March 2021

German Ageing Survey (DEAS):
User Manual SUF DEAS 2008, Version 3.2

Heribert Engstler, Nicole Hameister
& *Beate Schwichtenberg-Hilmert*

German Centre of Gerontology (DZA)
Research Data Centre (FDZ-DZA)
Manfred-von-Richthofen-Straße 2
12101 Berlin
Telephone   +49 (0)30 – 26 07 40-0
Telefax   +49 (0)30 – 26 07 40-33
Email   fdz@dza.de

CONTENTS

PRELIMINARY REMARKS: CHANGES IN SUF VERSION 3.2

Apart from minor label editions, SUF 3.2 of DEAS 2008 contains the following changes compared to the previous version:

- Sum score values of variable *depressiv_08* are generated differently. It's not necessary any longer that all 15 items have valid values to generate a sum score. Instead, a mean score is generated when at least 8 items have valid values. Mean score is then multiplied by 15 to get the sum score. This avoids to exclude respondents with non-response on 1 to 7 items.

- Variable x515a (kind of injury of latest major accident (open answer)) has been included into the Scientific Use File.

PRELIMINARY REMARKS: CHANGES IN SUF VERSION 3.1

Compared to the previous version, version 3.1 of the Scientific Use File of the DEAS survey 2008 contains the following changes:

- The variables to the relative income positon, to the income poverty and the income wealth have been upgraded, based on new reference-numbers (see chapter 7.16)

- New construct variables were made related to nationality, migration background and education contain data for all samples (baseline and panel respondents). For panel respondents the characteristics have been adopted from the first measuring time

- The longitudinal weighting has been updated. From now on the Scientific Use File (SUF) contains an integrated cross-sectional weighting for all interviewees up to the age of 90 (see chapter 2).

1 THE GERMAN AGEING SURVEY (DEAS) – A STUDY ON THE SECOND HALF OF LIFE

The German Ageing Survey (DEAS) is a nationwide representative cross-sectional and longitudinal survey of the German population aged over 40. It is funded by the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ). The German Centre of Gerontology in Berlin (DZA) is responsible for the conduct and ongoing development of the study. Sampling and fieldwork for all waves (1996-2020) has been carried out by the Bonn-based Institute for Applied Social Sciences (infas). The primary goal of the DEAS survey program is to provide a representative national database containing information describing the living conditions of the country's middle-aged and older population

and to study diversity within the older section of the population, the process of ageing as it affects individuals and processes of social change as they relate to old age and ageing.

The DEAS covers a wide range of topics. The data obtained provide information on socioeconomic and demographic attributes as well as household composition, housing, family structure, social networks, psychological resources, attitudes as well as and physical and mental health. The comprehensive examination of people in mid- and older adulthood provides micro data for use both in social and behavioural scientific research and in reporting on social developments. The data thus provides a source of information for decision-makers, the general public and for scientific research.

The DEAS applies a cohort-sequential design, which allows the users to analyze societal trends and individual trajectories (embedded inside societal trends) and to disentangle age effects from cohort effects. The first DEAS survey wave took place in 1996, further waves followed in 2002, 2008, 2011, 2014, 2017 and 2020. The third wave of the survey in 2008 considered a panel sample of study participants, who had entered the DEAS earlier as well as a new sample of adults, aged 40 to 85 years.

Microdata of the German Ageing Survey (DEAS) are available free of charge to scientific researchers for non-profitable purposes. The Research Data Centre (FDZ-DZA) provides access and support to scholars interested in using DEAS data for their research. Data and documentations from completed DEAS waves are available by the FDZ-DZA. However, for reasons of data protection, signing a data distribution contract is required before data can be obtained.

1.1 Design and sampling

The DEAS uses a combination of cross-sectional and longitudinal samples. Since 1996 every six years a new baseline sample of community dwelling 40- to 85 year-old is drawn up. The baseline samples are stratified by age group, sex, and place of residence (East- or West-Germany) and drawn from the registration office. Using cross-sectional weights to correct for this the DEAS baseline samples are nationally representative for adults aged from 40 to 85 years. Participants are interviewed personally by interviewers. Since wave 2 (2002), all panel-willing participants from the baseline samples are tracked. Participants of the foreigner sample in 2002 were excluded from the panel. After the third wave in the year 2008, panel members are interviewed again after three years already.

The target population in 1996 was defined as German citizens residing in the community. In 2002, a comparable sample of German citizens was drawn up. In addition, a separate random sample of non-German citizens residing in Germany was set up. Since 2008, German and non-German citizens have been drawn up together from the population residing in the community in Germany. In 2008 (wave 3), a panel sample of study participants, who had entered the DEAS earlier (n = 1.991) as well as a new cross-sectional sample of adults, aged 40 to 85 years (n = 6.205), born 1923 to 1968. Baseline participants of the longitudinal sample, who gave written consent were re-interviewed. The Scientific Use File DEAS 2008 provides data of 8.196 individuals, aged 40-93 years.

The Scientific Use File DEAS 2008 with the data for the 2008 survey year contains information of participants from the following years of their first interview:

Sample by baseline year	Number of respondents in wave 3 (2008)
Panel respondents, B1996	991
Panel respondents, B2002	1.000
Panel respondents, B2008	6.205
Total	8.196

Information of a single DEAS wave is put together in a Scientific Use File (SUF) of that wave. Up to now there are seven Scientific Use Files – one for each wave. Together they gather information on 44.854 valid interviews of 20.715 participants.

The sampling design of the German Ageing Survey allows for different perspectives of research, for example the option for cross sectional analysis of the individual living situations and the living conditions over a period of 24 years (see Klaus et al. 2017). Furthermore, the analysis documents social changes in a particular year of sampling over this period, starting from 1996 to 2020 (see Mahne et al. 2017), as well as estimating individual trends over three to 24 years with the panel data are possible (see Vogel et al. 2019). Another perspective arises from the comparison of individual change over six years in the time spans of 1996-2002, 2002-2008 and 2008-2014. This makes cohort analyses possible that studies the comparison of trends in constant age groups for different birth cohorts. One example is the prospective comparison of the transition from work to retirement or the health change in individuals for different cohorts.

The following table gives an overview of the DEAS sample design 2008 (wave 3)

	Samples of DEAS survey 2008 (wave 3)		
	Panel 1996	**Panel 2002**	**Panel 2008**
Participants, Nationality	Re-interviewed German citizens Born 1911-1956 Panel 1996 52-97 years old	Re-interviewed German citizens Born 1917-1962 Panel 2002 46-91 years old	Persons, who are interviewed for the first time German and non-German citizens Born 1923-1968 40-85 years old[1]
Living arrangements	Persons in private households (main residence) and persons, who have moved to a retirements home since 1996	Persons in private households (main residence) and persons, who have moved to a retirements home since 2002	Persons in private households (main residence)
Sample	Participants, consent to be re-interviewed Panel 1996	Participants, consent to be re-interviewed Panel 2002 (German citizens)	New sample of the identical 290 municipalities as in 1996 (registration office) Disproportionate regional selection(east/west) Selection of age (40-54/55-69/70-85 years) and gender
Number of cases[2]	991	1.000	6.205
Survey methods	Face-to-face interview (CAPI[2], Waves 1 and 2: PAPI[3]) Questionnaire to fill out by themselves (drop-off) Digit Symbol Substition Test Pulmonary function test		
Language	German		
Period of time	April until November 2008		

1) The age reached in the year of data collection (year of data collection – year of birth)
2) Computer Assisted Personal Interview
3) Paper and Pencil Interview

For further information about the DEAS sample design, please visit Klaus & Engstler (2017), Engstler & Schmiade (2013), Engstler & Motel-Klingebiel (2010) and Engstler & Wurm (2006).

1.2 Topics and instruments of DEAS 2008

As in previous waves, respondents were asked in detail about their living situation. Information about the following subject areas was surveyed:

– Employment and retirement
– Partnership, family and intergenerational relationship
– Social networks and social support
– Leisure activities and voluntary work

- Housing situation and mobility
- Economic situation and economic behaviour
- Subjective well-being
- Health and health behaviour
- Need of assistance and need of care
- Attitudes, norms and values
- Basic sociodemographic data.

