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NEPS Technical Report: Implementation of the ISCED-2011, CASMIN and Years of Education Classification Schemes in SUF Starting Cohort 8

valid as of release 2.0.0

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**NEPS Technical Report: Implementation of the ISCED-2011, CASMIN and
Years of Education Classification Schemes in SUF Starting Cohort 8**

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1 Introduction

Given the numerous educational programmes and qualifications in and outside of Germany, and the variety of questions and response categories used to capture them as accurately as possible, the data from Starting Cohort 8 offer three educational classifications to harmonize respondents' responses and facilitate standardized analyses.

Firstly, the International Standard Classification of Education (ISCED). This is a classification system developed by UNESCO that divides educational programmes and qualifications into standardized categories. It serves to make the different education systems comparable worldwide and to create a uniform basis for education statistics. Originally introduced in the 1970s, the classification has been revised several times, most recently in 2011 to its currently used form ISCED-2011 (UNESCO Institute for Statistics 2012: 6).¹

Secondly, the educational classification CASMIN (Comparative Analysis of Social Mobility in Industrial Nations; König et al 1988). This was developed in the 1980s as part of a research project on social mobility in industrialized countries. Its aim is to categorize educational qualifications in such a way that they are internationally comparable and adequately reflect their significance for social mobility and social stratification (Lechert et. al 2006: 3).

Thirdly, an educational classification with standardized Years of Education. These results from a function based on CASMIN to obtain standardized values of Years of Education.

All educational classifications were generated for the interviewed parental units and their current partners. Due to the scope of the variables used and the complexity of obtaining the respective educational scales or their values, a comprehensive overview and a step-by-step description of the underlying derivation process are provided below.

2 Data source, variables and the general integration process

Information on educational qualifications is collected in SC8 from the parent interviewed. This parent is also asked about the educational qualifications of the current partner. Therefore, information from the pParent dataset was used to obtain the ISCED-2011, CASMIN and standardized Years of Education scale scores.

In SC8, the instruments used in the National Educational Panel Study (NEPS) to survey the educational attainment of parents and their partners were revised. In particular, this involved improving the coverage of foreign educational qualifications in order to obtain data comparable with German educational qualifications without the need for direct assignment to German educational qualifications by the respondents (Schneider et al. 2023: 26f.).

¹ Many thanks at this point to Silke Schneider (silke.schneider@gesis.org) for her comprehensive and valuable input in the implementation of the ISCED-2011 coding in SC8.

The survey of educational qualifications starts with whether the highest educational qualification was obtained in Germany or abroad. For people with a German qualification, this is followed by questions on school education and then on vocational training. In the case of foreign qualifications, a university degree is asked for first, as this is sufficient for coding the educational classifications. If there is no university degree, the number of years of schooling is recorded. This is followed by questions on vocational training, its duration and whether it was part of school education. A respondent, or in the case of a partner, with a minimum number of years of schooling is also asked whether he or she has a higher education entrance qualification. The survey instrument also offers flexible filtering between the questions for people with a combination of German and foreign qualifications (Schneider et al. 2023: 27).

Overall, this results in a large number of variables that are included in the derivation process of the education scale values (Schneider et al. 2023: 27). For the interviewed parents or their partners, all variables were used to obtain two auxiliary variables containing the highest school-leaving qualification and the highest vocational qualification in a categorization already specific to ISCED-2011 or CASMIN. These auxiliary variables were carried forward in time within the individual biography to fill the missing information in one of the two. The resulting data structure was checked for consistency and responses with “falling” schooling degrees were overwritten with the prior higher school degree information. Subsequently, the auxiliary variables, which also allow a combination of German and foreign educational qualifications, were then combined line by line to determine the final scale values.

3 Deriving the educational classifications

3.1 ISCED-2011 classification (p731802_g4, p731852_g4)

The derivation of ISCED-2011 follows a largely identical procedure for both the parent interviewed and the current partner, so that both derivations can be described together below. To obtain the ISCED-2011 scale values, two auxiliary variables are first created for the highest reported school-leaving qualification (“school”) and the highest reported educational qualification (“vocisc”) in a categorization already specific to ISCED-2011.

