

**Documentation of statistics for  
Highest Education Attained 2018**

## 1 Introduction

The purpose of the statistics on educational attainment is to give an overall statistical description of the educational level of the population at any given time. The primary data source to these statistics is the Student Register with data from 1974 onwards. Beside that, information from The Qualification Register is used. As The Student Register is the primary source for information, the The Attainment Register cover fully from 1974 onwards. There is, however information before this time coming from The Qualification Register.

## 2 Statistical presentation

The Attainment Register gather information about the highest completed education for each single person based on the information in The Student Register and The Qualification Register. It is a longitudinal register based on a assessment of each persons education career and shows how the qualification career develop over time. The register is formed by interpreting the qualification career (skills in chronological order) in order to determine a change in the skill level. Once a year a status register is produced with the population 31. December and information about education the 30. September the current year.

### 2.1 Data description

Variable in the register of the highest educational attainment:

- Person number (PERSON\_ID)
- Starting data for the highest level of education (HF\_VFRA)
- Ending data for the highest level of education (HF\_VTIL) .
- Institution (INSTNR)
- Highest attained education (HF\_AUDD)
- Sources for the highest attained education (HF\_KILDE)

For further definition of the variable see the documentation in TIMES.

The register are available in 3 other versions with a similar content.

1. Highest attained youth education
2. Highest attained professional education
3. Latest completed education

### 2.2 Classification system

In connection with publications of the highest level of education Statistic Denmark classification system, "DISCED" is used. A description of it can be found at: [DISCED](#)

### 2.3 Sector coverage

The population consist of people who are registered with a qualification in The Student Register or in The Qualification Register.

## **2.4 Statistical concepts and definitions**

Educational attainment: Educational attainment is the highest education a person has attained at any given time. In Statistic Denmark Statbank the highest education is measured 30. September yyyy.

The highest education completed is defined in relation to the main groups in the Danish Education classification, DISCED and follow the hierarchy defined in this way. In this context, the following rule for the selection of the highest education completed is used:

1. The highest level in DISCED is selected, the divisions 20 and 35 are considered as equivalent.
2. If there are 2 education with the same level in DISCED, the highest PRIA (= number of cumulative training months) is selected.
3. If there are 2 education with the same level in DISCED and same PRIA, the latest completed education is selected. The education must be a qualifying education. The exception is education at primary level, where all completed grade from 6th grade and above will be included regardless of the value of the variable KOMP.

## **2.5 Statistical unit**

The statistical entity is completed education qualifications.

## **2.6 Statistical population**

The population consist of people who are registered with a qualification in Statistic Denmark's Student Register or in Statistic Denmark's Qualification register. The collection of information about PhD students covers the period from 1. January till 31. December. Since 2012 it has not been possible to have data about PhD student ready together with data from the other education area because the publication of The Student Register has been advanced. When The Attainment Register is updated, the information concerning PhD is therefore a year behind.

## **2.7 Reference area**

The population consist of people who are registered with a qualification in the Student Register or the Qualification Register.

## **2.8 Time coverage**

Since the student register is the primary source for the highest attained education, The Attainment Register cover fully from the beginning of 1970 which is where the information in the student register starts, although there are many information before 1970 from other sources.

## **2.9 Base period**

Not relevant for this register.

## **2.10 Unit of measure**

The unit of measure is number

### **2.11 Reference period**

There are 2 versions of The Attainment Register. A longitudinal register and a statue register. In the longitudinal register it is possible to see a persons highest attain education any time. In the statue register the population is by 31. December and the information about the highest attain education is by 30. September the current year.

### **2.12 Frequency of dissemination**

There is an annual update of the longitudinal register and the status register is produced once a year.

### **2.13 Legal acts and other agreements**

Law concerning Statistics Denmark § 6

ISCED's rules are followed when delivered data for the attainment level to OECD.