As in previous waves, the questionnaire is divided into two parts. The main part of information is collected by a face-to-face interview usually conducted in the respondent's home. Starting with this wave the method of collecting data is transferred from a PAPI (Paper and Pencil Interview) to a Computer Assisted Personal Interview (CAPI), which improves a target group-specific request for information. In this oral interview the main large thematic fields of the DEAS are covered. A complex filtering makes a pinpointed group specific inquiry of differentiated information possible (about 90 minutes). Basically questions were posed as in the previous wave. Additional questions were introduced, especially questions on health behaviour, grandchildren, job search, employed or working in a secondary job, employment of retirees, civil union partnership, quality of partnership, gender gap in household work, images of old age, interest in voluntary work or willingness to donate.

Furthermore some questions were transferred from PAPI to CAPI (e.g. attitudes on responsibility for the provision in old-age) or were transferred to the drop-off questionnaire (e.g. making use of medical services). Some questions could be omitted (e.g. the long-term care insurance or care arrangements).

Additionally, a pulmonary function test to measure the lung capacity was conducted. Directly after the interview, the cognitive capacity of the participants was tested using a digit number test.

In the second part, respondents were given a questionnaire to fill out by themselves (drop-off)[1]. In this part, subjective beliefs – as opinions, values, images of old age, wellbeing - , more sensitive areas (for example details of the material situation and health) and topics do not need a differentiated filtering. Moreover new questions on experiences of discrimination, values, health provision, sleeping behaviour, subjective life expectancy, sexual orientation were introduced. Questions on residential environment, provision in old-age, political modification, understanding of the state concept were expanded or modified.

Further information on the design, topics, fieldwork and sample sizes of the third wave you will find in the book section on methodology in the DEAS-report (Engstler & Motel-Klingebiel 2010), in the infas-methodological report (infas 2009) as well as in the instrument and methodological report (Motel-Klingebiel et al 2009). Instruments and methodological reports

---

[1] Participants, who are not able to fill in the drop-off questionnaire independently, could be supported by the interviewers.

of all waves of the DEAS can be downloaded from the webpages of the Research Data Centre (FDZ-DZA).

2   RESPONSE RATE AND LONGITUDINAL WEIGHTING

First inconsistency checks were undertaken by infas, followed by detailed data cleaning by the DZA. Interviews were deleted if there was suspicion that they were conducted via telephone or were not conducted at all or with the wrong target person. Finally 8.196 cases remain for analysis. The response rate of the baseline sample amounts to 36 percent of the of the gross sample of eligible people, the response rate of the panel sample reaches 49 percent of the adjusted gross sample (see Engstler & Motel-Klingebiel 2010). The utilisation rate is comparable to other longitudinal studies, analyzing the same age groups (Blom & Schröder 2011: 57).

Data weighting

In 2018 infas calculated completely new data weightings for the cross-sectional and longitudinal waves of the survey since 2002, replacing all previous weightings. This took place in close coordination with the DEAS-team. The chosen procedure correspondents to the familiar methods of other panel studies (for details, see Hammon et al. (2016), Trappman (2014), European Central Bank (2016)).

Longitudinal weighting is based on statistical models (logistical regression) to predict the probability of participation in the next survey wave given participation in the previous survey wave (not including panel respondents who died meanwhile) using a small range of predictors (see infas 2018: chapter 7.1). To construct the longitudinal weight of the face-to-face interview the cross-sectional weight of the respondent's first wave has been multiplied by the reciprocal of the participation probability in the next wave. For the weighting of the drop-offs, statistical models were calculated to predict drop-off participation, given the participation in the face-to-face interview. The longitudinal weighting for the drop-off is calculated by multiplying the longitudinal weight for the face-to-face interview by the reciprocal of the probability participation to the drop-off. This method has been done for all waves since 2002, thus for each wave two longitudinal weighting variables (CAPI, drop-off) and two variables with the reciprocal of the participation probability exist (CAPI, drop-off). Combining the wave-specific probability participation longitudinal comparisons are possible (for details, see infas 2018: chapter 7.1). The Scientific Use Files of the survey waves do not include neither the longitudinal weighting variables nor the variables of the reciprocal values. The variables are retrieved in a separate file which is only available for registered users.

Since wave 2002 an integrated cross-sectional weight has been calculated. To achieve this, each of the subsamples of a wave have been integrated to a collective cross-sectional sample. The subsamples represent (a) continued panel respondents (returnees with response in the previous and actual wave), (b) panel respondents with nonresponse in the wave before (returnees after temporary non-response) and (c) first-time respondents (only in

years with a new baseline sample). Weighting for the integration is – for first-time respondents – the cross-sectional weighting of the baseline sample (see Engstler & Hameister 2016; chapter 2) and for returnees of the previous wave the longitudinal weighting of the present wave. For the returnees with temporary nonresponse, two default models have been calculated on the base of auxiliary module: statistical default model and statistical model of return (for details see infas 2018: chapter 7.2). The weighting of the three subsamples have been combined by composite weighting ("Konvexkombination") to an integrated cross-sectional weighting by multiplication the individual initial weight and the relative share of the subsample in the sample. Furthermore the probability to drop-off for all face-to-face-interviewees has been calculated on the base of a default model. The cross-sectional weighting of the drop-off is calculated by multiplication the cross-sectional weighting for the face-to-face-interview and the reciprocal participation probability of the drop-off.

Finally, both integrated cross-sectional weightings were fine-tuned to fit sample distribution of some characteristics to the population as shown in the national micro-census. This post-stratification is done by using iterative proportional fitting according to the indicators *age*gender*region (east/west), excluding the very small number of respondents, aged 86 and over (survey years 2002 and 2008) or 91 and over (survey years since 2011). The Scientific Use File DEAS 2008 concludes exclusively the both weighting variables with the integrated post-stratification cross-sectional weightings for the face-to-face interview (*qsps_08*) and the drop-off (*qspsdrop_08*). The integrated cross-sectional weightings without post-stratification are retrieved in a separate file.

Using the panel weights is in the responsibility of the individual user. The data weighting shows one of different possibilities for solving the problem of selective panel mortality. The cross-sectional representations is recommended to use descriptive presentation and statements. In the case of drop-of-respondents, please use the variable *qspsdrop_08* (cross-sectional weightings), otherwise the variable *qsps_08*.

3   CLASSIFICATION OF VARIABLE NAMES AND MISSING CODES IN THE DEAS 2008

In 2008 a new classification of naming of variables was introduced that is also used for the further waves. The variables were coded in the logic of a card scheme in the first two waves of the DEAS. Since wave 3, the variables are coded on the basis of the question number. The question number is concurrently thematically grouped (for example all questions regarding the family situation are coded with 300), which makes it easier for the user to get along with the data as well as writing the analysis syntax.

The variables from the CAPI interview in the survey 2008 start with the character "x" as wave marker. Variables from the drop-off questionnaire are labeled with "f". The following number is then the question number. For example, variable x101 is question 101 from the CAPI questionnaire, variable f5 is question 5 from the drop-off. Open item lists are coded with the

ending "_o" (x154_o). Multiple answers or answering options are differentiated using a serial numeric ending _1,_2,_3, etc. (x138_1, x138_2, etc.). Is there a fixed sequence of questions, for example as in the surveying on information for every child, there is a serial number at the end of every loop (x3021, x3022, etc.).

An entire overview of all variable names ever used in DEAS data can be found in the variable correspondence list on the web page on documentation of the FDZ-DZA. Basic values of all variables of the SUF DEAS 2008 including all labels and missing values can be found on the same web page in the codebook 2008.

The labeling of missing codes was basically altered in the DEAS wave 3 compared to previous waves. The new coding facilitates the automatic definition of missing values and harmonizes the reasons and specification for non-valid information.

In the following table all codes for missing values are described:

SPSS-Code	Stata-Code	Label and description
0, -1, system missing	.c	Filtered (question)
	.d	Filtered (sample) [if the question is either posed to panel respondents or basic sample respondents]
-2	.e	No drop-off: the respondent did not fill in the questionnaire
7	.a	Refused; multi-digit variables corresponding 97, 997, 9997 etc.
8	.b	Don't know; multi-digit variables corresponding 98, 998, 9998 etc.
9, -9	.f	No answer; multi-digit variables corresponding 99, 999, 9999 etc.
-8	.h	Double entry [if not deleted before]

The missing codes in the data-sets are only partially (SPSS) or not formatted as missing labels. Before using them for deeper analyses, a frequency count is recommended.

