**BIBB-FDZ
Data and Methodological Reports**

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BIBB/BAuA Employment Survey 2012

Version 6.0

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Data availability

The data set described in this manual can be requested as a Scientific Use File at our website www.bibb-fdz.de.

Note on version numbering

Changes from the previous version without major thematic relevance are documented by sequentially increasing the number *after* the dot (second level). Changes of thematic relevance, on the other hand, lead to a sequential increase of the number at the first level.

1   Introduction

1.1   Content of the manual

The present manual contains a brief documentation of the BIBB/BAuA Employment Survey 2012[1]. This version of the manual also gives information on the extended research data which are now available.

The Scientific Use File includes all cases (n=20,036) contained in the original data but, for example, no sensitive variables and regional identifiers. Data access to weakly anonymized variables (full texts, smaller regional units, occupational and industry codes at the 3-/4-/5-digit level) is organized via remote data access and/or through separate BIBB-FDZ workplaces for guest researchers.

1.2   Structure of the manual

The following section will start by providing an overview of the survey. Chapter 2 outlines the content of the survey. This includes a documentation of the changes in the questionnaire program compared to the 2006 Employment Survey and an overview of the additionally created or appended variables. Chapter 3 contains a brief documentation of the data collection process. Data anonymization is explained in Chapter 4 and data access and usage instructions in Chapter 5. Chapter 6 shows how to cite the data set. Chapter 7 und 8 give an overview of the extended research data available as of 2014.

1.3   Brief description and structure of the data set

The Employment Survey is a representative survey among fully employed persons in Germany. "Fully employed persons" are at least 15 years old and in paid employment for at least 10 hours per week. The survey was conducted from 1979 to 1999 by the Federal Institute for Vocational Education and Training (BIBB) in cooperation with the Institute for Employment Research (IAB) and thereafter in cooperation with the Federal Institute for Occupational Safety and Health (BAuA).

The Employment Survey was first conducted with the intention of gathering more detailed information about employed persons, their qualifications and the like than was available from the microcensus, and it has continually developed since then. Today it is a data set which is unique in Germany. It collects a multitude of data from the two thematic areas "work and occupation in transition" and "acquisition and utilisation of vocational qualifications". Six

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[1] The field phase of the main survey was conducted from 17th October 2011 to 1st April 2012. With the switchover from the previous cooperation partner, the Institute for Employment Research (IAB), to the current partner, the Federal Institute for Occupational Safety and Health (BAuA), which took place in the course of the 2006 survey, the designation of the data set was changed to include the second survey year only.

Employment Surveys have been completed so far. The time period from 1979 (via the surveys conducted in 1985/86, 1991/92, 1998/99, 2005/06) to 2011/2012 has thus been covered.

The survey covers the content and implementation of occupations, the requirement levels of jobs and the qualification backgrounds of employed persons. Data is also collected on the mental and physical strains to which employees are subjected today.

Compared to other data sources, the Employment Survey has a number of strengths and special features. It contains, for example, information on the types of work (graded by how often they are performed), detailed professional requirements, venues where knowledge is acquired in initial and continuing education and training and the qualification requirements necessary for performing job-related tasks at the workplace. All this allows defining occupational profiles both for specific professions and for employees with specific qualification levels and to record the professional qualification exactly and also facilitates comparisons between individually acquired qualifications and the qualification requirements of the job. In addition, the survey collects subjective assessments on the utilisation of vocational qualifications, on changing the profession trained for and the reasons for such change, on job satisfaction and on career aspirations. For English language skills the level of fluency is recorded, as well.

The designation of both training occupation and vocational activity creates interfaces to other data sources which contain data on the same characteristics. The occupation-related information is recorded as plain text. The data set is thus predestined for using the 2010 Classification of Occupations (KldB2010) in a large statistics study for the first time. The large sample size of 20,000 employed persons allows comparisons between occupational groups up to the 4-digit or, using the KldB2010, 5-digit level[2] in cases of strongly frequented occupations.

The 2012 survey is to a large extent comparable with the data collected in 2006. The questionnaire program is very similar and the survey mode has also remained the same (CATI). Changes in the questionnaire programme are discussed separately in Chapter 3 and in the Appendix.

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[2] The 4-digit or 5-digit level can be analysed via remote data access or at separate workplaces for guest researchers at BIBB-FDZ in Bonn.

1.4   Overview of key features

Title	BIBB/BAuA Employment Survey of the Working Population on Qualification and Working Conditions in Germany 2012
Short description	Representative survey of 20,036 employed persons on qualification and working conditions in Germany 2012
Observation design	Longitudinal design (trend study)
Observation year	2011/2012 (17 October 2011 to 1 April 2012)
Observation unit	Employed persons
Key topic	Employment
Keywords	Career paths; main areas of activity; specialist knowledge; qualification requirements; job-related burdens; need for continuing education and training; match between training and employment; utility of vocational qualifications; occupation changes; qualification development
Data access option	SUF; GWA (on-site use); DFV (remote data access), ZV
Project page	http://www.bibb.de/de/63182.htm
Net sample	122257
Responses	54152
Response rate (in %)	44.3
Population	Employed persons aged 15 or older in paid employment for at least 10 hours per week in Germany
Weighting/projection	Design and population weight; projection weight
Survey method	CATI
Interview length (in min)	40.3
Representative regional level	Spatial planning region (Raumordnungsregion)
Number of variables	655 (SUF); 140 (GWA/DFV; including 58 full texts, 4 regional identifiers, 78 occupational codes at the 3-/4-/5-digit level)
Selection procedure	ADM method (improved version of Gabler-Häder method); Kish method
Note	Previous surveys in 1979, 1985/86, 1991/92, 1998/99 and 2006. (Latest survey: 2018)
doi	10.7803/501.12.1.1.60 (SUF); doi:10.7803/501.12.1.4.10, doi:10.7803/501.12.1.3.20, doi:10.7803/501.12.1.5.30 (GWA/DFV)

2   Description of variables

2.1   Topics, list of variables and questionnaire program changes from 2006

Like its predecessors, the 2012 Employment Survey covers several topics: The employed persons are questioned about their current gainful activity with regard to characteristics of the job (job-related cross-sectional part) and to personal characteristics such as subjectively feeling under- or overchallenged, job satisfaction and health (individual cross-sectional part). In addition, information about the employees' education and career paths is collected (individual longitudinal part). The survey furthermore contains variables on the firm in which the current gainful activity is pursued, as well as a number of socio-demographic variables. In addition to the ethnicity, questions about the social origin are included in 2012 for the first time.

The interview consists of different subject areas of various lengths. The questions are numbered as follows:

F100ff: Questions about the current occupational activity
F200ff: Working hours and place of work
F300ff: Types of work performed
F400ff: Professional requirements
F500ff: Employment status
F600ff/F700ff: Working conditions
F900ff: Professional and life goals
F1000ff: Changes in the last two years
F1100ff: School education
F1200ff: Vocational education and training
F1300ff: Continuing training
F1400ff: Career path
F1450ff: Job satisfaction
F1500ff: Health
F1600ff: Personal details

In addition to the directly collected variables, further variables have been included in the SUF[3]. They are discussed in Section 2.2. Table I in the Appendix contains a list of variables sorted by these topics and indicates changes in comparison to the 2006 questionnaire program.

2.2   Additionally generated variables[4]

In addition to the directly collected variables (excluding full text answers and selected further variables, cf. Section 4.2), users of the SUF are supplied with additionally generated variables for evaluation purposes. These are subdivided into weights and automatically

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[3] Not all directly collected variables are included in the SUF (cf. 4.2).
[4] From version 2.0 (doi: 10.7803/501.12.1.1.20) on, the SUF includes additional variables to the ones described below (see section 8.2.1).

generated variables from the screening part of the interview (cf. 2.2.1), codings of open occupation and industry sector designations into occupation and industry sector codes (2.2.2) and other recoded original variables on the branch of the economy, training certificates, occupational fields, gross wages and social origin (2.2.3). We recommend a thorough examination of the way these variables are generated before using them; depending on the research question and the research interests it may be more sensible to use recodings different from the ones carried out here.

2.2.1 Automatically generated variables and weighting factors[5]

- **Intnr:** Unique identification number (generated internally)
- **Int_jahr, Int_mon:** Year and month of the interview (generated internally)
- **Stib:** Position in the company (cf. Questionnaire, p. 3)
- **AZ:** Actual working hours (cf. Questionnaire, p. 9)
- **NT:** Sideline activities (cf. Questionnaire, p. 9)
- **Zpalter:** Age
- **Bula:** Federal state of place of residence (generated based on phone number)
- **Gkpol:** Political municipal code (generated based on phone number)
- **Bik10:** BIK municipal type, 10 types (generated based on phone number)
- **Des2012:** Design weight (cf. Section 3.3)
- **Gew2012:** Population weight MZ 2011 (cf. Section 3.3)
- **Gew2012_hr:** Projection factor MZ 2011 (cf. Section 3.3)

2.2.2 Occupational and industry information[6]

The industry (economic activity) of the current occupational activity was recorded in plain text form (TF512) and then assigned to the code of the groups (2-digit level) of the Classification of Economic Activities of the European Union (NACE Rev. 1.1 and Rev. 2) and the German Classification of Economic Activities (WZ), 2003 and 2008 edition[7] (cf. the TNS Infratest report on coding economic activities, Hartmann et al. 2012a). Version 3.0 and later versions of the SUF additionally include a 2014 version for both WZ variables (WZ2003n, WZ2008n) which are based on slightly different coding rules in case of ambiguous information[8] (cf. the

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[5] The automatically generated variables are at the beginning of the data set.
[6] The newly formed variables for the current occupation, the first occupation, the training occupations and the occupations of the parents are inserted into the data set at the respective positions of the original variables in the questionnaire.
[7] The national classification of economic activities WZ corresponds to the European classification NACE up to the fourth level (classes). In addition to the NACE, the WZ has a fifth level (subclasses). WZ2003 and NACE Rev. 1.1 differ in two points: Class 52.48 of NACE Rev. 1.1 has been subdivided in WZ2003 into Classes 52.48 and 52.49 and Class/Group 64.2/64.20 into Class/Group 64.3/64.30 (Federal Statistical Office 2003, 2008).
[8] Differences add up to 3.1 % in case of WZ 2003 (disregarding 615 cases which were defined as system missing in the 2012 version but are now coded as -1) and to 3.8% in case of the WZ 2008. Changes only matter for individual cases with the exception of 420 cases which in WZ2008n no longer are classified in code *Metallerzeugung und – verarbeitung (24)* but in code *Herstellung von Metallerzeugnissen (25)*.

TNS Infratest report on coding economic activities, version 2014, Hartmann et al. 2014). The level of groups contains 60/62 (cf. footnote 2) and 88 2-digit groups in 2003 and 2008 respectively. The current occupation, the first occupation, the training occupations and the occupations of the parents are accompanied by the following occupation codes (cf. the TNS Infratest reports on occupation coding, Hartmann et al. 2012b,c): KldB2010 and KldB1992 (2010 and 1992 Classification of Occupations) as well as ISCO08 and ISCO88 (1988 and 2008 International Standard Classification). The SUF includes these classifications at the 2-digit level[9]. 5-/4-/3-digit occupational codes are available via remote data access and at the safe centers at BIBB-FDZ (sv-data set, see 8.2.2).

