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Schweizer Haushalt-Panel
Panel suisse de ménages
Swiss Household Panel

Swiss Household Panel
User Guide
(1999 - 2017)

Wave 19
December 2018

By

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Acknowledgements
The Swiss Household Panel data are collected within the framework of the research program “Living in Switzerland”, financed by the Swiss National Science Foundation. The SHP is based at the Swiss Centre of Expertise in the Social Sciences FORS in Lausanne.

This guide is also based on the work of past members of the SHP-Team.

How to cite this document:
Voorpostel, M., Tillmann, R, Lebert, F., Kuhn, U., Lipps, O., Ryser, V.-A., , Antal, E., Monsch, G.-A., Dasoki, N., & Wernli, B. (2018). *Swiss Household Panel Userguide (1999-2017), Wave 19, December 2018.* Lausanne: FORS.

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1 User Guide SHP Table of Contents

1 INTRODUCTION 5
1.1 Aims and Analytic Potential 5
1.2 Institutional Setting 6
1.3 SHP and CNEF 6
1.4 LIVES Cohort and SHP Vaud 6
1.5 Access to the data and data protection rules 7
1.6 Getting more information 7
2 STUDY DESIGN 9
2.1 General design of the SHP 9
2.2 Sample structure 9
2.2.1 Sampling frame 9
2.2.2 Sampling design 10
2.2.3 Coverage 11
2.3 Survey modes 12
2.4 Follow-up procedure 12
2.5 Questionnaires 13
2.5.1 General content of the questionnaires 13
2.5.2 Modular design 15
2.5.3 The life calendar (SHP_III Wave 1) 16
3 FIELDWORK 17
3.1 Approaching the participating households 17
3.2 Selecting and training interviewers and supervisors 17
3.3 Measures to increase response 18
3.3.1 Incentives for the interviewers 18
3.3.2 Incentives for the participating households 18
3.3.3 Refusal conversion 18
3.3.4 Staying in contact with the respondents 19
3.4 Quality control 19
3.5 Fieldwork SHP_III Life Calendar (Wave 1) 19
3.5.1 Approaching the participating households 19
3.5.2 Selection and training of interviewers and supervisors 20
3.5.3 Measures to increase response 20
4 DATA QUALITY 21
4.1 Response rates and attrition 21
4.1.1 Response rates 21
4.1.2 Attrition in the three SHP samples 25
4.2 The weighting scheme of the SHP 27
4.2.1 Overview of techniques 27
4.2.2 Overview of the current weights 29
4.2.3 Selection of the appropriate weight 30
4.2.4 Additional notes of caution 33
4.3 Data cleaning: Consistency checks and corrections 33
5 DATA DOCUMENTATION 34
5.1 Data files 34
5.1.1 Master files: households and individuals 34
5.1.2 Annual files: households and individuals 34
5.1.3 Calendar file 34
5.1.4 Last job file 38

5.1.5 Social origin file 38
5.1.6 Biographical files 39
5.1.7 Interviewer files 41
5.2 Variable naming conventions 41
5.3 Constructed variables 43
5.3.1 Variables related to survey participation 43
5.3.2 Socio-demographic variables 44
5.3.3 Education 45
5.3.4 Work status, occupation and social position 47
5.3.5 Professional integration 52
5.3.6 Income 53
5.3.7 Geographical information 57
5.4 References for psychosocial variables 58
5.4.1 Subjective well-being indicators and scales 58
5.4.2 Personality traits: Big Five Inventory – 10 (BFI-10) 60
5.4.3 Additional psychological scales 61
5.4.4 Gender role attitudes 63
5.4.5 Additional scales (SHP_III, SHP-Vaud, and LIVES-Cohort) 64
5.5 Missing value conventions and imputation procedures 65
5.6 Combining data files 66
5.7 Changing the language of variables and value labels 67
Appendix A List of cantons in Switzerland 73
Appendix B Participation in the Swiss Household Panel 74
Appendix C Attrition by demographic characteristics and social involvement 78

1 INTRODUCTION

1.1 Aims and Analytic Potential

The principal aim of the Swiss Household Panel (SHP) is to observe social change, in particular, the dynamics of changing living conditions and social representations in the population of Switzerland. The creation of the SHP was one of the key structural measures implemented by the Swiss Priority Program "Switzerland Towards the Future" during the period 1998-2003 and had two main purposes (Farago 1996, Joye and Scherpenzeel 1997):

1) To ensure a solid database for social reporting on stability and changes in living arrangements and well-being in Switzerland, that complements data collected by the Swiss Federal Statistical Office;
2) To promote opportunities for quantitative social science research, by making high-quality data available to Swiss social scientists and to the international social science research community.

The design and content of the SHP is based on insights from the social sciences and the experiences made by various panel surveys[1] in Europe and North America (Budowski et al. 1998, Budowski et al. 2001, Joye and Scherpenzeel 1997). Like other households panels, the SHP is an instrument to fine-tune our conceptions and analyses of social dynamics (Budowski et al. 2001, Berthoud and Gershuny 2000, Rose 1995). The SHP allows the study of the effects of changes at the macrosocial level on the living conditions of households and individuals, the manner in which these changes affect the individuals and households, and how they produce social change on a microsocial level. The data collected from household panels allow not only estimating gross transitions but also providing an "understanding" of the transitions observed. In other words, by observing the same individuals over time we can study overall change as well as the flow of movements between the various states and to establish links of causality between different factors and events.

Moreover, the SHP is a comprehensive survey covering a broad range of fields and a variety of topics. This makes the SHP a valuable source of information for studies in different disciplines and allows for cross-domain analyses. Another strong feature of the SHP is that all members of the households in the panel aged 14 years and over are interviewed. This allows for intra-household studies, such as the study of mutual influence of household members' attitudes and behaviour over time.

[1] Panel data is data collected about the same units at more than one point in time. It allows for insights into dynamic transformations – social processes and changes across time (Menard 2002). Instead of simply taking a snapshot of people and households at one given point in time, by interviewing the same households and their members annually, panel data enables the following; the observation of changes for the same entities, the reconstruction of the nature and development of their actions, the examination of precedents, concurrent dynamics, and the consequences of alternative strategies.

1.2 Institutional Setting

To date, the SHP has experienced three main periods. In its first phase (1998-2003), when it was created by the Swiss Priority Program "Switzerland Towards the Future", the SHP was a joint project run by the Swiss National Science Foundation, the Swiss Federal Statistical Office and the University of Neuchâtel. At the end of the SPP "Switzerland Towards the Future", the SHP entered its second phase (2004-2007). Still located at the University of Neuchâtel, the SHP developed a joint venture project "Living in Switzerland-2020" aimed at conducting the Statistics of Income and Living Conditions (SILC) pilot study 2004-2005 in collaboration with the Swiss Federal Statistical Office. The SILC pilot data were distributed by the SHP until the end of 2008. The third phase of the SHP is linked to the integration into the Swiss Centre of Expertise in the Social Sciences (FORS). Still mainly funded by the Swiss National Science Foundation, the SHP is part of FORS and hosted by the University of Lausanne since 2008.

1.3 SHP and CNEF

Since 2008 the SHP participates in the Cross-National Equivalent File (CNEF). The CNEF contains equivalently defined variables for the American Panel Study of Income Dynamics (PSID), the German Socio-Economic Panel (GSOEP), the British Household Panel Study (BHPS), the Household Income and Labour Dynamics in Australia (HILDA), the Canadian Survey of Labour and Income Dynamics (SLID), the Korea Labor and Income Panel Study (KLIPS), the Swiss Household Panel (SHP), and the Russia Longitudinal Monitoring Survey (RLMS). The data are designed to allow cross-national researchers access to harmonized versions of these panels.[2] The CNEF data for the SHP are distributed through FORSbase with the regular SHP data. See:
https://forsbase.unil.ch/project/study-public-overview/15632/0/.

1.4 LIVES Cohort and SHP Vaud

The LIVES Cohort and SHP Vaud surveys are separate studies but can be seen as additional samples of the SHP. The studies run in parallel and share most of the questions and modules.

The SHP Vaud is a stratified sample of the population in the canton of Vaud with an over representation of poor households. It is managed in collaboration with the Department of Health and Social Action (DSAS) of the canton of Vaud, FORS, and LIVES. The SHP Vaud uses the same design as the SHP and interviews all people older than 14 years in the household. Specific questions on social policies, welfare transfers and the financial situation of the household were added to the regular questionnaire of the SHP in Waves 1 to 5. For more information, and to get access to the data of SHP Vaud, see FORSbase:

https://forsbase.unil.ch/project/study-public-overview/13493/0/
The LIVES Cohort is different from the SHP because it includes only individuals born between 1988 and 1997 residing in Switzerland on the 1st of January 2013 and schooled in Switzerland prior to the age of 10. Also, only the targeted member of the household completes an individual questionnaire (and not all household members as in the SHP). The

[2] For more information, see http://cnef.ehe.osu.edu/ or Frick et al. (2007).

sample over-represents second-generation immigrants, i.e. respondents whose parents were both born abroad and who have arrived in Switzerland after the age of 18 years. The aim of this study was to build an extensive sample of second-generation immigrants across Switzerland. Starting from a stratified random sample, the selection process used a controlled network sampling method. For more information, and to get access to the data of LIVES Cohort, see FORSbase:

https://forsbase.unil.ch/project/study-public-overview/15638/0/

For more information on the sampling procedure and the weighting system in the LIVES Cohort and SHP Vaud studies see the respective technical reports (under constructed variables/weighting):

https://forscenter.ch/projects/swiss-household-panel/documentation/

1.5 Access to the data and data protection rules

The SHP data are available at no charge through FORSbase. Users must sign a user agreement to get access to the data. The procedure is explained on the SHP website, with a link to FORSbase:

https://forscenter.ch/projects/swiss-household-panel/data/

Access to the SHP data is only granted for non-commercial purposes. It is strictly forbidden to attempt to identify particular households or individuals and to make parts or all of the data available to a third party. In a research team, all users have to sign the contract individually. SHP data users commit themselves to sending a copy of all working papers, final reports or publications to the SHP (swisspanel@fors.unil.ch).

1.6 Getting more information

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2 STUDY DESIGN

2.1 General design of the SHP

The SHP survey “Living in Switzerland” covers a broad range of topics and approaches in the area of social sciences. The survey is conducted annually from September to February by M.I.S. Trend in Lausanne and Bern.

The SHP is an indefinite life (simple) panel, i.e. the same persons and households are interviewed annually and answer, with a few exceptions, the same questions. At present, the SHP comprises three samples drawn by the Swiss Federal Statistical Office: the SHP_I (the sample of households and individuals interviewed for the first time in 1999), the SHP_II (interviewed for the first time in 2004) and the SHP_III (interviewed for the first time in 2013).

The SHP collects information at the household and the individual level, using three types of questionnaires: a household grid questionnaire to assess the household composition (lasting less than 10 minutes), a household questionnaire (lasting 15 minutes on average) and an individual questionnaire (lasting around 35 minutes). All individuals aged 14 or more (living in the household) are eligible to complete the individual questionnaire. The household questionnaire includes in addition a proxy questionnaire on household members younger than 14 years, household members who are absent for a long period, or who are unable to respond due to illness or disability.

2.2 Sample structure

The SHP consists currently of three different samples: SHP_I was drawn in 1999, SHP_II in 2004 and SHP_III in 2013. Because of the temporal differences, there are also some distinctions in the respective sampling frames and the sampling designs.

2.2.1 Sampling frame

The first sample (SHP_I) is a stratified random sample of private households whose members represent the non-institutional resident population in Switzerland. In 1999, the methodology section of the Swiss Federal Statistical Office drew a simple random sample in each of the seven major statistical regions of Switzerland from the Swiss telephone directory (SRH – Stichprobenregister für Haushalterhebungen, or sample frame for household surveys).

In order to compensate for attrition of the original 1999 sample (due to deaths, hospitalisation, migration, refusals), a refreshment random sample of households was added in 2004 (SHP_II) following the same methodology. The sampling frame was CASTEM (Cadre de Sondage pour le Tirage d'Echantillons de Ménages), the follow-up register of SRH, which is owned by the Swiss Federal Statistical Office and also represents a telephone directory.

A second refreshment sample started in 2013 (SHP_III). This sample was drawn from the SRPH (Stichprobenrahmen für die Personen- und Haushaltserhebungen), which consists of data coming from the cantonal and communal register of residents and which is owned by the Swiss Federal Statistical Office. As this sampling frame is on an individual basis, the selection units of the SHP_III were individuals rather than households.

2.2.2 Sampling design

The samples of SHP_I, SHP_II and SHP_III are stratified by major geographic region (NUTS II), in proportion to the number of households (or individuals in the case of the SHP_III) per stratum, see Graf (2009). This means that for the SHP_I and the SHP_II the selection was proportional to the number of households per major region without overrepresentation of smaller regions. For the SHP_III, the number of addresses was proportional to the number of individuals per major region. In both cases the selection did not take into account the average number of persons in households per region. Within one major region, each household (SHP_I and SHP_II) or individual (SHP_III) had the same inclusion probability.

The addresses of the gross sample are distributed according to the following proportions (SHP_I: census 1990; SHP_II: 2000 census; SHP_III: STATPOP 2012):

Table 2.1 Stratification of gross sample

Strata	Cantons[a]	Proportion of addresses SHP_I (%)	Proportion of addresses SHP_II (%)	Proportion of addresses SHP_III (%)
Lake Geneva region	VD, VS, GE	18.45	18.22	18.90
Mittelland	BE, FR, SO, NE, JU	23.25	22.92	22.25
North-west Switzerland	BS, BL, AG	13.44	13.86	13.57
Zurich	ZH	17.51	18.22	17.52
Eastern Switzerland	GL, SH, AR, AI, SG, GR, TG	15.68	13.70	13.98
Central Switzerland	LU, UR, SZ, OW, NW, ZG	7.20	8.75	9.53
Ticino	TI	4.47	4.33	4.25
Total		100	100	100

[a]) See Appendix A for a list of cantons and their abbreviations

The size of the strata at the moment of the selection for SHP_I,SHP_II and SHP_III were as follows:

Table 2.2 Sizes of strata at the time of selection (number of households for SHP_I and SHP_II and numbers of individuals for SHP_III)

Strata	Cantons	SHP_I (N): households	SHP_II (N): households	SHP_III (N): Individuals
Lake Geneva region	VD, VS, GE	714'725	648'590	1'519'189
Mittelland	BE, FR, SO, NE, JU	837'452	784'266	1'788'791
North-west Switzerland	BS, BL, AG	484'667	455'833	1'091'302
Zurich	ZH	646'469	587'850	1'408'575
Eastern Switzerland	GL, SH, AR, AI, SG, GR, TG	531'731	493'606	1'123'672
Central Switzerland	LU, UR, SZ, OW, NW, ZG	313'548	306'605	765'879
Ticino	TI	180'623	160'123	341'652
Total		3'709'215	3'436'873	8'039'060

2.2.3 Coverage

Because of the different sampling frames, the population of reference differs slightly by sample. For the SHP_I and the SHP_II, the population of reference consists of all individuals living in private households in Switzerland who had a telephone connection registered in the telephone directory (landline or mobile). The sampling frame of the SHP_III includes all individuals living in private households in Switzerland, independent of the availability of a telephone connection.
For all three samples individuals living in old peoples' homes, institutions, collective households or prison, are not part of the population of reference.

In 1999, at the time of the selection of the sample for the SHP_I, the SRH's coverage rate was about 95%. An estimated 98.5% of private households had a telephone connection at the time of the selection of the sample for the SHP_II in 2004. The CASTEM covered about 93% of these households.

The sampling frames SRH and CASTEM are subject to the following errors:

- *undercoverage*: some households were not listed in the directory at the time of selection. This includes households with unlisted numbers and households without a telephone connection. This problem may produce bias in the estimates based on the actually observed population (SHP survey) compared to those that would have been observed based on the target population (see Lipps & Kissau, 2012).

- *duplicates:* some households appear more than once in the survey frame. This problem results in incorrect initial selection probabilities. As the effect is negligible, no correction factor was calculated for households with multiple telephone lines.

- *overcoverage*: selection of units outside the target population (businesses, homes, prisons, collective households, second homes ….). It should be noted that for a panel, this problem is only encountered at wave 1 and that these addresses are considered out of sample.

The SRPH is updated every three months by the communities and cantons. The entries are thus not based on the entry of a phone directory, but on the register in the municipality or the canton. Although undercoverage or overcoverage can still occur, they are negligible.

2.3 Survey modes

The SHP initially conducted interviews exclusively by telephone. Since 2010 the SHP has offered alternative modes to respondents who were reluctant to participate in prior waves. Households that are unwilling to respond by telephone are allowed to complete the household and individual questionnaires with a face-to-face interviewer, while a web-based version of the individual questionnaire is offered after an initial refusal or stated reluctance to participate. In practice, these alternative modes are rarely used (for example, 0.5% of the household questionnaires were completed face-to-face and 1.8% of the individual questionnaires were completed by web in 2015).

At the start of the second refreshment sample in 2013, the SHP approached households without telephone numbers face-to-face (8.9% of the households completed the household questionnaire face-to-face in 2013). The majority of the face-to-face respondents from wave 1 in 2013 have subsequently participated by telephone (see Table 2.3). The use of web on the individual level is increasing over time.

Table 2.3 Modes in the SHP_I, SHP_II and SHP_III (combined) completed questionnaires on the household and the individual level (2010-2017)

	2010	2011	2012	2013	2014	2015	2016	2017
Household questionnaire								
Telephone	4,539	4,495	4,458	7,615	7,289	6,746	6,236	5,929
Face-to-face	2	1	2	741	69	40	26	26
Total	4,541	4,496	4,460	8,356	7,358	6,786	6,262	5,955
Individual questionnaire								
Telephone	7,498	7,562	7,417	7,192	11,973	10,903	9,803	9,166
Face-to-face	3	2	4	1	100	57	33	32
Web	43	18	22	11	14	206	193	281
Total	7,544	7,582	7,443	7,204	12,087	11,166	10,029	9,479

2.4 Follow-up procedure

For the SHP_I, all households that were interviewed in the first wave (with at least the household questionnaire and one individual questionnaire completed) formed the initial panel to be followed over time. For the SHP_II and SHP_III, all households that completed at least the grid questionnaire in the first wave were approached again. Households that were not reached at all during the first wave or those that did not supply any information at the time of the first wave were not included in the panel in later waves. Households were no longer approached if they could not be contacted for seven waves, refused to participate any longer, moved away from Switzerland, or moved to an institution.

On the individual level, the SHP initially only followed original sample members[3] (OSMs) from the first wave and their children; non-OSMs[4] were only (re-)interviewed as long as they lived with an OSM. Since 2007, non-OSMs have also been followed and have been entered into the panel as a new household upon leaving the original household. As a general rule, OSMs are followed indefinitely until they leave the target population (e.g., in the case of death or institutionalisation).

2.5 Questionnaires

2.5.1 General content of the questionnaires

The Living in Switzerland survey is a comprehensive survey. The questionnaires (household and individual) cover a broad range of fields and topics. They collect both „objective" (resources, social position, participation, etc.) and „subjective" data (satisfaction, values, evaluation, etc.). The whole constitutes an operationalisation of the different elements of the microsocial level: living conditions, life events, attitudes and perceptions, and lifestyles/ways of life (Budowski et al., 1998). Over the course of the panel, a number of questions and topics have been added. Please consult our online documentation for a complete and detailed overview of all variables in the different waves.