4   META-DATA ON PARTICIPATION HISTORY, DROP-OUT REASONS AND MORTALITY OF DEAS RESPONDENTS

For easier using and overview, the Research Data Centre (FDZ-DZA) provides sets of meta-data as an overview of the participation history of the respondents. The meta-data file contains information about all persons, who have ever participated in any of the survey questionnaires. It is easier to merge data-sets and to analyse continuance. The following table shows all variables contained in the data-set (date: January 2021):

Variable	Label	Description
fallnum	Case number (first digit for initial interview wave)	To merge information from all SUFs (1996-2020)
stich	Sample ID	Baseline sample of respondent
part_96	Participation 1996	Yes; no
part_02	Participation 2002	Yes – baseline sample 2002; yes – foreigner sample 2002; yes – panel; no
part_08	Participation 2008	Yes – baseline sample 2008; yes – panel; no
part_11	Participation 2011	Yes – panel; no
part_14	Participation 2014	Yes – baseline sample 2014; yes – panel; no
part_17	Participation 2017	Yes – panel; no
part_20	Participation 2020 (compact survey)	Yes – panel; no
part	Participation 1996-2020	Shows in which survey years respondent was interviewed
lastpart	Last participation	Year of last participation
n_obs	Number of participation	Number of individual panel participations
entry	Year of entry	Year of first interview
yob	Year of birth	Year of birth (possibly updated after plausibility check)
gender	Gender	Male; female
natdeutsch	German citizenship	Feature of the first interview: German, non-German
bildung4	Level of education, 4 categories	Based on highest level of qualification in school and vocational college: low, medium, sophisticated, high
isced	Level of education, 3 categories (ISCED)	Low (ISCED 0-2), medium (ISCED 3-4), high (ISCED 5-6)
fiktiv_kreis_96	Fictional number of district, 1996	The real district numbers (since 31.12.2013) were replaced with a fictional number; this number can be used for multilevel analysis
fiktiv_kreis_02	Fictional number of district, 2002	Ditto.
fiktiv_kreis_08	Fictional number of district, 2008	Ditto.

fiktiv_kreis_11	Fictional number of district, 2011	Ditto.
fiktiv_kreis_14	Fictional number of district, 2014	Ditto.
fiktiv_kreis_17	Fictional number of district, 2017	Ditto
bbsr_kreistyp96	Type of district, 1996	Urban-rural typology (4 categories)
bbsr_kreistyp02	Type of district, 2002	Urban-rural typology (4 categories)
bbsr_kreistyp08	Type of district, 2008	Urban-rural typology (4 categories)
bbsr_kreistyp11	Type of district, 2011	Urban-rural typology (4 categories)
bbsr_kreistyp14	Type of district, 2014	Urban-rural typology (4 categories)
bbsr_kreistyp17	Type of district, 2017	Urban-rural typology (4 categories)
bbsr_kreistyp20	Type of district, 2020	Urban-rural typology (4 categories)
rlc2002_kat	Return code 2002	Reasons for not participating in wave 2 (or code for participation)
rlc2008_kat	Return code 2008	Reasons for not participating in wave 3 (or code for participation)
rlc2011_kat	Return code 2011	Reasons for not participating in wave 4 (or code for participation)
rlc2014_kat	Return code 2014	Reasons for not participating in wave 5 (or code for participation)
rlc2017_kat	Return code 2017	Reasons for not participating in wave 6 (or code for participation)
vitalstatus_last	Last known vital status	Notes if person is dead (0) or alive (1)
vitalstatus_source	Year of last information on vital status	Either year of survey field work or year of address update (including information form registration offices)
surv_birth	Survival period in months	Months since birth until death or end of observation
surv1996	Survival period since interview 1996	Months since interview 1996 until death or end of observation
surv2002	Survival period since interview 2002	Months since interview 2002 until death or end of observation

surv2008	Survival period since interview 2008	Months since interview 2008 until death or end of observation
surv2011	Survival period since interview 2011	Months since interview 2011 until death or end of observation
surv2014	Survival period since interview 2014	Months since interview 2014 until death or end of observation

Especially the development of a longitudinal data-set is facilitated by using the meta-data-set. Information on drop-outs and on participation in panel questionnaires opens up the possibility of mortality and drop-out analyses. Data users who want to analyse reasons of panel attrition may contact the Research Data Centre (FDZ-DZA) to get more details about return codes.

4.1   Profile of participation

The variable *part* combines information on all seven DEAS survey years. All respondents get a seven digit value: 1111111 for example shows that this person participated in all seven DEAS waves, respondents with the number 0100111 were firstly asked in 2002, did not participate in 2008 and 2011, but answered the questionnaire again in 2014, 2017 and 2020.

The sample to be analysed can be easily compiled with the help of variable *part*. If one wants to conduct a longitudinal analysis for example, respondents can be chosen on the basis of the participation profile (variable *n_obs*). The personal information from the SUFs can be added to the selected cases with the help of the personal identifier *fallnum*. If you have any questions in using this meta-data-set please consult the FDZ: fdz@dza.de

4.2   Data on survival of respondents

All respondents were contacted by the field research institute before the next panel questionnaire as well as in panel maintenance or in a special survey of whereabouts of previous respondents. This was done to record the recent vital status. In case of death the exact date of death was detected by the registration office. The variable *vitalstatus_last* indicates the last known vital status of all DEAS respondents (0=alive, 1=dead). Respondents that were only interviewed once and were not willing to participate again, maintain the status they had at the first interview. Otherwise the last information booth is used. Variable *vitalstatus_source* contains the calendar year from which we know the last known vital status. Variable *surv_birth* contains the number of months since birth until death or last known survival status. Variables *surv_birth, surv1996, surv2002, surv2008, surv2011, surv2014* and *surv2017* (survival since the respective date of interview) – together with the variable *vitalstatus_last* (death or censoring indicator) - enable to do survival analysis of the risk of death.

Variables rlc2002_kat to *ric2017_kat* give the return codes of all respondents, who were selected to be part of the panel samples for the DEAS surveys in 2002 up to 2017. The return codes are categorized and provide information if the target person could be interviewed or not. If there was no interview possible, reasons for that are listed. Interviews that were deleted later in the process of data cleaning get code 6.

5   APPLIED MEASURES TO ANONYMIZE DATA IN THE SUF

To ensure the factual anonymity of respondents, some variables are not included in the SUF DEAS 2008. Other variables are oversimplified in some characteristics.

– Some variables that contain the regional context are deleted because in some cases it might be possible to determine the living area of the respondent. Also deleted are information on birthday and month of birth of respondents.
– Some variables with open answer option are deleted or specific answers were generalized. Such changes at open answers were marked with the sign #.
– Rare demographic characteristics of family formations were oversimplified. The few people with the attribute "civil union" are assigned to the category "married, living together with spouse".
– Rare year specifications were merged to categories. This was done by generating a new categorical variable (identifiable through the ending "kat" of the variable name) or by recoding this value in an existing numerical variable to the next value (with the appropriate designation of the value labels).
– Partly maximum values are categorized (for example number of siblings, household size).

There are secured PC workplaces available for guest researchers within the DZA. Please contact the consulting of the FDZ (fdz@dza.de) if you want to conduct research using the full DEAS data to do research on the level of districts or including some context characteristics of the immediate neighbourhood for example.

6   DATA FORMATS

The Scientific Use File (SUF) 2008 as well as the SUF Meta (see chapter 4) are available in SPSS (version 22) and Stata data format. If problems occur, please contact FDZ-DZA (fdz@dza.de) for advice.