Beginning with the auxiliary variable for the highest school-leaving qualification (“school”) other types of school-leaving qualification or with a resulting residual value in one of the following derivation combinations were initially treated as not determinable (“-55”). School attendance without a school-leaving certificate was coded based on the years of schooling completed, depending on whether a school was attended for less than 4 years (“0”) or at least 4 years (“1”). This distinction takes account of any lack of compulsory schooling outside the German school system. The improvement of the survey of foreign qualifications in the instrument is considered in that the highest school-leaving qualifications obtained abroad are coded separately from school-leaving qualifications obtained in Germany in the

auxiliary variable. In the case of foreign school-leaving qualifications, the coding depends on the years of schooling completed on the one hand, and on whether the school-leaving qualification entitles the holder to study on the other (“2” to “7”). In the case of school-leaving qualifications obtained in Germany, a distinction is made between a qualification from a “Hauptschule” or special needs school (“8”), a “Realschule” or the attainment of an intermediate school-leaving qualification (“9”) and a “(Fach-)Abitur” qualification (“10”).

For the auxiliary variable on the highest vocational qualification (“vocisc”) other types of vocational qualification or with a resulting residual value were treated as not determinable (“-55”). Those with no vocational qualification were coded to “0”. As with school qualifications, foreign vocational qualifications are coded separately from those obtained in Germany. Regarding a vocational qualification obtained abroad, a distinction is first made as to whether it was obtained as part of school education (“1”). Vocational training completed after leaving school is also coded according to the duration of the training or the entitlement to study afterwards (“2” to “6”). Furthermore, academic qualifications are coded according to their academic degree level (“7” to “11”), as in ISCED-2011, in comparison to its earlier versions, academic qualifications are considered in a more differentiated way. Finally, vocational qualifications obtained in Germany are already coded within the auxiliary variable based on the later distinction within the ISCED-2011 classification (“12” to “21”).

A detailed overview of the variables used, and the coding applied can be found in table 1 (parent) and table 3 (partner) for the highest school qualification, and in table 2 (parent) and table 4 (partner) for the highest vocational qualification.

Because the highest school-leaving qualification and highest vocational degree were potentially updated, the data matrix was sorted using the parent ID present in the data or, in the case of partner details, a previously generated partner ID² and wave and both auxiliary variables were carried forward in time to fill in the missing information when no change was observed due to the questionnaire design. The data were checked for consistency and “falling” schooling degrees were overwritten with the prior higher school degree information.

The two coded variables on the highest school-leaving qualification and the highest vocational qualification were then combined to determine the final ISCED-2011 scale values. A detailed overview of the complete derivation can be found in table 5.

School and vocational qualifications that were only obtained in Germany are derived using the official ISCED-2011 mapping for Germany (see UNESCO Institute for Statistics 2025). With reference to the present survey instrument, the ISCED-2011 codes for Germany are derived from the SC8 database as shown in Table A-1 in the appendix. Using the auxiliary variables, the final ISCED-2011 code results

² The partner ID was generated based on the control variable generated in the survey for the partner questions (p799010).

from the highest value from the school-leaving qualification and vocational qualification or, if applicable, a combination of these, e.g. in the context of obtaining further qualifications through second-cycle education.

One of the strengths of the new module for surveying the educational qualifications of parents and their partners is the more precise survey of foreign qualifications. The instrument questions on foreign qualifications were further developed, particularly regarding the assignment to ISCED-2011 and CASMIN. This results in a more accurate assignment of foreign school and vocational qualifications than if the respondents had assigned their own qualifications to German educational qualifications. A tabular overview of the allocation of educational and vocational qualifications obtained only abroad to ISCED-2011 in the SC8 can be found in Schneider et al. (2023: 44f.).

The survey instrument also offers flexible filtering between the questions for people with a combination of German and foreign qualifications (Schneider et al. 2023: 27). With regard to ISCED-2011, this also enables a more accurate and precise derivation of the scale values for recording the level of education for a combination of foreign and German qualifications (Schneider et al. 2023: 28). How foreign qualifications are treated in relation to German qualifications is determined, as already considered in the creation of the auxiliary variable, primarily by the duration of school / vocational training and whether this results in an entitlement to study at a higher education institution. A school attendance period of less than 4 years is treated as a lack of primary school attendance, from 4 to less than 8 years as a completion of elementary school, from 8 to less than 10 years as a completion of the “Hauptschule”, from 10 to less than 12 years as a completion of a “Realschule” or intermediate school, with a higher education entrance qualification obtained thereby or with a school attendance period of 12 to 13 years as a completion of the “(Fach-)Abitur”. Similarly, vocational training of 2 to less than 4 years may be treated as an apprenticeship and 4 years or more as a master craftsman.

Any missing values resulting from the survey, which lead to an impossible identification of a valid ISCED-2011 code, are also coded as not determinable (“-55”). Remaining cases are treated as system-missing (“.”).