Current occupation (F100)	f100_kldb2010	Occupation KldB2010 5-digit (not in the SUF)
	f100_kldb2010_4d	Occupation KldB2010 4-digit (not in the SUF)
		Occupation KldB2010 3-digit
		Occupation KldB2010 2-digit
	f100_kldb92	Occupation KldB1992 4-digit (not in the SUF)
	EB92o	Occupation KldB1992 3-digit
	EB92g	Occupation KldB1992 2-digit
	f100_isco08	Occupation Isco08 4-digit (not in the SUF)
	F100_isco08_3d	Occupation Isco08 3-digit
	F100_isco08_2d	Occupation Isco08 2-digit
	f100_isco88	Occupation Isco88 4-digit (not in the SUF)
	F100_isco88_3d	Occupation Isco88 3-digit
	F100_isco88_2d	Occupation Isco88 2-digit
First occupation (F1401)	f1401_kldb2010	1st Occupation KldB2010 5-digit (not in the SUF)
	f1401_kldb2010_4d	1st Occupation KldB2010 4-digit (not in the SUF)
	F1401_kldb2010_2d	1st Occupation KldB2010 2-digit
	f1401_kldb92	1st Occupation KldB1992 4-digit (not in the SUF)
	EB1_92o	1st Occupation KldB1992 3-digit
	EB1_92g	1st Occupation KldB1992 2-digit
	f1401_isco08	1st Occupation ISCO08 4-digit (not in the SUF)
	F1401_isco08_3d	1st Occupation ISCO08 3-digit
	F1401_isco08_2d	1st Occupation ISCO08 2-digit
	f1401_isco88	1st Occupation ISCO88 4-digit (not in the SUF)
	F1401_isco88_3d	1st Occupation ISCO88 3-digit
	F1401_isco88_2d	1st Occupation ISCO88 2-digit

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[9] As of version 2.0 (doi:10.7803/501.12.1.1.20) on, the SUF additionally includes 3-digit codes for the current and the first job (see section 8.2.1).

Training occupations F1203 to j1203 F (1st loop) to J (5th loop)	f1203_kldb2010	1st Training KldB2010 5-digit (not in the SUF)
	f1203_kldb2010_4d	1st Training KldB2010 4-digit (not in the SUF)
	f1203_kldb2010_3d	1st Training KldB2010 3-digit (not in the SUF)
	F1203_kldb2010_2d	1st Training KldB2010 2-digit
	f1203_kldb92	1st Training KldB1992 4-digit (not in the SUF)
	AB1_92o	1st Training KldB1992 3-digit (not in the SUF)
	AB1_92g	1st Training KldB1992 2-digit
	f1203_isco08	1st Training ISCO08 4-digit (not in the SUF)
	f1203_isco08_3d	1st Training ISCO08 3-digit (not in the SUF)
	F1203_isco08_2d	1st Training ISCO08 2-digit
	f1203_isco88	1st Training ISCO88 4-digit (not in the SUF)
	f1203_isco88_3d	1st Training ISCO88 3-digit (not in the SUF)
	F1203_isco88_2d	1st Training ISCO88 2-digit
	etc.	
Occupation of father (F1609)	f1609_kldb2010	Occupation of father KldB2010 5-digit (not in the SUF)
	f1609_kldb2010_4d	Occupation of father KldB2010 4-digit (not in the SUF)
	f1609_kldb2010_3d	Occupation of father KldB2010 3-digit (not in the SUF)
	F1609_kldb2010_2d	Occupation of father KldB2010 2-digit
	f1609_kldb92	Occupation of father KldB1992 4-digit (not in the SUF)
	vb_92o	Occupation of father KldB1992 3-digit (not in the SUF)
	Vb_92g	Occupation of father KldB1992 2-digit
	f1609_isco08	Occupation of father Isco08 4-digit (not in the SUF)
	f1609_isco08_3d	Occupation of father Isco08 3-digit (not in the SUF)
	F1609_isco08_2d	Occupation of father Isco08 2-digit
	f1609_isco88	Occupation of father Isco88 4-digit (not in the SUF)
	f1609_isco88_3d	Occupation of father Isco88 3-digit (not in the SUF)
	F1609_isco88_2d	Occupation of father Isco88 2-digit
Occupation of mother (F1610)	f1610_kldb2010	Occupat. of mother KldB2010 5-digit (not in the SUF)
	f1610_kldb2010_4d	Occupat. of mother KldB2010 4-digit (not in the SUF)
	f1610_kldb2010_3d	Occupat. of mother KldB2010 3-digit (not in the SUF)
	F1610_kldb2010_2d	Occupat. of mother KldB2010 2-digit
	f1610_kldb92	Occupat. of mother KldB1992 4-digit (not in the SUF)
	mb_92o	Occupat. of mother KldB1992 3-digit (not in the SUF)
	Mb_92g	Occupation of mother KldB1992 2-digit
	f1610_isco08	Occupation of mother Isco08 4-digit (not in the SUF)
	f1610_isco08_3d	Occupation of mother Isco08 3-digit (not in the SUF)
	F1610_isco08_2d	Occupation of mother Isco08 2-digit
	f1610_isco88	Occupation of mother Isco88 4-digit (not in the SUF)
	f1610_isco88_3d	Occupation of mother Isco88 3-digit (not in the SUF)
	F1610_isco88_2d	Occupation of mother Isco88 2-digit

Branch of industry (F513)	WZ2003	Branch of industry according to WZ 2003 (2-digit)
	WZ2008	Branch of industry according to WZ 2008 (2-digit)
	WZ2003n	Branch of industry according to WZ 2003 (2-digit), 2014 version
	WZ2008n	Branch of industry according to WZ 2008 (2-digit), 2014 version

2.2.3 Further variables[10]

- **F512_neu**: **Revised economic sector**

F512_neu is a revised version of the original variable F512 (self-assessed sector of economic activity). Original values were checked against industry information (economic activity, TF512) and their recodes into WZ03 / WZ08. In addition to some individual cases, these are frequent mappings of respondents like "Post", "Telekom", "Postbank", "Deutsche Bahn" to the public service sector. These cases have been coded as "Sonstige Dienstleistungen" (other services). In contrast, "Sparkassen" were coded as "Öffentlicher Dienst" (public service). Unions, special interest groups, associations, boards and chambers, Diakonie (social welfare organization of the Protestant Church in Germany), Deutsches Rotes Kreuz (the German Red Cross), Caritas, churches, private households and non-profit organizations were summarized in an additional category in **F512_neu** (category 100).

- **F1202_korr to J1202_korr: Type of vocational training certificate**

The terms "Fachschule" (technical school) and "Berufsfachschule" (full-time vocational school) and also "betriebliche Ausbildung" (in-company training), "schulische Ausbildung" (in-school training), "Fortbildung" (further training) and "Weiterbildung" (continuing training) have very different meanings to different respondents. To adjust the answers regarding the vocational training certificate acquired, additional information such as the professional title, the occupation code, the duration of training and the training venue was taken into account. For example, a large number of Krankenpfleger/-innen und Erzieher/-innen (registered nurses and nursery teachers) assign themselves to in-company training although they have in fact undergone in-school training at full-time vocational schools, schools of the public health system or technical schools for socio-pedagogic occupations. The types of vocational training certificate have been adjusted in the first iteration according to standardized criteria (see box below). At the final stage each of the answers was edited manually. The adjusted values were stored in a new variable (**F1202_korr** to **J1202_korr**). The data inspection has no claim to be exhaustive.

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[10] The additionally formed variables are appended to the end of the data set in the order given here.

Standardized criteria for adjusting the training loops

Not considered as training were e.g.:
Internships, vocational preparation, continuing academic training such as to become a "Facharzt" (medical specialist), other further training with a duration of less than 24 months, initial training with a duration of less than 12 months starting with the 2nd loop, unclear answers regarding the occupation (individually assessed).

1: "Betriebliche Ausbildung" or "Lehre" (In-company vocational education and training or apprenticeship)
Checked using the occupation code (Index of recognized training occupations). If no valid occupation class but valid occupation order then leave unchanged, else code -1 or "sonstige Ausbildung" (other training). The occupation groups 86 and 85 (except BO856) are recoded to "schulische Ausbildung" (in-school training).

2: "Schulische Berufsausbildung" (School vocational education and training)
Checked using Series 11, Sub-series 2 of the Federal Statistical Office (StBA). If no valid occupation class but valid occupation order then leave unchanged, else code -1 or "other training". Further check based on Kursnet: if school vocational education and training is possible then leave all other occupation orders unchanged, else set to "other training". If training venue is technical college/university and professional title is plausible then "technical college or university degree".

3: "Fachhochschulabschluss" (University of applied sciences, technical college degree) / 4: "Universitätsabschluss" (University degree)
If "anderer Abschluss" (other degree) (*1202B=6) then individual assessment.

6: "Anderer Ausbildungsabschluss" (Other education or training certificate)
If training venue is "Berufsfachschule" (full-time vocational school), "Schule des Gesundheitswesens" (school of the public health system) or "sozialpädagogische Fachschule (technical school for socio-pedagogic occupations) then set to "schulische Ausbildung" (in-school training). If training venue is "andere Fachschule" (different trade and technical school) then individual assessment; starting with 2nd loop often continuing training. Occupation groups 85+86 set to "schulischer Ausbildung" (in-school training) if training venue is an enterprise, else leave unchanged. If it is a regulated further training, i.e. to become a "Betriebswirt" (business administrator) etc., change to "Fortbildung" (further training). If training venue is "Berufsakademie" (college of advanced vocational studies) and professional title is plausible and duration of training is at least 24 months then change to "Berufsakademie" (college of advanced vocational studies). If training venue is technical college/university and professional title is plausible then change to "akademische Ausbildung" (academic training).
Other courses of training with a duration of less than 24 months (starting with 2nd loop) are not considered, unless the training venue is a "Berufsfachschule" (full-time vocational school), "Schule des Gesundheitswesens" (school of the public health system) or "Fachschule" (technical school) - individual assessment.

>>>>Note: the distinction between "schulischer Ausbildung" (in-school training) and "sonstiger Ausbildung" (other training) is very fuzzy. The answers given by the respondents were mostly left unchanged. Many courses of training completed at other educational institutions or retraining courses are possible as "in-school training" as well. If research interest is focused on a particular occupation/occupational field, we suggest an evaluation based on the classification of occupations.

7: Fortbildungsabschluss zum Meister, Techniker, Betriebs-, Fachwirt etc. (Further training certificate as a master craftsman, technician, business administrator, management expert etc.)
Checked using Series 11, Sub-series 3 of the Federal Statistical Office (StBA).
Other courses of further training with a duration of less than 24 months are not considered - individual assessment.
If "sonstige Fortbildung" (other further training) and designation is master craftsman, technician, business administrator, management expert, commercial clerk etc. then assign accordingly.

8: Referendariat, 2. Staatsexamen, 3. Staatsexamen, Promotionen (Practical legal or teacher training, second state examination, third state examination, doctorate)
If no previous indication of higher education certificate then set to "Universitätsabschluss" (university degree); else not considered.

- **M1202: Highest vocational training certificate, unadjusted**

The variable **M1202** is generated based on the unadjusted training loops (see *höchster Ausbildungsabschluss.sps*).

- **Max1202: Highest vocational training certificate, adjusted**

The variable **Max1202** is generated based on the adjusted training loops, F1202_korr to J1202_korr (see *höchster Ausbildungsabschluss.sps*). The variable has the following values and value labels:
1 "Ohne Berufsabschluss" (without training certificate)
2 "Betriebliche, schulische Berufsausbildung/einf.,mittl. Beamte" (In-company or school-based vocational education and training, lower/medium civil servants)
3 "Aufstiegsfortbildung (Meister, Techniker, Fachwirt u.ä.)" (advanced further training, master craftsman, technician, business administrator, management expert etc.)
4 "Fachhochschule, Universität/ geh., höhere Beamte" (university of applied sciences, university / higher civil servants)
9 "keine Angabe" (no answer)
When using this variable it should be considered that the information of specific filter questions refers to the original variables (**F1202, G1202** etc.).