7 GENERATED VARIABLES

There are various generated variables added to the Scientific Use File (SUF) DEAS 2008. This helps to compare constructs over time and with other data sources and simplifies the entry into the data analysis. If you need the syntax files for the generated variables, please contact the FDZ: fdz@dza.de

Overview on generated variables in the SUF DEAS 2008 (status: May, 2019)

Variable	Label	Available for the years			
		1996	2002	2008	2014
fallnum	Case number (first digit for initial interview wave)	x	x	x	x
stich	Sample idenfication	x	x	x	x
qsps_08	Cross-sectional weight – baseline sample oral interview	x[1]	x	x	x
qspsdrop_08	Cross-sectional weight – baseline sample drop-off	x[1]	x	x	x
part_96	Participation 1996		x	x	x
part_02	Participation 2002			x	x
zelle_08	Sample source (region, gender, birth cohort)	x	x		
natdeutsch_08	German nationality[3]	x[1]	x	x	x
migrat_08	Migratory background[3]		x	x	x
westost_08	Western or eastern part of Germany	x	x	x	x
bland_08	Federal state	x	x	x	x
polgk_08	Community size	x	x	x	x
bikgk10_08	BIK region size (asked for the first time)	x	x	x	x
bbsr_kreistyp_08	Type of district	x	x	x	x
alter_08	Age (year of interview minus year of birth)	x	x	x	x
altervoll_08	Consummate age at interview	x	x	x	x
bildung4_08	Level of education, 4 categories[3]	x	x	x	x
isced_08	Level of education by ISCED, 3 categories[3]	x	x	x	x
erw_08	Labour force participation 2008	x	x	x	x
isco88zp_08	ISCO88-code of (last) occupation of respondent	(x)[2]	x	x	(x)[2]
isco88partner_08	ISCO88-code of (last) occupation of present or last partner	(x)[2]	x	x	(x)[2]
siops_08	SIOPS – occupational prestige – based on couple (Treiman)	x	x	x	x
siops_kat_08	SIOPS – occupational prestige, categorized	x	x	x	x
mps_08	MPS occupational prestige – based on couple (Wegener)	x	x	x	

Variable	Label	Available for the years			
		1996	2002	2008	2014
isei_08	ISEI occupational status score – based on couple (Ganzeboom, De Graaf & Treiman)	x	x	x	x
schicht_08	Social strata – based on couple (Mayer & Wagner)	x	x	x	x
hheink_08	Monthly net household income, from CAPI and drop-off	x	x	x	x
aee_oecd08	Monthly equivalence income (new OECD scale)	x	x	x	x
einkpos_08	Income position (% of mean of equivalised income of population)	x	x	x	x
einkarm_08	Income poverty (< 60 % of median equivalent income of population)	x	x	x	x
einkreich_08	Income wealth (>200 % of mean equivalent income)	x	x	x	x
partner_08	Existence and type of partnership	x	x	x	x
exkind_08 anzkind_08	Existence and number of living children	x	x	x	x
wekind_08	Geographical distance to nearest living child	x	x	x	x
exenk_08 anzenk_08	Existence and number of living grandchildren	x	x	x	x
enkelbetreu_08	Care of grandchildren	x	x	x	x
nwgroesse_08	Size of personal network: number of important people in regular contact	x	x	x	x
ehramt_08	Voluntary work in groups and organizations	x	x	x	x
bmi_08	Body-Mass-Index		x	x	x
sf36_08	Physical Functioning Scale (SF 36 Short Form)		x	x	x
anzphy_08	Total number of physical diseases	x	x	x	x
lft_08	Pulmonary function test (peak flow in l/min)			x	x
zzbearb_08	Handling of the digit symbol test (ZZT)		x	x	x
zzgscore_08	ZZT: total score of recorded digits		x	x	x
zzfscore_08	ZZT: total score of wrong recorded digits		x	x	x
zzrscore_08	ZZT: total score of correct recorded digits		x	x	x
depressiv_08	Depression Scale CES-D (Hautzinger)		x	x	x
lone6_08	Scale for Loneliness (De Jong & Gierveld)	x	x	x	x
hope_08	HOPE Scale (Snyder et al.)	x	x	x	
selbstwert_08	Self Esteem Scale (Rosenberg)		x	x	x
optimismus_08	Optimism Scale (Brandtstädter & Wentura)		x	x	x
selbstwirk_08	Generalized Self-Efficacy Scale (Schwarzer & Jerusalem)			x	x

Variable	Label	Available for the years			
		1996	2002	2008	2014
flex_08	Flexible Goal Adjustment Scale (Brandtstädter & Renner)		x	x	
lz_08	Scale of Life satisfaction (Pavot & Diener)	x	x	x	x
pa_08	Positive affect (Watson, Clark & Tellegen)	x	x	x	x
na_08	Negative affect (Watson, Clark & Tellegen)	x	x	x	x

1) With different variable names due to different measurement.
2) For 1996 the ISCO codes are only in the ISCO68 classification, for 2014 only in the ISCO08 classification.
3) Information given in the starter interview.

The listed variables are described shortly in the following:

7.1   Identification number

The variable *fallnum* contains a respondent's code number, which differs from the original ID of the interviewed person. It is a seven-digit number: the first three digits show the wave on which the person participated the first time (B1996: 100, B2002 and A2002: 200, B2008: 300, B2014: 400). The last four digits are the actual respondent's code numbers. All respondents keep their code number from the first survey for all upcoming surveys. By using the ID-variable *fallnum* the different data-sets of a person can be combined longitudinally.

7.2   Sample population

The variable *stich* marks the sample's origin and the year of the first interview. In SUF 2008 possible values are 1 to 3 (1 = person origins in baseline survey 1996; 2 = from baseline 2002; 3 = from baseline 2008).

7.3   Weighting

The variable *qsps_08* contains the post-stratification cross-sectional weighting for all interviewees up to the age of 90. The weighting is normed by the number of cases (arithmetic mean=1). The variable *qspsdrop_08* contains the cross-sectional weighting for the drop-off information of this baseline sample. The weighting is normed by the number of cases (arithmetic mean=1). If the countings are limited to drop-off participants, the variable *qspsdrop_08* is recommended, otherwise the variable *qsps_08*. The use of cross-sectional weightings are provides for descriptive analysis.

More information on constructing the panel weights is available in chapter 2.

7.4   Longitudinal participation

The variables *part_96* and *part_02* show if a respondent of the year 2008 has also participated in an interview in 1996 and/or 2002 and if the participation in a previous wave has been the first interview (code 1) or a follow-up survey (code 2).

7.5   Sample source

The variable *zelle_08* characterizes the affiliation of the 6205 interviewees (baseline sample) to the selection field of the sampling scheme. It contains twelve categories, created by the combination of the age groups (40-54, 55-69, 70-85), respectively the birth cohorts (1923-38, 1939-53, 1954-68), the sex and the place of residence (East- or West-Germany).

7.6   Nationality

The variable *natdeutsch_08* informs about the nationality of interviewees of the baseline sample. It shows whether the person owns the German nationality. The information dated back to from the self-reported data of the respondents to their nationality, which is recorded only for the baseline sample. The nationality of the panel participants, if required, is to be taken from the first measuring time. Up to baseline 2008 information about the citizenship were given by the registration office.

7.7   Migration background

The DEAS-generated variable *migrat_08* covers the migration background of the interviewees of the baseline sample. It follows the concept the Federal Statistical Office uses in the microcensus. Three different groups are distinguished: people without migration background, people with migration background (i.e. migration to Germany) as well as people with migration background but without an own migration experience (i.e. born and grew up in Germany). Therefore the details of the first interview about place of birth, year of immigration, possession and year of acquisition of the German or a foreign nationality was used. Immigration before 1950 does not count as migration background. Those, who are born in the former eastern regions or the 'German Reich', immigrating to the FRG or GDR after 1949 are counted as people with migration background.

7.8   East-West allocation and Federal States

Based on the current residential address infas carried out an assignment to the region of the former federal territory (before German re-unification, including the western parts of Berlin) or the former East Germany (including the eastern part of Berlin) in variable *westost_08.*

The variable *bland_08* shows in which federal state the respondent's place of residence is located.

7.9   Size of municipality and region

The variable *polgk_08* contains the categorized population of the respondent's municipality of residence (status: 31.12.2005). The variable *bikgk10_08*, also created by infas, includes the categorized population of the BIK-region to which the municipality of residence belongs. The BIK-regions are an area of interdependence which show the relationships between cities and their surrounding areas for conurbations, middle- and local sub-centres. For more information visit: https://www.bik-gmbh.de/cms/regionaldaten/bik-regionen

7.10 District types

Variable *bbsr_kreistyp_08* contains the settlement information of the district type of the country or the independent city in which the interviewee lives. Basis is the new typification of the different structural characteristics of settlements conducted by the Federal Institute for Research on Building, Urban Affairs and Spatial Development into four district types (BBSR 2012).

7.11 Age

The variable *alter_08* contains the age reached in the year of data collection as a difference between year of birth and year of the survey. The variable *altervoll_08* derived from the date of birth indicates the completed year of age on the day of interview.