The questionnaire at *the household level* covers the following areas (Tillmann et al., 2016):

1. *composition of the household:* basic information (collected in the grid questionnaire) about all the members of the household, such as their age, sex, relations, nationality, level of education, and occupational status;
2. *accommodation:* the type and size of the accommodation, renovations, home ownership or tenancy, cost of and/or the subsidies received for housing, satisfaction with the accommodation, and evaluation of the state of the accommodation;
3. *standard of living*: possession of various goods such as cars, televisions or computers, and participation in various activities, such as holidays, meals at restaurants, or dentist visits, and the reasons (financial or otherwise) households do not have these goods or carry out these activities;
4. *the household's financial situation*: financial difficulties, indebtedness (and the reasons for it), total household income, household wealth, payments to other households, expenses (e.g. for childcare), satisfaction with income, money management within the household, an estimate of the minimum income the household considers necessary, and an evaluation of how the household's financial situation has evolved;
5. *the household and the family*: external help available to the household for housework, childcare, or care for other household members, the division of housework and childcare, and decision-making within the household.

The *individual questionnaires* cover the following main topics[5]:

1. *socio-demographic characteristics:* age, gender, civil status, nationality, residence permit, native language(s)

[3] These include all eligible household members living in the selected households in the first wave (in 1999, 2004 or 2013).

[4] Non-OSMs are persons who entered the selected households after the first wave, and who are not children of any OSM.

[5] The first wave of the SHP_III did not include an individual questionnaire. The first time an individual questionnaire was administered was in Wave 2 (2014). In Wave 1 in addition to the grid and household questionnaire, respondents completed a biographical questionnaire (see 2.4.7).

2. *the household and the family:* information on children living outside the household, time spent on housework, and satisfaction with the partner, with private life and the share of housework;
3. *health and quality of life:* general illness and health problems, doctor and hospital visits, chronic health conditions, worry and stress, self-perceived health, estimated evolution of health, satisfaction with health and with life in general, victimization and feelings of safety, tobacco consumption, healthy eating habits, sports and physical activities;
4. *social origin (asked at first interview only):* information related to each respondent's parents, including profession, professional position, educational level, political positioning, nationality and any financial difficulties in the family of origin (at the reference age of 15);
5. *education:* level of education completed, education currently being pursued, field of study, educational and professional aspirations, and participation in on-the-job training;
6. *employment*: employment status, information on the respondent's profession, such as working conditions, number of hours worked, work schedule, atypical work, status in the labour market, previous jobs, job satisfaction, job insecurity, personal qualifications, and an occupational calendar assessing (on a monthly basis) the employment situation in the twelve months prior to the interview. For unemployed job seeking behaviour and registration at an employment agency;
7. *income:* total personal income, total professional income, social security pensions, social and private transfers, and other income, plus satisfaction with the financial situation and evaluation of changes in it;
8. *participation, integration, and networks:* frequency of social contacts, volunteering, participation in associations, membership of and participation in groups, evaluation of potential practical help and emotional support (from various social network ties) and general trust in people;
9. *politics and values:* political participation, political party membership, party identification, political positioning, satisfaction with the political system, evaluation of issues and political values;
10. *religion:* denomination, frequency of attendance of religious gatherings,
11. *leisure and media:* leisure activities, amount of leisure and holiday time, use of media, and satisfaction with leisure and free time.
12. *psychological scales*: dimensions of self-perception (such as self-mastery, risk aversion, and self-esteem) and other aspects like the Big Five personality traits.
13. *life events:* the occurrence of events such as the termination of relationships, deaths of family or friends, and conflicts with relatives.

These topics are covered in all three samples. The SHP_III includes a few additional questions:

- *Identity:* Questions on identity and identification with different social categories (P15C160 – P15C168).
- *Experiences of discrimination* (P15C169 – P15C177)
- *Geographical mobility***:** the geographical mobility of the respondents to practice their religious activities (P15R29-P15R33) and with regard to education and employment (P$$E38-P$$E42, P$$W617-P$$W621).
- *Experiences of anomie* (P14P87-P14P93)**:** the respondents' experiences of anomie in society.
- *Regional sense of belonging* (P14P81-P14P86)

- *Importance of goods/activities:* the importance of a number goods and activities of the household (H13I121-H13I135).

More information on the content of the questionnaires is available in FORSbase: https://forsbase.unil.ch/project/study-public-overview/15632/0/

2.5.2 Modular design

In 2009, the SHP introduced a new system of modularization, mainly in the individual questionnaire, similar to other panels such as the GSOEP, BHPS and HILDA. The SHP now contains three different types of questions: (1) questions asked only once (usually in the first interview), (2) questions asked each wave and (3) questions asked regularly, but not each year (see Table 2.4).

Table 2.4: Questionnaire content

Topics	Unique	Core	Rotating core
Last job[1]	X		
Social origin	X		
Socio-demographics		X	
Life events		X	
Health		X	
Education		X	
Current job		X	
Occupational calendar		X	
Income		X	
Social network			x
Leisure			x
Social participation			x
Politics			x
Religion			x
Psychological scales			x

[1]) Last job refers to the last job held prior to entering the panel for those respondents who were not in employment at the time of the first interview.

The rotation calendar is the following:

Table. 2.5: Rotation calendar of the SHP modules from 2010 to 2020

Module	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Social network	X			X			X			X	
Religion			X			X			X		
Social participation		X			X			X			X
Political behaviour and values		X			X			X			X
Leisure and culture	X			X			X			X	
Psychological scales			X			X			X		

When making the shift to a modular design, the SHP evaluated the existing questionnaire and made some adaptations (2010-2013). In most modules, additional questions were included when the modular design was introduced. Please consult our online documentation for a complete list of variables for each domain.

2.5.3 The life calendar (SHP_III Wave 1)

The questionnaires used in the first wave of the SHP_III differed from the SHP_I and SHP_II. The aim of the first wave of the SHP_III was to collect retrospective individual biographical data. For this purpose respondents in the SHP_III sample completed, in addition to the regular grid and household questionnaire, a life calendar. The SHP_III life calendar is presented as a two way grid with the temporal dimension in years in rows, and various domains of life in columns. Respondents were asked to report events for each domain of life in this grid. This questionnaire has been developed in collaboration with the NCCR LIVES.

The grid provides a visual structure which enhances several aspects of memory retrieving (Caspi et al., 1996). The SHP_III participants can visualize their life trajectories in all domains and can therefore link the occurrence and duration of events in different domains. Interrelatedness facilitates recall for distinct events, because interrelated themes reflect the individual autobiographical memory (Belli, 1998; Belli, Lee, Stafford, & Van Hees, 2002). The visual structure also helps to detect gaps and inconsistencies. Overall this method produces high quality retrospective data (Freedman et al., 1988).

The life calendar covers the following domains of life: residential trajectory, residence permit, living arrangements, partner relationships and changes in civil status, family events, professional activities, and health.

Although the domain of *education* was not included in the life calendar, the educational trajectory was assessed in Wave 2 of the SHP_III.

See for more information on the SHPIII files 5.1.6.

3 FIELDWORK

This chapter describes the fieldwork process from how the participating households are approached to the measures taken to increase response and quality control. Since the beginning in 1999, the fieldwork for the Swiss Household Panel (SHP) is done by M.I.S. Trend in Lausanne and Bern (www.mistrend.ch), in German, French and Italian.

3.1 Approaching the participating households

The fieldwork is scheduled from September to February and starts with sending a letter to the participating households informing them of the upcoming interviews. To make sure that the first personal contact by an interviewer follows shortly after the initial mail (approximately one week later), the letters are sent in five mailings with an interim of one week. Enclosed with the preliminary mail, participants receive a newsletter containing results of recent analyses of the SHP data as well as an unconditional incentive (for further information see 3.3).

Households that did not respond since at least one wave are contacted at a later point in time, also divided in three groups. They are treated like households refusing in the current wave as part of the refusal conversion procedure (see 3.3.3).

3.2 Selecting and training interviewers and supervisors

To guarantee a smooth functioning of the fieldwork, M.I.S. Trend employs a large group of interviewers and specially trained supervisors. Before the fieldwork starts, interviewers and supervisors participate in a training.

The supervisors' training prepares the supervisors for their roles as contact persons, organizers of the interviews and supervisors of the interviewers. The supervisors – who are experienced interviewers themselves – are responsible for the performance of the interviewers.

The aim of the interviewers' training is to become familiar with the SHP in general, with its longitudinal design and the specific challenges. Complex items are discussed and the interviewers learn how to convince respondents to participate in the study. They work through the questionnaires and study the training manual as well as the advance letters and newsletters that the participating households received.

The training sessions are conducted by M.I.S. Trend in Lausanne and Bern, assisted by the supervisors and a member of the SHP-Team. M.I.S. Trend ensures a strict selection of experienced interviewers and guarantees that all interviews are conducted by native speakers.

For the refusal conversion, M.I.S. Trend uses only the most successful interviewers – measured by their individual response rates and the quality of their interviewing performance. They receive an additional training focused on refusal conversion.

3.3 Measures to increase response

Over the past years, the SHP has taken several measures to minimize attrition. These measures concern incentives for the interviewers, incentives for the participating households, refusal conversion, maintaining contact with the households and minimizing non-contact.

3.3.1 Incentives for the interviewers

To increase motivation, the interviewers can earn two collective bonuses. One bonus is based on the overall response rate: all interviewers together have to accomplish at least 95% of last year's individual interviews. The second bonus is only oriented towards interviewers who are engaged in refusal calls and is based on the refusal conversion rate. Additionally, there are regular briefings of all interviewers and supervisors on the progression of the fieldwork.

3.3.2 Incentives for the participating households

Since wave 12 an *unconditional* incentive is offered to each eligible respondent. This incentive is sent to the households with the announcement letter for the new wave.

Between wave 12 and wave 14, an additional conditional incentive was offered to *complete households*. A household is called "complete" if all members of the household of 14 years or older completed the individual interview and if the household reference person completed the grid and the household questionnaire. This additional incentive was only offered to households consisting of at least two members and was given to the participants at the end of the fieldwork. For budgetary reasons this additional incentive was dropped in wave 15.

3.3.3 Refusal conversion

Households that have not participated in the survey for at least one year have been re-approached progressively. These households receive a preliminary letter with the request to come back to the study. Also households and individuals who refuse participation in the current wave are re-contacted toward the end of the fieldwork period by interviewers who received training in refusal conversion.

The refusal conversion rate, calculated as the percentage of completed individual interviews of all eligible individuals who refused previously, amounts to about 45% (Lipps, 2011). See the working paper by Dangubic and Voorpostel (2017) for more details on the refusal conversion procedure (http://ohs-shp.unil.ch/workingpapers/WP2_17.pdf).

3.3.4 Staying in contact with the respondents

To avoid household drop out of the panel because of unsuccessful tracing (due to moving, changed phone numbers, household splits, etc.), several measures ensure that contact can be re-established with the respondents in later waves.

First, the participating households are informed annually by means of a newsletter enclosed with the advance letter at the start of each fieldwork phase. The newsletters can be viewed here: https://forscenter.ch/projects/swiss-household-panel/participants/

Second, respondents are asked to leave their mobile number and/or their e-mail address. If respondents are not willing to give this information or do not have a mobile number or e-mail address, they are asked to leave the address of an auxiliary (e.g. a family member living outside of the household or a close friend) who can help in case of losing track of the respondent.

Third, households are called on different days of the week and on different times during the day in order to minimize noncontact. And fourth, a bilingual interviewer is responsible for administration and tracking of the addresses and finding relocated respondents. The following measures are taken by this interviewer in case the advance letter is returned to sender:

- Checking whether phone number is still valid
- Contacting mobile phone, e-mail address or auxiliary
- Searching directories and the local inhabitant register
- Request the dcl data care (a service of the Swiss post mandated to seek currently valid household addresses and the corresponding phone numbers)
- If no phone number can be found, a form is sent to the address provided by the dcl data care asking to complete contact details.

3.4 Quality control

Prior to each wave, extensive pre-tests are carried out, checking correct technical functioning of filters and new items and running different scenarios. After the training of supervisors and interviewers (for more details see 3.2), the fieldwork agency monitors the interviewer performance during the fieldwork: supervisors listen in to the interviews, evaluate interviewers on several criteria (e.g. accurateness and pace of reading, argumentation), document performance and give feedback to the interviewers. M.I.S. Trend carries out the training and monitoring of interviewers in collaboration with the SHP-Team.

3.5 Fieldwork SHP_III Life Calendar (Wave 1)

3.5.1 Approaching the participating households

The fieldwork for the third sample of the SHP is also done by M.I.S. Trend in Lausanne and Bern (www.mistrend.ch). The first wave of the SHP_III took place from September 2013 to March 2014. It consisted of a paper and pencil biographical questionnaire in addition to the grid and the household questionnaires done by CATI or CAPI.

Fieldwork for the SHP_III took place in parallel with the SHP_I and SHP_II and started with sending a letter and an informative flyer to the participating households informing

them about the upcoming interviews. For the biographical questionnaire in the first wave of the SHP_III only participants aged 16 or older were eligible. Two different approaches were used: one for households for which address and telephone number were available and one for households for which only an address was known.

When a telephone number was known, households were contacted by phone to complete the grid and household questionnaires (CATI). Two to four days after this initial interview, biographical questionnaires, an instruction manual and a return envelope were sent to all eligible participants. Participants who did not return the biographical questionnaire within two weeks received a reminder. Participants who still did not respond within the two weeks following this first reminder were re-contacted by a special face-to-face team. This team provided help with the completion of the biographical questionnaire if needed.

If no telephone number was available, interviewers went to the households to complete the grid and household questionnaire face-to-face (CAPI). If possible, the respondents also completed the biographical questionnaire at this time. Otherwise, the biographical questionnaire, a manual and a return envelope were left with the respondent who could complete the questionnaire at a later time. The follow up of nonrespondents was the same as for the households with known telephone number.

3.5.2 Selection and training of interviewers and supervisors

Before the start of the fieldwork, interviewers and supervisors followed a training, either a three-hour training for CATI interviews, or a one-day training for CAPI interviews. In addition to the general training for the SHP, the training addressed the specific difficulties of the biographical questionnaire. Interviewers were also asked to complete their own biographical questionnaire to fully understand the objectives of the questionnaire and to become familiar with the difficulties that may arise.

3.5.3 Measures to increase response

The measures to increase response follow the design of the main study, and include incentives for interviewers, respondents, tracing, and refusal conversion.

4 DATA QUALITY

4.1 Response rates and attrition

4.1.1 Response rates

Initial response rates (in the first wave) at the household level were 64% for SHP_I, 65% for SHP_II an 60% for SHP_III. On the individual level, initial response rates (conditional upon household participation) were 85%, 76%, and 81%, respectively. Tables 4.1 to 4.3 indicate the number of interviewed households and persons for the years 1999-2017 in the three SHP samples. See Appendix A for further detail on response figures.

SHP_I

For the SHP_I (waves 1 to 19), 5,074 households were first interviewed in 1999. In the nineteenth wave, 2,620 households and 4,232 persons responded (Tables 4.1 and 4.2). Out of the 7,799 persons interviewed for the first time in 1999, 18% (n=1,404) completed a personal interview in each of the following waves including the nineteenth wave conducted in 2017 (Table 4.3).

Over time the number of households and individuals participating in the SHP declines. The drop in participation was particularly high in the second (13%) and the fourth (11%) waves at the household level (Table 4.1, % A), and in the fourth wave at the individual level (12%, see Table 4.2, % A). Between 2006 and 2010 (2011) the number of households (individuals) interviewed increased due to various measures taken to re-introduce households that were abandoned earlier into the study. Response has been rather stable since 2011, but show a slight decline over time.

SHP_II

In the SHP_II (waves 1 to 14), 2,538 households and 3,654 individuals were first interviewed in 2004. In the fourteenth wave, 1,210 households and 1,836 persons responded. 781 individuals completed an individual interview in all waves.

There was a clear drop in participation in the second wave at both the household level (29%, see Table 4.1, % A) and the individual level (28%, Table 4.2, % A). Contrary to the SHP_I, the households recruited in 2004 were not explicitly asked to commit themselves for several years, which may have contributed to a large dropout at wave 2.

As was the case for the SHP_I, between 2008 and 2010 the number of interviewed households and individuals increased, after which the number of interviews decreases slightly.

SHP_III

After five waves of the SHP_III, participation declined from 3,988 households (6,088 individuals) to 2,125 households (3,411individuals). The decline in number of interviews was especially large in the second wave (20% fewer household interviews, 14% fewer individual interviews), and still substantial in wave 3 (12% fewer household and individual interviews). Overall, participation declines faster in panels that have started later.

Table 4.1 Number of *households* interviewed in SHP_I, SHP_II and SHP_III (1999-2017)

Year	Wave	SHP_I n	%* A	%** B	SHP_II n	%* A	%** B	SHP_III n	%* A	%** B	SHP_I+II+III n
1999	1	5,074	100	100							5,074
2000	2	4,425	87	87							4,425
2001	3	4,139	82	94							4,139
2002	4	3,582	71	87							3,582
2003	5	3,227	64	90							3,227
2004	6/1	2,837	56	88	2,537	100	100				5,374
2005	7/2	2,457	48	87	1,798	71	71				4,255
2006	8/3	2,537	50	103	1,683	66	94				4,220
2007	9/4	2,817	56	111	1,493	59	89				4,310
2008	10/5	2,718	54	96	1,545	61	103				4,263
2009	11/6	2,930	58	108	1,475	58	95				4,405
2010	12/7	2,985	59	102	1,556	61	105				4,541
2011	13/8	2,977	59	100	1,519	60	97				4,496
2012	14/9	2,968	58	100	1,492	59	98				4,460
2013	15/10/1	2,881	57	97	1,487	59	100	3,989	100	100	8,357
2014	16/11/2	2,778	55	96	1,384	55	93	3,197	80	80	7,359
2015	17/12/3	2,761	55	99	1,325	52	96	2,700	68	85	6,786
2016	18/13/4	2,651	52	96	1,246	49	94	2,365	59	88	6,261
2017	19/14/5	2,620	52	99	1,210	48	97	2,125	53	90	5,955

*These percentages are calculated on the basis of the number of interviews conducted in the first year (1999, 2004 or 2013).
**These percentages are calculated on the basis of the number of interviews conducted in the previous year. They may therefore exceed 100%.

Table 4.2 Number of *persons* interviewed in SHP_I, SHP_II and SHP_III (1999-2017)

Year	Wave	SHP_I n =	%* A	%** B	SHP_II n =	%* A	%** B	SHP_III n =	%* A	%** B	SHP_I+II + III n =
1999	1	7,799	100	100							7,799
2000	2	7,073	91	91							7,073
2001	3	6,601	85	93							6,601
2002	4	5,700	73	86							5,700
2003	5	5,220	67	92							5,220
2004	6/1	4,413	57	85	3,652	100	100				8,065
2005	7/2	3,888	50	88	2,647	72	72				6,535
2006	8/3	4’091	52	105	2,566	70	97				6,657
2007	9/4	4,630	59	113	2,349	64	92				6,979
2008	10/5	4,494	58	97	2,409	66	103				6,903
2009	11/6	4,800	62	107	2,307	63	96				7,107
2010	12/7	5,057	65	105	2,487	68	108				7,544
2011	13/8	5,103	65	101	2,479	68	100				7,582
2012	14/9	5,032	65	99	2,411	66	97				7,443
2013	15/10/1	4,880	63	97	2,324	64	96	6,088	100	100	13,292
2014	16/11/2	4,678	60	96	2,147	59	92	5,262	86	86	12,087
2015	17/12/3	4,596	59	98	2,072	57	97	4,498	74	85	11,166
2016	18/13/4	4,311	55	94	1,909	52	92	3,809	63	85	10,029
2017	19/14/5	4,232	54	98	1,836	50	96	3,411	56	90	9,479

*These percentages are calculated on the basis of the number of interviews conducted in the first year (1999, 2004 or 2013).
**These percentages are calculated on the basis of the number of interviews conducted in the previous year. They may therefore exceed 100%.