Table 1: Highest school-leaving qualification ("school") - Parent

Code	Description
-55	<i>Not determinable</i> p731837 = -98, -97 & p731830 = -20; p731837 = -98, -97 & p731831 = 3; p731837 = -98, -97 & p731802 = -20; p731837 = -98, -97 & (p731813 = -98, -97, -20, 1, 3, 4, 5, 17, 19, 21, 26, 27 & p799007 = 1); p731837 = -98, -97 & (p731835 = -98, -97, 2 & p731830 = 2); p731837 = -21, 4, 5 & (p731813 = -98, -97, -20, 1, 3, 4, 5, 17, 19, 21, 26, 27 & p799007 = 1) & p731809 = -98, -97; p731837 = -21, 4, 5 & (p731835 = -98, -97, 2 & p731830 = 2) & p731809 = -98, -97; p731802 = -98, -97, 7; p73180a = -98, -97; p731830 = 1 & p731831 = 2; p731830 = 2 & p731835 = 1
0	<i>No school-leaving certificate + < 4 school years</i> p731830 = -21, -20; p731837, -20, 1 & p731830, = -20; p731837, -20, 1 & p731831 = 3; p731837, -20, 1 & p731802 = -20; p731837 = -20, 1 & (p731813 = -98, -97, -20, 1, 3, 4, 5, 17, 19, 21, 26, 27 & p799007 = 1); p731837 = -20, 1 & (p731835 = -98, -97, 2 & p731830 = 2)
1	<i>No school-leaving certificate + >= 4 school years</i> p731837 = -21, 2, 3, 4, 5 & p731830 = -20; p731837 = -21, 2, 3, 4, 5 & p731831 = 3; p731837 = -21, 2, 3, 4, 5 & p731802 = -20
2	<i>Foreign school-leaving certificate + 4-7 school years</i> p731837 = 2 & (p731813 = -98, -97, -20, 1, 3, 4, 5, 17, 19, 21, 26, 27 & p799007 = 1); p731837 = 2 & (p731835 = -98, -97, 2 & p731830 = 2)
3	<i>Foreign school-leaving certificate + 8-9 school years</i> p731837 = 3 & (p731813 = -98, -97, -20, 1, 3, 4, 5, 17, 19, 21, 26, 27 & p799007 = 1); p731837 = 3 & (p731835 = -98, -97, 2 & p731830 = 2)
4	<i>Foreign school-leaving certificate + 10-11 school years + university entrance qualification</i> p731837 = 4 & p731809 = 1
5	<i>Foreign school-leaving certificate + > 12 school years + university entrance qualification</i> p731837 = -21, 5 & p731809 = 1
6	<i>Foreign school-leaving certificate + 10-11 school years + no university entrance qualification</i> p731837 = 4 & p731809 = 2
7	<i>Foreign school-leaving certificate + > 12 school years + no university entrance qualification</i> p731837 = -21, 5 & p731809 = 2
8	<i>School-leaving certificate from a Hauptschule / special needs school</i> p731802 = 1, 2, 6; p73180a = 1, 2, 6
9	<i>School-leaving certificate from a Realschule / Mittlere Reife (intermediate school-leaving qualification)</i> p731802 = 3; p73180a = 3
10	<i>(Fach-)Abitur / university (of applied science) entrance qualification</i> p731802 = 4, 5; p73180a = 4, 5