7.12 Education

The Scientific Use File contains two variables to the educational level. Based on information to the general and professional education at school and vocational training, especially for the achieved level, a 4-stage variable about the educational level are offered (*bildung4_08*). In addition, a 3-stage educational construct is made (*isced_08*), referring to the ISCED categories (Internationally Standard Classification of Education). Kind of educational information collected depends on the place of education (in Germany or abroad).

4-stage level of education

The allocation to variable *bildung4_08* occurs following this systematic:

Level 1 (low)	Respondents without completed vocational qualification and up to a maximum of a graduation degree, which qualifies for a professional qualification
Level 2 (medium)	Respondents with vocational qualifications or qualifications for university or university of applied science entrance
Level 3 (sophisticated)	Respondents with finished upgrading training (professional, master or technical school, university of cooperative educations or academies)
Level 4 (high)	Respondents with completed university studies (university or university of applied science)

Level of education according to the *ISCED scale*

The allocation to variable *isced_08* occurs following this systematic:

Level 1 (low)	ISCED 0-2; respondents without formal vocational qualification
Level 2 (medium)	ISCED 3-4; respondents with vocational training (at work or at school), including respondents with higher general school certificate without professional training
Level 3 (high)	ISCED 5-6; respondents with completed professional development training (professional, master or technical school, university of cooperative educations or academies) and respondents with completed university studies (university or university of applied science)

7.13 Occupational status

In the variable *erw_08* three groups are distinguished:

– Employed persons; these are persons, who answer in question 101 that they are employed full-time or part-time or irregular, marginally employed or working in a secondary job.
– In retirement; these are persons aged 60 or older, who receive own old-age pension (question 100) or who are in early retirement (question 101). The classification to this category took place regardless of a possible employment during the retirement, as *erw_08* questions the main status.
– Others not employed persons; these are persons with other valid codes in question 101 and persons never working full-time in accordance with question 32a. Also employees in

the release phase of early retirement with zero working hours (question 101) are added to this category.

7.14 Classification of occupation, prestige and status

7.14.1   7.14.1   ISCO88-Codes

On the basis of the open answers to the actual or last occupational activity the ISCO88-codes (International Standard Classification of Occupations) are allocated[2]. These three-digit codes replace the open answers and are positioned in the appropriate interview parts (e.g. question 132, *x132isco88*). ISCO-codes exist for the respondent as well as for his/her current partner or the last spouse. For easy handling the variables isco88zp_08 and isco88partner_08 and the ISCO88-information have been matched to the current or last occupational situation.

If there was no change of the occupational situation since the last interview (e.g. constantly retired), the open question asking for the exact occupation was filtered in 2008. The same is true for the occupation status of the current partner or - for divorced persons without a partner - the former spouse. Thus for these persons the SUF 2008 do not contain any ISCO-codes and deduced no prestige or status scores. Information from previous waves was used if required.

7.14.2   SIOPS-occupational prestige

The „SIOPS - Standard International Occupation Prestige-Scale" was proposed by Treiman (1977) and further developed by Ganzeboom & Treiman (1996, 2003). Every single ISCO88-code is allocated a specific value of prestige, that measures mean social reputation of that occupation in the society. The scale is based on research to evaluation the occupations in the society in various countries and lasts from 13 to 78 in the DEAS survey 2008.

On the basis of the ISCO88-codes of the current or last occupation, a value of prestige was allotted to every target person. This was also done for the current partner or – for divorced, separated or widowed persons without partner – the last spouse. Relevant was the current or last occupation of the partner during the marriage**.** Following, both values of prestige are transformed into one single household or partner-related level of prestige. In variable *siops_08* the higher value of both persons were taken. That means, if the present or the former partner (for persons without a partner) has a higher value of prestige, this was taken to generate the variable.

---

[2] The ISCO-coding to the actual or last occupational activity (wave 3) and the providing of the single variables for the professional prestige (SIOPS, MPS), the socio-economic status (ISEI) and the social class (EGP, ESeC) have been carried out by infas, Institute for Applied Social Sciences, under the authority of the DZA (German Centre of Gerontology).

In addition to variable siops_08 with the differentiated metrical scale values the variable *siops_08_kat* was derived. The scale values were collapsed to five categories from 1 (low) to 5 (high) (see Hoffmeyer-Zlotnik 2003).

7.14.3 MPS-occupational prestige

The Magnitude Prestige Scale (MPS) is as well based on the ISCO scale and constructed by Bernd Wegener (1988) for Germany. Variable *mps_08* has a valuation from 20,0 to 186,8 points of prestige and is also based on the couple.

7.14.4 ISEI-Status-Score

The „ISEI – International Socio-Economic Index of Occupational Status" is a scale constructed by Ganzeboom et al. (1992) to measure socio-economic status. It is based on the assumption that every occupation needs a mean educational background and enables a specific level of income. Basis for the construction of the scale was a study conducted in 16 different countries. Educational as well as income values for various occupational representatives were identified. Every occupation within the ISCO classification is allotted a status score.

In 2008 the variable *isei_08* has a valuation from 16 to 90 points and is also based on the couple. On the basis of the ISCO88-codes of the current or last occupation a status score was identified for every target person. This was also done for the current partner or last spouse if the interviewee is separated, divorced or widowed. The current or last occupation of the partner respectively the last occupation during the divorced marriage with the former spouse was decisive for the construction of the partner variable.

Finally, variable *isei_08* is constructed using information on the target person as well as from the partner. The higher value from both partners was taken as household or partner related level of status. That means if the status score of the current partner or former spouse in the case of interviewees without a partner is higher than the score of the target person, the value of the partner is used in constructing *isei_08*.

7.15 Social strata

The partner related social strata *schicht_08* was constructed using the information on current or last occupation of the target person and the current partner (see Mayer & Wagner (1999) and Kohli (2000)). If widowed or divorced interviewees have no partner, information of the last spouse was taken to construct the variables. Assigned is the highest strata of the couple. According to the following table, five different occupational positions are differentiated in the variable *schicht_08.*

Social strata:	Codes of the occupation:
Lower class	10, 11, 60, 61, 62
Lower middle class	12, 25, 40, 41, 50, 51, 63, 64
Middle class	13, 14, 30, 35, 36, 42, 52, 55, 65
Upper middle class	31, 32, 43, 53
Upper class	20, 21, 22, 23, 33, 34, 44, 54

As in Mayer & Wagner (1999) we avoided to label the highest category as upper class because the societal elite (top manager, top-ranking politicians, large scale manufacturer) are only limited represented in the sample. In case there was no change in the occupation and the social strata in 2002 since the last interview, information for panel participants from previous waves was taken to fill missing values.

7.16 Income

7.16.1 Monthly net household income

The income of target person and household is queried both in interview and drop-off. During the interview target persons are asked to provide the household net income (question 802). If they are unwilling or unable to do so they can choose from a list of income categories (question 803). Detailed information about the individual sources of income is gathered for both the target persons and their partners within the drop-off questionnaire (questions 76 to 78). In case of significant deviation between the interview's monthly income statement and the drop-off questionnaire's summed income, the data was related the various other characteristics of the target person and household, and adjusted accordingly for plausibility. Therefore, the final data-set includes the new variable *x802neu*. It contains either the actual answer to question 802 or, if unavailable, the income category's mean average of question 803 or, if unavailable or not plausible, no value.

Extending x802neu the data includes variable hheink_08 as part of the amended generated variables. It contains the household net income of variable x802neu if available; otherwise in hheink_08 the summed income based on the answers from the drop-off questionnaire has been introduced. However, this is suppressed if the drop-off questionnaire states further household income - additional to the target person's and his partner's- of unspecified height (question 77). For analysis, characterizing the nominal value of the household income, the variable *hheink_08 is recommended.*

7.16.2 Equivalent income

Variable *aee_oecd_08* contains the needs-adjusted monthly per head income of the household members of the target person. Criterion of the weighting is the so called modified OECD equivalent scale that is used by Eurostat and the German Federal Statistical Office. In

this scale the first or single household member - older than or 15 years old - gets the weighting factor 1.0. Any other household members from the age of 15 get the factor 0.5 and household members younger than 15 years get the factor 0.3. The sum of these weighting factors is the divisor for calculating net household income into equivalent income. Monthly household net income is taken from variable *hheink_08*.