Cases were no occupational code could be classified because of an unclear occupational information (F1202_korr=-1 „keine eindeutige Angabe" (ambiguous)) but which stated their type of training (F1202) were coded corresponding to their type of training (providing that the training duration is at least 12 months). Cases, were no information on the type of training is available (F1202=99), but for which a level can be specified by means of the occupational information were coded according to the adjusted variable (F1202_korr).

To validate **Max1202** a comparison with census data from 2011 as well as with the unadjusted variable (**M1202**) were performed.

Table 1: Highest vocational training certificate (in %)

	Microcensus 2011*	BIBB/BAuA 2012 (Max1202)	BIBB/BAuA 2012 (M1202)
Ohne Berufsabschluss	12,4	9,1	9,0
Duale, schulische Ausbildung	59,2	59,3	58,3
Aufstiegsfortbildung	7,3	7,6	8,3
Fachhochschule, Universität	20,7	24,0	24,3
Keine Angabe	0,4	0,1	0,1

Source: Microcensus 2011; Kernerwerbstätige (fully employed persons) (corresp. to BIBB/BAuA 2012), special analyses of the StBA.

The provision of this adjusted variable is a service of the BIBB. We do not claim the adjustments to be complete; they represent one of several different potential classification strategies. Depending on the research question and the research interests it may be more sensible to use recodings different from the ones carried out here.

- **f1216dn to j1216dn: Duration of training (loop 1 to 5)**

see *Dauer der Ausbildung.sps.*

- **berufsfeld, bhf92, bof92: Occupational field, major occupational field, top-level occupational domain**

For the current occupation (F100), three variables were formed in accordance with the occupational field definitions of the BIBB (distinction between 54 occupational fields, 12 major occupational fields and 3 top-level occupational domains, cf. Tiemann, Michael et al. 2008, *see Berufsfelder.sps).*

- **exp_wage_imp_miss/extr: Imputation of missing income data**

Almost 20 per cent of the respondents in the BIBB/BAuA Employment Survey 2012 made no statement about their monthly gross income (n=3,977)[11]. These persons were therefore asked the question: "Would you then perhaps tell me: Is your monthly gross income less than 1,500 euros?". An answer to this question was still refused by 703 persons. The presence or absence of values for a sensitive variable like the income is usually not accidental. Missing answers can influence the properties of estimators and test statistics, which in turn has consequences for the validity of making estimates for the population from the sample. The missing income data was therefore imputed in analogy to the procedure followed in the 2006 Employment Survey using a MNAR failure mechanism (for the algorithm see Alda/Rohrbach-Schmidt 2011). The estimated mean income values of the original and imputed variables in 2012 are higher than in the 2006 survey. When adjusted to purchase power parity, the mean value differences are negligible. The dispersion of the income values – measured as standard deviation – is higher in 2012 than in 2006, even though, for example, the ratio of the 90/10 percentile has decreased. The reason for that is that, in 2012, fewer cases with a low income are represented in the sample than in 2006. In addition there are a few cases with incomes higher than the maximum value of the 2006 survey (>50,000 euros) [12]. The original values of these cases were replaced by their mean plus/minus the multiple of 1,000 (see section 4.2 on anonymizations).

Three new variables were added to the data set (cf. Table 2):

- **exp_wage_imp_miss**: Imputed wages for missing wage data (delogarithmized)
- **exp_wage_imp_extr**: Imputed wages for extreme values (99.5 and 0.5 percentile) / missing wage data (delogarithmized)
- **wage_imp_gruppe**: Code for imputed wages

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[11]The share of respondents not giving valid income information was slightly lower at about 15 per cent in the 2006 Employment Survey.

[12]In this context, it has to be taken into account that in 2012, for the first time, the income question included the interviewer instruction to record incomes in the range from 1 to 99997 euros. In addition, low-level educated persons were slightly underrepresented in the 2012 sample compared to the microcensus (2011), while in 2006 this group was slightly overrepresented.

Table 2: Comparison of imputed and non-imputed values 2012 and 2006 (all figures in euros)

Variable	Mean value (Standard dev.)	Quotient Percentile 90/10	Quotient Percentile 80/20	valid cases
BIBB/BAuA Employment Survey 2012				
Original values				
Original variable	2,869 (2916)	5.556	2.840	16,059
Imputation 1*	2,906 (2672)	5.000	2.559	20,036
Imputation 2*	2,799 (1706)	4.825	2.533	20,036
Logarithmized				
Original variable	7.704 (0.747)	1.252	1.145	16,954
Imputation 1	7.750 (0.706)	1.233	1.128	20,036
Imputation 2	7.747 (0.666)	1.228	1.127	20,036
BIBB/BAuA Employment Survey 2012				
Original values				
Original variable	2,600 (2155)	6.429	2.917	16,954
Imputation 1*	2,648 (2045)	5.625	2.769	20,000
Imputation 2*	2,571 (1542)	5.625	2.720	20,000
Logarithmized				
Original variable	7.603 (0.816)	1.284	1.151	16,954
Imputation 1	7.642 (0.789)	1.258	1.142	20,000
Imputation 2	7.642 (0.722)	1.258	1.140	20,000

* Imputation of missing values (exp_wage_imp_miss); ** Imputation of missing values and runaway values (exp_wage_imp_extr). **Source:** BIBB/BAuA Employment Surveys 2012 and 2006.

- **ISEI and MPS**

The current occupation, the first occupation, the training occupations and the occupations of the parents are assigned the values of the International Socio-Economic Index of Occupational Status (ISEI) and the Magnitude Prestige Scale (MPS) (**F100_isei, F1401_isei, F1203_isei- J1203_isei, F1609_isei, F1610_isei,** and **F100_mps F1401_mps F1203_mps- J1203_mps, F1609_mps, F1610_mps**). The ISEI connects income and education in order to indicate the socio-economic status of an occupation (cf. Ganzeboom et al. 1992). The ISEI values were created following the procedure suggested by Schimpl-Neimanns (2004) based on the ISCO88 values of the answers regarding the occupation (3-digit). The MPS assigns values to occupations that are based on the perceived social prestige of the occupation among the population. The MPS was formed using the occupation codes from KldB92 (3-digit) (cf. Frietsch Wirth 2001).

- **Lgueltr**

Questions F1224 and F1225 make reference to the last training, which was defined as follows:

1. In the case of several completed courses of training, the one with the highest completion year is used.

2. The duration of training must be at least 12 months. There are two exceptions to this rule: if F,G,H,I,J1212=1 (further training certificate "master craftsman") or if F,G,H,I,J1217=4 (short duration of training due to extern examination)

Generally the programming is designed such that the first training loop is initially set as **Lgueltr** and any subsequent loop is checked whether it has occurred later. If that is the case, that loop is used (under consideration of the defined duration and the two exceptions). In each of these steps, only the year given is considered and the month given is not. It follows from this algorithm that, if the year of completion is given as "not stated", the last valid training before that is used for **Lgueltr**. If all dates of completion are "not stated" then the first training loop is used. In the case of parallel training phases with the same year of completion, the one first stated is used. On analysing it should be checked whether a "valid" training designation was indicated. For this purpose it is useful to match with the last valid training (**Ln_abr**) (*see Letzte eindeutige Ausbildung.sps and there the variables lgueltr and ln_abr).*

3   Data collection

Just as in the previous survey in 2006, data was collected by TNS Infratest Sozialforschung, Munich (Gensicke et al. 2012). A detailed description of the data collection process is included in the field report. It can be downloaded from the BIBB-FDZ web pages on the 2012 Employment Survey (www.bibb.de/de/63182.htm).

3.1   Population and selection procedure

The population consists of employed persons aged 15 or older in paid employment for at least 10 hours per week in Germany. Persons were defined as being employed if they were pursuing paid work or work connected to an income at the time of surveying[13]. The first step in selecting the persons to be surveyed was the selection of a household via a random digit dialling method (landline sample) performed by Infratest according to the ADM standard (improved version of the Gabler-Häder method) (Gensicke et al. 2012a, p. 9-11). In the second step the target person to be questioned was randomly selected using the Swedish selection grid (Kish method). In the subsequent screening (short interview) several guiding questions were used to determine whether the target person was an employed person within the meaning of the study[14]. Similar to the 2006 survey, targeted measures were employed during sampling in the later stages of the field phase to counteract the anticipated lower willingness of people with lower education levels to respond[15]. In contrast to the last survey the counteraction was not carried out via the occupational situation but via the school leaving certificate. Due to this change, the question about the highest school leaving certificate was now asked in the screening interview and the question about the occupational situation in the

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[13] Included were persons who had interrupted their work for a short time, i.e. up to a duration of three months at the most, as well as family workers and foreign citizens sufficiently fluent in the German language. Persons pursuing their paid work on an honorary basis were not surveyed. Also excluded were persons in an employment relationship as part of their initial vocational training and persons working in the context of an internship (cf. details on this in the field report (Gensicke et al. 2012a, p. 8)).

[14] With a few exceptions (such as the highest general education certificate), the variables collected in the screening part are not part of the SUF (cf. Chapter 4 on anonymization).

[15]The proportion of persons with lower educational levels in the sample was slightly below and that of persons with higher education levels slightly above the respective proportions in the 2010 microcensus (cf. Gensicke et al. 2012a, p. 17).

main interview. Interviewer training and two pretests took place prior to the main survey. Details on the interviewer training and other quality assurance measures are included in the field report.

3.2   Field work and exhaustion

The field work of the main survey took place from 17 October 2011 to 1 April 2012. A total of 20,036 interviews were conducted. The average interview length was 40.3 minutes and thus a bit shorter than in the 2006 survey (43 minutes). Table 3 illustrates the exhaustion of the sample.

Table 3: Exhaustion overview

Initial gross	**317,980**	**100.0%**
Phone number not connected		51.9%
Fax / Modem		3.2%
Duplicate address according to contact/target person		0.0%
Regional cell not determined		-
Maximum number of contacts (>=10) reached		1.4%
Unusable numbers, total	**179,659**	**56.5%**
Adjusted gross	**138,321**	**100.0%**
Cell full		-
No private household		8.3%
No communication with contact person		1.8%
No communication with contact person		0.2%
Target person not able		0.2%
No target person in household		1.0%
Neutral non-response, total	**16,064**	**11.6%**
Remaining addresses	**122,257**	**100.0%**
Participant does not pick up the phone		5.6%
Busy signal		0.3%
Private answering machine		0.8%
Interview aborted		0.9%
Contact person busy/appointment		0.1%
Contact person busy/appointment		0.1%
Contact person refuses to answer		34.3%
Target person refuses to answer		11.2%
No appointment possible		2.2%
No answer for F101 (activity)		0.0%
Non-response, total	**68,105**	**55.7%**
Interviews conducted	**54,152**	**44.3%**
Complete interview with employed person	20,060	
of which not evaluable interviews	24	
Evaluable, complete interviews	**20,036**	
Short interview with not employed person	29,105	
Short interview with too highly educated person	4,350	
Complete interview with trainee/intern	637	
Net estimate target group interviews	20,000	

Source: TNS Infratest field report (Gensicke et al. 2012, p. 15).

At the end of the interview, the respondents were asked for their agreement to participate in possible follow-up surveys. 74.1 per cent of the respondents, a high proportion given the length of the interview, gave their permission. Some socio-demographic information about the target persons refusing to be interviewed could be gathered for the failure analyses: the gender for 85 per cent of the persons refusing to be interviewed, the age for 69 per cent and the educational qualification for 47 per cent. Evaluations carried out so far give no indication of systematic distortion of the sample for additional surveys due to the refusals.