Table 2: Highest vocational qualification ("vocisc") - Parent

Code	Description
-55	<i>Not determinable</i> p731836 = -98, -97; p731838 = -98, -97; p731839 = -98, -97; p731840 = -98, -97; p731841 = -98, -97; p731813 = -98, -97, 21; p73181b = -98, -97, 21; p731821 = -98, -97; p73181f = -98, -97; p731833 = -98, -97, -20; p73181g = -98, -97, -20; p731813 = 9 & p731818 = -98, -97; p73181b = 9 & p73181j = -98, -97; p731813 = 12, 13, 14, 15, 16 & p731816 = -98, -97, 6; p73181b = 12, 13, 14, 15, 16 & p73181h = -98, -97, 6; p731834 = -98, -97; p73181l = -98, -97; p731810 = -98, -97, -21, 2; p73181a = -98, -97, -21, 2; p731813 = 9 & p731818 = -99; p731810 = -90
0	<i>No vocational qualification</i> p731830 = -20, -21; p731838 = 2; p731840 = 1; p731813 = -20; p73181b, -20
1	<i>Foreign vocational training as part of the school education</i> p731839 = 1
2	<i>Foreign vocational training with duration of 6 months to less than 2 years with eligibility to study</i> p731840 = 2; p731841 = 1
3	<i>Foreign vocational training with duration of 6 months to less than 2 years without eligibility to study</i> p731840 = 2 & p731841 = 2
4	<i>Foreign vocational training with duration of 2 to 3 years with eligibility to study</i> p731840 = 3 & p731841 = 1
5	<i>Foreign vocational training with duration of 2 to 3 years without eligibility to study</i> p731840 = 3 & p731841 = 2
6	<i>Foreign vocational training with duration of 4 years or longer with eligibility to study</i> p731840 = 4 & p731841 = 1
7	<i>Foreign degree below bachelor's degree</i> p731840 = 4 & p731841 = 2
8	<i>Foreign bachelor's degree</i> p731836 = 1
9	<i>Foreign bachelor's degree</i> p731836 = 2
10	<i>Foreign master's degree</i> p731836 = 3
11	<i>Foreign doctorate (PhD)</i> p731836 = 4
12	<i>Completed vocational preparatory year / basic vocational training year</i> p731813 = 26, 27; p73181b = 26, 27
13	<i>In-company apprenticeship, GDR-qualification semi-skilled worker, subclerical / clerical class civil service, one year qualification school of public health</i> p731813 = 17, 19; p73181b = 17, 19; p731821 = 1, 2; p73181f = 1, 2; p731833 = 1; p73181g = 1
14	<i>Completed apprenticeship, certificate from a Berufsfachschule, certified professional specialist</i> p731813 = 1, 5, 18; p73181b = 1, 5, 18
15	<i>Two or more years qualification school of public health</i> p731833 = 2, 3; p73181g = 2, 3
16	<i>Master craftsman / craftswoman, technician or Bachelor/Master Professional, graduation school for educators</i> p731813 = 2, 6, 23, 24; p73181b = 2, 6, 23, 24
17	<i>Bachelor's degree, Diploma (university of applied science, cooperative state university)</i> p731813 = 8; p73181b = 8; p731813 = 9 & p731818 = 1, 2, 4; p73181b = 9 & p73181j = 1, 2, 4; p731813 = 12, 13, 14, 15, 16 & p731816 = 1; p73181b = 12, 13, 14, 15, 16 & p73181h = 1; p731813 = 12, 13, 14 & p731816 = 2; p73181b = 12, 13, 14 & p73181h = 2
18	<i>Executive class civil service, GDR: graduation from a Fachschule</i> p731821 = 3; p73181f = 3; p731813 = 7; p73181b = 7
19	<i>Bachelor's degree, Diploma (university), Magister, state examination</i> p731813 = 10, 25; p73181b = 10, 25; p731813 = 9 & p731818 = 3; p73181b = 9 & p73181j = 3; p731813, 12, 13, 14, 15, 16 & p731816 = 3, 4; p73181b, 12, 13, 14, 15, 16 & p73181h = 3, 4; p731813 = 15, 16 & p731816 = 2; p73181b = 15, 16 & p73181h = 2
20	<i>Administrative class civil service</i> p731821 = 4; p73181f = 4
21	<i>Doctorate (PhD), habilitation</i> p731813 = 11; p73181b = 11; p731834 = -20, 1; p73181l, -20, 1; p731813 = 12, 13, 14, 15, 16 & p731816 = 5; p73181b = 12, 13, 14, 15, 16 & p73181h = 5