When the register of the educational attainment level is produced, Denmark deviates from the OECD rules on two points. 1. It is the education levels in the Danish classification of education and not ISCED that is used when the individual qualifications are being assessed in relation to each other. 2. Educational attainment is classified on the basis of the characteristics of the education program at the time the register is produced and not at the time of completion of the program.

### **2.14 Cost and burden**

The register are based on registers and therefore there is no respond burden

### **2.15 Comment**

Further information can be obtained by contacting Statistics Denmark

## **3 Statistical processing**

The Attainment Register is a longitudinal register based on a assessment of each persons education career in The Student Register and The Qualification Register and shows how the qualification career develop over time. The register is updated once a year.

### **3.1 Source data**

The Attainment Register make use of several administrative registers. The primary source is data from the educational institutions assembled in The Student Register.

The Student's Register is supplemented additionally with data from Statistics Denmark's Qualification Register that collects data from multiple sources of different nature.

When the register is made the sources for the education is taken into account. Some sources are more reliable than others. There are priority 1 and priority 2 sources. If there are information from a priority 1 source, they will always be used even if they are on a lower level than the information from a source with priority 2.

1. The Student Register have a high quality and information from that register have priority 1. The student Register is updated annually.
2. The Qualification Register consist of different sources with different priority.

*Population & Housing Census 1970.* Population & Housing Census 1970 consist of self reported education information. The quality is considered to be less good and the source have priority 2. The date of completion on the educations from the Population & Housing Census 1970 is all set to 1-1-1970.

*Immigrants education (IVU).* The information about immigrants education consist of both self reported and imputed education information. (Imputed values is information that replace unstated values based on experience from similar people). The quality is considered to be less good and the source have priority 2

The studies of immigrants' education were first conducted in 1999 and have since been conducted on a yearly basis. The completion date is set to the date of first immigration to Denmark (added 1-1-1600 if date is missing).

*Examinations achieved through adult education.* Qualification from the adult education system have priority 1. The data are updated annually.

*Register from professional organizations with their members or authorization register.* Statistics Denmark received in 2005 the members of the engineering association. The data have priority 1. Since 1980, The Authorisation Register from Ministry of Health have been used as a source to The Attainment Register. The data have priority 1.

*Administrative records from educational institutions* In 2010 Statistic Denmark received information from the Maritime Agency's administrative system about completed maritime education. The data have priority 1.

*Danish Agency for International Education.* Since 2007 Statistic Denmark have received information about education that has been assessed by the Agency for international Education. The data have priority 1

*Educational Information from Greenland.* Once a year, Statistic Denmark receive information about people who have completed a education and received grants from Greenland under their education. The data have priority 1.

When new sources are used the highest attained education can also be affected back in time depending on, when the educations are completed.

If the only information there is about a person is a interrupted or ongoing primary or youth education, they will get the former grade as their highest education. If it is a interrupted primary education the highest education will be the former grade with completion 1. June. If it is a interrupted youth education the highest education will be 9. grade with completion 1. June the year the person turns 16.

### **3.2 Frequency of data collection**

The register is based on information that are gathered once a year.

### 3.3 Data collection

The register is based on information from Statistic Denmark's two register, The Student Register and The Qualification Register

### 3.4 Data validation

Data editing is minimal since the register is based on information from other registries, that already has been true a comprehensive error control.

There is a check fore:

- 2. priority record after 1. priority record .
- Record 2 has a lower level than record 1.

Both situations will be a error.

### 3.5 Data compilation

Based on The Student Register and The Qualification Register, there is an assessment of each person's education careers in order to determine the highest level of education.

**Highest education completed** The highest education completed is defined in relation to the main groups in the Danish Education classification, DISCED and follow the hierarchy defined here. In this context, the following rule for the selection of the highest education completed is used:

1) The highest level i DISCED is selected. Main group 20 and 35 are considered as equivalent. 2) If there are 2 education with the same level in DISCED, the highest PRIA (= number of cumulative training months) is selected. 3) If there are 2 education with the same level and same PRIA, the latest completed education is selected.