3.3 Weighting due to sample design and failure development

A weighting model was developed by TNS Infratest in order to compensate for the different selection probabilities of households and target persons caused by the sample design (design weight) and the selective failures due to refusals (non-response weight) (see the weighting report of Gensicke et al. 2012b). This model calculates weighting factors for adjusting the distribution of key features (gainful activity, vocational position, West/East, Federal state, education, gender, marital status, German/not German) in the sample to the distributions in the population (with the 2011 microcensus serving as the reference statistics). The resulting weighting components are available in the data set as variables **Des2012** (design weight) and **Gew2012** (population weight: design weight multiplied with non-response). A projection factor based on the 2011 microcensus (**Gew2012_hr)** is available for calculating point estimators or variance estimators for the population using the sample data.

4 Data anonymization

4.1 Provisions of the data protection regulations

Access to BIBBs' SUF data is exclusively granted in line with the European data protection regulations, in particular Chapter 89 of the Regulation (EU) 2016/679: General Data Protection Regulation (GDPR) and its national amendments, in particular § 27 of the German Data Protection Act (BDSG 2018). Accordingly, data may be left for independent scientific research if it is impossible to establish a reference to a unique survey unit ("anonymity"). In order to achieve this goal without any exception, the organization and/or the researcher(s) have to establish specific technical and organizational data security arrangements, making unauthorized access to BIBBs' SUF data impossible, respectively. BIBBs' Research Data Centre (BIBB-FDZ) recommends that researchers with data access be specifically obliged to complying with the GDPR (c.f. our respective SUF using guidelines).

BIBB-FDZ staff get insights into research questions, methods, and analyses of researchers only for the purpose of providing advice, improving the BIBB-FDZ service, and ensuring compliance with the guidelines of the GDPR. BIBB employees who are not belonging to BIBB-FDZ staff get no insights into any activities of researchers.

4.2 Anonymization

The types of anonymization (simplifications and deletions) carried out for the SUF are shown in the list below:

Group	Variable names	Variable content	Anonymization
Screening var.[1]	E101-E606	See screening questionnaire	deleted
Internally generated variables	dauer int_tag	Interview length Day of interview	deleted
Full texts	TF100,F100_kA, TF101,F101_kA,TF102,F102_kA,TF300,F300_ka, TF321,TF513,F513_kA, TF1203,TF1204,TF1208, TF1210,TF1212, TF1217,TG1203,TG1204, TG1208,TG1210,TG1212, TG1215,TG1217,TH1203, TH1204,TH1208,TH1210, TH1212,TH1215,TH1217, TI1203,TI1204,TI1208,TI1210, TI1212,TI1215,TI1217,TJ1203, TJ1204,TJ1208,TJ1210, TJ1212,TJ1215,TJ1217, TF1228,TF1305,TF1304, TF1401,TF1402,TF1411A, F1411A_kA,TF1418A, TF1418B,TF1606,TF1609, TF1610	Full texts of answers regarding occupation, full texts of answers regarding industry sector, full texts of answers regarding equipment, other full texts	deleted
Place of residence information	gkz kkz	Municipal code District code	deleted
Personal details	Anzmobilf Anztelf ISDN Netz1 Netz2 F1620b	Number of mobile phones used Number of landline connections ISDN landline connection Internet use yes/no Frequency of Internet use Name of respondent	deleted
Variables from the main interview	f100*,f1401*,f1203*-j1203*,f1609*,f1610*	4-digit occupation codes	2-digit (but see fn. 8)
Nationality	F1607_15	Nationality: stateless	Combined with F1607_99: F1607_99n "Nationality: not stated new"
Gross income	F518	Monthly gross income (open question)	Values >50,000 were replaced by their mean +/- the multiple of 1,000 (obtaining the original order): F518_SUF, Exp_wage_imp_mis _SUF

[1]Exceptions: S1 (gender), S2 (month/year of birth), S3, S4 (highest general school leaving certificate).

5   Data access (pre-version of the SUF 2013)

The pre-version of the research data published in 2013 was exclusively distributed by the BIBB-FDZ. The contractual right to use this data set ends with the publication of the 2014 version. Data usage from now on is permitted solely based on the 2014 version. Chapter 7 and 8 below provide details on this extended data versions.

6   Citing the data set

Every work using a data set available in the BIBB-FDZ or making reference to it should acknowledge that source in the form of a bibliographic citation in the list of references or in a footnote. In addition to citing the data itself, reference should be made to the respective BIBB-FDZ data and methodological reports where appropriate.

Title of data set (German):	Short title (German):	Short title (English):
BIBB/BAuA-Erwerbstätigenbefragung 2012 - Arbeit und Beruf im Wandel. Erwerb und Verwertung beruflicher Qualifikationen.	BIBB/BAuA-Erwerbstäti-genbefragung 2012	BIBB/BAuA Employment Survey 2012
English title of data set: BIBB/BAuA Employment Survey of the Working Population on Qualification and Working Conditions in Germany 2012		
BIBB-FDZ data and methodological report: Rohrbach-Schmidt, Daniela; Hall, Anja (2020): BIBB/BAuA Employment Survey 2012, BIBB-FDZ Data and Methodological Reports No. 1/2013. Version 6.0. Bonn: BIBB. ISSN 2190-300X	**DOI** (SUF): **doi:10.7803/501.12.1.1.60**	**Study-No. GESIS** (SUF): ZA5657

Hall, Anja; Siefer, Anke; Tiemann, Michael (2020): BIBB/BAuA Employment Survey of the Working Population on Qualification and Working Conditions in Germany 2012. SUF_6.0; Research Data Center at BIBB (ed.); GESIS Cologne (data access); Bonn: Federal Institute for Vocational Education and Training. doi:10.7803/501.12.1.1.60

Hall, Anja; Siefer, Anke; Tiemann, Michael (2014): BIBB/BAuA Employment Survey of the Working Population on Qualification and Working Conditions in Germany 2012. VT_1.0; Research Data Center at BIBB (ed., data access); Bonn: Federal Institute for Vocational Education and Training. doi:10.7803/501.12.1.4.10

Hall, Anja; Siefer, Anke; Tiemann, Michael (2015): BIBB/BAuA Employment Survey of the Working Population on Qualification and Working Conditions in Germany 2012. REG_2.0; Research Data Center at BIBB (ed., data access); Bonn: Federal Institute for Vocational Education and Training. doi:10.7803/501.12.1.3.20

Hall, Anja; Siefer, Anke; Tiemann, Michael (2018): BIBB/BAuA Employment Survey of the Working Population on Qualification and Working Conditions in Germany 2012. SV_3.0; Research Data Center at BIBB (ed., data access); Bonn: Federal Institute for Vocational Education and Training. doi:10.7803/501.12.1.5.30

7   Data version 2014 and follow-up survey

In 2014, an extended research data version is available which includes sensitive variables (such as 3-, 4- and 5-digit occupation codes, full texts, spatial planning regions) and additional newly generated variables (e.g. classifications of open answers, EGP values, ISEI values based on ISCO-08, for details cf. section 8.2). The sensitive variables can be analysed via remote data access and at the workplaces for guest researchers at BIBB in Bonn. The SUF, just like the previous Employment Surveys, is distributed via GESIS, Leibniz Institute for the Social Sciences, Dept. Data Archive for the Social Sciences (cf. section 8.1).

Users of the SUF can also apply for access to research data of the BIBB Supplemental Task Survey to the Employment Survey 2012 (Alda et al. 2015). The BIBB Supplemental Task Survey to the Employment Survey 2012 was administered by the Federal Institute for Vocational Education and Training (BIBB) and measures occupational mobility for a representative subsample of the main study (excluding, however, workers with a 'Fortbildungsabschluss') around one year after the main interview, i.e. at the end of 2012. The survey consists of two parts: Part one is a CATI administered survey on job mobility since the main interview (n=4,356 employees). For employees who changed their job, besides others, data on the frequency of job of tasks, the percentage of usability of skills and knowledge from the old job in the new one, up to eleven reasons for the job change were collected. Part two is a non-participating workplace study where respondents (n=2,273) were asked to write down the time (in minutes and hours) they spent on each of 19 single tasks during or shortly after one randomly selected working day, rate their difficulty and asses how representative the task is for their job. Both data sources, the BIBB/BauA Employment Survey 2012 and the BIBB Supplemental Task Survey to the Employment Survey 2012, can be linked using the interview number. For more information on this survey see the English website of the study

8   Data access and research data in 2014

8.1   Data access

The Scientific Use File of the 2012 Employment Survey can be accessed via GESIS Leibniz Institute for the Social Sciences (ZA-Study-No. ZA5657).

Data access to weakly anonymized variables (full texts, smaller regional units, occupational codes at the 3-/4-/5-digit level) is organized via remote data access and/or through separate BIBB-FDZ workplaces for guest researchers at BIBB in Bonn and/or by ZV application (sensitive variables under data protection law).

8.2 Research data

8.2.1 Scientific-Use-File (SUF)

In 2013 a pre-version of the SUF was published and distributed by the BIBB-FDZ (doi:10.7803/501.12.1.1.10). As of version 2.0 (doi:10.7803/501.12.1.1.20) the SUF in addition includes the 3-digit occupational code for the current and the first job and further additionally generated variables (see table 4 below). These in total 68 new variables are attached at the end of the data set. Occupational codes at the 3-digit-level and other new variables with cases <4 were recoded into an extra code (-111). The new variables are described in detail at the BIBB-FDZ metadata portal and the programs to build them can be downloaded there. As for the other additionally generated variables (cf. 2.2) we recommend a thorough examination of the way these variables are generated before using them; depending on the research question and the research interests it may be more sensible to use recodings different from the ones carried out here.

In contrast to the pre-version of the SUF published in 2013 (doi:10.7803/501.12.1.1.10) two variable names, a value label and three variable labels have been changed (cf. table 5 below). The MPS-variables (F100_mps-F1610_mps) were saved as *float* with values smaller one as binary coded. The present version includes these variables with storing type *float* with one decimal place to facilitate the work with them.

Version 3.0 of the SUF (doi:10.7803/501.12.1.1.30) additionally includes a 2014 version for both WZ variables (WZ2003n, WZ2008n) which are based on slightly different coding rules in case of ambiguous information (cf. 2.2.2). Further generated variables which depend on the economic activity variables (cf. column 3 in table 4 below) are included as recodes of WZ2003 and WZ2008. The BIBB-FDZ metadata portal provides Stata and SPSS programs allowing generating these further variables based on WZ2003n and WZ2008n. Version 3.0 of the SUF (doi:10.7803/501.12.1.1.30) moreover includes a revised version of the EGP variable (respondent, EB_egp). This variable was erroneously coded in the previous version. The program can be downloaded online as well.

Version 4.0 of the SUF (doi:10.7803/501.12.1.1.40) includes two additional (sets of) variables: first, for respondents' place of residence the NUTS2-classification (Nomenclature of Territorial Units for Statistics, Nuts2), which is a regional identifier developed by EUROSTAT (Eurostat 2011). The variable was computed using *Kreiskennziffern*. Second, the SUF includes the requirement level (degree of complexity) of occupations as measured by the 5th level of the 2010 Classification of Occupations 2010 (KldB2010). Four requirement levels are distinguished to map the degree of complexity of an occupation (see Paulus and Matthes 2010: 9).: 1: unskilled/semiskilled tasks (no vocational qualification required or regular one-year vocational training required), 2: skilled/specialist tasks (at least two years of vocational training required), 3: complex tasks (qualification as master craftsman or technician or

equivalent technical school or college graduation, graduation from a professional academy or university bachelor's degree required), 4: highly complex tasks (completed university studies of at least four years required). The requirement level variable is included for respondents' current and first occupational activity (F100, F1401), the training occupations (F1203-J1203) and parents' occupations (F1609, F1610).