7.16.3 Income position, income poverty and income wealth

Variable *einkpos_08* shows the individual income position in percentage points of the mean equivalent income of the whole population. Mean and weighted equivalent income from the GSOEP for the year 2008 amounting of 1.469,20 Euro serves as reference value.[3]

The dummy variable *einkarm_08* provides information if the equivalent income is below the poverty line. 60 percent of the median of the equivalent income is mainly used as poverty line In the German and European social statistic. Following this definition, the poverty line for the year 2008 is 780 Euro of the equivalent income on the Basis of GSOEP data.

Dummy variable *einkreich_08* provides information about income wealth. We use the same threshold that is used in the Poverty and Wealth Report of the Federal Government: having more than twice of the mean equivalent household net income is considered being wealthy. Using the GSOEP, the monthly equivalent income threshold is 2.938 Euro in the year 2008.

7.17 Partnership

Variable *partner_08* informs about the typo of household and partnership. It is differentiated between persons without a partner, persons with a partner in the same household and persons with a partner living outside the targets' household (living apart together).

7.18 Number of children and grandchildren

Information on the existence and number of currently living children or grandchildren of the target person are stored in variables *exkind_08*, *anzkind_08* and *exenk_08* and *anzenk_08*. Information on children 1 to 8 form the basis of the calculations.

Interviewees telling the interviewer in question 300 about all children, who grew up or still grow up with them. Persons said that they have no children but mention children later on in the interview (for example by listing them in questions regarding the household composition or the support of family members) are considered as having children in variable *exkind_08*. Persons with children that are already dead, are considered as persons without children (code 0). Persons with children but refusing to give more information if the child is still alive are set on the value -9.

---

[3] We thank Peter Krause, German Institute of Economic Research Berlin for providing the reference values for calculating income position, poverty and income wealth.

Variable *anzkind_08* is the sum of all living children. Persons with children, but refusing to give more information if the child is still alive, are set on the value -9. Persons with more than 8 children are only asked for more information of the first 8 children. There is no information from the ninth child on. The maximum value of variable *anzkind_08* is therefore 8.

The proceeding for the existence (*exenk_08*) and the number of grandchildren (*anzenk_08*) is alike that for the children. The only difference is that only living grandchildren are taken into account.

7.19 Distance to the closest child

Variable *wekind_08* contains information about the distance to the closest living child. This variables has seven categories, ranging from „living in the same household" to „living abroad". Persons without children are filtered.

7.20 Caring for grandchildren

The construct *enkelbetreu_08* contains only information about persons with grandchildren. Grandparents who care for one or more grandchild get the code 1, persons having grandchildren but do not participate in caring for them get the code 0. Persons without grandchildren are filtered.

7.21 Size of network

Questions 600 to 607 in the oral interview serve as basis for constructing the network size. Variable *nwgroesse_08* contains the number of persons that are named as important persons to the target person with regular contact. If the target persons wanted to name more than 8 persons (question 607), the network size was set to 9+.

The approach taken here is just one possibility to measure network size. Often persons that are mentioned in the children and household matrix, are not named again. This gives a hint that variable *nwgroesse_08* only measures the minimum value of important persons with regular contact.

7.22 Volunteering, honorary posts

On the basis of questions 408 and 414 from the oral interview, the variable *ehramt_08* specifies if a person executes an honorary office in the groups or organizations in which he is

a member. Other voluntary offices outside these groups and organizations (question 416) are included in variable *ehramt_08*. [4]

7.23 Body-Mass-Index

The body mass index is calculated as division of body weight (in kg) and square of body height (in meters). The unit of the formula is therefore kg/m^2. The variable *bmi_08* is a rough indicator for the evaluation of the weight of a person. For interpretation age as well as sex (and typically also amputated extremities) should be taken into account. Generally the normal weight calculated as BMI for men is between 20 and 25 kg/m^2. For women normal BMI weight is between 19 and 24 kg/m^2. A BMI value lower than 16 indicates heavy underweight whereas a BMI higher than 40 indicates adiposity of the third degree.

There are no general rules in handling extreme BMI values. Responsibility for the wise handling of the extreme values of the BMI is left to the researcher.

7.24 Physical functioning

The SF-36 subscale (Bullinger & Kirchberger 1998) is used to measure physical functioning. The degree of physical impairment is measured using an evaluation of ten daily activities on a scale from 1 (yes, limited a lot) to 3 (no, not limited at all). The sum of the items is then transferred into the standard 0-100 range. Higher values of variable *sf36_08* indicate a better physical functioning.

7.25 Number of physical diseases

Variable *anzphy_08* contains the number of physical diseases on the basis of question 34 of the drop-off questionnaire.

7.26 Pulmonary function test

The pulmonary function test is based on the peak flow method (recording of the maximum breath out capacity). The peak flow measurement represents a useful approximation of the vital capacity of people. Variable *lft_08*, placed at the end of the health section (behind variable x560), is consistent with the maximum value of two measurements during the interview. If there was only one measurement this value was taken for constructing the variable. The method is in accordance with the standard method described at Nunn & Gregg (1989) (besides the measurement of two instead of three values). The data corresponds to

---

[4] The variable *ehramt_weit,* which has been created for previous and later waves, cannot be generated for 2008. It would not be comparable because of a deviated filtering (under-coverage of volunteering outside of association, groups and organisations).

liter of exhaled air per minute. The measurement is accurate to +/- 10l/min when conducted correctly (according to manufacturers' instructions).

7.27 Digit Symbol Substitution Test

In accordance to the "Digit Symbol Substitution Test" (Wechsler 1955; Tewes 1994) used in intelligence tests, a digit symbol test is carried out with all interviewees. The interviewee is shown a table with codes of Arabic figures 1-9 that correspond to simple geometric signs. Then they have 90 seconds to fill out a table with four rows of figures with the corresponding geometric sign. The number of figures exceeds the number of possible entries in the given time. The interviewer notes problems while conducting the test. The digit symbol test is easy to execute and is therefore used more often in surveys (Hoyer et al. 2004: 211).

There are four generated variables that contain information on process and results of the digit symbol test. Variable *zzbearb_08* indicates if the test was conducted at all and if yes, is there a problem noted. Very high numbers of correct entries that are impossible to achieve as well as interviews with problems recorded by the interviewer are excluded and counted as invalid. The total number of characters is contained in variable *zzgscore_08*. The number of wrong characters is stored in variable *zzfscore_08* and finally *zzrscore_08* contains the deviation of all mentioned and wrong characters and therefore specifies all correct characters.

The test values are a good measurement for the cognitive performance of adults[5]: typically correlations of about -.46 to -.77 between age and test result are reported (Hoyer et al. 2004: 211).

7.28 Depressiveness

We use the short form of the German translation of the CES-D (Center for Epidemiologic Studies Depression) Scale (15 items, questions 504 of the interview) (Hautzinger & Bailer, 1993). It measures the depressive symptoms. The value of the scale is the sum over 15 items. First, a mean score is generated when at least 8 items have valid values. This mean score is then multiplied by 15 to get the sum score with a value range 0 to 45. High values of variable *depressiv_08* indicate higher depressive symptoms

7.29 Loneliness

We use the short version with six items (question 34 of the drop-off; the seventh item is not part of the scale) of the original scale to measure loneliness (De Jong Gierveld & Van Tilburg 2006). The value of the scale is the mean value the six items. At least three of the six items

---

[5] The test result is a global indicator of the cognitive performance that measures the speed of visual perception and information processing on the one hand. But besides that it also measures the pace in which the results are either written down or typed into the computer.

must contain valid values to calculate the mean. High values of variable *lone6_08* indicate a high level of loneliness.

7.30 Self-Esteem

The scale *selbstwert_08* measures self-esteem (Rosenberg 1965). To calculate it the following ten drop-off items were used: question 2, items 1, 4 and 6; question 15, items 2, 6, 9, 10 and 11; question 19, items 2 and 7. The items were reversed that high values correspond to a high level of self-esteem. The scale value with a possible range of 1 to 4 is the mean value of the items. At least three items had to have valid values.

7.31 Optimism

The scale *optimismus_08* grasps the degree in optimism also called the affective valence of future perspective (Brandtstädter & Wentura 1994). It uses the following five items of the drop-off: question 2, items 2 and 5; question 16, item 1; question 21: items 1 and 6. If necessary, the items were reversed that high values correspond to a high optimism. The individual scale value with a possible range of 1 to 4 is the mean value of the items. For the scale at least three items had to have valid values.