Table 4.3 Number of *persons* interviewed in every wave (SHP_I, SHP_II and SHP_III)

Year	Wave	SHP_I (fully longi-tudinal) n =	%* A	%** B	SHP_II (fully longi-tudinal) n =	%* A	%** B	SHP_III (fully longi-tudinal) n =	%* A	%** B
1999	1	7,799	100	100						
2000	2	6,335	81	81						
2001	3	5,429	69	86						
2002	4	4,480	57	83						
2003	5	3,888	50	87						
2004	6/1	3,076	39	79	3,652	100	100			
2005	7/2	2,622	34	85	2,393	66	66			
2006	8/3	2,399	31	91	1,928	53	81			
2007	9/4	2,209	28	92	1,600	44	83			
2008	10/5	2,060	26	93	1,399	38	87			
2009	11/6	1,952	25	95	1,288	35	92			
2010	12/7	1,876	24	96	1,220	33	95			
2011	13/8	1,811	23	97	1,156	32	95			
2012	14/9	1,739	22	96	1,101	30	95			
2013	15/10/1	1,661	22	96	1,038	28	94	6,088	100	100
2014	16/11/2	1,598	20	96	956	26	92	4,451	73	73
2015	17/12/3	1,547	20	97	899	25	94	3,588	59	81
2016	18/13/4	1,461	19	94	837	23	93	2,901	48	81
2017	19/14/5	1,404	18	96	781	21	93	2,393	39	82

*These percentages are calculated on the basis of the number of interviews conducted in the first year (1999, 2004 or 2013).
**These percentages are calculated on the basis of the number of interviews conducted in the previous year.

4.1.2 Attrition in the three SHP samples

Not only response rates are decisive in assessing quality of the data. Of crucial importance is the extent to which nonrespondents differ from respondents on relevant characteristics. As a result nonresponse can cause nonresponse bias in survey estimates (Behr et al. 2005, Groves 2006, Groves and Peytcheva 2008). Hence, the central concern in the analysis of attrition is selection bias, because selection bias results in a distortion of the estimation results due to non-random patterns of attrition. To guarantee the quality of the data, it is important to closely monitor the impact of attrition on the representativeness of the longitudinal sample and how this might impact variables of interest and research findings.

The common distinction made in the literature on nonresponse and attrition, is between attrition that is completely at random, attrition that is selective on variables unobserved in the data, and attrition that is selective on variables observed in the data (Alderman et al. 2001). In the analyses presented in this section, we will consider attrition on observed variables. This kind of attrition may introduce bias in the estimates of interest, but this bias is amenable to statistical solutions. Two analyses are performed on the impact of attrition in the SHP on an annual basis; one focusing on group representativeness, the other on potential bias in variables of interest.

We refer to Appendix C for a general impression of how loyal respondents differ from occasional respondents and from respondents that have left the study on demographic characteristics and several measures of social involvement. Note that calculations are based on unweighted data. For the complete study (including SHP_I and SHP_II only) we refer to the SHP Working Paper 1-09 (Voorpostel, 2009, available here: http://ohs-shp.unil.ch/workingpapers/WP1_09.pdf) and Voorpostel (2010). A comparable study on attrition in relation to income can be found here as well (Kuhn, 2009, available here: http://ohs-shp.unil.ch/workingpapers/WP2_09.pdf). We also refer to other studies on attrition in the SHP (Lipps 2007), including a comparison to attrition in other panel studies (Lipps 2009).

Effect of weighting on bias due to attrition

One statistical solution to attrition is the use of weights. Weights attempt to correct nonresponse at all levels; personal, household, and grid. Some variables in the SHP are affected by attrition and show a bias in the statistics. The weights often correct for attrition and therefore compensate for the bias but sometimes the bias persists even after weighting or, in rare cases, is a result of weighting itself.

We here present an overview of the analysis to study the effect of attrition on a large number of variables and the extent to which weighting attenuates this bias, carried out on data from 1999 to 2017 (for a detailed description, see Weaver 2010, or contact Erika.Antal@fors.unil.ch). Attrition from both the first sample of the Swiss Household Panel (SHP_I), the first and second sample (SHP_I and SHP_II) and all three samples combined (SHP_I, SHP_II and SHP_III) combined is considered. We compare means and frequencies for all variables calculated with the value of the first year of the variable ££ in (99, 04, 13) on the sub-populations of respondents still present in the latest wave (2017). Basically, we test to see if samples that still respond in a later year are representative of the same individuals that responded in the first year. The tests run through all waves of the most recently released version (until wave 18).

Researchers need be especially careful when analysing the variables identified as being biased by attrition (these were in particular variables related to leisure and politics). The

results presented here do not mean that these variables are unusable. However, they show that researchers must account for attrition in their analyses and interpretations. Note also that the variables for which a bias occurred after weighting and not before, were part of the rotating module “Leisure and culture”.

All eligible variables were tested. The following groups of variables were excluded:

- proxy variables, as it concerns reports on other household members
- variables with the same response in all waves considered, such as status
- variables with too few respondents (for categorical variables, if no category has at least 30 respondents, and for numeric, if the total number of respondents is less than 30)
- variables of which the modality is too high (this is for categorical variables with more than 100 distinct responses, such as the 4 digit isco job classification)
- variables for which testing does not make sense, such as id variables, dates, and weights.

This amounted to 473 variables being excluded in the analysis on SHP_I, 329 in the analysis on SHP_I and SHP_II, and 216 in the analysis on the three combined samples.

Table 4.4 gives a summary of the results. If a variable is biased for any year without using weights, then it falls into the category of “Difference without weight”. If a variable has bias detected for any year after weighting then it falls into the category of “Difference with weight”.

Table 4.4: Composite results for the SHP_I (1999-2017)

Difference without weight	Difference with weight	Explanation	SHP_I 1028 variables (245 not tested)	SHP_I & II 995 variables (231 not tested)	SHP_I, II & III 786 variables (146 not tested)
No	No	No difference, with or without weights. The variable does not appear to be biased from attrition.	691 (88.3%)	619 (81.1%)	613 (78.0%)
No	Yes	No differences without weights, but the weighted results are different. The weighting introduces bias.	30 (3.8%)	23 (3.0%)	7 (0.9%)
Yes	No	A difference without weights, which disappears after weighting. The variable is affected by attrition but the weighting corrects the bias.	15 (1.9%)	47 (6.2%)	13 (1.7%)
Yes	Yes	We observe a difference without the weight which persists after weighting. The variable is affected by attrition without the possibility of correction by weighting. Mainly leisure and politics variables.	47 (6.0%)	73 (9.6%)	6 (0.8%)

4.2 The weighting scheme of the SHP

Longitudinal household panels like the SHP have complex weighting schemes. Longitudinal surveys' main objective is to analyse change over time, for which longitudinal weights are required. These weights refer to the population in the first wave of a particular panel (1999, 2004, and 2013 for SHP_I, SHP_II, and SHP_III, respectively). But longitudinal surveys are also used for cross-sectional analyses, referring to the population in any given year. For this purpose, there is also a need for cross-sectional weights. Furthermore, in a household panel survey, cross-sectionally there are not only individuals to weight for every wave, but also households. We recently also developed cross-sectional weights for the children (<15 years old) living in the SHP households. For each of the types of weights, the SHP delivers two versions: one weight to obtain the size of the Swiss population and one to maintain the sample size.

In this chapter, we briefly describe the current weighting scheme. We give a general overview of how the weights are constructed.[6] and of all the weights that are delivered with the data, as well as some guidelines on how to use them.

4.2.1 Overview of techniques

This section presents the major steps taken in the construction of weights in the SHP.

Initial weights based on inclusion probability

The first step is to determine the inclusion probabilities (probabilities to be "in" the sample) for every unit of the reference population and then take their inverse as the sampling weights. As these probabilities are entirely determined by the sampling design, the sampling weights are design weights.

Adjustments for non-response

The second step is to compute an adjustment factor for the non-response. The method used for modelling non-response is analysis by segmentation, as proposed by Kass (1980).

The goal of segmentation is to determine the response probability of the panel members (or households). It is used to model non-response to the grid, the household questionnaire and the individual questionnaire. The method proposed by Kass is the Chi-squared Automatic Interaction Detector (CHAID) procedure. This procedure models the response status, using socio-demographic information as independent variables. As one needs information on both respondents and non-respondents, the available information that can be used to adjust non-response is limited. Information on the non-respondents comes from the official registers from which the samples were drawn, and from questionnaires completed in previous waves.

CHAID proceeds in consecutive steps and represents a kind of classification tree that shows at each intersection the auxiliary variable that best models the non-response. For

[6] For a detailed exposition on the construction and the production of the weights, a complete documentation can be found at https://forscenter.ch/projects/swiss-household-panel/documentation/ under constructed variables/weighting.

the partitioning of the data, the algorithm first chooses the variable that is most highly associated with the response status according to the highest Pearson Chi-square. The data is then divided into two groups, according to this chosen predictor. Each of these subgroups is then analyzed separately to produce further subdivisions (Kass, 1980).

The partitioning process continues until each subgroup satisfies one of the following conditions: (1) none of the remaining variables is significantly related to the response propensity, (2) the number of members of the subgroup (including non-respondents) would fall below a given threshold (set at 30) if the sub-group would be divided, or (3) the response rate would fall below a given level (set at .3) if the subgroup would be divided. The resulting subsets represent homogenous response groups (HRG). Adjustment for non-response is based on these HRG: the adjustment factor corresponds to the inverse of the response rate of a given HRG. As the choice of the (next) partitioning variable depends on how strongly it is related to the response propensity, which can vary between waves, the weights for the different waves are not always based on the same variables.

Generalized weight share method
Because the inclusion probabilities of new household entrants, referred to as non-original sample members (non-OSMs) are not known, we apply an alternative strategy in order to allocate them a cross-sectional individual weight. This strategy consists of using only the (known) inclusion probabilities of the original sample members (OSMs) and allocating parts of these weights within a household to non-OSMs. The strategy used in the SHP is the Generalized Weight Share Method (GWSM) developed by Lavallée (2007).

The GWSM produces an estimation weight for each unit surveyed in the target population U^B (non-OSMs). This estimation weight corresponds to the average of the sampling weights of the population U^A (OSMs) from which the sample is selected.

We calculate the weight w_{ik} for each non-OSM as follows:

$$w_{ik} = \frac{\sum_{k=1}^{M_i^B} w'_{ik}}{\sum_{k=1}^{M_i^B} L_{ik}^B}$$

where the numerator represents the sum of the initial weights w'_{ik} for all OSMs *k* in each household *i* and the denominator is the total number of links for that household with the population of reference U^A, that is the number of OSMs in each household *i*.

Combination of multiple panels
Because we have multiple panels, we have to consider the way the panels are combined in order to enable cross-sectional estimations. The combination of the panels is performed using the method of Merkouris (2001).

His method consists of allocating each unit a factor p_l ($0 < p_l < 1$) when the unit is part of the l^{th} sample. The combination of the panels occurs at the level of the seven regions and is a so-called “convex combination”, as the allocation factor defines the relative importance of the samples according to their size. Fundamentally, it is the design effects that are compared in order to determine the factors but considering that the sampling designs of

the three panels are the same, only the sizes matter. For example, if the three samples combined have a larger share of households from a particular region than in the population, the weights associated with this region need to be adjusted. The calculation of factor p_l is as follows:

$p_l = \frac{n_l}{\sum_{l=1}^{L} n_l}$, where n_l is the number of responding units from the l^{th}panel and L is the number of panels. Evidently, the sum of the combination factors is 1. The unit is either the person - in the case of the individual weights - or the household in the case of the household weights. If the unit is a member of the SHP_I, the weight is then multiplied by the factor p_1 and if the unit is a member of the SHP_II the weight is multiplied by the factor p_2 and so on.

Calibrations to known population totals

After the adjustment for non-response and the combination of the three panels, the weights are softly calibrated (Guggemos, and Tillé, 2010). Calibrations are used to adjust all the weights so that certain population sums are correct (equal to the sums of the non-institutionalized Swiss population). The adjustments due to calibration are made as small as possible to minimize the introduction of bias for non-correlated variables. The method applies population totals coming from ESPOP until 2010 and STATPOP since 2011. There were two different calibration total classes depending on the information available and memory restraints. The first is the classical version with totals on:

- sex*age category (0-13, 14-24, 25-34, 35-44, 45-54, 55+),
- the number of individuals living in the seven major statistical regions Lake Geneva (VD, VS and GE), Middleland (BE, FR, SO, NE and JU), North-West Switzerland (BS, BL, AG), Zurich, East Switzerland (GL, SH, AR, AI, SG), Central Switzerland (LU, UR, SZ OW, NW) and Ticino,
- the number of individuals with Swiss nationality, and
- the number of married individuals.

The second uses the same variables but breaks all totals up by age category. One should note that values for age 0-13 are used for the household cross-sectional weights and for the weights of children (produced from wave 15 onwards). Note also that the number of married individuals is not available for the longitudinal weights of the SHP_I. The longitudinal weights and the cross-sectional household weights for the SHP_I were calibrated using totals of the first type, whereas the remaining weights were calibrated using the second type.

4.2.2 Overview of the current weights

For wave 1 to 15 (respectively 10 for the SHP_II and 1 for the SHP_III), three types of weights are delivered with the SHP data: (a) individual longitudinal weights, (b) individual cross-sectional weights, (c) and household cross-sectional weights. From wave 16 onward the SHP also delivers cross-sectional weights for children.

Cross-sectional weights for children

As only individuals aged 14 and older are interviewed, children below this age have no initial weights. In order to allocate weights to them some kind of weight sharing method has to be applied. In the SHP, children are first given the average of the initial weight of the OSM(s) in their household. These weights are then adjusted for non-response using

the adjustment factor of the reference person of the household. The next step is to calculate allocation factors in order to combine the three panels. They are calculated according to the number of children of each panel. Finally, to produce the final weights, a calibration is performed to reflect the distribution in the population regarding sex by age, nationality and region from ESPOP/STATPOP.

Individual transitional factors
The longitudinal weights delivered with the data are appropriate when analysing change since the first wave of any given panel, but they are not suitable if the period analysed starts at a later wave. For the analysis of longitudinal samples that do not include the first wave of the sample, transitional factors are provided. These transitional factors enable the researcher to create custom-made individual longitudinal weights over several consecutive waves.

Determining these transitional factors is a two-step process. First, segmentation is used to model response to the grid at wave t given response to the individual questionnaire in wave t-1. Second, response to the individual questionnaire in wave t is modelled given response at the grid at the same wave. These factors are especially useful when combining a limited number of waves, but they may become problematic when many waves are strung together. Because of this, we recommend not to use transitional factors for analyses based on more than three consecutive years.

More information on the construction of these transitional factors, their applicability, and their limitations is available on the SHP homepage.[7]

In order to simplify the use of weights for longitudinal analysis concerning a sample with an arbitrarily chosen starting date, we also deliver additional longitudinal weights (since wave 18). To accommodate for these additional weights the SHP has changed the naming conventions for the weights. For more details about the names of the weight variables see (under constructed variables/weighting):
https://forscenter.ch/projects/swiss-household-panel/documentation/

4.2.3 Selection of the appropriate weight

It is essential to use weights in order to have estimates that are representative of the underlying population. Cross-sectional weights always refer to the year analysed, both for households and for individuals, whereas longitudinal weights (individuals) always extrapolate to the population resident in Switzerland at the first wave (in 1999 for SHP_I, in 2004 for the combined panel SHP_I and SHP_II and in 2013 for the combined panel SHP_I, SHP_II and SHP_III). The weights are appropriate for the analysis of the whole sample, but need to be adjusted if only a sub-sample is analysed (see below).

Although not ideal for some analyses, it is generally better to use a slightly imperfect longitudinal weight which will at least take into account inclusion probabilities and non-response then none at all. Therefore, when selecting a weight, one needs to know whether the study concerns only one year, i.e. is cross-sectional, or considers several years and is longitudinal in nature.

[7] See Recommendations and practical examples for using weighting under weighting on https://forscenter.ch/projects/swiss-household-panel/documentation/

For each of the types of delivered weights, there are two weights produced. One is to give the weighted size of the sample, the size of the relevant Swiss population. These are the weights as described in the constructions above. These weights should only be used when looking for population totals. The second is to maintain the sample size. That is to say that the weighted sum of sample members is equal to the un-weighted sum. These weights should be used when running regressions, particularly logistic regressions on the complete sample. These two versions of the weights differ by multiplication of a constant factor only.

We also deliver data from the SHP Vaud 2013 and the LIVES Cohort 2013 (see 1.5). When combining these samples with the main SHP data, or when using a subsample of the SHP data, the weights should be adjusted. For more information on how to calculate these weights, see the document "Some remarks on the use of weights under weighting here: https://forscenter.ch/projects/swiss-household-panel/documentation/

Table 4.5 gives a list of the names of all the weight variables as they appear in the data sets until wave 15. Table 4.6 shows the variables as they are named from wave 16 onward. Furthermore, it describes their primary use. For longitudinal analyses based on the SHP_I sample, please note that the longitudinal weights have changed name twice (at the start of the SHP_II in 2004, and this year). The longitudinal weights for the SHP_II have changed name once (this year).

Table 4.5 List of weights, variable names and description (Waves 1- 15)

Types of weights	**Variable name**	**Description**
Longitudinal weights		
SHP_I individuals	wp$$LP1P	Weights for longitudinal adults expanded to the resident Swiss population of 1999
	wp$$LP1S	Weights expanded to the sample size of longitudinal adults in the first panel
SHP_I and SHP_II (combined) Individuals	wp$$L1P	Weights for longitudinal adults expanded to the resident Swiss population of 2004
	wp$$L1S	Weights expanded to the sample size of longitudinal adults in the combined panels
Cross-sectional weights		
SHP_I and SHP_II (combined) individuals	wp$$T1P	Weights expanded to the resident Swiss population of current year
	wp$$T1S	Weights expanded to the sample size of the combined panels
SHP_III individuals	wp$$T3P	Weights expanded to the resident Swiss population of current year
	wp$$T3S	Weights expanded to the sample size of the SHP_III
SHP_I, II and III (combined) individuals	wp$$TP	Weights expanded to the resident Swiss population of current year
	wp$$TS	Weights expanded to the sample size of the combined panels (SHP_I, II and III)
SHP_I and SHP_II (combined) households	wh$$T1P	Weights expanded to the resident Swiss population of current year
	wh$$T1S	Weights expanded to the sample size of individuals in the households
SHP_III households	wh$$T3P	Weights expanded to the resident Swiss population of current year

Types of weights	Variable name	Description
	wh$$T3S	Weights expanded to the sample size of individuals in the households
SHP_I_II and III (combined) households	wh$$TP	Weights expanded to the resident Swiss population of current year
	wh$$TS	Weights expanded to the sample size of individuals in the households

Note $$ corresponds to the two last digits of the year in question.