Moreover, the SUF as of version 4.0 (doi:10.7803/501.12.1.1.40) includes slightly revised versions of the occupational codes for the 1992 Classification of Occupations (KldB 1992) and the 1988 International Standard Classification of Occupations (ISCO 1988) for respondents' current and first occupational activity (F100, F1401), the first three training occupations (F1203-H1203) and mothers' occupations (F1610). In four cases of occupational 4-digit codes of the 1992 Classification of Occupations (*Wärme-, Kälte- und Schallschutzisolierer/-in (only KldB 1992), Pharmazeutisch-kaufmännisch Angestellte/-r, Gesundheits-und Kinderkranken-pfleger/in, Gesundheits- und Krankenpfleger/in*) a small number of full texts was originally misclassified. These 4-digit KldB 1992 codes have in common that they carry occupational titles of training occupations that were renamed within the last years. With regards to other renamed training occupations no such misclassifications occur. The misclassified cases were recoded into their correct KldB 1992 and corresponding ISCO 1988 occupational code by using the conversion codes of the Federal Statistical Office. As of SUF 4.0 the corrected 3- and 2-digit variables replace the original variables (variable names remain the same). Consequently, classification variables derived from KldB 1992 and ISCO 1988 were replaced by the ones generated based on the corrected occupational codes (here, too, variable names remain the same). This applies to AB1_pr_dl-AB3_pr_dl (classification into production vs. service training occupations), F100_mps-F1610_mps (Magnitude-Prestige-Scale), EB_wib1-MB_wib3 (knowledge intensive occupations by three definitions), EB1_berufsfeld-MB_berufsfeld (BIBB definition of occupational fields), EB_blossfeld-EB1_blossfeld (Blossfeld occupational classification), EB_egp-MB_egp (EGP), F100_isei-F1610_isei (ISEI), EB_siops-MB_siops (SIOPS), EB_esec-EB_esec2 (ESEC, ESEC2). Table 6 includes the number of reclassified cases for each (occupational) classification variable. The SUF as of version 4.0 (doi:10.7803/501.12.1.1.40) finally includes a corrected and more current version of occupational fields for respondent's first occupational activity and parents' occupations (EB1_berufsfeld-MB_berufsfeld) as well as more current versions of EB_esec2 (European Socio-economic Classification for respondent, full method) and AB4_berufsabschnitte, AB5_berufsabschnitte (see table 5).

Version 5.0 of the SUF (doi:10.7803/501.12.1.1.50) includes two corrections of variables:

- The variable *TI_KI* "technological intensity_knowledgeintensive services" was coded in a wrong way and has been actualized.

- The variables **F100_kldb2010_5** (requirement level of respondent's current main job), **F-J1203_kldb2010_5** (requirement level of respondent's 1.-5. training occupation), **F1401_kldb2010_5** (requirement level of respondent's first main job),

(F1609_kldb2010_5 (requirement level of father's occupations), included wrong mappings for Military occupations. The Requirement level is the 5th level of the German Classification of Occupations (Klassifikation der Berufe 2010, KldB2010). In the new SUF-version the Requirement level variables includes the corrected requirement level for Military occupations requirement level. .

Version 3.0 of the SV (doi:10.7803/501.12.1.5.30) includes additional variables:

- Netz1_1, Netz1_2, Netz1_3, Netz1_9, Netz2_1 (Internet usage)

For the **SUF from version 6.0** (doi:10.7803/501.12.1.1.60) the following corrections and additions have been made:

- From ISCO 2008, the variables F100_eseg_1, F100_eseg_2, F1609_eseg_1, F1609_eseg_2, F1610_eseg_2 and F100_siops08, F1401_siops08, F1609_siops08, F1610_siops08 were also created and supplemented in the SUF.
- For F100, F1401, F1609, F1610 the occupational field, the main occupational field and the upper occupational field have been coded, if not already available. The variables were coded and named uniformly according to the logic used in the BIBB/BAuA Employment Survey 2018.
- The variables VB_egp and MB_egp were renamed into F1609_egp and F1610_egp and adapted to the coding of the EGP for the occupation in question.
- For the variables F100_isei, F1401_isei, F1609_isei, F1610_isei, F1203_isei, G1203_isei, H1203_isei, I1203_isei and J1203_isei the coding has been changed, instead of Schimpl-Neimanns (2004) they are now coded according to Ganzeboom and Treiman (1996). As a result, the coding in the 2006, 2012 and 2018 BIBB/BAuA Employment Surveys is now uniform.
- The value labels in variable F1401 and the variables AB1_pr_dl, AB2_pr_dl, AB3_pr_dl, AB4_pr_dl and AB5_pr_dl have each been corrected.

Table 4   Further additionally generated variables available in the SUF 2014 (as of version 2.0)

Variable-names	Content	Original variables
	As of version 2.0	
EB_berufsabschnitte-MB_berufsab-schnitte	*Berufsabschnitte* (occupational sections) for the current occupation, the first occupation, the training occupations and the occupations of the parents	KldB92
AB1_pr_dl-AB5_pr_dl	Classification into production vs. service training occupations	KldB92, F1202_korr
EB_blossfeld, EB1_blossfeld	Blossfeld occupational classification for the current occupation, the first occupation	KldB92
EB_wib1-MB_wib3	Knowledge intensive occupations (three definitions) for the current occupation, the first occupation and the occupations of the parents	KldB92; Max1202; S3 (only for wib2)

EB_esec, EB1_esec, VB_esec, MB_esec, EB_esec2	Simple ESeC for the current occupation, the first occupation and the occupations of the parents; full method for the current occupation	ISCO88; Stib, F301, F515 (for EB_esec2)
EB_siops- MB_siops	SIOPS for the current occupation, the first occupation and the occupations of the parents	ISCO88
EB_egp-MB_egp	EGP for the current occupation, the first occupation and the occupations of the parents	KldB92; Stib, F515, F500, F504, F501, F505 and F302 (for current occ.); F1608, F1611 and F1612 (parents occ.)
EB_isei08- MB_isei08	ISEI for the current occupation, the first occupation and the occupations of the parents	ISCO08
EB1_berufsfeld- MB_berufsfeld	Occupational field (*Berufsfelddefinition*, BIBB) for the current occupation and the occupations of the parents	KldB92
Casmin	CASMIN respondent	Max1202, F1202_korr, S3
Isced	ISCED-97 respondent	Max1202, S3
Mig	Migration background respondent	F1606_*, F1607_*
TI_KI	Knowledge- and technology-intensive economic activities	WZ2008
Sector03- Branche08	Economic activities in 21/10 groups	WZ2003, WZ2008
Arbeitsmittel_7G, Arbeitsmittel	Classification of open answers for respondents' most important work tool into groups	F300

As of version 3.0		
WZ2003n, WZ2008n	Further generated variables which depend on the economic activity variables	TF512
As of version 4.0		
Nuts2	NUTS-2-regions (as of 2011) computed based on *Kreiskennziffern*	Kkz_11
F*_kldb2010_5	Requirement level for F100, F1203-J1203, F1401, F1609, F1610	KldB 2010 (5th-digit)

Table 5: Errata

Variable (name) SUF pre-version	Errata	New variable
Preversion of the SUF (doi:10.7803/501.12.1.1.10), published in 2013		
az	The variable name was not capitalized	AZ
nt	The variable name was not capitalized	NT
WZ2008	Value -1 corresponding to "Keine Angabe/Nicht zu vercoden" was not labeled	WZ2008 (includes the value label)
F100_mps- F1610_mps	String type *float* with binary coded binärcodierten valued below 1	F100_mps-F1610_mps (*float*)
F1002_01	Variable (name) is falsely labeled; "In dieser Zeit stattgefunden: Verlegen von Unternehmensteilen innerhalb Deutschlands"	New label (s. questionnaire): "Verlagerung oder Auslagerung von Unternehmensteilen"

F1002_02	Variable (name) is falsely labeled; "In dieser Zeit stattgefunden: Verlegen von Unternehmensteilen ins Ausland"	New label (s. questionnaire): "Zusammenschluss mit einem anderen Unternehmen"
F1002_03	Variable (name) is falsely labeled; "In dieser Zeit stattgefunden: Auslagerungen von Betriebsteilen"	New label (s. questionnaire): "Expansion oder starkes Wachstum des Unternehmens"
Version 2.0 of the SUF (doi:10.7803/501.12.1.1.20)		
EB_egp	The variable included a bug related to the classification of executive employees	EB_egp (without bug an some minor additional changes)
Version 4.0 of the SUF (doi:10.7803/501.12.1.1.40)		
F100_kldb92_3d-f1610_kldb92_3d, F100_kldb92_2d F1610_kldb92_2d	Due to the misclassification of four KldB 1992 codes (see 8.2.1) some 3-/2-digit codes were misclassified as well .(see tab. 6)	F100_kldb92_3d-f1610_kldb92_3d F100_kldb92_2d-F1610_kldb92_2d (variable names remain the same)
F100_isco88_3d-f1610_isco88_3d F100_isco88_2d-F1610_isco88_2d	Due to the misclassification of three ISCO 1988 codes (see 8.2.1) some 3-/2-digit codes were misclassified as well .(see tab. 6)	F100_isco88_3d-f1610_ isco88_3d F100_ isco88_2d-F1610_ isco88_2d (variable names remain the same)
classification variables (see tab. 6)	Due to the misclassification of four KldB 1992 codes / three ISCO 1988 codes (see 8.2.1) some derived classification were misclassified as well	Classification variables based on new KldB 2010 and ISCO 1988 variables (variable names remain the same)
EB1_berufsfeld-MB_berufsfeld, Berufsfeld, Bhf92, Bof92	Occupational field (*Berufsfelddefinition*, BIBB) of respondent's first occupation and parents' occupations by definition 2006; Berufsfeld, Bhf92, Bof92 for respondent : Cases without valid occ. code (3-digit KldB 1992) were classified as agriculture	EB1_berufsfeld-MB_berufsfeld by definition 2012; Berufsfeld, Bhf92, Bof92 for respondent : Cases without valid occ. code are classified as -1 (not assignable); (variable names remain the same)
EB_esec2	Full method ESeC old version	More current version
AB4_berufsabschnitte, AB5_berufsabschnitte	Exclusion of cases due to small filling in some categories	No exclusion of cases due to small filling in some categories (variable names remain the same)
F1216dn	Duration of training in month, one invalid value (-2)	Invalid value recoded (-2 into 1)
Version 5.0 of the SUF (doi: 10.7803/501.12.1.1.50)		
F*_kldb2010_5	For military occupations the requirement level was coded	F*_kldb2010 (variable names remain the same)
Ti_Ki	WZ2008 used to generate the variable	Ti_Ki (variable names remain the same)
Version 6.0 of the SUF (doi:10.7803/501.12.1.1.60)		
New classification variables	eseg08, siops08, (all) BIBB-Berufsfeld variables for current, 1st, father and mother occupation (recode of 0 „not assignable" to -4; unified variable labels, and changing the variable names (originally EB_*; EB1_*, VB_* and MB_*)	*isco08 *kldb92 *kldb2010
F1609_egp, F16010_egp	EGP for occupation of father and mother (f1609, f1610) adapted to the coding of current occupation, and change of variable names (originally VB_egp and MB_egp)	VB_egp, MB_egp
*_isei	Coding according to Ganzeboom und Treiman (1996) instead of Schimpl-Neimanns (2004)	*_isei
F1410	Value label 1 "Null" changed to "1"	F1410
AB*_pr_dl	Value label 1" Profuktionsberuf" corrected to „Produktionsberuf"	AB*_pr_dl