Table 3: Highest school-leaving qualification ("school") - Partner

Code	Description
-55	<i>Not determinable</i> p731887 = -98, -97 & p731880 = -20; p731887 = -98, -97 & p731881 = 3; p731887 = -98, -97 & p731852 = -20; p731887 = -98, -97 & (p731863 = -98, -97, -20, 1, 3, 4, 5, 17, 19, 21, 26, 27 & p799013 = 1); p731887 = -98, -97 & (p731885 = -98, -97, 2 & p731880 = 2); p731887 = -21, 4, 5 & (p731863 = -98, -97, -20, 1, 3, 4, 5, 17, 19, 21, 26, 27 & p799013 = 1) & p731859 = -98, -97; p731887 = -21, 4, 5 & (p731885 = -98, -97, 2 & p731880 = 2) & p731859 = -98, -97; p731852 = -98, -97, 7; p73185a = -98, -97; p731880 = 1 & p731881 = 2; p731880 = 2 & p731885 = 1
0	<i>No school-leaving certificate + < 4 school years</i> p731880 = -21, -20; p731887, -20, 1 & p731880, = -20; p731887, -20, 1 & p731881 = 3; p731887, -20, 1 & p731852 = -20; p731887 = -20, 1 & (p731863 = -98, -97, -20, 1, 3, 4, 5, 17, 19, 21, 26, 27 & p799013 = 1); p731887 = -20, 1 & (p731885 = -98, -97, 2 & p731880 = 2)
1	<i>No school-leaving certificate + >= 4 school years</i> p731887 = -21, 2, 3, 4, 5 & p731880 = -20; p731887 = -21, 2, 3, 4, 5 & p731881 = 3; p731887 = -21, 2, 3, 4, 5 & p731852 = -20
2	<i>Foreign school-leaving certificate + 4-7 school years</i> p731887 = 2 & (p731863 = -98, -97, -20, 1, 3, 4, 5, 17, 19, 21, 26, 27 & p799013 = 1); p731887 = 2 & (p731885 = -98, -97, 2 & p731880 = 2)
3	<i>Foreign school-leaving certificate + 8-9 school years</i> p731887 = 3 & (p731863 = -98, -97, -20, 1, 3, 4, 5, 17, 19, 21, 26, 27 & p799013 = 1); p731887 = 3 & (p731885 = -98, -97, 2 & p731880 = 2)
4	<i>Foreign school-leaving certificate + 10-11 school years + university entrance qualification</i> p731887 = 4 & p731859 = 1
5	<i>Foreign school-leaving certificate + > 12 school years + university entrance qualification</i> p731887 = -21, 5 & p731859 = 1
6	<i>Foreign school-leaving certificate + 10-11 school years + no university entrance qualification</i> p731887 = 4 & p731859 = 2
7	<i>Foreign school-leaving certificate + > 12 school years + no university entrance qualification</i> p731887 = -21, 5 & p731859 = 2
8	<i>School-leaving certificate from a Hauptschule / special needs school</i> p731852 = 1, 2, 6; p73185a = 1, 2, 6
9	<i>School-leaving certificate from a Realschule / Mittlere Reife (intermediate school-leaving qualification)</i> p731852 = 3; p73185a = 3
10	<i>(Fach-)Abitur / university (of applied science) entrance qualification</i> p731852 = 4, 5; p73185a = 4, 5

Table 4: Highest vocational qualification ("vocisc") - Partner

Code	Description
-55	<i>Not determinable</i> p731886 = -98, -97; p731888 = -98, -97; p731889 = -98, -97; p731890 = -98, -97; p731891 = -98, -97; p731863 = -98, -97, 21; p73186b = -98, -97, 21; p731871 = -98, -97; p73186f = -98, -97; p731883 = -98, -97, - 20; p73186g = -98, -97, -20; p731863 = 9 & p731868 = -98, -97, -90; p73186b = 9 & p73186j = -98, -97, -20; p731863 = 12, 13, 14, 15, 16 & p731866 = -98, -97, 6; p73186b = 12, 13, 14, 15, 16 & p73186h = -98, -97, 6; p731884 = -98, -97; p73186l = -98, -97; p731860 = -98, -97, -21, 2; p73186a = -98, -97, -21, 2; p731863 = 12, 13, 14, 15, 16 & p731866 = -99
0	<i>No vocational qualification</i> p731880 = -20, -21; p731888 = 2; p731890 = 1; p731863 = -20; p73186b, -20
1	<i>Foreign vocational training as part of the school education</i> p731889 = 1
2	<i>Foreign vocational training with duration of 6 months to less than 2 years with eligibility to study</i> p731890 = 2; p731891 = 1
3	<i>Foreign vocational training with duration of 6 months to less than 2 years without eligibility to study</i> p731890 = 2 & p731891 = 2
4	<i>Foreign vocational training with duration of 2 to 3 years with eligibility to study</i> p731890 = 3 & p731891 = 1
5	<i>Foreign vocational training with duration of 2 to 3 years without eligibility to study</i> p731890 = 3 & p731891 = 2
6	<i>Foreign vocational training with duration of 4 years or longer with eligibility to study</i> p731890 = 4 & p731891 = 1
7	<i>Foreign vocational training with duration of 4 years or longer without eligibility to study</i> p731890 = 4 & p731891 = 2
8	<i>Foreign degree below bachelor's degree</i> p731886 = 1
9	<i>Foreign bachelor's degree</i> p731886 = 2
10	<i>Foreign master's degree</i> p731886 = 3
11	<i>Foreign doctorate (PhD)</i> p731886 = 4
12	<i>Completed vocational preparatory year / basic vocational training year</i> p731863 = 26, 27; p73186b = 26, 27
13	<i>In-company apprenticeship, GDR-qualification semi-skilled worker, subclerical / clerical class civil service, one year qualification school of public health</i> p731863 = 17, 19; p73186b = 17, 19; p731871 = 1, 2; p73186f = 1, 2; p731883 = 1; p73186g = 1
14	<i>Completed apprenticeship, certificate from a Berufsfachschule, certified professional specialist</i> p731863 = 1, 5, 18; p73186b = 1, 5, 18
15	<i>Two or more years qualification school of public health</i> p731883 = 2, 3; p73186g = 2, 3
16	<i>Master craftsman / craftswoman, technician or Bachelor/Master Professional, graduation school for educators</i> p731863 = 2, 6, 23, 24; p73186b = 2, 6, 23, 24
17	<i>Bachelor's degree, Diploma (university of applied science, cooperative state university)</i> p731863 = 8; p73186b = 8; p731863 = 9 & p731868 = 1, 2, 4; p73186b = 9 & p73186j = 1, 2, 4; p731863 = 12, 13, 14, 15, 16 & p731866 = 1; p73186b = 12, 13, 14, 15, 16 & p73186h = 1; p731863 = 12, 13, 14 & p731866 = 2; p73186b = 12, 13, 14 & p73186h = 2
18	<i>Executive class civil service, GDR: graduation from a Fachschule</i> p731871 = 3; p73186f = 3; p731863 = 7; p73186b = 7
19	<i>Bachelor's degree, Diploma (university), Magister, state examination</i> p731863 = 10, 25; p73186b = 10, 25; p731863 = 9 & p731868 = 3; p73186b = 9 & p73186j = 3; p731863, 12, 13, 14, 15, 16 & p731866 = 3, 4; p73186b, 12, 13, 14, 15, 16 & p73186h = 3, 4; p731863 = 15, 16 & p731866 = 2; p73186b = 15, 16 & p73186h = 2
20	<i>Administrative class civil service</i> p731871 = 4; p73186f = 4
21	<i>Doctorate (PhD), habilitation</i> p731863 = 11; p73186b = 11; p731884 = -20, 1; p73186l, -20, 1; p731863 = 12, 13, 14, 15, 16 & p731866 = 5; p73186b = 12, 13, 14, 15, 16 & p73186h = 5