Table 4.6 List of weights, variable names and description (Waves 16 - present)

Types of weights	Variable name	Description
Longitudinal weights		
SHP_I individuals	wi$$LP99	Weights for longitudinal adults expanded to the resident Swiss population of 1999 (SHP_I)
	wi$$LS99	Weights expanded to the sample size of longitudinal adults in the first panel (SHP_I)
SHP_I and SHP_II (combined) Individuals	wi$$LP04	Weights for longitudinal adults expanded to the resident Swiss population of 2004 (SHP_I_II)
	wi$$LS04	Weights expanded to the sample size of longitudinal adults in the combined panels (SHP_I_II)
SHP_I_II_III (combined) Individuals	wi$$LP13	Weights for longitudinal adults expanded to the resident Swiss population of 2013 (SHP_I_II_III)
	wi$$LS13	Weights expanded to the sample size of longitudinal adults in the combined panels (SHP_I_II_III)
SHP_III Individuals	wi$$LP133	Weights for longitudinal adults expanded to the resident Swiss population of 2013 (only for SHP_III)
	wi$$LS133	Weights expanded to the sample size of longitudinal adults in the third panel (only for SHP_III)
	wi$$LP&&	Weights for longitudinal adults expanded to the resident Swiss population of 20&& (SHP_I_II_III)
	wi$$LS&&	Weights expanded to the sample size of longitudinal adults in the “panel” starting at year 20&& (SHP_I_II_III)
	wi$$LP&&3	Weights for longitudinal adults expanded to the resident Swiss population of 20&& (only for SHP_III)
	wi$$LS&&3	Weights expanded to the sample size of longitudinal adults in the “panel” starting at year 20&& (only for SHP_III)
Cross-sectional weights		
SHP_I_II_III (combined) individuals	wi$$CSP	Weights expanded to the resident Swiss population of current year (SHP_I_II_III)
	wi$$CSS	Weights expanded to the sample size of the combined panels (SHP_I_II_III)
SHP_III individuals	wi$$CSP3	Weights expanded to the resident Swiss population of current year (only for SHP_III)
	wi$$CSS3	Weights expanded to the sample size of the SHP_III (only for SHP_III)
SHP_I_II_III (combined) household	wh$$CSP	Weights expanded to the resident Swiss population of current year (SHP_I_II_III)
	wh$$CSS	Weights expanded to the sample size of the combined panels (SHP_I_II_III)
SHP_III households	wh$$CSP3	Weights expanded to the resident Swiss population of current year (only for SHP_III)
	wh$$CSS3	Weights expanded to the sample size of individuals in the households (only for SHP_III)
SHP_I_II_III (combined) children	wc$$CSP	Weights expanded to the resident Swiss population of current year (SHP_I_II_III)
	wc$$CSS	Weights expanded to the sample size of the combined panels (SHP_I_II_III)

Types of weights	Variable name	Description
SHP_III children	wc$$CSP3	Weights expanded to the resident Swiss population of current year (only for SHP_III)
	wc$$CSS3	Weights expanded to the sample size of the SHP_III (only for SHP_III)

Note $$ corresponds to the two last digits of the year in question.

4.2.4 Additional notes of caution

We would like to share two additional notes of caution. First, household weights are calculated for the household level, and need to be adjusted when they are used in an individual-level analysis. On the household level, an extrapolation refers to the total number of households in a given year. If one constructs a dataset containing both individual and household level data, each household weight needs to be divided by the number of individuals of the respective household in order to get valid results at the household level. By merging the individual files and the household files, the weight of each household gets multiplied by the number of household members. An extrapolation to the household totals would in this case represent the number of individuals instead of the number of households. The syntax (SPSS and STATA) for this correction can be found in the syntax example for the file creations that are released with the data.

Second, weighting provides estimates that are representative of the national population. Another issue has to be considered when using the SHP: the complex sample structure of the data. The standard procedures of common statistical software packages (e.g. SAS, SPSS, STATA) underestimate variance (Plaza and Graf, 2007) because they assume a simple random sample. As with most surveys, the SHP sample selection is more complex as it has stratification, clustering, and adjustments due to non-response. Such complex sample needs to be taken into account in the analysis to obtain appropriate estimates of the variance. For SAS users, the recommendation is to rely on the “survey” procedures, for example PROC SURVEYFREQ, PROC SURVEYMEANS, PROC SURVEYREG, PROC SURVEYLOGISTIC. For STATA users, the commands ‘svyset’ and ‘svy:’ have to be used. For SPSS users, the module ‘complex sample’ is needed.

4.3 Data cleaning: Consistency checks and corrections

The SHP conducts the following consistency checks before data release. First, the filters used in the questionnaire are checked. In the rare occasions in which a filter was applied incorrectly, a question was either asked when it should not have been (the value is set to -3 in this case), or was not asked when it should have been (the value is set to -7, filter error, see also missing value conventions). Second, the SHP verifies the value range of all categorical variables. Values out of range are usually the result of recoding mistakes and are corrected. The value ranges of open questions are not scrutinized, because setting a limit beyond which point values become highly unlikely is always arbitrary. Third, the SHP checks there is information on all household members, and the number of household members adds up to the same number as in the household questionnaire. Also the variable related to response status is checked. Finally, gender, date of birth and civil status are checked for consistency with earlier waves. For other variables the general rule is not to make changes retrospectively, i.e. when in a later wave of data collection an error is found in an earlier wave, this is not corrected for the earlier wave (with the exception of constructed income variables, and constructed variables that have been verified during a later interview).

5 DATA DOCUMENTATION

5.1 Data files

For every wave (every year) a household and an individual file are released. In addition to these annual files there are several other files: a household master file, an individual master file, a calendar file, a file containing information on respondents' last paid jobs, a social origin file and files with biographical information. All files are available in SAS, Stata[8] and SPSS format. See for a table with an overview of the different files the document "Getting started with the Swiss Household Panel data", downloadable from FORSbase (https://forsbase.unil.ch/project/study-public-overview/15632/0/).

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5.1.1 Master files: households and individuals

The master files of households and of individuals include all households and individual respondents that are in the panel or have been in the panel in the past. The files contain an overview of response statuses for all waves.

The household master file (**SHP_MH**) contains all households of the three samples of the SHP. The file includes for every wave who the reference person is, whether the grid and the household questionnaire was completed, and if so, when.

The individual master file (**SHP_MP**) contains all individuals who have resided in the participating households in any of the waves. This file includes the time-invariant variables gender, date of birth (month and year), identification number of father and mother, as well as response statuses and interview dates for all waves.

5.1.2 Annual files: households and individuals

The annual household files (**SHP99_H_USER, SHP00_H_USER**, etc.) contain information from the household interviews complemented by information from the grid questionnaire. The information from the annual individual interviews (**SHP99_P_USER, SHP00_P_USER**, etc.) is included in the annual individual files

For the complete questionnaires see "Questionnaires" under "Documents" on FORSbase (https://forsbase.unil.ch/project/study-public-overview/15632/2/).

5.1.3 Calendar file

Using the answers in the individual questionnaire, the calendar file contains for every person the activity[9] status in each month. For a person who completed the individual questionnaire in wave x, information on his/her activity is contained for:

- the last 12 months if the person has not answered the individual questionnaire in

[8] Please not that Stata is case sensitive and that Stata data file names are in lower-case.

[9] Here the term "activity" is used to refer to labour market participation.

the preceding wave;
- the period between the individual interview in wave x-1 and the individual interview in wave x if the person has answered the individual interview both in wave x and in the preceding wave.

The activity calendar is empty for waves in which a respondent did not answer the individual questionnaire.

The variable names in the calendar file are as follows:
- JAN$$: activity status in January in the year $$
- FEB$$: activity status in February in the year $$
- MAR$$: activity status in March in the year $$
- etc ...

The calendar questions in the questionnaire have changed twice over the course of the years. Three periods can be distinguished: wave 2 and 3, wave 4 and 5, and wave 6 and thereafter. For all waves, however, the professional status at the time of the survey is determined by the variables:
- P$$W01 to P$$W03 (to distinguish between in paid employment or not);
- P$$W39 and P$$W42 (to distinguish between fulltime and part-time employment);
- P$$W06 (to distinguish between unemployment and inactivity).

The respondents who did not work during the week preceding the survey or did not have a job are asked the following question (variable P$$W154):

You are not currently in paid employment. However, since (month-year) have you had a paid job, also be it casual or on an irregular basis?

Respondents who worked at the time of the survey were asked the following question (variable P$$W177):

Since (month-year) has there been a change in the number of hours you work, have you started or ended an activity or even been unemployed? (wave 2 to wave 5)

Since (month, year) have you changed your professional status (employee, self-employed), changed the amount of hours you work (full time, part time), started or stopped work, or been unemployed? (wave 6 and after)

In case the answer is “no” to this question, the activity status at the time of the interview is assumed to hold for every month that elapsed since the preceding interview, or for the last 12 months if the respondent did not respond to the individual questionnaire in the preceding wave. For these cases, the appropriate value is imputed for all months since the last wave.

In case the answer is “yes” to one of the questions above, i.e. if the person reported any changes in his/her status during the period considered, the respondent is asked to report the employment situation for every month since the previous wave.

The calendar questions changed twice since the start of the survey. First, in wave 2 and 3 different questions were asked depending on whether or not the respondent had a paid job. Response categories differed between these two questions (see Table 5.1.1). In wave 4 and 5 both active and inactive respondents answered the same questions, with slightly

adapted response categories compared to earlier waves. Up to wave 5 it is possible to distinguish between large and small part time jobs. From wave 6 onwards this distinction is no longer made, but separate response categories for self-employed respondents and employees are introduced instead.

Because the calendar file contains information from all waves some detail present in the separate waves has been lost. The calendar file does not include a distinction between small and large part-time jobs, nor does it have a distinction between self-employed individuals and employees. Users of the data interested in analysing these distinctions are advised to use the calendar questions in the personal files of the appropriate waves.

In the calendar file the following codes are used:

1. Employed full time
2. Employed part time
3. Unemployed
4. Inactive
5. Unemployed or inactive (relevant for inactive respondents in W2 and W3 only)

Table 5.1.1 shows the different versions of the calendar questions in the individual interviews and the corresponding codes in the calendar file.

Table 5.1.1 Questions in the personal questionnaire related to the activity calendar and the corresponding codes in the calendar file

W2 and W3				W4 and W5		W6 to present	
Original question Employed respondents	Calendar value	Original question Inactive respondents	Calendar value	Original question	Calendar value	Original question	Calendar value
We are going to review the months between now and (month-year) and for each month, I would like you to tell me if you have worked full-time or part-time or if you have not worked due to a period of unemployment, training or other reason?		We are going to review the months between now and (month-year) and for each month, I would like you to tell me if you have worked full-time or part-time?		We are going to review the months between now and (month-year) and for each month, I would like you to tell me if you have worked full-time or part-time or if you have not worked due to a period of unemployment, training or other reason?		We are going to review the months since (month, year) and for each month you should tell me whether your main activity was: full-time employee, part-time employee, full-time self-employed, part-time self-employed, unemployed, retired, training/education, housework, or any other situation?	
1 fulltime job (>37h)	1	1 fulltime paid job (>37h)	1	1 fulltime paid job (>37h)	1	1 Employee fulltime	1
2 part-time job (19-36h)	2	2 part-time paid job (19-36h)	2	2 part-time paid job (19-36h)	2	2 Employee part-time	2
3 small part-time job (1-18h)	2	3 small part-time job (1-18h)	2	3 small part-time job (1-18h)	2	3 Self-employed fulltime	1
4 unemployed	3	4 no job	5	4 unemployed	3	4 Self-employed part-time	2
5 continued education/ vocational retraining	4			5 continued education/ vocational retraining	4	5 Unemployed	3
6 other	4			6 retired	4	6 Retired	4
				7 other	4	7 Student	4
				8 student	4	8 At home (domestic work, children)	4
						9 Other inactive	4

5.1.4 Last job file

This file contains information on the last job of all individuals who were a) inactive at the time of their first interview, and b) interviewed in person or by proxy in any of the waves since 1999.

The information on the last job is collected during the individual interview if the following three conditions hold:

- The person is interviewed for the first time, and
- The person does not currently work (P$$W01, P$$W02 and P$$W03 ≠ 1), and
- The person has worked in a regular way in the past (P$$W07 = 1)

The information on the last job may also be collected in a proxy interview, if the following three conditions are simultaneously met:

- It is the person's first proxy, and
- The person does not work (i.e. in the household grid, G$$OCC ≠ 1 or 2), and
- The person has worked in the past for at least one year (X$$W05)

Because this information is collected only once, it is not necessary to display it in the individual file in every wave. The information is combined in a file « last job», comprising the variables of the individual questionnaire and the proxy questionnaire, in which the wave identifier is renamed by $$ (SPSS) or __ (Stata, SAS). A separate variable (LJYY) indicates the wave in which the information is collected.

Note that if a respondent is not working in a given wave, but was working in any of the previous waves, this information is not included in the last job file, but in the previous annual individual files.

5.1.5 Social origin file

The social origin file contains information on several characteristics of the parents when the respondent was 15 years old. All individuals who completed an individual interview in any of the waves are included.

Information about a person's social origin is collected in the first interview on the composition of the household at the age of 15, the level of education, professional activities and nationality of both parents as well as their political positioning. Persons younger than 20 years old who still live with their parents do not complete the social origin module. Consequently, individuals who had their first interview before they turned 20 are not in the social origin file. For the respondents whose parents live in the household, this information can be reconstructed from the individual interviews with the parents.

The "social origin module" constitutes a separate file containing variable names, in which the usual two-digit number showing the year of the data collection is replaced by $$ (SPSS) or __ (Stata, SAS). A separate variable (OSYY) indicates the wave during which the data on the respondent's social origin have been collected.

The questions corresponding to the variables P$$O60 to P$$O65 have only been asked in the first wave (1999). Therefore, valid values are only available for the persons interviewed for the first time in wave 1. For all the others theses values are labelled 'missing'.

The questions regarding the parents' political orientation when the respondent was 15 years old are asked since wave 4 (2002):
- P$$P46 Political position: Left, Right: Father
- P$$P47 Political position: Left, Right: Mother

In wave 4, every person responding to the individual questionnaire was asked these two questions in order to obtain this information also from persons having already been interviewed in previous waves in which the questions were not asked. Since wave 5, these two questions are part of the social origin module and are only posed to persons who are interviewed for the first time. Consequently, the information is missing for respondents who completed the social origin module before wave 4 and who did not participate in wave 4.

5.1.6 Biographical files

Two sets of biographical data files are available to the SHP users. The most recent data come from the first wave of the SHP_III. Moreover, *biographical data* was collected from SHP_I sample members in 2001 and 2002. The data from the pilot study preceding the SHP_III in 2012-2013 are available upon request.

Biographical files SHP_III

The fieldwork for the SHP_III began in September 2013 (parallel to the fieldwork of the SHP_I and the SHP_II). The questioning in the first wave of this second refresher sample takes the form of a life calendar (see for more details 2.5.3 and 3.5). The files contain for each respondent the complete life history in a number of life domains.

Table 5.1.2 gives an overview of the different files of the SHP_III.

Table 5.1.2 Files biographical questionnaire SHPIII

	File name	Information
Household file Wave 1	SHPIII13_H_USER	Household questionnaire
Individual file Wave 1	SHPIII13_P_USER	Basic information on respondent
Life domain:		
Residence	SHPIII_RE_USER	Geographical mobility
Residence permit	SHPIII_PM_USER	Work permits and the acquisition of Swiss citizenship
Living arrangements	SHPIII_LA_USER	With whom the respondent lived over the life course
Couple relations and civil status	SHPIII_CS_USER	Partner relationships and changes in civil status
Family events	SHPIII_FA_USER	Family events (e.g. parental divorce, birth of a child or sibling, death of a parent)
Professional activities	SHPIII_PROF_ACT_USER	Paid work, unemployment, inactivity, social benefits
Health	SHPIII_HEA_USER	Operations, accidents and mental health problems.

The files on the various domains are “long files” or “vertical files” where each row contains one episode. Respondents are included with as many rows as they mentioned episodes in the domain in question. For example, respondents who have held several jobs take up

one row for every job. The index variable preserves the order of the episodes within respondents.

The domain of *education* was not included in the life calendar. Instead, the educational trajectory was assessed in Wave 2 of the SHP_III.

Biographical files 2001-2002 (SHP_I)

To obtain additional information about the respondents' life course prior to the panel study, a retrospective biographical questionnaire was administered in 2001 and 2002 with questions regarding respondents' educational, working, and family histories. This paper-and-pencil questionnaire was sent to the respondents by mail and was self-administered.

Biographical information was gathered in the following domains:

1. Living arrangements (LA)
2. Periods outside of Switzerland (SA)
3. Changes in civil status (CS)
4. Learned professions (LP)
5. Educational trajectory (ED)
6. Work life (WL)
7. Family events (FE)
8. Retirement (RE)

In order to assess the potentially negative impact of the self-administered biographical questionnaire on the participation in subsequent waves of the yearly CATI, a "test" survey was conducted in 2001. The results showed that the drop-out rates did not increase substantially as a result of the questionnaire sent in between two waves (Scherpenzeel et al., 2002). Consequently, the "main" survey was carried out in 2002 with those participants who had not yet been part of the "test" survey.

SHP_I *biographical data* are available for 5,560 individuals with the 2001 and 2002 surveys combined. Therefore, some variables only exist for one of the survey years (e.g. education history only for 2002), or only in an aggregated form (e.g. living arrangement for 2001). The overall participation rate was 53%, but over 80% of the respondents who participated in every weave between 1999 and 2004 participated in the biography survey (Budowski and Wernli, 2004).

The Biographical files include two "*horizontal" files* with lines representing individuals (Biography Master File and Biography Data File), and "*vertical" files* for **each** of the eight domains with lines representing "events".

Biography Master File SHP0_MBI

The Biography master file contains the identification numbers (idpers) of all individuals who completed the biographical questionnaire in 2001 or 2002. The master file further includes individual *population* weights (wp00tbgp) and *sample* weights (wp00tbgs). Weights of zero had to be attributed to 199 persons for methodological reasons[10].

[10] The information of these respondents was of poor quality, or information needed to construct weights was lacking.

Biography Data File SHP0_BH_USER
In the **horizontal file** each row represents one respondent. It contains in total 281 variables representing for each domain per episode the beginning, end and description. For example, for every employment, starting date, end date and several characteristics of the job are included, all as separate variables. Also individual *population* weights (wp00tbgp) and *sample* weights (wp00tbgs) are included in this file.

The vertical files

1. Living arrangements: SHP0_BVLA_USER
2. Periods outside of Switzerland: SHP0_BVSA_USER
3. Changes in civil status: SHP0_BVCS_USER
4. Learned professions: SHP0_BVLP_USER
5. Educational trajectory: SHP0_BVED_USER
6. Work life: SHP0_BVWL_USER
7. Family events: SHP0_BVFE_USER
8. Retirement: SHP0_BVRE_USER

In the eight vertical files (one file per domain), a row represents one episode. Respondents experiencing different episodes in a given domain - for example they have held several jobs - take up multiple rows in the file (one for every job). An index variable is included to preserve the order of the episodes of respondents.

5.1.7 Interviewer files

The interviewer files contain information from paper-and-pencil questionnaires completed by the SHP interviewers. In all waves (except wave 1, 3 and 4) the interviewers completed a short questionnaire, collecting information on demographic traits of the interviewer such as sex, age, language and education, but also characteristics such as the attitude of the interviewers towards the study and towards sensitive questions. The content of the questionnaires varies somewhat over time, following changing SHP research interests.

Attention!
The values of the variable "idint" in the Interviewer data files have been coded in order to protect the identity of the Interviewers. **Merging the Interviewer-data with the Household and Individual level files is only possible after de-coding.** Please contact Oliver Lipps for more details (oliver.lipps@fors.unil.ch). Note further that in 2008 (Wave 9), the interviewer ID changed. Because three digits to identify interviewers were not enough, a value of 10'000 was added to the ID of all interviewers located in the Lausanne office , and a value of 50'000 was added to the ID of interviewers in the Bern office. This is important for longitudinal interviewer analyses.

5.2 Variable naming conventions

The variable names are coherent over time. Only the year indicator changes. The names of the variables follow these conventions.