Table 6: Number of reclassified cases by variable names

Variable name	f100_ kldb92	f100_ isco88	f1203_ kldb92	f1203_ isco88	g1203_ kldb92	g1203_ isco88
Orig. variable	40	39	68	66	16	16
*_berufsabschnitte	38	-	63	-	16	-
*_pr_dl	-	-	15	-	0	-
*_mps	39	-	66	-	16	-
*_wib 1/2/3	38/36/0	-	-	-	-	-
*_berufsfeld	39	-	-	-	-	-
*_blossfeld	3	-	-	-	-	-
*_egp	2	-	-	-	-	-
*_isei	-	39	-	66	-	16
*_siops	-	39	-	-	-	-
*_esec	-	3	-	-	-	-
EB_esec2	-	3	-	-	-	-
Bhf92	2	-	-	-	-	-
Bof92	2	-	-	-	-	-

Variable name	h1203_ kldb92	h1203_ isco88	f1401_ kldb92	f1401_ isco88	f1610_ kldb92	f1610_ isco88
Orig. variable	3	2	20	20	2	2
*_berufsabschnitte	2	-	18	-	2	-
*_pr_dl	0	-	-	-	-	-
*_mps	2	-	20	-	2	-
*_wib 1/2/3	-	-	18/18/0	-	2/2/0	-
*_berufsfeld	-	-	20	-	2	-
*_blossfeld	-	-	2	-	0	-
*_egp	-	-	-	-	-	1
*_isei	-	2	-	20	-	2
*_siops	-	-	-	20	-	2
*_esec	-	-	-	-	-	-
Bhf92	-	-	-	-	-	-
Bof92	-	-	-	-	-	-

8.2.2 Data access to weakly anonymized variables (remote data access and/or through separate BIBB-FDZ workplaces for guest researchers)

Data access to weakly anonymized variables (full texts, smaller regional units, occupational codes at the 3-/4-/5-digit level) is organized via remote data access and/or through separate BIBB-FDZ workplaces for guest researchers (cf. table 7 below). Test data for these sensible variables (except full text) can be requested from BIBB-FDZ.

Table 7: Variables available via remote data access and/or through separate BIBB-FDZ workplaces for guest researchers

Group of sensitive variables	Variable names	Content	Name of the research data[1]
Full text variables	TF100,F100_kA,TF101,F101_kA,TF102,F102_kA,TF300,F300_ka,TF321,TF513,F513_kA,TF1203,TF1204,TF1208, TF1210,TF1212,˛TF1217, TG1203,TG1204, TG1208, TG1210, TG1212,TG1215,TG1217,TH1203,TH1204,TH1208,TH1210, TH1212,TH1215,TH1217, TI1203, TI1204, TI1208, TI1210, TI1212, TI1215, TI1217, TJ1203, TJ1204, TJ1208, TJ1210, TJ1212, TJ1215, TJ1217, TF1228, TF1305, TF1304, TF1401, TF1402, TF1411A, F1411A_kA, TF1418A, TF1418B, TF1606, TF1609, TF1610	Full text occupational information, economic activities, working tools, other full texts	vt_1.0 (58 variables) doi:10.7803/501.12.1.4.10
Regional identifiers	Ror (respondent's place of residence) ror_systemfrei (respondent's place of residence) Aab respondent's place of residence (as of version 2.0), Kkz_11 respondent's place of residence (as of version 2.0)	*Raumordnungsregion (German spatial region (i=96), regions as at 2011) Raumordnungsregion systemfrei Arbeitsagenturbezirke (German spatial region (i=154), regions as at 2014), Kreiskennziffer (German spatial regions (i=403),regions as at 2011)*	reg_2.0 (4 variables) doi:10.7803/501.12
Occupational codes	f100*,f1401*,f1203*-j1203*,f1609*,f1610*; as of version 2.0: 4-digit KldB 2010 and slightly revised version of the die 4-digit KldB92 and ISCO 1988 (see 8.2.1)	Occupational codes at the 5-/4-/3-digit level	sv_2.0 (73 variablen) doi:10.7803/501.12.1.5.20
Use oft the internet	Netz1_1, Netz1_2, Netz1_3, Netz1_9, Netz2_1	Use oft he Internet	sv_3.0 (78 Variablen) doi:10.7803/501.12.1.5.30

[1] For full bibliographic citation see section 6.

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10 Appendix

Table I   List of variables 2012 and changes from 2006

Questions that were asked in 2011/2012 for the first time are marked as "new" in column 1, modified variables are marked as "mod". The filtering is included in the questionnaire only. Column 2 contains the question numbers in the questionnaire and/or the variable names in the data set.

Current gainful activity (job-related cross-sectional part)		
	Occupation	
	F100-F102	And which is the occupational activity you are currently pursuing?
new	F103	Are you currently working in your chosen field, or would you prefer to work in another profession?
	nt *)	One or several such gainful activities
	Working hours and workplace	
	az*)	How many hours did you work last week in this activity in total?
	F200	What are the weekly working hours in your job as <…>[16] according to the agreement with your employer, excluding overtime?
mod	F204	How are you compensated for your extra work or your overtime?
	F206	And how many hours do you actually work per week, on average, including your sideline activities?
new	F207	How many hours per week would you most like to work then?
	F208	How often do you succeed in taking your private interests and the interests of your family into account when planning your working hours?
new	F209	Are your working hours normally between 7 a.m. and 7 p.m.?
new	F209_01	Are you working shifts or do you have other shifted working hours?
mod	F210	What shifts do you work in your job as <…>?
new	F210_01	Is that stressful for you?
new	F210_02	On average, how many night shifts do you work in a month?
new	F211	When did you start working night shifts?
new	F214	Does it happen often in your job that work breaks are skipped on workdays of more than 6 hours?
new	F214a	Does it happen often in your job that work breaks are skipped on workdays?
new	F214_01	Why is that? Because you have too much work to do, because breaks don't fit into the work flow or because you prefer not to take a break?
	F216	Are you on standby duty or on-call duty?
	F218	Do you work – even if only occasionally – on Saturdays?
	F220	How many Saturdays a month do you work, on average?
	F221	Do you work – even if only occasionally – on Sundays and public holidays?
	F223	How many Sundays and public holidays a month do you work, on average?
	Types of work performed	
	F300	What is the most important equipment in your work as <...>?
	F301	Do you have colleagues to whom you are <the> immediate superior?
	F302	And how many are they?
		I will now give you a number of specific activities. Please tell me how often these activities occur in your work, whether they occur often, sometimes or never.

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[16] <> indicates displaying or hiding certain terms, e.g. the type of work performed.

	F303	Manufacturing, producing goods and commodities
	F304	Measuring, testing, quality control
	F305	Monitoring, control of machines, plants, technical processes
	F306	Repairing, refurbishing
	F307	Purchasing, procuring, selling
	F308	Transporting, storing, shipping
	F309	Advertising, marketing, public relations
	F310	Organising, planning and preparing work processes. Here we are not talking about your own work processes.
	F311	Developing, researching, constructing
	F312	Training, instructing, teaching, educating
	F313	Gathering information, investigating, documenting
	F314	Providing advice and information
	F315	Entertaining, accommodating, preparing food
	F316	Nursing, caring, healing
	F317	Protecting, guarding, patrolling, directing traffic
	F318	Working with computers
new	F319	Using the Internet or editing e-mails
	F320	Cleaning, removing waste, recycling
	F321	Did we forget an activity that you frequently perform?
new	F322	Is your activity related to renewable or regenerative energies?
new	F323	Does your enterprise work in this field?
	F324	In the following, we would like to know in what way you are working with computers. Are you exclusively a computer user, or does your work with computers include more than just using them?
	F325	Which of the following IT-related activities do you perform?
	F325_01	Developing software, programming, systems analysis
	F325_02	Developing, producing IT technology or hardware
	F325_03	Administration of networks, IT systems, databases, web servers etc.
new	F325_04	Web design, web site maintenance
	F325_05	IT consulting, user support, training
	F325_06	IT sales
	F325_07	others
	F326	What percentage of your working hours in your job as <...> do you spend working at the computer, on average?
	F327	I will now read out a couple of situations. We would like to know how often these situations occur in your work. How often does it happen in your job ...
mod	F327_01	that you have to react to and solve problems?
	F327_02	that you have to take difficult decisions independently?
	F327_03	that you have to recognize and close gaps in your own knowledge?
mod	F327_04	that you have to assume responsibility for other people?
	F327_05	that you have to convince other people and negotiate compromises?
new	F327_06	that you have to communicate with other people in your job?
	Professional requirements	
	F400	What kind of training is usually required for performing your work as <...>? Having completed initial vocational education and training, having a technical college or university degree, having a further training certificate e.g. as a master craftsman or technician, or is no vocational training certificate required at all?
	F401	Is a quick briefing <at the workplace> sufficient to perform your work as <...>, or is a longer working-in period <in the enterprise> required?
	F402	And is it usually necessary to attend special courses or seminars to perform these tasks?

	F403	I will now read out a number of different fields of knowledge. For each of these fields, please tell me whether you need that knowledge in your current work as <...> and, if so, whether basic or specialist knowledge is required. If specialist knowledge is required only in a sub-domain of the field of knowledge, please answer specialist knowledge anyway.
	F403_01	Legal knowledge
	F403_02	Knowledge in the field of project management
	F403_03	Knowledge in the field of medical or nursing care
	F403_04	Knowledge in the field of mathematics, technical calculation, statistics
	F403_05	Knowledge of German, written expression, spelling
	F403_06	Do you require basic or specialist knowledge about computer application programs?
	F403_07	Technical knowledge
	F403_08	Do you require basic or specialist commercial or business administrative knowledge?
new	F403_09	Do you require basic or specialist knowledge in the field of renewable or regenerative energies?
mod	F403_10	Do you require basic or specialist knowledge of languages other than German in your work as <...>?
mod	F403_11	Do you require <specialist knowledge if F403_9=3; else> knowledge of English?
mod	F404	How proficient do you have to be in English? Do you need to be proficient in speaking, proficient in writing or business fluent?
	F404_01	proficient in speaking
	F404_02	proficient in writing
	F404_03	business fluent
	F409	In your work as <...>, do you generally feel equal to the demands placed on your professional knowledge and skills, or do you rather feel overchallenged or underchallenged?
	F410	And do you generally feel equal to the demands placed on you due to the amount of work or workload, or do you feel rather overchallenged or underchallenged?
	F411	I will now read out a couple of work demands. For each of them, please tell me how often it occurs in your work, whether often, sometimes, rarely or never.
	F411_01	that you have to work under acute pressure to meet deadlines or to perform?
	F412_01	Is that stressful for you?
	F411_02	How often does it happen in your job that you are given highly specific regulations on how to perform your work?
	F412_02	Is that stressful for you?
	F411_03	How often does it happen in your job that you have to repeat the same step in every detail?
	F412_03	Is that stressful for you?
	F411_04	How often does it happen in your job that you are facing new tasks which you have to think through and get familiar with?
	F412_04	Is that stressful for you?
	F411_05	How often does it happen in your job that you improve existing procedures or try out something new?
	F411_06	How often does it happen in your job that your work is disturbed or interrupted, e.g. by colleagues, inferior materials, machine malfunctions or phone calls?
	F412_06	Is that stressful for you?
	F411_07	How often does it happen in your job that you are instructed to produce a precise number of items, provide a certain minimum performance or do a particular work in a specified time?
	F412_07	Is that stressful for you?