Table 5: ISCED-2011 (p731802_g4, p731852_g4) – Parent / Partner³

Code	Description
-55	<i>Not determinable</i> school = -55 & vocisc = -55
0	<i>Less than primary education</i> school = -55 & vocisc = 0, 1; school = 0 & vocisc = -55, -54, 0, 1, 2, 3
100	<i>Primary education</i> school = 1, 2 & vocisc = -55, -54, 0, 1, 2, 3, 4
240	<i>General lower secondary education, not further specified</i> school = 3, 6 & vocisc = -55, -54, 0
244	<i>General lower secondary education, with direct access to upper secondary education</i> school = 8, 9 & vocisc = -55, -54, 0, 1, 2, 3, 4
250	<i>Vocational lower secondary education, not further specified</i> school = -55 & vocisc = 5; school = 2 & vocisc = 4, 5, 6, 7; school = 3, 6 & vocisc = 1, 3
254	<i>Vocational lower secondary education, with direct access to upper secondary education</i> vocisc = 12
343	<i>General upper secondary education, without direct access to tertiary education</i> school = 7 & vocisc = -55, -54, 0
344	<i>General upper secondary education, with direct access to tertiary education</i> school = 4, 5, 10 & vocisc = -55, -54, 0
353	<i>Vocational upper secondary education, without direct access to tertiary education</i> school = 3, 8 & vocisc = 5, 7; school = 6, 9 & vocisc = 5; school = 7 & vocisc = 1; vocisc = 13
354	<i>Vocational upper secondary education, with direct access to tertiary education</i> school = 4, 5, 10 & vocisc = 1; school = 3, 6, 8, 9 & vocisc = 2, 4; school = 3, 8 & vocisc = 6; vocisc = 14
444	<i>General post-secondary non-tertiary education, with direct access to tertiary education</i> school = 4, 5, 10 & vocisc = 12
453	<i>Vocational post-secondary non-tertiary education, without direct access to tertiary education</i> vocisc = 15; school = 6, 9 & vocisc = 7; school = 7 & vocisc = 3, 5
454	<i>Vocational post-secondary non-tertiary education, with direct access to tertiary education</i> school = 4, 5, 10 & vocisc = 2, 3, 4, 5, 13, 14, 15; school = 6, 9 & vocisc = 6; school = 7 & vocisc = 2, 4
500	<i>Short-cycle tertiary education</i> vocisc = 8
550	<i>Vocational short-cycle tertiary education</i> school = 4, 5, 7, 10 & vocisc = 6, 7; vocisc = 16
600	<i>Bachelor's level education</i> vocisc = 9
640	<i>Academic bachelor's level education</i> vocisc = 17
650	<i>Professional bachelor's level education</i> vocisc = 18
700	<i>Master's level education</i> vocisc = 10
740	<i>Academic master's level education</i> vocisc = 19
750	<i>Professional master's level education</i> vocisc = 20
800	<i>Doctoral level education</i> vocisc = 11
840	<i>Academic doctoral level education</i> vocisc = 21

³ Only the ISCED 2011 classification codes relevant for coding are included. A complete overview of the full classification containing all ISCED-2011 codes can be found at the UNESCO Institute for Statistics (2012: 71ff.).