**Highest youth education completed** The highest youth education completed is defined in relation to the main group 10, 20 and 35 in the Danish Education classification, DISCED and follow the hierarchy defined in this way. In this context, the following rule for the selection of the highest education completed is used:

1) The highest level i DISCED is selected. Main group 20 and 35 are considered as equivalent. 2) If there are 2 education with the same level in DISCED, the highest PRIA (= number of cumulative training months) is selected. 3) If there are 2 education with the same level and same PRIA, the latest completed education is selected.

**Highest professional education completed** The highest professional education completed is defined in relation to the main group 30, 40, 50, 60, 65 and 70 in the Danish Education classification, DISCED and follow the hierarchy defined in this way. In this context, the following rule for the selection of the highest education completed is used:

1) The highest level i DISCED is selected. 2) If there are 2 education with the same level in DISCED, the highest PRIA (= number of cumulative training months) is selected. 3) If there are 2 education with the same level and same PRIA, the latest completed education is selected.

The above rules applies with the exception of situations where an education qualification meets a lower education qualification from a higher priority source (see hf\_kilde). Here, the higher priority source will always exceed the level of education.

In connection with the production of the Register only completed education are included with KOMP = 1 (qualifying education), 3 (professional training) or 7 (poop in higher education). The exception is education at primary school level, where all are included regardless of the value of the variable KOMP. 6th grade is the lowest grade that is used as a maximum of completed training.

When The Attainment Register is produced the number of individuals with unknown highest level of education are reduced by giving people who have an interrupted or ongoing education in Statistics Denmark's student register, the previous grade level as their highest education:

If the interrupted or ongoing education has level 10 in DISCED the previous grade will be the highest education with departure time 1. June immediately before the start of interrupted education. If the interrupted or ongoing education has level 20 or 25 in DISCED the highest education will be Grade 9 with the departure time to 1. June of the year in which the person turns 16. This makes it possible to see that these people are not unknown in the records, but only had a sparse contact with the education system.

**The latest education completed** The following rules are used, when the latest education completed is found:

1) The latest completed education is selected . 2) If 2 educations are completed the same time, the education with highest priority is selected. 3) If completion time and priority is the same, the highest level in DISCED is selected. 4) If time of completion, priority and level is the same highest PRIA is selected

### 3.6 Adjustment

There is no correction of the data beyond what has already been described under data validation and data processing.

## 4 Relevance

There is a great variety of users. The information is generally used in connection with describing the population or sections hereof. The register is used in connection with status reports for other statistical fields. Data reports are thus submitted for (mainly on the population's highest level of education completed) a wide number of integration registers operated by Statistics Denmark. Furthermore, the register is frequently used in connection with external service activities order by Danish ministries, municipalities, research institutions, professional organisation, private enterprises, private individuals and, not least, requests made by the news media.

### 4.1 User Needs

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## **4.2 User Satisfaction**

In working with the education statistics the users are involved as much as possible. Some users can help secure that the data from the schools have a high quality. Other users can provide inspiration for new statistics and analysis. Finally, we try to get inspiration for the development of methods and models that can contribute to the continued development and improvement of statistics through users.

## **4.3 Data completeness rate**

When the register of the educational attainment level is produced, Denmark deviates from the OECD rules on two points. 1. It is the education levels in the Danish classification of education and not ISCED that is used when the individual qualifications are being assessed in relation to each other. 2. Educational attainment is classified on the basis of the characteristics of the education program at the time the register is produced and not at the time of completion of the program.

## **5 Accuracy and reliability**

The Accuracy and reliability vary depending on the source of information. More than 80 pct. of the information comes from administrative sources, such as student systems of educational institutions, which are highly reliable. Other sources are not so closely linked to the education programs and will often be less reliable. These are only used if no other information is available. Examples of these sources are the surveys of immigrants' education and the population and housing census in 1970, based on self-reported education

### **5.1 Overall accuracy**

In connection with the annual reports from the education institutions there is information which also relate to previous years. These delayed notifications concern particularly the last year but has only a very limited impact on the overall statistics. For about 0.5 percent of the population there will be a change their highest completed education at a given date after 1 year due to updated information.