	F411_08	How often does it happen in your job that you are expected to do things you have not learned or you are not proficient in?
	F412_08	Is that stressful for you?
	F411_09	How often does it happen in your job that you have to keep an eye on different work processes or sequences at the same time?
	F412_09	Is that stressful for you?
	F411_11	How often does it happen in your job that even a small mistake or a slight inattentiveness can lead to larger financial losses?
	F412_11	Is that stressful for you?
	F411_12	How often does it occur in your job that you have to reach the very limits of your capabilities?
	F412_12	Is that stressful for you?
	F411_13	How often does it occur in your job that you have to work very quickly?
	F412_13	Is that stressful for you?
	Employment status	
	Stib	Occupational situation
	F500	*Blue collar workers:* Which of the following groups do you belong to?
mod	F501	Are you a white collar worker with …:
	F502	Are you a master craftsman, site foreman in your worker status?
	F503	*White collar workers:* Do you perform your tasks by following instructions or rather independently?
	F504	Are you a civil servant in the lower service, intermediate service, upper intermediate service or higher service?
	F505	Are you authorised to give expert instructions to other employees?
	F506	Are you an independent master craftsman?
	F507	Are you currently employed on a fixed-term contract or on a permanent contract?
new	F508	Is this a publicly subsidised job position, such as in a job creation scheme or a so-called one-euro job?
	F509	Are you employed by a temporary work agency that hires you out to other companies?
	F510	Since when have you been working for your current employer? **)
new	F510_01	What did you do immediately before that?
new	F510_02	When was the first time you were employed by a temporary work agency? Please tell me the year.
	F511	And since when are you working in your job as <...> at your present place of work?
	F517	How high do you think is the likelihood that you will be laid off by the company in the near future? **)
	F518	Now to your monthly gross income, i.e. your salary or wages before deduction of taxes and social-security contributions. Please don't include child benefits. What is your monthly gross income from your work as <...>? **)
	F519	Would you then perhaps tell me: Is your monthly gross income less than 1500 euros?
	F520	Is your work as <...> a so-called minor employment, also called mini-job, with a maximum income of 400 euros per month?
	Physical working conditions	
	F600	I will now read out a number of working conditions. For each of them, please tell me again how often it occurs in your work as <...>, whether often, sometimes, rarely or never.
	F600_01	Working on your feet. How frequently does that happen?
	F602_01	Is that stressful for you?

	F600_03	Lifting and carrying loads of more than < for male TP insert: 20 kg, for female TP: 10 kg >
	F602_03	Is that stressful for you?
	F600_04	Working exposed to fumes, dusts or gases, vapours
	F602_04	Is that stressful for you?
	F600_05	Working exposed to cold, heat, moisture, humidity or draughts
	F602_05	Is that stressful for you?
	F600_06	Working with oil, grease, dirt, grime
	F602_06	Is that stressful for you?
	F600_07a	Performing manual work that requires a high degree of skilfulness, fast movement sequences or the use of great force
	F600_07a	Is that stressful for you?
	F600_07b	Working in a bent, squatting, kneeling or recumbent position, working overhead
	F602_07b	Is that stressful for you?
	F600_08	Working exposed to powerful shocks, jolts and vibrations that can be felt physically
	F602_08	Is that stressful for you?
	F600_09	Working under harsh light or in light conditions that are poor or too low
	F602_09	Is that stressful for you?
	F600_10	Handling of hazardous substances
	F602_10	Is that stressful for you?
	F600_11	Wearing protective clothing or equipment
	F602_11	Is that stressful for you?
	F600_12	Working exposed to noise
	F602_12	Is that stressful for you?
	F600_13	Dealing with microorganisms like pathogens, bacteria, moulds or viruses
	F602_13	Is that stressful for you?
	F601	Do you work at a place where people are smoking?
	F601_01	Is that stressful for you?
	F603	Has a risk analysis been carried out at your workplace?
	F604	Did this assessment also take possible impairment caused by problematical work flows, working hours or insufficient cooperation into account?
	Mental working conditions	
	F700	How often does it happen ...
	F700_02	that you can plan and schedule your work on your own?
	F701_02	Is that stressful for you?
	F700_03	that you can influence the workload assigned to you?
	F701_03	Is that stressful for you?
	F700_04	that your work puts you in situations that are emotionally straining?
	F700_06	that you can decide when to take a break?
	F701_06	Is that stressful for you?
	F700_07	How often do you feel that your work is important?
	F701_07	Is that stressful for you?
	F700_08	How often does it happen in your workplace that you are not provided in time with information about far-reaching decisions, changes or plans for the future?
	F701_08	Is that stressful for you?
	F700_09	that you don't receive all the information necessary for performing your work correctly?
	F701_09	Is that stressful for you?
	F700_10	that you feel as a part of a community in your workplace?
	F701_10	Is that stressful for you?

	F700_11	How often do you consider the collaboration between you and your <colleagues> to be good?
	F701_11	Is that stressful for you?
	F700_12	How often do you receive help and support for your work from colleagues if you require it?
	F701_12	Is that stressful for you?
	F700_13	And how often do you receive help and support for your work from your direct supervisor if you require it?
	F701_13	Is that stressful for you?
	Changes in the last two years	
	F1001	Please tell me now whether the following changes were undertaken in your <immediate working environment> in the last two years. **)
	F1001_01	new manufacturing or process technologies
	F1001_02	new computer programs
	F1001_03	new machines or equipment
	F1001_04	new or significantly changed products or materials
	F1001_05	new or significantly changed services
	F1001_06	Have there been significant restructurings or reorganisation pertaining to your immediate working environment?
	F1001_07	Have workforce reductions or redundancies been effected in your immediate environment in the last two years?
	F1001_08	employment of increased numbers of independent contractors, temporary employees, interns or temporary agency workers
	F1001_09	Have you been assigned a new direct supervisor in the last two years?
	F1001_10	Did work pressure and stress increase, remain unchanged or decrease?
	F1001_12	In this time, did the demands placed on your skills in performing your work increase, remain unchanged or decrease?
new	F1002	Now please think of your entire enterprise. Please tell me whether the following changes took place <in the last two years / in this time>.
new	F1002_01	Relocation or outsourcing of company units
new	F1002_02	Merger with another enterprise
new	F1002_03	Expansion or strong growth of the enterprise
Current gainful activity (individual cross-sectional part)		
		Overchallenge or underchallenge
	F409	In your work as <…>, do you generally feel equal to the demands placed on your professional knowledge and skills, or do you rather feel overchallenged or underchallenged?
	F410	Do you generally feel equal to the demands placed on you due to the amount of work or workload, or do you feel rather overchallenged or underchallenged?
		Match between profession trained for and job carried out
	F1225	If you now compare your current work as <...> with your training as <last training>, what would you say?
	F1227	Is your work related to <one of your previous courses of training> or is it not connected to <your previous courses of training> either?
	F1228	Why do you currently perform a completely different activity?
	F1228_01	I did not find a job in the profession for which I have trained
	F1228_02	My current job provides a better income
	F1228_03	I had other interests and wanted to change my occupation
	F1228_06	For other reasons, namely…

		Job satisfaction
	F1450	I will now concentrate on various aspects of your work. Regarding your work as <...>, please tell me for each aspect whether you are very satisfied, satisfied, less satisfied or not satisfied with it. How satisfied are you...
	F1450_01	with your income from this activity?
	F1450_02	with the present opportunities for advancement?
	F1450_03	with your present working hours?
	F1450_04	with the working atmosphere?
	F1450_05	with your direct supervisor?
	F1450_06	with the type and content of your work?
	F1450_08	with the opportunities for applying your skills?
	F1450_09	with the opportunities for educating yourself and learning more?
	F1450_10	with the work equipment, including furniture and software?
	F1450_11	with the physical working conditions?
	F1451	And now, as an overall summary: How satisfied are you with your work on the whole?
		Health
mod	F1500	Please tell me whether you have had the following health complaints during work or on working days in the last 12 months.
	F1500_01	low back pain, lumbago
	F1500_02	pain in the neck and shoulder region
mod	F1500_03 a	pain in the arms
mod	F1500_03 b	pain in the hands
	F1500_04	pain in the hips
	F1500_05	pain in the knees
mod	F1500_06 a	swollen legs
mod	F1500_06 b	pain in the legs, feet
	F1500_07	headaches
	F1500_08	heart pain, stabbing pain, pain or tightness in the chest
	F1500_09	shortness of breath
	F1500_10	coughing
	F1500_11	runny nose or urge to sneeze
	F1500_12	eye problems, i.e. burning sensation, pain, redness, itching, tears
	F1500_13	skin irritations, itching
	F1500_14	night-time sleeping disorders
	F1500_15	general tiredness, faintness or fatigue
	F1500_16	stomach and digestion complaints
	F1500_17	hearing deterioration, noise in ear
	F1500_18	nervousness or irritability
	F1500_19	depression
	F1500_20	dizziness
mod	F1500_21	physical exhaustion
mod	F1500_22	emotional exhaustion
	F1500_23	other complaints
	F1501	I will read out your health complaints once again. For each of them, please tell me whether you have been treated by a physician or therapist for this condition.
	F1501_01	low back pain, lumbago
	F1501_02	pain in the neck and shoulder region

mod	F1501_03a	pain in the arms
mod	F1501_03b	pain in the hands
	F1501_04	pain in the hips
	F1501_05	pain in the knees
mod	F1501_06a	swollen legs
mod	F1501_06	pain in the legs, feet
	F1501_07	headaches
	F1501_08	heart pain, stabbing pain, pain or tightness in the chest
	F1501_09	shortness of breath
	F1501_10	coughing
	F1501_11	runny nose or urge to sneeze
	F1501_12	eye problems, i.e. burning sensation, pain, redness, itching, tears
	F1501_13	skin irritations, itching
	F1501_14	night-time sleeping disorders
	F1501_15	general tiredness, faintness or fatigue
	F1501_16	stomach and digestion complaints
	F1501_17	hearing deterioration, noise in ear
	F1501_18	nervousness or irritability
	F1501_19	depression
	F1501_20	dizziness
mod	F1501_21	physical exhaustion
mod	F1501_22	emotional exhaustion
	F1501_23	other complaints
mod	F1502	How would you describe your general state of health?
mod	F1503	Did you stay home sick or have you called in sick in the last 12 months?
mod	F1504	How many times was that?
mod	F1505	How many workdays was that all in all?
new	F1506	In the last 12 months, did you ever go to work although you should better have called in sick or stayed home due to your state of health?
new	F1507	How many times was that?
new	F1508	How many workdays was that all in all?
	F1512	Have any health promotion measures been carried out in your enterprise within the last 2 years?
	F1513	Did you participate in them?
Education and career path (individual longitudinal part)		
Professional and life goals		
new	F900	How strongly do you pursue the following goals? For each of them, please tell me whether you pursue that goal very strongly, strongly, rather not or not at all.
new	F900_01	Advancing professionally
new	F900_02	Pursuing your own interests
new	F900_03	Earning a good income
new	F900_04	Having a secure job
new	F900_05	Finding enough time for family, partner and children
School education		
mod [17]	S3*)	What is your highest general school leaving certificate?