3.2 CASMIN classification (p731802_g2, p731852_g2)

The derivation procedures for the CASMIN scale scores were like those used for ISCED-2011 above. First, two auxiliary variables were created for the highest school-leaving qualification and the highest vocational qualification, the two auxiliary variables were additionally carried forward in time and then the CASMIN scale scores were obtained by combining them. Given a relationship between the ISCED-2011 and CASMIN classifications, it was possible to use the auxiliary variables of the former as a starting point for the corresponding ones of the latter, modified, if necessary, by some CASMIN-specific changes.

Here, it was feasible to use the ISCED-2011 auxiliary variable for the highest school-leaving qualification for CASMIN without any further changes. Regarding the auxiliary variable on the highest vocational qualification, it was possible to combine the two categories “0” and “12” from the corresponding ISCED-2011 auxiliary variable into a category “no qualification”. The same applies to the categories “1” to “8”, “13” to “16” and “18” of the ISCED-2011 auxiliary variable, which could be combined into a category containing all respondents with a vocational qualification. In fact, it was not possible to use only the given ISCED-2011 auxiliary variable to identify subjects with a vocational qualification from a university of applied sciences or university. Here, it was necessary to create two categories and to combine some of the original variables in a different way. The latter also applied to cases that could not be determined (“-55”). All remaining cases were treated again as system-missing values (“.”). For the highest vocational qualification, a detailed overview of the variables used, and the coding applied, can be found in table 6 (parent) and table 7 (partner).

In parallel with the derivation of the ISCED-2011 scale scores, the final CASMIN scale scores were then derived along the combinations shown in table 8. The same explanations as in section 3.1 apply to the handling of foreign qualifications and their treatment in the derivation process, especially in the case of a combination with a qualification obtained in Germany.

Table 6: Highest vocational qualification (“voccas”) - Parent

Code	Description
-55	<i>Not determinable</i> vocisc = -55; p731813 = 8, 9, 16, 25 & p731818 = -98, -97; p73181b = 8, 9, 16, 25 & p73181j = -98, -97
0	<i>No qualification</i> vocisc = 0, 12
1	<i>Vocational qualification</i> vocisc = 1, 2, 3, 4, 5, 6, 7, 8, 13, 14, 15, 16, 18
2	<i>Degree from a university of applied sciences</i> p731813 = 8, 9, 16, 25 & p731818 = 1, 2, 4; p73181b = 8, 9, 16, 25 & p73181j = 1, 2, 4; p731813 = 12, 13, 14; p73181b = 12, 13, 14
3	<i>University degree</i> vocisc = 9, 10, 11, 20, 21; p731813 = 8, 9, 16, 25 & p731818 = 3; p73181b, 8, 9, 16, 25 & p73181j = 3; p731813 = 10, 11, 15; p73181b = 10, 11, 15

Table 7: Highest vocational qualification (“voccas”) - Partner

Code	Description
-55	<i>Not determinable</i> vocisc = -55; p731863 = 8, 9, 16, 25 & p731868 = -98, -97; p73186b = 8, 9, 16, 25 & p73186j = -98, -97
0	<i>No qualification</i> vocisc = 0, 12
1	<i>Vocational qualification</i> vocisc = 1, 2, 3, 4, 5, 6, 7, 8, 13, 14, 15, 16, 18
2	<i>Degree from a university of applied sciences</i> p731863 = 8, 9, 16, 25 & p731868 = 1, 2, 4; p73186b = 8, 9, 16, 25 & p73186j = 1, 2, 4; p731863 = 12, 13, 14; p73186b = 12, 13, 14
3	<i>University degree</i> vocisc = 9, 10, 11, 20, 21; p731863 = 8, 9, 16, 25 & p731868 = 3; p73186b, 8, 9, 16, 25 & p73186j = 3; p731863 = 10, 11, 15; p73186b = 10, 11, 15