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### **5.2 Sampling error**

Not relevant for these statistics.



### 5.3 Non-sampling error

More than 80 pct. of the information comes from administrative sources, such as student systems of educational institutions, which are highly reliable. Other sources are not so closely linked to the education programs and will often be less reliable. These are only used if no other information is available. Examples of these sources are the surveys of immigrants' education and the population and housing census in 1970, based on self-reported education.

Over the years, several studies have been conducted on immigrants' education at arrival in Denmark. The information about immigrant consist of both self-reported and imputed values. The imputed values can not be regarded as valid information about the educational level of individuals as they result from a statistical model based on other people's self-reported education and characteristics, including country of origin. Because the statistical model used for imputation is uncertain, the imputed information is more uncertain than the self-reported education information. A description of the studies of immigrants' education at arrival can be seen here: [Undersøgelserne](#) (in Danish).

### 5.4 Quality management

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

### 5.5 Quality assurance

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

### 5.6 Quality assessment

The education information in the student register, which is the most important source of the statistics, derives from administrative registers of the education institutions and undergoes extensive control in connection with the annual data collections. The second source of the statistics is the qualification register from where data has either priority 1 or priority 2. Priority 1 data is considered to be of the same high quality as data in the student register. Priority 2 data is data from the population and housing census of 1970 and from the studies of immigrants' education at arrival. The quality of these data are considered to be less good, as it is self-reported information. Furthermore, the response rate in the studies of immigrants' education at arrival has been 48 percent overall. Missing information has been imputed.

The study of immigrants' educated education accounts for most of the educational information regarding immigrants. The population and housing census is used as the source of the oldest part of the population who completed their education before 1973, when the institutions reported to the student register.

## **5.7 Data revision - policy**

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

## **5.8 Data revision practice**

In connection with the annual reports of new education data, there are also data that go back in time. Especially for the previous year. Figures for the previous year must therefore be regarded as preliminary.

## **6 Timeliness and punctuality**

The statistics are published around 9 months after the end of the reference time. The statistics are usually published without delay in relation to the scheduled date.

### **6.1 Timeliness and time lag - final results**

The statistics are published around 9 months after the end of the reference time

### **6.2 Punctuality**

The statistics are usually published without delay in relation to the scheduled date.

## **7 Comparability**

The Student Register is the primary source for the Attainment Register and the data in the Student Register starts in 1973. Since then the comparability over time is good.

Labor force survey provide information too Eurostat about the educational attainment level and this is these figures that are used for international comparison of the attainment level.

### **7.1 Comparability - geographical**

Labor force survey provide information too Eurostat about the attainment level and this is these figures that are used for international comparison of the educational attainment level.

## 7.2 Comparability over time

The possibility for comparisons over time are good. When a education change level, it get a new UDD and AUDD code but both the old and the new codes will be classified on the new level. You will not have to search the policeman different places in classification although the education for police officer has evolved and changed level. Police officers with the shorter education is lifted up - a police officer is a police officer. When a education change level in the classification system, e.g. from a short cycle higher education to a medium cycle higher education the number of students in short cycle higher education will decrease and the number of students in medium cycle higher education will increase. This will influence the comparison with previously published figures.

New version of the attainment register. From 1980 to 2006 Statistics Denmark provide a annually statue register with the population 31 December and their highest level of completed education 30 September the current year. In 2007, the register of the population highest level of educational was converted into a longitudinal register and the way the highest education completed is selected was changed. In the new register the highest level of educational is defined in relation to the main level in the Danish classification system. The person's highest completed education is the one with the highest level. If the person have more than one education on the same level, the education with the longest number of training months are chosen. Does the person have several courses of the same length, the last completed of these are chosen to represent the person's highest completed education

In the former statue register from 1980 to 2006 the highest completed education was defined another way. If a person had more than one education, the education which had the longest number of training months was chosen to represent the person's highest completed education independent of the level. Did the patient have multiple programs of the same length, the last completed education chosen as the person's highest completed education.