7.32 Self-Efficacy

The field is covered by two generated variables.

The scale *selbstwirk_08* shows a person's degree of the self-efficacy according to Schwarzer & Jerusalem (1995, 1999). The basis are the following five drop-off items: question 15: items 4, 7 and 12; question 19, items 4 and 5. The items are reversed that high values correspond to a high level of self-efficacy. The scale value with a possible range of 1 to 4 is the mean value of the items. At least three items have to have valid values.

The *hope_08* scale depicts the HOPE-scale of Snyder et al. (1991). The data used to form the scale are derived from several questions in the drop-off (question 2: items 2, 5 and 7, question 15: items 3 and 8, question 19: items 3, 6 and 8). The mean value of the corresponding items is calculated. A prerequisite for the formation of a mean value is the answer of at least three of the scale-relevant items. High values in the variable *hope_08* correspond to high level of self-efficacy.

7.33 Flexible Goal Adjustment

The scale *flex_08* measures the degree of flexible goal adjustment according to Brandtstädter & Renner (1990). It uses all ten items of question 52 in the drop-off. The items

were reversed that high values correspond to a high level of goal adjustment and coping. The scale value with a possible range of 1 to 5 is the mean of the items.

7.34 Life satisfaction

The scale to measure life satisfaction is based on five items of question 3 of the drop-off questionnaire (Pavot & Diener 1993). At least three of the five items require valid values to calculate the mean value. High values of variable *lz_08* indicate a high level of life satisfaction.

7.35 Positive and negative affect

Basis for both construct of positive *(pa_08)* and negative *(na_08)* affect are the information of question 4 of the drop-off (scale by Watson, Clark & Tellegen 1988). The mean value of the positive and negative affect are constituted by the requested adjectives. At least answers to three of the items are required to calculate the index. High values indicate higher level of negative or positive affect.

8 ADDITIONAL VARIABLES

8.1 Interviewer's information of the interview situation

Following the personal interview, the interviewer gives information to the course of the interview. Some selected information is stored in the variables xi1o_1 to xi3i in the SUF DEAS 2008. The documentation of the questions is to be found directly after the CAPI presentation in the instruments. Information not provided in the SUF is available in accordance with the support of the FDZ-DZA.

Variable	Label	Categories
xi1i_1	Present at interview: no other person	Not mentioned; mentioned
xi1i_2	Present at interview: spouse/partner	Not mentioned; mentioned
xi1i_3	Present at interview: children	Not mentioned; mentioned
xi1i_4	Present at interview: other family members	Not mentioned; mentioned
xi1i_5	Present at Interview: other person	Not mentioned; mentioned
xi2i	Interview was translated by third person	Yes, nearly completely; yes, sometimes; no; interviewee is native speaker
xi3i	A present person intervened into the interview	Yes, sometimes; yes, often; no

8.2 Interviewer's information on the residential environment

The interviewer captures some additional information to the residential environment besides the personal interview. A selection is stored in variables *kp_a1 to kp_a10* in the SUF DEAS 2008 They can enrich methodological analysis and enrich research questions as additional information. In detail, these variables provide the following information:

Variable	Label	Categories
kp_a1	Location	Single or scattered site; attached estate; peripherical location; close to centre; central location
kp_a2	Distance to centre of the nearest big town or city	Range: 0 to 200 km
kp_a3	Prevailing building style in the street	Agricultural building; 1-2 family houses, multifamily houses, high-rise building, industrial or commercial area; not assignable
kp_a41	Type of accommodation	One family house, multifamily home
kp_a8	Location of the interview	Respondents house or room; not respondents house or room
kp_a9	Accessibility of house or room	Without stairs, up to 10 steps in staircase, over 10 steps in staircase
kp_a10	Elevator on site	Yes; no

9   Others

9.1   Documenting social relations of respondents

9.1.1   Personal codes

The social relations of the interviewees to other persons are listed with the help of person codes and a corresponding person card. Person codes are three-digit codes and different for each group of persons. Normally, these are individual codes (for children, partner, grandchildren, friends), but there are also collective codes (e.g. for neighbours).

Example: If the interviewee has children, the interviewer transfers code number 201 (that is the code for the first child) together with the name of the child to the person card. Further children get the codes number 202, 203 etc. and are noted together with their names on the respective person card. With the help of these person cards (that are filled during the interview), the interviewee and the interviewer can agree to which person information are currently collected at any time during the interview.

On the basis of these person codes further attributes of the various social relations (e.g. the second child) can be clearly assigned.

9.1.2 Grandchildren

In previous waves, only the collective code 301 was noted for all grandchildren. In the third wave of the DEAS a second person card was introduced. It contains a separate code for each grandchild. In the survey as well as in the data there are information for the *sole grandchild*, the *basic grandchild* and the *random grandchild*. This identification is derived from the procedure during the interview. When asked about their children, also information on the grandchildren of the interviewee are collected. The number of grandchildren determines the process of collection of further information of that grandchild.

If the child of the interviewee has only own child, it is called the *sole grandchild*. All information according to the filtering rules are now collected for this grandchild.

If the child of the interviewee has more than one own child, some basic information (year of birth, sex, place of residence) for all *basic grandchildren* are collected. The CAPI-program then randomly chooses one *random grandchild* out of the pool of all children and collects further information only on this grandchild. It serves as representative for his/her siblings. A random grandchild is always a basic grandchild but never a sole grandchild.

This procedure allows a broad but also time saving collection of information about grandchildren and an unbiased selection of that grandchild with more and detailed information. Random grandchildren are only sampled for the first four children of an interviewee. From the fifth child on, only year of birth and sex of the grandchildren are collected.

9.2 Codebook DEAS 2008

The Codebook of the SUF DEAS 2008 containing all specifications, labels and frequencies of all variables as well as further other documentation is available on the website of the FDZ-DZA.

9.3 Regional data

Information and characteristics on the level of countries and independent cities can be merged to the data. The Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) provides information on indicators of the regional level via its system called INKAR. An overview of all available characteristics is provided by the list of indicators of the BBSR.

Registered users can get some selected indicators as data file that can be merged to the survey data after consulting the FDZ-DZA. Full indicators can only be merged to the data at a

specifically protected computer workplace at the DZA. Please contact the [FDZ-DZA](#) for more information.

9.4   Data on non-participants

There are information about 3000 target persons, who were not able or did not want to take part in the questionnaire of the third DEAS wave. Some of this information are directly collected from the target person, other information are proxy information given by other persons. The data comprises information on the living conditions, health status and nationality as well as subjective evaluation of central living areas. Interested researchers of the short questionnaire can contact the FDZ-DZA (fdz@dza.de).

10 LITERATURE

Blom, A. G., & Schröder, M. (2011). Sample composition 4 years on: retention in Share Wave 3. In M. Schröder (Hrsg.), Retrospective data collection in the Survey of Health, Ageing and Retirement in Europe (S. 55-61). Mannheim: MEA.

Brandtstädter, J., & Renner, G. (1990). Tenacious goal pursuit and flexible goal adjustment: explication and age-related analysis of assimilative and accommodative strategies of coping. Psychology and Aging, 5, 58-67.

Brandtstädter, J. & Wentura, D. (1994). Veränderungen der Zeit- und Zukunftsperspektive im Übergang zum höheren Erwachsenenalter: Entwicklungspsychologische und differentielle Aspekte. Zeitschrift für Entwicklungspsychologie und Pädagogische Psychologie, XXVI(1), 2-21.

Bundesamt für Bau-, Stadt- und Raumforschung (BBSR) im Bundesamt für Bauwesen und Raumordnung (2012). Raumabgrenzungen und Raumtypen des BBSR. Bonn: BBSR

Bullinger, M., & Kirchberger, I. (1998). Der SF-36-Fragebogen zum Gesundheitszustand. Handanweisung [SF-36-Questionnaire on health status]. Göttingen: Hogrefe.

De Jong Gierveld, J., & Van Tilburg, T. (2006). A 6-item scale for overall, emotional, and social loneliness. Confirmatory tests on survey data. Research on Ageing, 28(5), 582-598.

Engstler, H.; Hameister, N. (2016). Deutscher Alterssurvey (DEAS): Kurzbeschreibung des Datensatzes SUF DEAS2014, Version 1.0. Berlin: DZA.