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[17] Due to changed steering as compared to the 2006 survey, the question regarding the highest school leaving certificate was moved from the main part to the screening part.

mod	S4*⁾	Which German school leaving certificate does this correspond to?
	F1104	In which year did you obtain this certificate?
mod	F1108	What was your overall score on your school leaving certificate? Very good, good, satisfactory or sufficient?
	F1109	Are you currently in an education or training program, meaning as a pupil, student or trainee?
	F1110	Are you studying at a school of general education or at a vocational school or technical school?
	Vocational education and training	
	F1200	Have you completed a course of vocational education and training or a course of study?
	F1201	Do you have one or several certificates?
		start of loop
	F1202	What education or training did you complete? In-company vocational education and training or apprenticeship, school vocational education and training e.g. at a full-time vocational school, technical college or university degree, civil service training or a different qualification?
	G1202	Let's now come to <your next> certificate. What education or training did you complete? In-company vocational education and training or apprenticeship, school vocational education and training, technical college or university degree, civil service training, further training certificate as a master craftsman, technician, business administrator or management expert, commercial clerk or a different qualification?
	H1202-J1202	Let's now come to your next certificate. What education or training did you complete there?
new	F-J1202B	What degree is that?
	F-J1203	Please give me the exact designation or professional title of that education or training.
	F-J 1204	In which Federal state did you obtain this certificate?
	F-J 1205	At the end of your period of training, did your training company belong to... branch of industry
	F-J 1206	Approximately how many people were employed in your training company back then?
	F-J 1207	And in what training institution did you attend your education or training?
	F-J 1208	And what kind of educational institution was that?
	F-J 1209	Was that training in the lower service, intermediate service, upper intermediate service or higher service?
	F-J 1210	And in what training institution did you attend your education or training?
	F-J 1212	What further training did you complete?
	F-J 1213	Was that a master craftsman training in the crafts, in industry or in a different field?
	F-J 1214	In what training institution did you attend your further training?
	F-J 1215	And where exactly did you attend your further training?
	F-J 1216	From when to when did you attend this training? Please give me the year and month.
	F-J 1217	This training period <display: of x months> is unusually short. Why was that?
	F-J 1219	Considering all the vocational knowledge and skills you have acquired during your training, how much of it can you utilise in your current work as <...>?
	1220B	Have you completed a course of study before starting this course of training?
	G-I1221	Have you completed another course of vocational education and training or a course of study afterwards?
mod	I1223	After that, how many additional vocational certificates or university degrees did you acquire?
		end of loop

		Continuing training
	F1300	Now please think of the last 2 years. Did you attend one or several courses or seminars of continuing vocational training in this period? **)
new	F1303	Are you planning to attend continuing vocational training over the next two years?
new	F1304	In which fields do you plan to improve your vocational qualifications? In the field of...
new	F1304_01	information and communications technology and new software
new	F1304_02	foreign languages
new	F1304_03	communication and personality training
new	F1304_04	project management, management training
new	F1304_05	preventive health care or health promotion
new	F1304_06	commercial and economic knowledge
new	F1304_07	other professional knowledge
new	F1304_08	other topics
new	F1305	Would you attend continuing training with the primary intention of adopting a new activity, of staying in touch with professional developments or would it serve another purpose?
new	F1306	Would you currently like your company to offer qualification and continuing training measures specifically targeted at older employees as well?
		Career path
	F1400	We have a few more questions about your career path so far: When was the first time you took up an occupational activity? Please tell me the year.
	F1401 F1402	Which occupational activity did you pursue back then <display year>? Please state the exact job title again.
new	F1403	For how many employers did you work since then, including your current job?
new	F1404	Did you leave your last employer at your own request?
new	F1405	Did you pursue an activity since <...> for which a vocational certificate was not required?
	F1407	Did you at any time since <display year from F1400> interrupt your occupational activity?
	F1408	For how many years did you interrupt your occupational activity in total, given in approximate full years?
new	F1409	Have you ever been unemployed in the course of your professional life?
new	F1410	For how long have you been unemployed in total, given in approximate full years?
mod	F1411	How did you primarily acquire the knowledge and skills required for your work as <display activity from F100-102>? Through initial training, through continuing training, through professional experience or by other means?
mod	F1411a	And how did you acquire your knowledge and skills?
new	F1412	If you look at your whole working life, what would you say: Did you experience a career advancement, a career decline, no significant change in your professional status, or has it been an upward-and-downward movement?
new	F1413	All in all, how satisfied are you with your working life so far? Very satisfied, satisfied, less satisfied or not satisfied?
new	F1415	Have you ever moved house for professional reasons?
new	F1416	What do you think, how will your professional situation change in the coming two or three years? Will it become better, remain the same or become worse?
new	F1417	If you had a free choice: Would like to take early retirement, would you like to work until regular retirement age, or would you like to work beyond the regular retirement age?

new	F1418a	And what would be your main reason for this?
new	F1418b	And what would be your main reason for this?
Enterprise-related questions		
	F233	In which Federal state is your company located?
	F512	*Branch of industry:* Does the <company> you work at belong to ... **)
	F513	And to which industry sector does the company belong? Please tell me as precisely as possible.
	F514	Does the <company> you work at belong to an enterprise with several sites, branches, subsidiaries? **)
	F515	How many people are employed in the company you work at, approximately, including <<the owner and>> trainees? **)
	F516	How do you assess the economic situation of the company you work at? **)
Socio-demographic questions		
	S1	Gender
	S2_m, S2_j	When were you born? Please give me the year and month of your birth.
	F1600	What is your marital status?
	F1601	Do you live together with <your> <…>?
	F1602	Do you live together with a partner?
	F1603	Is your partner currently employed?
new	F1613a	What is the monthly net income of your partner?
new	F1604	Do you have children?
new	F1605	Are there children under 18 years of age living in your household?
new	F1605a	How many are they?
new	F1605b	How old is the youngest child in the household?
new	F1605c	How old is it?
	F1606	When you were a child, what language(s) did you learn as your mother tongue?
	F1606_01	German
	F1606_02	English
	F1606_03	French
	F1606_04	Russian
	F1606_05	Spanish
	F1606_06	Turkish
	F1606_07	Italian
	F1606_08	Greek
	F1606_09	Portuguese
	F1606_10	Polish
	F1606_11	Arabic
	F1606_12	Japanese
	F1606_13	Chinese
	F1606_17	other language
		What is your nationality?
	F1607_01	Germany
	F1607_02	Italy
	F1607_03	Turkey
	F1607_04	Austria
	F1607_05	Belgium, Luxemburg, the Netherlands
	F1607_06	Denmark, Finland, Sweden
	F1607_07	France
	F1607_08	United Kingdom, Ireland
	F1607_09	Greece
	F1607_10	Portugal, Spain
	F1607_11	Poland

	F1607_12	Estonia, Latvia, Lithuania, Malta, Slovak Republic, Slovenia, Czech Republic, Hungary, Cyprus
	F1607_13	Russia
	F1607_14	other
	F1607_15	stateless
new	F1608	Did you live together with your father all the time between birth and age 15?
new	F1609	Which occupational activity did your father pursue in his main profession when you were 15 years of age?
new	F1610	Which occupational activity did your mother pursue in her main profession when you were 15 years of age?
new	F1611	What was his/her vocational position when you were 15 years of age?
new	F1612	To how many colleagues did he/she act as a superior?

Notes:[*] These are variables from the screening phase.[**] The wording of the question varies e.g. depending on the vocational position or the time working in the company.

Table II   Dropped questions (sorted by their occurrence in the questionnaire, questions)[18]

No. in questionnaire / variable name in 2006 data set	Text of question
F103	Would you say that your current occupational activity did already exist in this form about 10 years ago, or would you rather call this activity a new one?
F201 if Stib≠4,5,6	Do you sometimes do overtime or extra work?
F202 if F201=1	Is that stressful for you?
F203 if F201=1	Approximately how many hours of overtime did you have in the last month in your work as <display activity from F100-102 >?
F231 if F229=1 and F230=2,9	Do you do contractually agreed homework?
F232	Approximately how many minutes does it take you to get from your home directly to your place of work?
F234	Do you work at frequently changing locations?
F314B if F314=1,2	Do you provide advice to colleagues in your company, to external customers or to other target groups?
F321 if F320=1	Do you also write computer programs or use macros in your work as <display activity from F100-102 >?
F323 if F322_04=1	In your IT work, do you support, advise or train colleagues in your company, external customers or other target groups ?
F403	I will now read out a number of different fields of knowledge. For each of these fields, please tell me whether you need that knowledge in your current work as <display activity from F100-102> and, if so, whether basic or specialist knowledge is required. If specialist knowledge is required only in a sub-domain of the field of knowledge, please answer specialist knowledge anyway. F403_01 to F403_10 in random order
F403_01	scientific knowledge
F403_02	knowledge of the craft
F403_03	pedagogic knowledge
F404a if F403_11=3	Do you require specialist knowledge in the field of new technologies?

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[18] In addition to the deleted variables, three filters have been deleted: F412 without filter F411=2, F602 without filter F600=2, F701 without filter F700=2.

F404 if F404a=1	In which fields do you require this specialist knowledge?
F405 if F403_12=3	In which fields do you require this specialist knowledge?
F406 if F403_13 =2,3	And in what languages do you require this knowledge?
F408 if F403=2,3	We now come back once again to the knowledge you said you require in your work as <display activity from F100-102>. Please tell me in which fields you would need to update or expand your knowledge by continuing education and training.
F514 if STIB= 1,2,7,9,99 and F512≠1 and F512≠7	Does the <company> you work at belong to an enterprise with several sites, branches, subsidiaries?
F514 if STIB=4,5	Is your company or business an enterprise with several sites, branches, subsidiaries?
F601 if F600_14 <=3	Do you yourself smoke in your workplace?
F900	How important is it to you to advance professionally or to have a career?
F901 if F900<=5	Has it always been like that or was it different in the past?
F902 if F901=2	And how important was it to you in the past?
F1001_11	In this time, did the diversity of the tasks increase, remain unchanged or decrease?
F1218 G,H,I,J if F/G/H/I/J 1202=1,2,5,6 and duration >48	This training period is unusually long. Why was that?
G1222 H,I,J if G/H/I/J 1202>0	For what reason did you start that second <or third etc.> course of training? I will give you a number of possible reasons. Please tell me which of them apply.
F1220 G,H,I,J if F/G/H/I/J 1202>0 and <>8	Were you gainfully employed during this course of training?
F1226	How would you grade your training as <last training> in terms of preparing you for your current work. Please answer with a school grade from 1 to 6. 1 means "very good", 6 means "unsatisfactory". You can use the values in-between to grade.
F1301 if F1300=1,2 and STIB= 1,2,3,9,99	Did you participate in this continuing education and training on …
F1302	Have you used one or several of the following continuing education and training activities <in the last two years>? Please think of the time since you started working in your job at your present place of work.
F1404	Did that first activity match your training as <display last training>?
F1405 if F1404 =2 or (F1400 < year of end of last training and F1225=3,9)	Did you ever pursue an activity that matched your training as <display last training>?
F1406 if F1225=1,2 or F1405 =1	And when was the first time you pursued an occupational activity that matched your training as <display last training>? Please give me the year. We are not talking about periods of vocational training, summer jobs or internships.

F1409	All occupational activities taken together: How many different occupations, meaning occupations that differ profoundly in the type of activity, have you performed since your first job in the year <F1400>?
F1410 if STIB= 1,2,3,7,9,99	Have you ever been self-employed in your professional life?
F1413	And secondly:
F1414 if F1413=7	And how did you acquire your knowledge and skills? ✎_ _ _ _ _ _ _ _ _ _ _ _ _ _ (TF1414)
F1503	Have you been signed off sick by a doctor due to an illness or accident in the last 12 months?
F1505 if F1503=1	How many days was that?
F1516 if F1514=1	Are measures for supporting people with disabilities carried out in your enterprise?
F1605 if F1604=1	Does that include children aged ...