Year related variables:	_yydnn
Non-year related variables (individual number, sex,…):	_dnn

Where _ depends on the level of information:
P = Person
H = Household
G = Grid
X = Proxy

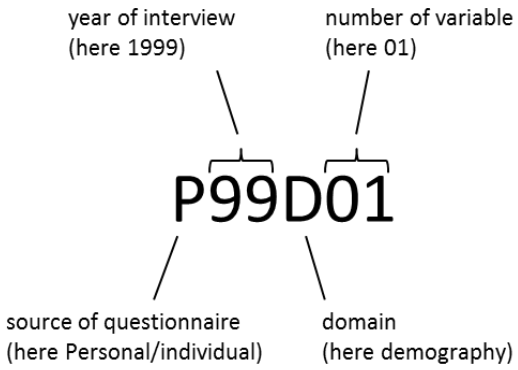
Where **yy** denotes the year:
99 = 19**99** 00 = 20**00** 01 = 20**01** , ….

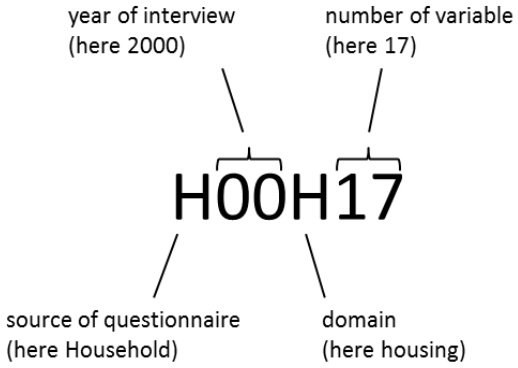
Where **d** denotes the **d**omain:

a	Hobbies, leisure, free time, lifestyle, holidays, etc.
b	Biography
c	Health, constitution
d	Demographic variables
e	Education
f	Family (climate, relationships, work repartition,…)
g	Grid
h	Housing
i	Income, financial situation and living conditions
l	Life-events
m	Geographical mobility
n	Social networks
o	Social origin
p	Politics
r	Religion
v	Values, aspirations, (other than political ones)
w	Labour force, work ,social status
y	Violence
yth	Youth
z	Other variables

Where **nn** is a two-digit number which refers to the **n**umber of the question, normally the position in a block dedicated to a specific topic.

Two examples:





Constructed variables do not follow the convention of variable naming and codification. These variables have a name corresponding to their contents (for example wstat00 for working status in 2000). They are classified by their respective domains and are located in the module to which they belong (see 5.3).

5.3 Constructed variables

This paragraph presents background information on the construction of variables in the following domains: survey participation, socio-demographics, education, occupation and social position, income, and geographical information. For a complete list of constructed variables we refer to https://forscenter.ch/projects/swiss-household-panel/documentation/ under Research tools.

5.3.1 Variables related to survey participation

Original Sample Member (OSM): The variable Original Sample Member (OSM) indicates whether a respondent was present in the sample at the first wave (1999 for the

SHP_I sample,2004 for the SHP_II sample and 2013 for the SHP_III). People who join the panel after the first wave are so-called “non-original sample members” (non-OSMs). The variable has three categories: OSM, child of OSM and non-OSM.

Participation status (RNPX$$): This variable, included in the master person file, gives the most recent available information concerning participation status and considers furthermore comments from interviewers that are not available to the users. It distinguishes between participation, non-contact, and various categories of refusal and ineligibility. It shows the most recent information at any given wave. For example, if a respondent left the country in wave 10, then in that wave and in all waves thereafter the variable will indicate this status.

STATUS$$: This variable (included in both the master person file and the annual individual files) shows the participation of the sample member in the wave to which $$ refers (individual completed individual questionnaire, the reference person completed a proxy questionnaire for this person, or he or she is mentioned in the grid only, all other cases are set to missing).

5.3.2 Socio-demographic variables

Tables 5.3.1 and 5.3.2 present the constructed socio-demographic variables in the household file. Table 5.3.3 concerns the individual file.

Table 5.3.1 Constructed household typology variables in household file

Variable name	Description	Information used for construction
HLDTYP$$	Type of household Classification adopted from **European Community Household Panel** (Eurostat, 2003) and PACO	Relationship to other persons in household, civil status, number of persons and children in household
HLDFFS$$	Household typology adopted from the **Fertility and Family Survey (FFS).** The FFS was launched by the United Nations Economic Commission for Europe and was commissioned by the Swiss Federal Statistical Office for Switzerland (www.bfs.admin.ch).	Relationship to other persons in household, civil status, number of persons and children in household
HLDCEN$$	Household typology **Swiss Census**, Swiss Federal Statistical Office (www.bfs.admin.ch)	Relationship to other persons in household, civil status, number of persons and children in household

Table 5.3.2 Constructed household composition variables in household file

Variable name	Description	Information used for construction
MAXCOH$$	Maximum duration of existence of household in years	Longest time of two members living together in years (information from grid)
NBADUL$$	Number of adults in hld (>=18)	Information from grid
NBKID$$	Number of children in hld (0-17)	Information from grid
AOLDKI$$	Age of oldest coresident child (max. 17)	Information from grid
AYOUKI$$	Age of youngest coresident child (max. 17)	Information from grid
ADUK1_$$	Number of adult children in hld (>=18 & <30)	Information from grid and individual questionnaire
ADUK2_$$	Number of adult children in hld (>=30)	Information from grid and individual questionnaire
NBB_$$	New born baby: birth between two consecutive grid interviews or within last 12 months if no previous year grid interview	Information from household and individual master file

Table 5.3.3 Constructed socio-demographic variables in individual files

Variable name	Description	Information used for construction
AGE$$	Difference between year of birth and the year of interview (the year of the beginning of the wave in question, even when interview took place beginning of following calendar year)	Collected once, confirmed next waves
SEX$$	Gender of respondent	Collected once, confirmed next waves
CIVSTA$$	Civil status in year of interview	Information from household grid and personal interview. Equivalent to question P$$D13. Individual information is considered more reliable than from reference person
MAXCOP$$	Max. time in years of person living with someone else in household	Information from grid
NAT_1_$$	First nationality	Grid and individual questionnaire
NAT_2_$$	Second nationality	Grid and individual questionnaire
NAT_3_$$	Third nationality	Grid and individual questionnaire
REG_1_$$ REG_2_$$ REG_3_$$	Nationality by world region, based on the nomenclature of the Federal statistical office. Categories: Switzerland, Northern Europe, Eastern Europe, Central Europe, Western Europe, South-West Europe, Southern Europe, South-East Europe, Africa, Northern America, Latin America, Asia, Oceania and Antarctica.	Grid and individual questionnaire
HAB_CH$$	Duration of residence in CH	Grid and individual questionnaire
OWNKID$$	Number of own (biological or adopted) children (individual level)	Constructed based in individual questionnaire, verified by the respondent

5.3.3 Education

Table 5.3.4 shows the constructed variables related to the level of education. This list does not include the original or recoded variables related to education. For a complete list of

variables on education we advise to go to our website https://forscenter.ch/projects/swiss-household-panel/documentation/.

Table 5.3.4 Constructed variables related to education in the individual files

Variable name	Description	Information used for construction
EDUCAT$$	Highest level of education achieved (11 categories)	Household grid and individual interview. Individual interview considered more reliable.
EDCAT$$	Highest level of education achieved (17 categories)	Household grid and individual interview. Individual interview considered more reliable.
ISCED$$	International Standard Classification of Education. Highest level of education achieved (10 categories)	Based on EDCAT$$ and the ISCED-classification scheme.[11]
EDYEAR$$	Years of education	Based on the ISCED-classification. Gives the number of years relative to the highest finished type of education (estimation)[12]

Table 5.3.5 shows how the values on the variable EDCAT$$ translate to the values of ISCED$$ and EDYEAR$$.

Table 5.3.5 Values of EDCAT$$, EDYEAR$$ and ISCED$$

EDCAT	EDCAT	EDYEAR	ISCED
Value label	Value	Value	Classif.
Specialized school for handicapped	-6	-6	-6
Pre-obligatory schooling	-5	0	0
Not yet school age	-4	0	0
No answer	-2	-2	-2
Does not know	-1	-1	-1
Incomplete compulsory school	0	8[a]	0
Compulsory school	1	9	2
Elementary vocational training	2	10	3C
Domestic science course, 1 year school of commerce	3	10	3C
General training school	4	10	3C
Apprenticeship (CFC, EFZ)	5	12	3B
Full-time vocational school	6	12	3B
Vocational maturity	7	14	4A
Teacher training college	8	13	3A
Bachelor/maturity (high school)	9	13	3A
Vocational high school with MA certificate, federal certificate	10	16	5B
Technical or vocational school	11	16	5B
Vocational high school ETS, HTL etc.	12	16	5B
University of teacher education HEP, PH	13	18	5A
University of applied sciences HES, FH	14	18	5A
University, academic high school, EPF, ETH	15	18	5A
PhD	16	21	6

[a]) For all respondents aged older than 15. Respondents younger than 6 are coded 0, for respondents between 6 and 15 we subtracted 6 from their age.

[11] Bundesamt für Statistik (BFS). 2015. Nomenclatures – International Standard Classification of Education. http://www.portal-stat.admin.ch/isced97/docs/do-d-15.02-isced-01.pdf (German), or http://www.portal-stat.admin.ch/isced97/docs/do-f-15.02-isced-01.pdf (French). See Table 5.3.5. for the conversion from EDCAT$$.

[12] See Table 5.3.5 for the conversion from EDCAT$$.

5.3.4 Work status, occupation and social position

Work status (WSTAT$$) is constructed from P$$W01 (working for pay last week), P$$W03 (have a job although not working last week) and P$$W06 (can start work immediately), from the individual questionnaire. Another occupational variable is OCCUPA$$, this information comes from the grid and should be considered as less reliable.

All social stratification measures presented below are based on the respondents' occupational titles, which were carefully coded by the Swiss Federal Office of Statistics[13]. This Swiss-specific code was then recoded into the International Standard of Classification of Occupations (ISCO-88), developed by the International Labour Office[14] (1990).
Users interested in ISCO-08 codes can transform swiss-specific occupation codes (P$$W28, X$$W01, P$$W111, X$$W06, P$$O12, P$$O29, P$$O46) with the excel table provided with our documentation in FORSbase (https://forsbase.unil.ch/project/study-public-overview/15632/0/).
The SHP provides the following occupational classifications:[15]

A. The Wright class structure (Wright III)
B. Erikson, Goldthorpe and Portocarero's class schema
C. The European Socio-economic Classification (ESeC)
D. The Swiss Socio-Professional Categories (CSP-CH)
E. Treiman's Prestige Scale
F. The Cambridge Social Interaction and Stratification Scale (CAMSIS)

For a comprehensive description of the different classifications we refer to Bergman and Joye (2001) (https://forscenter.ch/wp-content/uploads/2018/07/indicateurs-position-sociale-en.pdf), and Bergman et al. (2002).

Tables 5.3.6 to 5.3.8 show the variables used to construct the different classifications. The classification of respondent's last job (is4laj$$), father's occupation and mother's occupation is done in the same way. The following explanation of the construction of the classification for respondent's current occupation is therefore also applicable to respondent's last occupation and father's and mother's occupation.

[13] Cf. Joye and Schuler (1995). For a discussion on how occupations are to some extent reflections of their national and temporal context, see Levy (2002).
[14] If some minor adjustments are made in order to adapt it to the European context, the label ISCO-88 (COM) is used.

Table 5.3.6 Variables used to construct classifications for respondent's current occupation

	Variable name	profession and sectors	education	Hierarchical level	Number of employees of self-employed	status (self-employed, employee, etc.)	gender
WRIGHT3	WR3MAJ$$	IS4MAJ$$	EDUCAT$$	P$$W34	P$$W31	P$$W29	
GOLDTHORPE	GLDMAJ$$	IS4MAJ$$		P$$W34	P$$W31	P$$W29	
ESeC	ESECMJ$$	IS3MAJ$$		P$$W34	P$$W31	P$$W29	
CSP	CSPMAJ$$	P$$W28	EDUCAT$$	P$$W34	P$$W31	P$$W29	
TREIMAN	TR1MAJ$$	IS4MAJ$$		P$$W34	P$$W31	P$$W29	
CAMSIS	CAIMAJ$$	P$$W28					SEX

Table 5.3.7 Variables used to construct classifications for respondent's last occupation

	Variable name	Profession and sectors	education	Hierarchical level	Number of employees of self-employed	status (self-employed, employee, etc.)	gender
WRIGHT3	WR3LAJ$$	IS4LAJ$$	EDUCAT$$	P$$W117	P$$W114	P$$W112	
GOLDTHORPE	GLDLAJ$$	IS4LAJ$$		P$$W117	P$$W114	P$$W112	
ESeC	ESECLJ$$	IS3LAJj$$		P$$W117	P$$W114	P$$W112	
CSP	CSPLAJ$$	P$$W111	EDUCAT$$	P$$W117	P$$W114	P$$W112	
TREIMAN	TR1LAJ$$	IS4LAJ$$		P$$W117	P$$W114	P$$W112	
CAMSIS	CAILAJ$$	P$$W111					SEX$$

Table 5.3.8 Variables used for classifications for father's and mother's occupation

	Variable name	profession	education	Hierarchical level (management, supervision, production)	Number of employees of self-employed	status (self-employed, employee, etc.)
WRIGHT3	WA3FAJ$$/ WA3MOJ$$	IS4FAJ$$/ IS4MOJ$$	P$$O17/ P$$O34	P$$O16/ P$$O33	P$$O14/ P$$O31	P$$O13/ P$$O30
GOLDTHORPE	GLDFAJ$$/ GLDMAJ$$	IS4FAJ$$/ IS4MOJ$$		P$$O16/ P$$O33	P$$O14/ P$$O31	P$$O13/ P$$O30
ESeC	ESECFA$$/ ESECMO$$	IS3FAJ$$/ IS3MOJ$$		P$$O16/ P$$O33	P$$O14/ P$$O31	P$$O13/ P$$O30
CSP	CSPFAJ$$/ CSPMAJ$$	P$$O12/ P$$O29	P$$O17/ P$$O34	P$$O16/ P$$O33	P$$O14/ P$$O31	P$$O13/ P$$O30
TREIMAN	TR1FAJ$$/ TR1MOJ$$	IS4FAJ$$/ IS4MOJ$$		P$$O16/ P$$O33	P$$O14/ P$$O31	P$$O13/ P$$O30
CAMSIS	CAIFAJ$$/ CAIMOJ$$	P$$O12/ P$$O29				

A. The Wright class structure (Wright III)

The Wright classification (cf. Western and Wright, 1994) is based on three dimensions: authority, expertise, and property. These dimensions form seven categories.

A number of choices were made for the operationalization and adaptation of this schema, a few of which are to a certain extent necessarily somewhat arbitrary.[16]

a) Most cases of self-employment were unproblematic. In some cases, we attributed this status to family members employed in their own family business, as well as to those who considered themselves employees of their own enterprise.
b) The demarcation between "middle-class" and the "petty bourgeoisie" is often based on whether or not the respondent has employees. Here, by homogeneity with other classification schemas, we set the minimum qualification criteria to ten employees.
c) Competence derived from educational attainment are qualified in several ways:
    i) Directly relating to the occupation: ISCO-88 includes in its occupational classification an explicit reflection on the relations between educational attainment and occupational titles;
    ii) According to educational and training trajectories normally followed by those with a particular occupation as established from the Swiss Population Census of 1990;
    iii) Based on the respondents' attained educational and professional qualifications, whatever the relevance to their occupation.

Technically, the following rules apply:
a) "Owners/Employers": self-employed and at least 10 employees;
b) "Petty bourgeoisie": self-employed and less than 10 employees
c) "Managers-Experts": professional leading or supervisory role, as well as an advanced educational attainment;
d) "Managers": salaried with supervisory position and not yet classified in any of the above categories;
e) "Professionals": salaried with advanced educational attainment but without supervisory functions;
f) "Semi-Professionals": salaried with either advanced or middling educational attainment and with middling professional requirements;
g) "Worker": other employees.

B. Erikson, Goldthorpe and Portocarero's class schema

The first Goldthorpe class schema was based on occupation and occupational status (self-employed, salaried). Originating from Goldthorpe and Hope's prestige scale (1974) and Goldthorpe's subsequent class schema (1987), two levels of classification were developed that included 7 or 36 categories. Further development in conjunction with the CASMIN (Comparative Analysis of Social Mobility in Industrial Countries) project makes the seven-category schema more suitable for comparative investigations, and it has established itself as the most prominent schema for comparative intergenerational mobility studies. The current schema requires information on the respondents' number of employees and supervisory function and is based on ISCO-88.

The SHP provides the adaptation the adaptation of the most recent Goldthorpe class schema by Ganzeboom and Treiman (2003):

[16] This recodification differs slightly from that of Levy et al. (1997).

1) Higher controllers;
2) Lower controllers;
3) Routine non-manual employees;
4) Self-employed with employees;
5) Self-employed without employees;
7) Manual supervisor;
8) Skilled manual employees;
9) Semi- and unskilled manual employees;
10) Farm labour;
11) Self-employed farmers.

C. The European Socio-economic Classification (ESeC)

The European Socio-economic Classification (ESeC) is a European occupational classification based on the Erikson-Goldthorpe-Portocarero Schema.[17]

The primary distinction is between *employers*, who buy the labour of others and assume some degree of authority and control over them; *self-employed* (or *'own account'*) *workers* who neither buy labour nor sell their labour to others; and *employees*, who sell their labour to employers.

Employees are further differentiated according to the employment relations of their occupation, employers are separated by size of establishment and the self-employed according to occupation. Broadly speaking, the kind of contracts employees have depend upon (a) how easily their work may be monitored and controlled by the employer and (b) 'asset specificity', i.e. how specific and crucial their knowledge of technical and organizational issues is to the employer.

The ESeC is based on:

- occupation coded to the minor groups (i.e. 3-digit groups) of the EU variant of the International Standard Classification of Occupations 1988 (ISCO88 (COM));
- details of employment status, i.e. whether an employer, self-employed or employee;
- number of employees at the workplace;
- whether a worker is a supervisor.

[17] This classification was developed by a consortium of nine institutes from the UK, Germany, France, the Netherlands, Sweden, Italy and Ireland (https://www.iser.essex.ac.uk/archives/esec)

Table 5.3.9: The European Socio-economic Classification

	ESeC Class	Common Term
1	Large employers, higher grade professional, administrative and managerial occupations	Higher salariat
2	Lower grade professional, administrative and managerial occupations and higher grade technician and supervisory occupations	Lower salariat
3	Intermediate occupations	Higher grade white collar workers
4	Small employer and self-employed occupations (excluding agriculture etc)	Petit bourgeoisie or independents
5	Self-employed occupations (agriculture etc)	Petit bourgeoisie or independents
6	Lower supervisory and lower technician occupations	Higher grade blue collar workers
7	Lower services, sales and clerical occupations	Lower grade white collar workers
8	Lower technical occupations	Skilled workers
9	Routine occupations	Semi- and nonskilled workers
10	Never worked and long-term unemployed	Unemployed

D. The Swiss Socio-Professional Categories (CSP-CH)

The Swiss Socio-Professional Categories (CSP-CH; Joye and Schuler, 1995) are based on the occupational coding of the Swiss Federal Office of Statistics, as well as educational achievement and occupational status. The significance of educational attainment may vary according to the details and title of an occupation. For example, a particular employee could be classified as being part of the intellectual professions based on her degree of managerial responsibility, without necessarily having a university education.

