(0.06)	(0.07)	(0.07)	(0.07)
IIIab Routine non-manual	0.08+	0.06	0.03	0.02
	(0.04)	(0.04)	(0.04)	(0.04)
IVab Self-employed	-0.03*	-0.07**	-0.07**	-0.06**
	(0.02)	(0.02)	(0.03)	(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**	0.16***	0.24***	0.24***
	(0.01)	(0.04)	(0.05)	(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

Table A.23. 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*	0.01	-0.01	0.03
	(0.11)	(0.11)	(0.11)	(0.11)
Upper secondary	-0.23**	-0.03	-0.04	-0.03
	(0.08)	(0.08)	(0.08)	(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***	9.83***	9.82***	9.77***
	(0.06)	(0.10)	(0.13)	(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

Table A.24. 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**	-0.15	-0.18	-0.14
	(0.12)	(0.11)	(0.13)	(0.13)
V+VI Skilled manual	-0.03	0.13	0.08	0.11
	(0.10)	(0.11)	(0.10)	(0.10)
IVc Self-employed farmer	-0.09	0.12	0.06	0.06
	(0.15)	(0.16)	(0.15)	(0.15)
IIIab Routine non-manual	-0.26+	-0.17	-0.16	-0.12
	(0.14)	(0.12)	(0.12)	(0.12)
IVab Self-employed	-0.18	-0.07	-0.08	-0.10
	(0.17)	(0.17)	(0.17)	(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***	9.85***	9.86***	9.79***
	(0.05)	(0.09)	(0.12)	(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

Table A.25. 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**	0.05*	0.05*	0.04+
	(0.03)	(0.02)	(0.02)	(0.02)
Upper secondary	0.02+	0.01	0.01	0.00
	(0.01)	(0.01)	(0.01)	(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***	0.06***	0.07***	0.05***
	(0.01)	(0.01)	(0.02)	(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

Table A.26. 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	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)
V+VI Skilled manual	0.04	0.03	0.02	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
IVc Self-employed farmer	-0.03***	-0.05***	-0.05***	-0.04***
	(0.01)	(0.01)	(0.01)	(0.01)
IIIab Routine non-manual	0.00	-0.00	-0.01	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)
IVab Self-employed	-0.01	-0.02	-0.02	-0.02
	(0.01)	(0.01)	(0.01)	(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***	0.07***	0.09***	0.07***
	(0.01)	(0.01)	(0.02)	(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

Table A.27. 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*	0.14	0.13	0.11
	(0.09)	(0.09)	(0.09)	(0.09)
Upper secondary	0.02	-0.01	-0.00	-0.01
	(0.04)	(0.05)	(0.05)	(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***	0.30***	0.35***	0.32***
	(0.04)	(0.05)	(0.06)	(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

Table A.28. 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^{+}	0.08	0.05	0.05
	(0.06)	(0.06)	(0.06)	(0.06)
V+VI Skilled manual	0.07	0.04	0.04	0.03
	(0.06)	(0.06)	(0.06)	(0.06)
IVc Self-employed farmer	-0.07	-0.11	-0.11	-0.11
	(0.08)	(0.09)	(0.09)	(0.09)
IIIab Routine non-manual	0.03	0.02	-0.00	-0.00
	(0.05)	(0.05)	(0.05)	(0.05)
IVab Self-employed	-0.08	-0.10	-0.09	-0.10
	(0.07)	(0.07)	(0.07)	(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***	0.30***	0.37***	0.33***
	(0.03)	(0.05)	(0.06)	(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