Table 8: CASMIN (p731802_g2, p731852_g2) – Parent / Partner

Code	Description
-55	<i>Not determinable</i> school = -55 & voccas = -55; school = 1, 2 & voccas = 1
1a	<i>No qualification</i> school = -55, -54, 0, 1, 2 & voccas = 0; school = 0, 1, 2 & voccas = -55, -54, 0
1b	<i>School-leaving qualification from a Hauptschule without vocational qualification</i> school = 3, 8 & voccas = -55, -54, 0
1c	<i>School-leaving qualification from a Hauptschule with vocational qualification</i> school = 3, 8 & voccas = 1
2b	<i>Mittlere Reife (intermediate school-leaving qualification) without vocational qualification</i> school = 6, 7, 9 & voccas = -55, -54, 0
2a	<i>Mittlere Reife (intermediate school-leaving qualification) with vocational qualification</i> school = 6, 7, 9 & voccas = 1
2c_gen	<i>Higher education entrance qualification without vocational qualification</i> school = 4, 5, 10 & voccas = -55, -54, 0
2c_voc	<i>Higher education entrance qualification with vocational qualification</i> school = 4, 5, 10 & voccas = 1
3a	<i>Degree from a university of applied sciences</i> voccas = 2
3b	<i>University degree</i> voccas = 3

3.3 Years of Education classification (p731802_g3, p731852_g3)

To complete the derivation process, the standardized Years of Education were derived from the given data. For this purpose, a function based on the CASMIN classification scheme was used to maintain the corresponding scale scores for the parental units and their current partners.

In general, using the categories of the CASMIN scheme, “1b” was assigned to 9, “1c” to 12, “2b” to 10, “2a” and “2c_gen” to 13, “2c_voc” to 15, “3a” to 16 and “3b” to 18 years of education. Those with neither a school-leaving qualification nor a vocational qualification (“1a”) were assigned a residual value of “-20”, because not having a school-leaving qualification cannot be reliably equated with a certain number of years of education. Finally, those with a scale value that cannot be coded or is system-missing within the CASMIN classification were treated in the same way within the Years of Education scheme.

4 Final remarks

This report contains a comprehensive description of the derivation process of the available educational classifications in SC8. If there are any further questions that cannot be answered with the help of the above explanations, there are two main ways to send them to the Research Data Center LIfBi (Forschungsdatenzentrum, FDZ-LIfBi).

Firstly, and recommended, an online forum (<https://forum.lifbi.de/>), which has been set up especially for this purpose. The Forum4MICA (“Making Information Commonly Available”) is an open-access knowledge archive for the dialogue around research data collections such as the NEPS. It is moderated by the team of the FDZ-LIfBi.

Secondly, if direct contact is preferred, an email request can be sent to fdz@lifbi.de.

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Appendix

Table A-1: ISCED-2011 coding scheme German educational qualifications

Level	Description	3-Digit
ISCED 0	<i>Less than primary education</i> No school-leaving certificate + < 4 school years	0
ISCED 1	<i>Primary education</i> No school-leaving certificate + >= 4 school years	100
ISCED 2	<i>Lower secondary education</i> School-leaving certificate from a Hauptschule / special needs school, a Realschule / Mittlere Reife (intermediate school-leaving qualification) Completed vocational preparatory year / basic vocational training year	244 254
ISCED 3	<i>Upper secondary education</i> (Fach-)Abitur / university (of applied science) entrance qualification In-company apprenticeship, GDR-qualification semi-skilled worker, subclerical / clerical class civil service, one year qualification school of public health Completed apprenticeship, certificate from a Berufsfachschule, certified professional specialist	344 353 354
ISCED 4	<i>Post-secondary non-tertiary education</i> Completed vocational preparatory year / basic vocational training year + higher education entrance qualification Two or more years qualification school of public health Completed apprenticeship, certificate from a Berufsfachschule, certified professional specialist, in-company apprenticeship, GDR-qualification semi-skilled worker, subclerical / clerical class civil service, one/two or more years qualification school of public health + higher education entrance qualification	444 453 454
ISCED 5	<i>Short-cycle tertiary education</i> Master craftsman / craftswoman, technician or Bachelor/Master Professional, certificate from a Fachschule, graduation school for educators	550
ISCED 6	<i>Bachelor's or equivalent level</i> Bachelor's degree, Diploma (university of applied science, cooperative state university) Executive class civil service, GDR: graduation from a Fachschule	640 650
ISCED 7	<i>Master's or equivalent level</i> Bachelor's degree, Diploma (university), Magister, state examination Administrative class civil service	740 750
ISCED 8	<i>Doctoral or equivalent level</i> Doctorate (PhD), habilitation	840