Table 5.3.10 Swiss Socio-Professional Categories

	University	Technical and Professional	Apprenticeship	Compulsory Education or Less
Top Executives	1) top management			
Self-Employed	2) liberal professions	3) other self-employed		
Wage-Earners	4) academic professions and senior management	5) intermediate professions	skilled: 6) non-manual 7) manual	8) unskilled

E. Treiman's Prestige Scale

Treiman proposes a very general stratification model based on occupational prestige ratings. His work in this area culminates in the construction and validation of the Standard International Occupational Prestige Scale. Using the four nested levels of the International

Standard Classification of Occupations (ISCO), Treiman's occupational prestige scores for each occupation within an ISCO level are averaged to produce a score for occupational groups as summarized by ISCO.

The subjectively attributed prestige of a specific occupation is (a) linked to the privilege and power which individuals enjoy based on their occupational titles, (b) invariant across social and cultural groupings, and (c) similar across all complex modern societies.

The Treiman Prestige Scale differs from Wright and Goldthorpe's class schema not only in that it measures subjectively attributed prestige as an indicator of access to structural and functional power, but also because it explicitly models a prestige hierarchy. The prestige scores range between 0 (lowest prestige) and 100 (highest prestige; Treiman, 1977).

F. The Cambridge Social Interaction and Stratification Scale (CAMSIS)

The Cambridge Social Interaction and Stratification Scale (CAMSIS) is based on the idea that social structure can be expressed by the social distance between individuals. Persons sharing a similar social position, in terms of social class or status group membership, are more likely to socially interact in an equal way with members of the same group than with members of other groups. So, acquaintances, friends and marriage partners will all tend to be chosen much more frequently from within the same group than from without. [18].
CAMSIS has been developed initially from friendship networks and, subsequently, from cohabiting couples (Stewart, Prandy, and Blackburn 1980). For Switzerland, the Population Census of 1990 was used to examine the probability of co-occurrence of occupational titles between cohabiting couples.

The value allotted to each occupation indicates its position on this hypothetical social axis and, consequently, its distance to others. Subsequently, each occupation of the 4-digit ISCO-88 classification is allotted a CAMSIS score. The current version adjusts for national variations and is sensitive to gender. Other dimensions can be easily accommodated (e.g. ethnicity, geographic region) in order to incorporate specific research interests and hypotheses, and to improve the correspondence between this measure and the social categories within their context.

5.3.5 Professional integration

Paugam's typology of professional integration (PAUG$$R4) is based on a distinction between conditions of employment and conditions of work. The typology distinguishes four types of professional integration (see Paugam, 2000). Secure integration ('intégration assurée') is defined as the combination of job stability and quality of work measured objectively and subjectively. Three forms of integration deviate from this model: *insecure integration* ('intégration incertaine') is the result of unstable job but good working conditions and satisfaction at work; *constrained integration* ('intégration laborieuse') is the product of a stable job, but with work constraints leading to dissatisfaction; and *disqualifying integration* ('intégration disqualifiante') corresponds to the combination of job instability and poor working conditions.

[18] For more details, see Bergman, Lambert, Prandy, and Joye (2002).

5.3.6 Income

Respondents report on various income sources and total income both in the individual and in the household questionnaire. They are free to report gross or net amounts (after deduction of social security contributions) and to report monthly or annual income. Based on these questions, variables on yearly income amounts are constructed. Both net and gross incomes are simulated using standard assumptions on social security contributions. If respondents have indicated a monthly income, annual income is calculated using information from the number of months the respondent has received this income and from the activity calendar. All constructed variables have passed a series of plausibility checks. These checks involve typing errors, implausibly high income increases or decreases with respect to the last wave, extreme income, inconsistencies between the sum of income sources and total income and inconsistencies between individual and household income. Details on income construction and plausibility checks are described in the documentation "Collection, construction and plausibility checks of Income Data in the Swiss Household Panel":
https://forscenter.ch/wp-content/uploads/2018/07/collectionconstructionandplausibilitychecks_w1_w16.pdf).

Individual income

Table 5.3.11: List of constructed income variables of individuals

Variable	Gross/net	Description
	I$$EMPYG gross	Income from employment: annual amount
	I$$EMPYN net (social security contributions deducted)	Takes into account 13th and 14th month salary, bonuses and gratifications.
	I$$INDYG gross	Income from self-employment: annual amount
	I$$INDYN net (social security contributions deducted)	Takes into account 13th and 14th month salary, bonuses and gratifications if applicable.
	I$$EMPMG gross	Income from employment: monthly amount
	I$$EMPMN, net (social security contributions deducted)	
	I$$INDMG gross	Income from self-employment: monthly amount
	I$$INDMN net (social security contributions deducted)	
I$$OASIY		State pension for old-age (first pillar), widow(er)s or orphans: annual amount. Includes additional benefits.
$$AIY		Disability pension: annual amount. Includes additional benefits.
I$$PENY		Income from pension schemes (second pillar old-age pension): annual amount. Includes additional benefits.
I$$UNEY		Income from unemployment social insurance: annual amount
I$$WELY		Income from welfare benefits (social assistance): annual amount
I$$GRAY		Income from scholarships, grants: annual amount Income from private or public institution
I$$INSY		Income from any another private or public institution: annual amount
I$$FAMY		Family or child allowances: annual amount Might additionally be included in income from employment
I$$PNHY		Payments received from individuals not in household: annual amount
I$$PIHY		Payments received from individuals in household: annual amount
I$$CAPY		Income from capital: annual amount (such as interests, dividends)

Variable	Gross/net	Description
I$$RENTY		Income from letting, sub-letting: annual amount
I$$OTHY		Other income: annual amount For example this might include 3rd pillar, inheritance
	I$$PTOTG, gross I$$PTOTN, net (social security contributions on employment income deducted)	Yearly total personal income: annual amount In most cases, total income has been calculated by adding the different income sources. In case of non-response in any of the income sources (and in some other cases in waves 1 to 5), total income refers to a global assessment of income. Amounts of income sources which represent one-off payments over 12'000 CHF, are not considered in total income.
	I$$WYG, gross I$$WYN, net (social security contributions deducted)	Income from employment or self-employment: annual amount Takes into account 13th and 14th month salary, bonuses or gratifications if applicable. From 2002 on: sum of I$$EMPY, I$$INDY
	I$$WMG, gross I$$WMN, net	Income from employment or self-employment: monthly amount
I$$STPY		Social public transfers: annual amount. From 2002 on: sum of I$$UNEY, I$$WELY, I$$GRAY, I$$INSY
I$$STFY		Income from private persons (informal transfers): annual amount From 2002 on: sum of I$$PNHY, I$$PIHY
I$$AVSY		Income from old age or disability pension: annual amount From 2002 on: sum of I$$OASIY, I$$AIY, I$$PENY
I$$OSY		Other income: annual amount Might include 3rd pillar, inheritance, income from capital, such as income from wealth, letting, sub-letting From 2014 on: sum of I$$CAPY, I$$RENTY, I$$OTHY

The questions on income have changed over the duration of the panel (cf. Table 5.3.12). With the exception of family allowances (only asked from 2004 onward) and old-age pensions in 1999 (old-age pension was not asked in 1999), these changes should not influence comparisons across waves. The variables collected from 1999-2001 can be constructed for all years by aggregating different income sources as shown in the table.

Table 5.3.12 Collection of individual income, by wave

1999	2000-2001	2002-2003	2004-2013	From 2014
I$$WY	I$$WY	I$$EMPY	I$$EMPY	I$$EMPY
		I$$INDY	I$$INDY	I$$INDY
-	I$$AVSY	I$$OASIY	I$$OASIY	I$$OASIY
		I$$AIY	I$$AIY	I$$AIY
		I$$PENY	I$$PENY	I$$PENY
I$$STPY	I$$STPY	I$$UNEY	I$$UNEY	I$$UNEY
		I$$WELY	I$$WELY	I$$WELY
		I$$GRAY	I$$GRAY	I$$GRAY
		I$$INSY	I$$INSY	I$$INSY
-	-	-	I$$FAMY	I$$FAMY
I$$STFY	I$$STFY	I$$PIHY	I$$PIHY	I$$PIHY
		I$$PNHY	I$$PNHY	I$$PNHY
I$$OSY	I$$OSY	I$$OSY	I$$OSY	I$$CAPY
				I$$RENTY
				I$$OTHY

Household income

There are two different ways of constructing household income. Firstly, in the household questionnaire, reference persons are asked to estimate total household income (sum of all household members). Secondly, in the individual questionnaire, household members (from 16 years of age) are asked about their personal income.[19] Total individual income amounts (corrected for within-household transfers) are then added to calculate household income. The constructed variables on household income (listed below) represent the sum of individual income in two cases: either if all individuals have answered the income questions in the individual questionnaire or if the sum of individual income is larger than the household-income from the household questionnaire. In the other cases, household income from the household interview is taken. Only if household income is based on individual income, adjustments are made for gross and net income.

Income information of the SHP III sample in 2013 has only been collected at the household level, because there was no regular individual interview (biographic interview in the first wave 2013 instead). Therefore, the variables I13HTYN and I13HTYG rely only on estimated total household income by the household reference person. Because total household income is typically underestimated by the household questionnaire, household income in 2013 is lower for the SHP III sample compared to the older samples (SHP I, SHP II). For the analysis of time trends or for income mobility, household income of the SHP III sample in 2013 should therefore be excluded. Figure 5 illustrates that the decline in net household income in 2013, when all samples are considered, can be attributed uniquely to this methodological effect. Disposable household income and simulated taxes cannot be computed for the SHP III sample in 2013 due to lacking individual information.

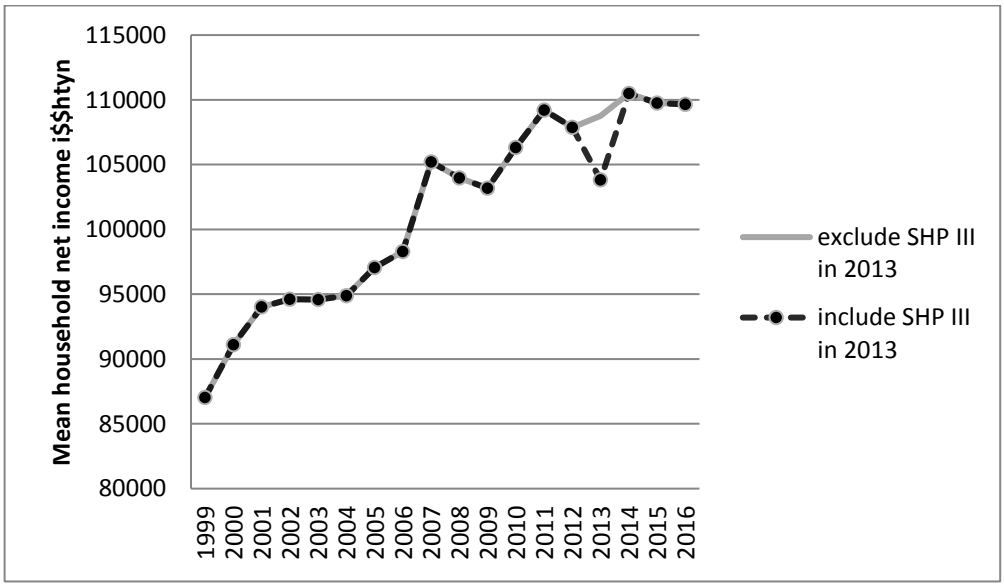


Figure 5.3.1: Household income of SHP III sample in 2013

[19] Since 2010 (wave 12), some questions are asked only from specific age ranges according to legislation. Income from disability pensions and grants are only collected until 65 years of age. Income from unemployment insurance is collected from individuals between 17 and 65 years of age, Income on capital income is collected only from persons 18 years of age due to the low probability of younger individuals to receive such income. Finally, only persons with income from employment or self-employment and with children in the household are asked about child allowances. Until 2009, all income questions have been asked from age 14.

To better assess the income situation of a household, equivalised household income take the size and composition of households into account by converting household income into income of one-person households. To compute equivalised household income, the household income is divided by an equivalence scale. Two different equivalence scales are used in the SHP. Firstly, the modified OECD scale (variables I$$EQON and I$$EQOG) attributes a weight of 1 to the first adult, a weight of 0.5 to all other household members from 14 years on, and a weight of 0.3 to children up to 14 years. The sum of these weights gives the modified OECD scale. Secondly, the SKOS equivalence scale (Swiss Conference of social assistance) (variables I$$EQSN and I$$EQSG) attributes a weight of 1 to a 1-person household, 1.53 to a two-person household, 1.86 to a three-person household, 2.14 to a four-person household, 2.42 to a five-person household, 2.70 to a six-person household, 2.98 to a seven-person household and increases by 0.28 to each additional person.

Table 5.3.13 List of constructed income variables of households

Variable	Gross/net	Description
	I$$HTYG, gross	Yearly income from all members
	I$$HTYN, net (social security taken into account where possible)	Taxes not deducted
	I$$EQSG, gross	Yearly household income, equivalised according to SKOS scale 1998.
	I$$EQON, net (social security taken into account where possible)	Taxes not deducted
	I$$EQOG, gross	Yearly household income, equivalised according to modified OECD scale.
	I$$EQON, net (social security taken into account where possible)	Taxes not deducted
I$$HTAX		Simulated direct taxes at the municipal, cantonal and federal level
I$$DISPY		Yearly household disposable income

Additional income variables
The constructed annualised income variables of the SHP user files have been imputed if the amount was missing (“don’t know”, no answer, implausible value). These imputed values are delivered with the main SHP data in a separate file.

The SHP cross-national equivalent file (CNEF) contains income sources defined slightly differently than in the SHP user file. The CNEF-variables – with the exception of professional income – report income on the household level. Missing values have been imputed. The CNEF-variables for the SHP are available with the main SHP data. To access CNEF-variables of other household panels, see the CNEF-homepage: http://cnef.ehe.osu.edu/. Original responses on the questionnaire are available from the SHP-team upon request (email to ursina.kuhn@fors.unil.ch).

Simulated taxes
The variable I$$HTAX simulates the direct taxes paid by the household at the municipal, cantonal and federal level. To assign the percentage of the household income which has to be paid as taxes, we use tax levels in municipalities published by the Swiss Federal Tax administration and take account of household specific deductions that can be applied to the income. Taxes are calculated at the level of tax units (individuals or married couples)

and then aggregated to the household level. The detailed procedures to simulate taxes are described in SHP technical paper 4_09 “Tax simulation in the SHP” (http://ohs-shp.unil.ch/workingpapers/WP4_09.pdf).

Household disposable income
The variable I$$DISPY indicates yearly household disposable income, which refers to income available after compulsory deductions (social security contributions, direct taxes I$$HTAX, health insurance premiums, payments to other households). Health insurance premiums are simulated according to mean premiums by canton and age group (below 18, 18-26, adults) for the minimum franchise. Public subsidies for health care are taken into account (at the basis of the share of population receiving subsidies and mean amount of subsidies paid per canton). Payments to other households (e.g. child alimonies) include compulsory and freely agreed pensions according to information collected in the household questionnaire (variables H$$I71, H$$I72, H$$I73, H$$I74). Payments to persons not in the household are only considered up to the amount that keeps individuals above the poverty line defined by the SCIAS/SKOS (25’752 equivalised income per year).

5.3.7 Geographical information
In addition to the region (REGION$$, 7 regions) and the canton (CANTON$$, 26 cantons) in which the household resides, two community typologies are constructed. This variable is based on the political municipality codes (provided by the Swiss Federal Statistical Office, see Schuler, Dessemontet and Joye 2005, 116f), and recoded into 22 codes based on the municipality in which the household is located (‘communes’ or ‘Gemeinden’). An aggregated version of this variable in 9 categories is provided as well. Table 5.3.14 provides the names and labels of these variables as well as how COM1_$$ is aggregated into COM2_$$.

Table 5.3.14 Coding of the community typology variables

	COM1_$$		**COM2_$$**
1	Great urban centres	1	Centres (1,2,3)
2	Median sized urban centres		
3	Small centres		
4	Centre of peripheral region		
5	Wealthy communes	3	Wealthy communes (5)
6	Tourist communes	5	Tourist communes (6,7)
7	Semi-tourist commune		
8	Communes with homes and asylums		
9	Labour/job communes in large central regions	2	Suburban communes (9,10,12,13)
10	Suburban residential communes in large central regions		
11	Peripheral urban communes in large central regions	4	Peripheral urban communes (11,14)
12	Labour/job communes outside large central regions		
13	Suburban residential communes outside large central		
14	Peripheral urban communes outside large central regions		
15	Net immigration communes, moderate or high proportion	7	Rural commuter communes (15,16)

	COM1_$$		COM2_$$
16	Native resident communes, moderate or high proportion		
17	Communes with industrial and tertiary sector employment	6	Industrial and tertiary sector communes (4,8,17,18)
18	Communes with industrial employment		
19	Communes with agricultural and industrial employment	8	Mixed agricultural communes (19,20)
20	Communes with agricultural and tertiary sector employment		
21	Communes with agricultural employment population	9	Peripheral agricultural communes (21,22)
22	Communes with strongly shrinking population		

The municipality codes themselves are not included in the user file to guarantee the anonymity of the respondents. Under certain conditions are the codes available for users of the data. This requires special authorization and is only possible when anonymity of the households can be guaranteed.

5.4 References for psychosocial variables[20]

5.4.1 Subjective well-being indicators and scales

The concept of subjective well-being (SWB) is composed of a cognitive and an affective dimension. The cognitive dimension refers to the evaluation of life in general, or of a particular important domain of life (for example health, professional life, financial situation). The affective dimension considers positive and negative affects such as joy, hope, optimism, worries, anxiety and anger (Diener 2000; Diener, Suh, Lucas, and Smith 1999).

The measurement of the cognitive dimension of subjective wellbeing in the SHP includes one indicator of general satisfaction with life. Additionally, there are different indicators that measure a wide range of domain specific aspects of life satisfaction. All indicators of the cognitive dimension of SWB are listed in Table 5.4.1:

Table 5.4.1 Cognitive dimension of subjective wellbeing

Variable	Label	Available in waves
	General measures of SWB	
P$$C44	Satisfaction with life in general	Annually since W02
P$$C100	LS: Life close to ideal	W14 + W17
P$$C101	LS: Excellent life conditions	W14 + W17
P$$C102	LS: Having gotten important things	W14 + W17
P$$C103	LS: Not changing anything	W14 + W17
	Satisfaction with health	
P$$C02	Satisfaction with health status	Annually since W01

[20] For an exact wording of the questions presented in this section we refer to https://forscenter.ch/projects/swiss-household-panel/documentation/ (research tools/search for variables within questionnaires).

Variable	Label	Available in waves
	Satisfaction with the educational environment	
P$$YTH01	Satisfaction with current studies	Annually since W03
P$$YTH05	Satisfaction with things learned during studies	Annually since W03
P$$YTH06	Satisfaction with relationship with the teaching staff	Annually since W03
P$$YTH07	Satisfaction with atmosphere with fellow students	Annually since W03
P$$YTH08	Satisfaction with the support from parents	Annually since W03
	Satisfaction with financial situation	
P$$W92	Satisfaction with income	Annually since W01
P$$I01	Satisfaction with financial situation	Annually since W01
	Satisfaction with working conditions	
P$$W93	Satisfaction with working conditions	Annually since W01
P$$W94	Satisfaction with working atmosphere	Annually since W01
P$$W229	Satisfaction with the level of interest in tasks	W01–Annually since W06
P$$W230	Satisfaction with the amount of work	W01–Annually since W06
P$$W228	Satisfaction with job in general	W01–Annually since W06
P$$W615	Satisfaction: hierarchical superiors	Annually since W16
P$$W616	Satisfaction: promotion	Annually since W16
	Satisfaction with living arrangements and personal relationships	
P$$F01	Satisfaction with living alone	Annually since W01
P$$F02	Satisfaction with living together	Annually since W01
P$$F04	Satisfaction with way housework is shared	Annually since W01
P$$QL04	Satisfaction with personal relationships	Annually since W03
P$$F54	Happy with the partner	Annually since W16
P1$$N69	Satisfaction with the partner	W15 + W18
P$$N72	Satisfaction with the children	W15 + W18
P$$N81	Satisfaction with mother	W15 + W18
P$$N90	Satisfaction with father	W15 + W18
P$$N124	Satisfaction with siblings	W15 + W18
P$$N100	Satisfaction with friend	W15 + W18
	Satisfaction with leisure	
P$$A05	Satisfaction with free time	Annually since W01
P$$A06	Satisfaction with leisure activities	Annually since W01
	Satisfaction with democracy	
P$$P02	Satisfaction with democracy	W01-W11 W13 + W16 + W19

Measures of affective well-being such as positive and negative affects are available. The affective dimension is generally conceptualized as two dimensions of mood (Watson, Clark, and Tellegen 1988): positive affects, which groups together emotions such as joy, hope, and optimism, and negative affects, which groups together a set of negative emotions such as anxiety, irritation, and depression (Scherer, Wranik, Sangsue, Tran, and Scherer 2004). The SHP contains one item assessing a very general negative emotional state and one item on positive feelings. Additionally, since 2006 the frequency of four of

the most important emotional traits is measured (Scherer, Wranik, Sangsue, Tran, and Scherer 2004). Indicators of affects are listed in Table 5.4.2.