Engstler, H. & Hameister, N. (2019). Deutscher Alterssurvey (DEAS): Kurzbeschreibung des Datensatzes SUF DEAS 2008, Version 3.1. Berlin: DZA.

Engstler, H., & Motel-Klingebiel, A. (2010). Datengrundlagen und Methoden des Deutschen Alterssurveys (DEAS). In A. Motel-Klingebiel, S. Wurm & C. Tesch-Römer (Hrsg.), Altern im Wandel. Befunde des Deutschen Alterssurveys (DEAS) (S. 34-60). Stuttgart: Verlag W. Kohlhammer.

Engstler, H., & Schmiade, N. (2013). The German Aging Survey (DEAS) - A longitudinal and time-series study of people in the second half of life. Schmollers Jahrbuch, 133(1), 97-107. doi: https://doi.org/10.3790/schm.133.1.97

Engstler, H., & Wurm, S. (2006). Datengrundlagen und Methodik. In C. Tesch-Römer, H. Engstler & S. Wurm (Hrsg.), Altwerden in Deutschland. Sozialer Wandel und individuelle Entwicklung in der zweiten Lebenshälfte (S. 47-83). Wiesbaden: VS Verlag für Sozialwissenschaften.

European Central Bank (2016). The Household Finance and Consumption Survey (HFCS): Methodological report for the second wave, (ECB Statistical Paper Series No. 17). Frankfurt a. M..

Ganzeboom, H. B. G., De Graaf, P. M., & Treiman, D. J. (1992). A standard international socio-economic index of occupational status. Social Science Research, 21(1), 1-56.

Ganzeboom, H. B. G., & Treiman, D. J. (1996). Internationally comparable measures of occupational status for the 1988 International Standard Classification of Occupations. Social Science Research, 25(3), 201-239.

Ganzeboom, H. B. G., & Treiman, D. J. (2003). Three internationally standardised measures for comparative research on occupational status. In J. H. P. Hoffmeyer-Zlotnik & C. Wolf (Eds.), Advances in cross-national comparison: A European working book for demographic and socio-economic variables (pp. 159-193). New York u.a.: Kluwer Academic.

Hammon, A., Zinn, S., Aßmann, C. & Würbach, A. (2016). Samples, weights, and nonresponse: the Adult Cohort of the National Educational Panel Study (wave 2 to 6) (NEPS Survey Paper No. 7). Bamberg, Germany: Leibnitz Institute for Educational Trajectories, National Educational Panel Study.

Hautzinger, M., & Bailer, M. (1993). ADS - Allgemeine Depressions-Skala. Weinheim: Beltz.

Hoffmeyer-Zlotnik, J. H. (2003). "Stellung im Beruf" als Ersatz für eine Berufsklassifikation zur Ermitlung von sozialem Prestige. ZUMA-Nachrichten, 27(53), 114-127.

Hoyer, W. J., Stawski, R. S., Wasylyshyn, C., & Verhaeghen, P. (2004). Adult age and digit symbol substitution performance: A meta-analysis. Psychology and Aging, 19(1), 211-214.

infas Institut für angewandte Sozialwissenschaft GmbH (2009). Alterssurvey 2008: Die zweite Lebenshälfte. Durchführung der 3. Befragungswelle. Methodenbericht. Bonn: infas.

infas Institut für angewandte Sozialwissenschaft GmbH. (2018). Methodenbericht Deutscher Alterssurvey (DEAS): Durchführung der 6. Erhebungswelle 2017. Bonn: infas.

Klaus, D., & Engstler, H. (2017). Daten und Methoden des Deutschen Alterssurveys. In K. Mahne, J. K. Wolff, J. Simonson & C. Tesch-Römer (Eds.), Altern im Wandel: Zwei Jahrzehnte Deutscher Alterssurvey (pp. 29-45). Wiesbaden: Springer VS. doi: https://doi.org/10.1007/978-3-658-12502-8_2

Klaus, D., Engstler, H., Mahne, K., Wolff, J. K., Simonson, J., Wurm, S., & Tesch-Römer, C. (2017). Cohort profile: The German Ageing Survey (DEAS). International Journal of Epidemiology, 46 (4), pp.1-8. doi: https://doi.org/10.1093/ije/dyw326

Kohli, M., Künemund, H., Motel, A., & Szydlik, M. (2000). Soziale Ungleichheit. In M. Kohli & H. Künemund (Hrsg.), Die zweite Lebenshälfte - Gesellschaftliche Lage und Partizipation im Spiegel des Alters-Survey (S. 318-336). Opladen: Leske + Budrich.

Mahne, K., Wolff, J. K., Simonson, J., & Tesch-Römer, C. (Eds.). (2017). Altern im Wandel. Zwei Jahrzehnte Deutscher Alterssurvey (DEAS). Wiesbaden: Springer VS. doi: https://doi.org/10.1007/978-3-658-12502-8

Mayer, K.-U., & Wagner, M. (1999). Lebenslagen und soziale Ungleichheit im hohen Alter. In K.-U. Mayer & P. B. Baltes (Hrsg.), Die Berliner Altersstudie (S. 251-275). Berlin: Akademie Verlag.

Motel-Klingebiel, A., Wurm, S., Engstler, H., Huxhold, O., Jürgens, O., Mahne, K., et al. (2009). Deutscher Alterssurvey: Die zweite Lebenshälfte. Erhebungsdesign und Instrumente der dritten Befragungswelle (DZA Diskussionspapier Nr. 48). Berlin: Deutsches Zentrum für Altersfragen.

Motel-Klingebiel, A., Wurm, S., & Tesch-Römer, C. (Hrsg.) (2010). Altern im Wandel. Befunde des Deutschen Alterssurveys (DEAS). Stuttgart: Kohlhammer.

Nunn, A. J., & Gregg, I. (1989). New regression equations for predicting peak expiratory flow in adults. British Medical Journal, 298, 1068-1070.

Pavot, W., & Diener, E. (1993). Review of the Satisfaction With Life Scale. Psychological Assessment, 5(2), 164-172.

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy Scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), Measures in health psychology: A user's portfolio. Causal and control beliefs (pp. 35-37). Windsor, UK: nferNELSON.

Schwarzer, R., & Jerusalem, M. (1999). Skalen zur Erfassung von Lehrer- und Schülermerkmalen. Dokumentation der psychometrischen Verfahren im Rahmen der Wissenschaftlichen Begleitung des Modellversuchs Selbstwirksame Schulen. Berlin: Freie Universität.

Snyder, C. R., Harris, C., Anderson, J., Holleran, S. A., Irving, L. M., & Sigmon, S. T. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. Journal of Personality and Social Psychology, 60, 570-585.

Tesch-Römer, C., Wurm, S., Hoff, A., & Engstler, H. (2002). Die zweite Welle des Alterssurveys. Erhebungsdesign und Instrumente (DZA Diskussionspapier Nr. 35). Berlin: Deutsches Zentrum für Altersfragen.

Tesch-Römer, C., Engstler, H., & Wurm, S. (Hrsg.) (2006). Altwerden in Deutschland. Sozialer Wandel und individuelle Entwicklung in der zweiten Lebenshälfte. Wiesbaden: VS Verlag für Sozialwissenschaften.

Tewes, U. (1994). HAWIE-R: Hamburg-Wechsler-Intelligenztest für Erwachsene, Revision 1991. Handbuch und Testanweisung. Bern u.a.: Huber.

Trappmann, M. (2014). Weights. In: Bethmann, A., Fuchs, B. & Wurdack, A. (Eds.) (2013): User guide „Panel Labour Market and Social Security" (PASS). Wave 6. FDZ Datenreport 07/2013 (S. 81-99). Nürnberg.

Treiman, D. J. (1977). Occupational prestige in comparative perspective. New York: Academic Press.

Vogel, C., Wettstein, M., & Tesch-Römer, C. (Eds.). (2019). Frauen und Männer in der zweiten Lebenshälfte. Älterwerden im sozialen Wandel. Wiesbaden: Springer VS.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54, 1063-1070.

Wechsler, D. (1955). Manual for the Wechsler Adult Intelligence Scale. New York: Psychological Corporation.

Wegener, B. (1988). Kritik des Prestiges. Opladen: Westdeutscher Verlag.