If the only information there is about a person is a interrupted or ongoing primary or youth education, they will get the former grade as there highest education. If it is a interrupted primary education the highest education will be the former grade with completion June 1. If it is a interrupted youth education the highest education will be 9. grade with completion June 1 the year the person turns 16.

There were comparable methods to reduce the number of people with unknown education in the old methodology, but only for those individuals who only had an interrupted education and not for the people who were in the process of education. The new way of calculating the highest education only means a minimal displacement of the level of education.

Information about the immigrants brought with them from abroad has been collected through questionnaires since 1999.

## 7.3 Coherence - cross domain

There is no other Danish statistics on this subject.

## 7.4 Coherence - internal

The Attainment Register make use of several different registers. The primary source is data from the Student Register.

The student's Register is supplemented additionally with data from Statistics Denmark's Qualification Register that collects data from multiple sources of different nature.

- Population & Housing Census 1970.
- Immigrants education (IVU).
- Examinations achieved through adult education.
- Membership registers of professional bodies or certification records.
- Administrative records from educational institutions
- Danish Agency for International Education.
- Educational Information from Greenland.

Most of these register are assumed to be of high quality but the quality of the data from the Population & Housing Census 1970 and the survey among immigrants are less good. These are self-reported information and some of the information in the survey among immigrant are imputed data. Information from these two sources is only used if there is no other information from other sources. The variable HF\_KILDE tells which source the information comes from and consequently, it is possible to omit information from these sources.

## 8 Accessibility and clarity

Statistics are published once a year in "News from Statistics Denmark" . At the same time data are released in the Statbank and on the homepage: [Homepage](#) Information also appears in the annual publications Statistical 10-Year Review and the Statistical Yearbook.

### 8.1 Release calendar

The publication date appears in the release calendar. The date is confirmed in the weeks before.

### 8.2 Release calendar access

The Release Calender can be accessed on our English website: [Release Calender](#).

### 8.3 User access

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

### 8.4 News release

New releases of "News from Statistics Denmark" can be found on the homepage: [Homepage](#)

## 8.5 Publications

Statistical 10-Year Review: [Statistical 10-Year Review](#) Statistical Yearbook:  
<https://www.dst.dk/en/Statistik/Publikationer/VisPub.aspx?cid=17959> [Statistical Yearbook](#)

## 8.6 On-line database

Data are released in the Statbank under the subject Education and Knowledge, Population by Statue of Education, Educational Attainment: [Statbank](#)

## 8.7 Micro-data access

The Attainment Register is a longitudinal register and is stored in Statistic Denmark's Database PSD.

Once a year ( since 2005) a status register is produced with the population 31. December and information about education the 1. October the current year. These statue register are also stored in Statistic Denmark's Database PSD.

## 8.8 Other

Not relevant for this register.

## 8.9 Confidentiality - policy

In connection with publication from the register Statistics Denmark data privacy policy is followed, see: [Data privacy policy](#)

## 8.10 Confidentiality - data treatment

In connection with publication from the register Statistics Denmark's data privacy policy is followed, see: [Data privacy policy](#)

## 8.11 Documentation on methodology

For further information contact: Statistics Denmark Population and education Susanne Mainz Sørensen, phone: (+45) 39 17 33 94 e-mail: [sms@dst.dk](mailto:sms@dst.dk)

Statistic Denmark homepage: [Homepage](#)

## 8.12 Quality documentation

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

## **9 Contact**

Administratively, the statistic is located in the department of Population and Education Responsible for the statistic is Susanne Mainz Sørensen, Phone (+45) 39 17 33 94, e-mail: sms@dst.dk

### **9.1 Contact organisation**

Statistics Denmark

### **9.2 Contact organisation unit**

Population and Education, Social Statistics

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