Table 5.4.2 Affective dimension of subjective wellbeing

Variable	Label	Available in waves
P$$C17	Do you often have negative feelings such as having the blues, being desperate, suffering from anxiety or depression	Annually since W01
P$$C18	Are you often full of strength, energy and optimism	Annually since W02
	How frequently do you generally experience the following emotions	
P$$C47	… joy	Annually since W08
P$$C48	… anger	Annually since W08
P$$C49	… sadness	Annually since W08
P$$C50	… worry	Annually since W08

5.4.2 Personality traits: Big Five Inventory – 10 (BFI-10)

To provide information about the differences between individuals on five principal personality dimensions (Extraversion, Neuroticism, Agreeableness, Conscientiousness, and Openness to Experience) two different personality traits scales have been used in the SHP_I and the SHP_II.

Between 2009 (wave 11) and 2011 (wave 13), the Big-Five Inventory ten developed by Rammstedt and John (2007), an abbreviated version of the 44 items Big Five Inventory (BFI-44; John, and Srivastava, 1999), was introduced in the SHP (Table 5.4.3). The Big-Five Inventory ten includes two items per personality trait. Each item goes from zero "disagree strongly" to ten "agree strongly" and measures how an individual positions himself relative to a list of ten statements. Between 2009 (wave 11) and 2011 (wave 13), the BFI-10 was collected once, at the first interview in this period.

Table 5.4.3 Big Five-10

Variable	Label I see myself as someone who	Available in wave[1]
P$$C60	… is reserved.	W11 – W13
P$$C61	... is generally trusting.	W11 – W13
P$$C62	... does a thorough job .	W11 – W13
P$$C63	... is relaxed, handles stress well.	W11 – W13
P$$C64	... has an active imagination.	W11 – W13
P$$C65	... is outgoing, sociable.	W11 – W13
P$$C66	... tends to find fault with others.	W11 – W13
P$$C67	... tends to be lazy.	W11 – W13
P$$C68	... gets nervous easily.	W11 – W13
P$$C69	... has artistic interests	W11 – W13

Notes:
[1]) Only asked after W11 if this was the respondents' first interview.
Scoring the BFI-10 scales:
P$$C60, P$$C63, P$$C66, and P$$C67 are reversed in valence items.
Each trait is measured with two items:

Extraversion: P$$C60-R - P$$C65; Agreeableness: P$$C61 - P$$C66-R; Conscientiousness: P$$C62 - P$$C67-R; Neuroticism: P$$C63-R - P$$C68; Openness: P$$C64 - P$$C69.
R means reversed item.

An examination of the data collected between 2009 and 2011 shows that in the SHP, the Big Five Inventory ten psychometric properties were debatable (Ryser, 2015). Therefore, an alternative measure of the Big Five, the 15-item Big Five Inventory-Short Version (BFI-15; Gerlitz, and Schupp, 2005) consisting of 15 items was included in the SHP wave 17 in 2015 (Table 5.4.4). This version of the Big Five includes three items per personality trait. Each item goes from zero “disagree strongly” to ten “agree strongly” and measures how an individual positions himself relative to a list of 15 statements.

Table 5.4.4 Big Five-15

Variable	**Personality trait Latent Variable**	**Label** I see myself as someone who	**Available in wave**
P$$C140	Conscientiousness	... does a thorough job.	W17
P$$C141	Extraversion	… is talkative	W17
P$$C142	Agreeableness	... is sometimes rude to others [1].	W17
P$$C143	Openness	… is original, comes up with new idea	W17
P$$C144	Neuroticism	… worries a lot	W17
P$$C145	Agreeableness	… has a forgiving nature	W17
P$$C146	Conscientiousness	... tends to be lazy [1].	W17
P$$C147	Extraversion	... is outgoing, sociable.	W17
P$$C148	Openness	... values artistic, aesthetic experiences.	W17
P$$C149	Neuroticism	... gets nervous easily .	W17
P$$C150	Conscientiousness	… does thing efficiently	W17
P$$C151	Extraversion	… is reserved [1].	W17
P$$C152	Agreeableness	.... is considerate and kind to almost everyone	W17
P$$C153	Openness	... has an active imagination.	W17
P$$C154	Neuroticism	... remains calm in tense situations [1].	W17

Notes: [1]) Items reversed in valence.

For additional information about the theoretical assumptions behind the personality traits taxonomy, John, Naumann and Soto (2008) give information about the history and the construction of the Big Five inventory taxonomy. For the general five factor theory see also McCrae and Costa (2003). Srivastava, Gosling and Potter (2003) provide information on the relative stability of personality traits during adulthood and put forward that not all the personality traits are equally stable. Several authors emphasise the importance to control for acquiescence bias while using big five short scales (e.g. Rammstedt, and Farmer; 2013; Danner, Aichholzer, and Rammstedt 2015).

5.4.3 Additional psychological scales

The SHP measures with six items a very general personal perception of the self. Some items measure in how far respondents believe that their destiny is controlled by themselves and their own decisions or by external forces over which they do not have any power. Individuals who believe more strongly that they control their own destiny are more likely to develop a feeling of self-efficacy. The items are rated on an eleven-point scale from 0 “I completely disagree” to 10 “I completely agree”. The first four questions are

adapted by Levy, Joye, Guye and Kaufmann (p. 510; 1997) from Strodtbeck (1958). These items are directly related to the perception of the level of self-mastery and self-efficacy toward the environment. The last two items come from the self-esteem scale by Rosenberg (1965) and reflect the appraisal of one's own worth. These questions are asked at regular intervals and were included every 3 years since 2009 wave 11. In Wave 14 and 17, the SHP included six items on "Sense of control" (four items on personal mastery and two items on perceived constraints).

Using all 12 items in Table 5.4.5, a scale score can be constructed by calculating the mean of the items keeping in mind that some items are reversed in valence. The psychometric properties of the 12 items of the self-perception and control dimension wave 14 were acceptable with a Cronbach's alpha of 0.74.

Table 5.4.5 Self perception

Variable	Label	Available in waves
	Self-perception[a]	
P$$C70	Incapacity to make plans because of unpredictability	W11 + W14 + W17
P$$C71	Little influence on life events	W11 + W14 + W17
P$$C72	Capacity to overcome unexpected problems	W11 +; W14 + W17
P$$C73	Capacity to choose between two possibilities	W11 + W14 + W17
P$$C74	Feeling of uselessness	W11 + W14 + W17
P$$C75	Feeling of self-satisfaction	W11 + W14 + W17
	Sense of control[b]	
	Personal mastery	
P$$C104	Doing everything set in my mind	W14 + W17
P$$C105	Find a way to succeed	W14 + W17
P$$C106	What I want is in my hands	W14 + W17
P$$C107	What will happen depends on me	W14 + W17
	Perceived constraints	
P$$C108	Others determine what I can do	W14 + W17
P$$C109	Feeling of being pushed in my life	W14 + W17

[a]) P$$C72 P$$C73 and P$$C75 are reversed in valence.
[b]) Three items - P$$C106, P$$C107, and P$$C109 - come from Pearlin and Schooler (1978). Three items - P$$C104, P$$C105 and P$$C108 - come from Lachman and Weaver (1998).

A worries scale adapted from Stöber and Joormann (2001) was included in the SHP in wave 14. Psychometric properties of the "Worries scale" are excellent with a Cronbach's alpha of 0.91. Also in wave 14 the SHP included a list of important things in life. Cronbach's alpha of the "Important things" dimension is 0.63

A single item, rated on an eleven point scale from 0 "avoid taking risks" to 10 "fully prepared to take risks", assesses the global individual attitude toward taking risks in general. For more information, Grund and Sliwka (2006) give a general overview of the theoretical background of this scale. Table 5.4.6 shows all items on worries, important things in life and risk aversion.

Table 5.4.6 Worries, important things in life and risk aversion

Variable	Label	Available in waves
	Worries	
P$$C110	Achieving my ambitions	W14
P$$C111	Not keeping my workload up to date	W14
P$$C112	Being not able to afford things	W14
P$$C113	Feeling insecure	W14
P$$C114	Cannot afford to pay bills	W14
P$$C115	Leaving the work unfinished	W14
P$$C116	Lacking of confidence	W14
P$$C117	Being unattractive	W14
P$$C118	Losing close friends	W14
P$$C119	Have not achieving much	W14
	Important things in life	
P$$C120	Buying things	W14
P$$C121	Helping other people	W14
P$$C122	Self-actualization	W14
P$$C123	Success in job	W14
P$$C124	Being owner of house or apartment	W14
P$$C125	Good partnership	W14
P$$C126	Having children	W14
P$$C127	Social activities	W14
P$$C128	Travelling	W14
	Risk aversion	
P$$P48	Are you generally a person who is fully prepared to take risk or do you try to avoid taking risks?	Annually since W11

5.4.4 Gender role attitudes

The SHP includes a number of items that measure gender role attitudes and perceived equality between men and women (see Table 5.4.7). Three items measure the attitude toward traditional gender roles legitimacy in society (items P$$D91 to P$$D93). Two items are adapted from Roux (1999) and measure the perception of inequality at the societal and personal level (P$$P20 and P$$D21). This scale gives information whether it is the group and/or the individual which is perceived as a target for discrimination. Measuring attitudes toward measures promoting gender equality is another way to measure gender role attitudes. Such a scale provides an indirect measure of gender role attitudes (items P$$D22 and P$$D23). These items are inspired by the neo-sexism scale (Tougas, Brown, and Joly 1995). Such measures are supposed to be less threatening compared to direct measures and emphasizes attitudes that are generally hidden.

Table 5.4.7 Opinion on family

Variable	Label	Available in waves
P$$D91	Job preserves independence	W04 - W13 + W16 + W19
P$$D92	Child suffers with working mother	W04 - W13 + W16 + W19
P$$D93	A child develops equally well whether his/her parents are married or not.	W04 - W07
P$$P20	Do you have the feeling that in Switzerland women are penalized compared with men in certain areas?	W02-W11 W13 + W16 + W19
P$$P21	Do you, in your everyday life, feel penalized compared with the opposite sex?	W02-W11 W13 + W16 + W19
P$$P22	Are you in favour of Switzerland taking more steps to ensure the promotion of women?	W02 - W11 W13 + W16 + W19
P$$P23	In your own relationships with the opposite sex, does it seem possible to you that something can be done to increase equality between men and women?	W02 - W11

Psychological stress is assessed with a 4-item version of the Perceived Stress Scale (PSS, Cohen, Kamarck & Mermelstein, 1983) and a single control item.
Finally, since 2015, individuals age 15 are asked to assess their professional performance on a 4-item scale that has been adapted from the COCON study (https://www.jacobscenter.uzh.ch/de/research/cocon.html). Table 5.4.8 shows all items on *Perceived stress* and *Aspiration*.

Table 5.4.8 Perceived stress and professional aspirations

Variable	Label	Available in waves
	Perceived stress	
P$$C180	Control	W18
P$$C181	Personal problems	W18
P$$C182	Going your way	W18
P$$C183	Difficulties	W18
P$$C184	Nervous	W18
	Aspiration	
P$$YTH10	Aspirations: highest completed education	Annually since W17
P$$YTH11	Aspirations: probability to achieve the highest level of education	Annually since W17
P$$YTH12	Aspirations: desired occupation	Annually since W17
P$$YTH13	Aspirations: probability to enter into the desired occupation	Annually since W17

5.4.5 Additional scales (SHP_III, SHP-Vaud, and LIVES-Cohort)

In addition to the aforementioned scales, the questionnaires of the SHP_III, the SHP-Vaud and the LIVES-Cohort samples included a number of additional scales on identification, discrimination and anomie. Table 5.4.9 lists all items of these scales.

Identification is measured by two sets of questions: one measuring the identification with regional categories, and one focused on social categories which taps into the extent to which different social categories are central to the definition of the self. Alongside identification, a battery of questions measures discrimination based on different social categories. Anomie, finally, is measured by means of a 7-item version of the McClosky and

Schaar's (1965), which captures a sense that current social changes are disruptive and that social ties are loose.

Table 5.4.9 Additional scales in the SHP_III, SHP-Vaud and the LIVES-Cohort questionnaires

	Regional identity[a]	
P$$P81	Municipality	W16
P$$P82	Canton	W16
P$$P83	Linguistic region	W16
P$$P84	Urban-rural	W16
P$$P85	Switzerland	W16
P$$P86	Outside Switzerland	W16
	Social category identification	
P$$C160	Being Swiss	W17
P$$C161	Being a foreigner	W17
P$$C162	Living in Switzerland	W17
P$$C163	Being a man	W17
P$$C164	Being a woman	W17
P$$C165	Religion	W17
P$$C166	Political opinions	W17
P$$C167	Occupation-activity	W17
P$$C168	Age	W17
	Discrimination	
P$$C169	Foreign origin	W17
P$$C170	Being a man	W17
P$$C171	Being a woman	W17
P$$C172	Religion	W17
P$$C173	Age	W17
P$$C174	Disability	W17
P$$C175	Mental illness	W17
P$$C176	Physical illness	W17
P$$C177	Other reason	W17
	Anomie	
P$$P87	Uncertainty	W16
P$$P88	Friendship	W16
P$$P89	Disorder	W16
P$$P90	Change	W16
P$$P91	Tradition	W16
P$$P92	No belief	W16
P$$P93	To know what to do	W16

[a] Included in SHP_III, but not in LIVES Cohort or SHP Vaud.

5.5 Missing value conventions and imputation procedures

The following missing value labels are used:

-1 does not know
-2 no answer
-3 inapplicable. This means either
a) the specific question was not applicable and hence not asked
b) the respondent did not participate in this particular wave
c) the entire household did not respond/was not contacted

-7 filter error (a question should have been asked but was not)
-8 other error

Apart from the consistency checks and corrections (see 4.3) no values are changed or imputed, with the exception of income variables (see 5.3.6).

5.6 Combining data files

Table 5.6.1 shows the identification numbers that are available in the different data files. The personal ID (idpers) can be found in all files on the individual level, always referring to the same individual. The interviewer ID is available in the interviewer files (see 5.1.7) and the annual individual and household files.

As the composition of households can change over time, their identification number is wave specific.

Identification numbers of parents and spouses refer to their personal ID. For example, to match parents and children, one can attach the info of the parent to the info of the child, by matching idmoth$$ and idfath$$ (idmoth__ and idfath__ in Stata and SAS) to idpers.

To combine information from the household reference person with the household, refper$$ needs to be matched to idpers in the individual file. To add information from the partner to this file rpspou$$ needs to be matched to idpers.

Table 5.6.1 Identification numbers

variable	in files[a]	description
idint[b]	P, H, V	ID of interviewer
Idpers	P, MP, SO, CA, LJ, BH, BV	ID of person
Idhous$$	P, H, MP, MH, BH	ID of household
Idfath$$	MP	ID of father
Idmoth$$	MP	ID of mother
Idspou$$	P	ID of partner
Refper$$	H, MH	ID of reference person in household
Rpspou$$	H	ID of partner of reference person

[a]) P individual questionnaire (wave specific)
H household questionnaire (wave specific)
MP master file individuals
MH master file households
V interviewer file
SO social origin
CA activity calendar
LJ last job
BH biographical file (horizontal)
BV biographical file (vertical)

[b]) **Attention!**
The values of the variable "idint" in the Interviewer data files have been coded in order to protect the identity of the Interviewers. Consequently, the merging of the Interviewer-data with the Household and Individual level files is only possible after de-coding. Please contact Oliver Lipps for more details (oliver.lipps@fors.unil.ch).

On https://forscenter.ch/projects/swiss-household-panel/documentation/ (under data management) there are examples of programming in SAS, SPSS and Stata of how to combine different files (such as matching respondents across waves, matching respondents to households, matching couples, etc.).

5.7 Changing the language of variables and value labels

Variable and value labels are available in French, German, Italian and English. The files containing the syntax are:

- Variable_labels_SHP_$WAVE$_$QUEST$_$LANGUAGE$.txt
- Value_labels_SHP_$WAVE$_$QUEST$_$LANGUAGE$.txt

$WAVE$ is to be replaced by:
W1 = Wave 1
W2 = Wave 2
W3 = Wave 3
…
W18= Wave 18
W19= Wave 19
WA = Waves ALL (modules CA, LJ, MP, MH, OS)

$QUEST$ is to be replaced by:
P = Individual
H = Household
X = Proxy
CA = Activities calendar
LJ = Last Job
MP = Individual Masterfile
MH = Household Masterfile
OS = Social Origin

$LANGUAGE$ is to be replaced by:
E = English
F = Français
D = Deutch
I = Italiano

For **SPSS** labels
To label a SPSS data file, open the files located in the '\LABELS\SPSS\$WAVE$\$LANGUAGE$\' directory in a syntax editor and run the syntax.

For **Stata** labels
To label a Stata data file, open the files located in the '\LABELS\STATA\$WAVE$\$LANGUAGE$\' directory in a do-file editor and run the do-file. Note that all Stata file names variable names use lower case letters.

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Appendix A List of cantons in Switzerland

AG	Aargau
AR	Appenzell Ausserrhoden
AI	Appenzell Innerrrhoden
BS	Basel-Stadt
BL	Basel-Landschaft
BE	Bern
FR	Fribourg
GE	Geneva
GL	Glarus
GR	Graubünden
JU	Jura
LU	Lucerne
NE	Neuchâtel
NW	Nidwalden
OW	Obwalden
SH	Schaffhausen
SZ	Schwyz
SO	Solothurn
SG	St. Gallen
TG	Thurgau
TI	Ticino
UR	Uri
VS	Valais
VD	Vaud
ZG	Zug
ZH	Zurich

Appendix B Participation in the Swiss Household Panel

Table B.1a: Participation in the "Living in Switzerland Panel Survey" 1999-2009 (SHP_I)

Number of participating units	**SHP _I 1999 (w1)**	**SHP _I 2000 (w2)**	**SHP _I 2001 (w3)**	**SHP _I 2002 (w4)**	**SHP _I 2003 (w5)**	**SHP _I 2004 (w6)**	**SHP _I 2005 (w7)**	**SHP _I 2006 (w8)**	**SHP _I 2007 (w9)**	**SHP _I 2008 (w10)**	**SHP _I 2009 (w11)**
Households with grids completed	5,074	4,532	4,314	3,685	3,289	2,918	2,526	2,580	2,893	2,793	3,052
Household interview completed	**5,074**	**4,425**	**4,139**	**3,582**	**3,227**	**2,837**	**2,457**	**2,537**	**2,817**	**2,718**	**2,930**
Persons living in participating households	12,931	11,678	11,116	9,537	8,478	7,517	6,491	6,587	7,225	6,905	7,469
Persons aged 14 years and older eligible for individual interviewing	10,293	9,297	8,942	7,553	6,719	5,976	5,220	5,333	5,972	5,740	6,224
Personal interview completed	**7,799**	**7,073**	**6,601**	**5,700**	**5,220**	**4,413**	**3,888**	**4,091**	**4,630**	**4,494**	**4,800**
Proxy Interviews [a]	2,638	2,381	2,174	1,984	1,724	1,482	1,241	1,237	1,226	1,127	1,216
Persons responding in current and all previous waves	------	6,335	5,429	4,480	3,888	3'076	2,622	2,399	2,209	2,060	1,952
Grid level net response rates [b]	64%	91%	88%	86%	90%	82%	91%	87%	86%	91%	91%
Individual level net response rates [c]	85%	84%	88%	89%	88%	85%	87%	81%	81%	82%	81%

Source: Swiss Household Panel, 1999-2016 (http://www.swisspanel.ch/)

[a] The SHP proxy interviews include information about children under 14 years and adult persons unable to respond to the survey (old age, handicap, etc.); the SILC survey doesn't conduct proxy interviews regarding children.

[b] Referring to all gross households minus those with neutral problems (neutral problems: invalid telephone, etc.).

[c] Referring to all called individuals minus those with neutral problems (foreign language etc.).

Note: SHP_I denotes the original households recruited in 1999.

Table B.1b: Participation in the "Living in Switzerland Panel Survey" 2010-2017 (SHP_I)

Number of participating units	**SHP _I 2010 (w12)**	**SHP _I 2011 (w13)**	**SHP _I 2012 (w14)**	**SHP _I 2013 (w15)**	**SHP _I 2014 (w16)**	**SHP _I 2015 (w17)**	**SHP _I 2016 (w18)**	**SHP_I 2017 (w19)**
Households with grids completed	3,065	3,055	3,032	2,936	2,821	2,802	2,700	2,657
Household interview completed	**2,985**	**2,977**	**2,968**	**2,881**	**2,778**	**2,761**	**2,651**	**2,620**
Persons living in participating households	7,477	7,450	7,274	6,999	6,703	6,571	6,268	6,060
Persons aged 14 years and older eligible for individual interviewing	6,286	6,335	6,229	6,043	5,798	5,720	5,469	5,251
Personal interview completed	**5,057**	**5,103**	**5,032**	**4,880**	**4,678**	**4,596**	**4,311**	**4,232**
Proxy Interviews [a]	1,163	1,085	1,029	923	882	831	779	782
Persons responding in current and all previous waves	1,879	1,813	1,739	1,661	1,598	1,547	1,461	1,404
Grid level net response rates [b]	94%	93%	93%	94%	92%	94%	92%	91%
Individual level net response rates [c]	85%	84%	85%	85%	84%	84%	83%	83%

Source: Swiss Household Panel, 1999-2016 (http://www.swisspanel.ch/)

[a] The SHP proxy interviews include information about children under 14 years and adult persons unable to respond to the survey (old age, handicap, etc.); the SILC survey doesn't conduct proxy interviews regarding children.

[b] Referring to all gross households minus those with neutral problems (neutral problems: invalid telephone, etc.).

[c] Referring to all called individuals minus those with neutral problems (foreign language etc.).

Note: SHP_I denotes the original households recruited in 1999.

Table B.2: Participation in the "Living in Switzerland Panel Survey" 2004-2017 (SHP_II)

Number of participating units	**SHP_II 2004 (w1)**	**SHP_II 2005 (w2)**	**SHP_II 2006 (w3)**	**SHP _II 2007 (w4)**	**SHP _II 2008 (w5)**	**SHP _II 2009 (w6)**	**SHP _II 2010 (w7)**	**SHP _II 2011 (w8)**	**SHP _II 2012 (w9)**	**SHP _II 2013 (w10)**	**SHP _II 2014 (w11)**	**SHP _II 2015 (w12)**	**SHP _II 2016 (w13)**	**SHP_II 2017 (w14)**
Households with grids completed	2,703	1,907	1,753	1,547	1662	1,539	1,608	1,560	1,560	1,530	1,412	1,353	1,277	1,241
Household interview completed	**2,537**	**1,798**	**1,683**	**1,493**	**1545**	**1,475**	**1,556**	**1,519**	**1,492**	**1,487**	**1,384**	**1,325**	**1,246**	**1,210**
Persons living in participating households	6,565	4,669	4,272	3,773	3980	3,682	3,851	3,724	3,692	3,572	3,324	3,149	2,905	2,812
Persons aged 14 years and older eligible for individual interviewing	5,376	3,845	3,500	3,123	3291	3,033	3,184	3,136	3,115	3,020	2,808	2,659	2,465	2,380
Personal interview completed	**3,652**	**2,647**	**2,566**	**2,349**	**2409**	**2,307**	**2,487**	**2,479**	**2,411**	**2,324**	**2,147**	**2,072**	**1,909**	**1,836**
Proxy Interviews [a]	1,115	770	743	637	645	622	653	570	564	543	511	482	433	418
Persons responding in current and all previous waves	------	2,393	1,928	1,600	1,399	1,288	1,220	1,156	1,101	1,038	956	899	837	781
Grid level net response rates [b]	65%	81%	78%	84%	81%	91%	88%	90%	89%	92%	89%	88%	87%	86%
Individual level net response rates [c]	76%	75%	78%	80%	80%	81%	83%	84%	82%	81%	81%	82%	81%	80%

Source: Swiss Household Panel, 2004-2016 (http://www.swisspanel.ch/)

[a] The SHP proxy interviews include information about children under 14 years and adult persons unable to respond to the survey (old age, handicap, etc.); the SILC survey doesn't conduct proxy interviews regarding children.

[b] Referring to all gross households minus those with neutral problems (neutral problems: invalid telephone, etc.).

[c] Referring to all called individuals minus those with neutral problems (foreign language etc.).

Note: SHP_II stands for the newly recruited SHP households in 2004.

Table B.3 *Participation in the "Living in Switzerland Panel Survey" 2013-2017 (SHP_III)*

Number of participating units	**SHP _III 2013 (w1)**	**SHP _III 2014 (w2**	**SHP _III 2015 (w3)**	**SHP _III 2016 (w4)**	**SHP_III 2017 (w5)**
Households with grids completed	4,065	3,283	2,732	2,425	2,178
Household interview completed	**3,988**	**3,196**	**2,700**	**2,365**	**2,125**
Persons living in participating households	9,881	7,990	6,624	7,788	5,078
Persons aged 14 years and older eligible for individual interviewing	7,910	6,498	5,388	4,771	4,177
Personal interview completed	**6,088**	**5,262**	**4,498**	**3,809**	**3,411**
Proxy Interviews [a]	------	1,455	1,219	980	880
Persons responding in current and all previous waves	------	4,451	3,588	2,901	2,393
Grid level net response rates [b]	60%	89%	88%	85%	85%
Individual level net response rates [c]	81%	86%	88%	85%	85%

Source: Swiss Household Panel, 2013-2014 (http://www.swisspanel.ch/)

[a] In wave 1 of SHP_III only respondents aged 16 or older completed the biographical questionnaire.

[b] The SHP proxy interviews include information about children under 14 years and adult persons unable to respond to the survey (old age, handicap, etc.).

[c] Referring to all gross households minus those with neutral problems (neutral problems: invalid telephone, etc.).

[d] Referring to all contacted individuals minus those with neutral problems (foreign language etc.).

Note: SHP_III stands for the newly recruited SHP households in 2013.

Appendix C Attrition by demographic characteristics and social involvement

Tables 1 to 3 below present demographic characteristics and social involvement attitudes and behaviour of the three samples of the SHP for respondents with different response patterns. The analysis includes respondents who have participated in an individual interview at least once, and who have not left the sample (i.e. not deceased, institutionalized or out of the country)[21]. We distinguished between respondents who are interviewed in every wave, those who are interviewed irregularly, and those who dropped out of the panel (this implies the respondent was not interviewed in the last three waves). For the SHP_III we added an additional group of respondents who only completed the calendar in the first wave. As for these respondents no information from the individual questionnaires was available, they are only included when analysing variables on the household level. For the SHP_III the "dropped out" group consists of respondents who did not participate in the last three waves, but who participated at least once after the first wave. Note that calculations are based on unweighted data. Significant differences are tested by calculating Cramers' V for all the categorical variables and by t-tests for the continuous variables and the variables measured on an 11-point scale. All differences are significant unless indicated otherwise.

Table C.1 Demographic characteristics and social involvement attitudes and behaviour by response pattern (SHP I, 1999-2017)

	Always responding n = 2205	**Irregularly responding n = 2888**	**Dropped out n = 6108**
Sex (%)			
men	42.7%	47.3%	47.2%
women	57.3%	52.7%	52.8%
Age (%)			
14 to 19	22.1%	27.1%	23.8%
20 to 29	12.4%	14.5%	18.2%
30 to 39	23.4%	19.2%	18.7%
40 to 49	17.8%	17.9%	15.5%
50 to 59	15.1%	13.1%	10.5%
60 +	9.2%	8.2%	13.3%
Education (%)			
compulsory school	29.7%	36.4%	37.2%
upper secondary level (vocational)	33.2%	33.9%	36.6%
upper secondary level (matura)	10.4%	9.1%	9.6%
tertiary level (vocational)	12.3%	10.7%	8.6%
tertiary level (university)	14.5%	9.9%	8.0%
Swiss nationality (%)	93.7%	90.5%	86.4%

[21] Following a matching procedure with the Swiss National Cohort (a database containing all residents in Switzerland matched with the mortality register, see Spoerri et al, 2010) we were able to identify additional deceased respondents who, until now, were erroneously included in the "dropped out" group. In wave 19 of the SHP_I sample 622 sample members were identified as either deceased, having left the country or moved to an institution. For the SHP_II and SHP_III the numbers were 226 and 107, respectively.

Region[a][22] (%)			
Lake Geneva	17.7%	17.6%	17.6%
Middleland	26.1%	25.6%	25.2%
North-west Switzerland	14.8%	15.0%	13.9%
Zurich	17.1%	15.9%	16.0%
East Switzerland	10.7%	11.8%	14.6%
Central Switzerland	9.3%	10.2%	8.6%
Ticino	4.3%	3.9%	4.1%
Urbanization			
highly and moderately urbanized centres	60.6%	59.0%	61.1%
small urban centres	9.3%	9.8%	10.2%
communes of urbanized centres	12.2%	10.3%	10.1%
communes of small urban centres	8.3%	8.9%	7.9%
communes remote from urbanized centres	9.6%	11.9%	10.6%
Civil status (%)[23]			
single, never married	42.6%	45.7%	46.3%
married	47.6%	46.2%	42.7%
separated	1.4%	1.1%	1.0%
divorced	6.6%	5.5%	6.0%
widower/widow	1.8%	1.6%	3.9%
Children in household %[24]	58.2%	65.2%	60.4%
Employment (%)[25]			
active occupied	61.8%	63.5%	61.9%
unemployed	1.1%	1.6%	2.2%
not in labour force	37.1%	34.9%	35.9%
Owner residence (%)[26]	51.6%	52.1%	45.5%
Mean satisfaction with health (0-10)	8.42	8.35	8.20
Participate in clubs (%)	59.1%	56.2%	48.0%
Mean general trust in people (0-10)[b]	5.97	5.74	5.40
Mean interest in politics (0-10)	5.39	4.94	4.62

[a])Region: Lake Geneva: VD, VS, GE; Middleland: BE, FR, SO, NE, JU; North-west Switzerland: BS, BL, AG; Zürich; East Switzerland: GL, SH, AR, AI, SG, GR, TG; Central Switzerland: LU, UR, SZ, OW, NW, ZG; Ticino. See Appendix A for a list of cantons.
[b]) Asked from 2002 onwards

[22] Difference between always and irregularly participating is not significant (Cramer's V, p=.65)
[23] Difference between always and irregularly participating is not siginificant (Carmers' V, p=.13)
[24] Difference between always participating and dropped out is not significant (Cramers' V, p=.08)
[25] Difference between always and irregularly participating is not significant (Carmers'V, p=.11)
[26] Difference between always and irregularly participating is not significant (Cramers' V, p=.15)

Table C.2 Demographic characteristics and social involvement attitudes and behaviour by response pattern (SHP II, 2004-2017)

	Always responding n = 1084	Responding irregularly n = 1233	Dropped out n = 2633
Sex (%)[27]			
men	44.0%	48.8%	46.7%
women	56.0%	51.2%	53.3%
Age (%)			
14 to 19	17.5%	22.5%	21.4%
20 to 29	10.2%	13.2%	16.3%
30 to 39	20.8%	18.5%	16.5%
40 to 49	21.5%	17.7%	18.2%
50 to 59	16.0%	14.1%	11.7%
60 +	13.9%	13.9%	16.0%
Education (%)			
compulsory school	22.0%	30.4%	32.5%
upper secondary level (vocational)	35.6%	35.5%	36.5%
upper secondary level (matura)	10.6%	8.8%	9.5%
tertiary level (vocational)	16.1%	14.5%	12.9%
tertiary level (university)	15.7%	10.7%	8.6%
Swiss nationality (%)	91.7%	88.6%	84.0%
Region[28a] **(%)**			
Lake Geneva	18.1%	17.9%	18.6%
Middleland	26.8%	23.4%	23.9%
North-west Switzerland	13.2%	13.1%	14.1%
Zurich	18.8%	17.8%	18.0%
East Switzerland	10.9%	13.5%	13.6%
Central Switzerland	9.4%	10.1%	8.7%
Ticino	2.8%	4.1%	3.2%
Urbanization[29]			
highly and moderately urbanized centres	61.5%	62.3%	63.3%
small urban centres	10.1%	9.3%	10.3%
communes of urbanized centres	11.4%	11.4%	9.0%
communes of small urban centres	6.6%	7.0%	7.3%
communes remote from urbanized centres	10.3%	10.0%	10.1%
Civil status (%)			
single, never married	39.5%	43.6%	45.1%
married	47.9%	47.0%	42.2%
separated	1.6%	1.5%	1.8%
divorced	8.6%	5.1%	6.5%
widower/widow	2.5%	2.9%	4.4%
Children in household %	51.6%	58.1%	56.3%

[27] Difference between always participating and dropped out is not significant (Cramer's V, p=.13)
[28] Differences between groups are not significant (Cramer's V, dropped out p=.19, irregular p=.14)
[29] Differences between groups are not significant (Cramers' V, dropped out p=.23, irregularly responding p=.97)

Employment (%)[30]			
active occupied	69.8%	65.7%	64.3%
unemployed	1.5%	1.5%	3.5%
not in labour force	28.7%	32.8%	32.2%
Owner residence (%)[31]	48.7%	53.5%	46.1%
Mean satisfaction with health (0-10)[32]	8.30	8.21	8.24
Participate in clubs (%)	55.6%	51.1%	44.7%
Mean general trust in people (0-10)	5.76	5.50	5.08
Mean interest in politics (0-10)	5.74	5.10	4.84

[a])Region: Lake Geneva: VD, VS, GE; Middleland: BE, FR, SO, NE, JU; North-west Switzerland: BS, BL, AG; Zürich; East Switzerland: GL, SH, AR, AI, SG, GR, TG; Central Switzerland: LU, UR, SZ, OW, NW, ZG; Ticino

[30] Difference between always and irregularly participating is not significant (Cramer's V, p=.10)
[31] Difference between always participating and dropped out is not significant (Cramer's V, p=.15)
[32] Difference between groups are not significant (T-test, dropped out p=.24, irregularly responding p=.38)

Table C.3 Demographic characteristics and social involvement attitudes and behaviour by response pattern (SHP III, 2013-2017)

	Always responding	Responding irregularly	No interview in last three waves	Calendar only[33]
	n = 2667	n = 2360	n = 887	N = 1353
Sex (%)[34]				
men	45.6%	48.3%	49.0%	52.3%
women	54.4%	51.7%	51.0%	47.7%
Age (%)				
14 to 19	10.9%	15.7%	11.3%	8.2%
20 to 29	8.8%	10.3%	14.1%	23.8%
30 to 39	13.7%	12.8%	13.6%	16.3%
40 to 49	20.3%	19.3%	18.8%	17.7%
50 to 59	16.5%	16.3%	18.9%	14.5%
60 +	30.0%	25.7%	23.4%	19.5%
Education (%)				
compulsory school	20.6%	28.1%	23.9%	27.9%
upper secondary level (vocational)	35.7%	34.5%	40.0%	39.7%
upper secondary level (matura)	9.1%	9.1%	7.9%	9.7%
tertiary level (vocational)	11.4%	11.7%	11.8%	7.7%
tertiary level (university)	23.2%	16.7%	16.3%	15.0%
Swiss nationality (%)	89.3%	85.3%	83.9%	
Region[35a] (%)				
Lake Geneva	19.5%	18.8%	16.5%	18.8%
Middleland	24.1%	23.0%	26.2%	22.5%
North-west Switzerland	13.1%	14.0%	15.4%	11.9%
Zurich	14.3%	16.6%	12.7%	16.7%
East Switzerland	14.2%	14.2%	15.2%	14.4%
Central Switzerland	10.1%	9.1%	10.4%	11.9%
Ticino	4.8%	4.3%	3.6%	3.8%
Urbanization[36]				
Highly/moderately urbanized centres	58.3%	58.9%	57.9%	62.0%
small urban centres	10.0%	11.1%	11.6%	12.3%
communes of urbanized centres	13.5%	12.6%	12.6%	9.7%
communes of small urban centres	7.4%	6.3%	7.6%	5.5%
communes remote from urbanized centres	10.7%	11.2%	10.3%	10.4%
Civil status (%)[37]				
single, never married	30.3%	34.7%	34.4%	
married	55.3%	51.9%	52.4%	
separated	1.3%	1.3%	1.6%	

[33] As this group did not complete an individual interview, it is not included in the analysis of individual-level variables (with the exception of gender, age and education).
[34] Difference between groups is not significant (Cramer's V, dropped out p=.08, irregular p=.06, calendar p=.00)
[35] Difference between groups is not significant (Cramer's V, dropped out p=.09, irregular p=.23, calendar p=.11)
[36] Difference between groups is not significant (Cramer's V, dropped out p=.69, irregular p=.31)
[37] Difference between always participating and dropped out is not significant (Cramer's V, p=.17)

divorced	8.2%	8.2%	7.9%	
widower/widow	4.8%	3.8%	3.7%	
Children in household %	51.2%	45.4%	46.3%	54.7%
Employment (%)[38]				
active occupied	63.1%	63.8%	68.8%	
unemployed	1.5%	2.2%	2.0%	
not in labour force	35.4%	34.0%	29.2%	
Owner residence (%)	61.2%	55.8%	51.4%	45.7%
Mean satisfaction with health (0-10)[39]	8.11	8.03	7.91	
Participate in clubs (%)	50.5%	43.5%	38.8%	
Mean general trust in people (0-10)	6.28	5.83	5.79	
Mean interest in politics (0-10)	5.55	5.10	5.05	

[a])Region: Lake Geneva: VD, VS, GE; Middleland: BE, FR, SO, NE, JU; North-west Switzerland: BS, BL, AG; Zürich; East Switzerland: GL, SH, AR, AI, SG, GR, TG; Central Switzerland: LU, UR, SZ, OW, NW, ZG; Ticino

[38] Difference between always participating and ever out is not significant (Cramer's V, p=.15)
[39] Difference between always participating and ever out is not significant (T-test, p=.10)