NEPS

National Educational Panel Study

Johannes Ziesmer

Samples, Weights and Nonresponse

NEPS Starting Cohort 5 — First-Year Students
From Higher Education to the Labor Market

Wave 15

LIfBi

**LEIBNIZ INSTITUTE FOR
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Samples, Weights, and Nonresponse: Wave 15 of the Student Sample of the National Educational Panel Study

Ziesmer, J.

Leibniz Institute for Educational Trajectories

E-mail address of lead author:

statistik@lifbi.de

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1 Summary of Study

This report refers to Wave 15 of the Scientific Use File (SUF) of the survey "first-year undergraduate students in higher education in 2011" (Starting Cohort 5) conducted within the National Educational Panel Study (NEPS). The current SUF 15.0.0 of the First-Year Students sample is available online at DOI:10.5157/NEPS:SC5:15.0.0.[1] This paper supplements the previous NEPS Survey Paper by Zinn, Steinhauer, and Aßmann (2017) as well as the Wave 9 up to Wave 14 weighting documentations (Würbach, 2020a, 2020b; Zinn, 2017, 2018a, 2018b, 2019), which give detailed information on the applied sampling procedure, the derivation of design weights, their successive adjustments, and the derivation of panel weights for all of the previous waves.

Table 1 summarizes the study numbers, the survey modes, the periods of the studies as well as the numbers of participants in each panel wave available in the current SUF. The studies B52 (Wave 1), B55 (Wave 3), B59 (Wave 5), B94 (Wave 7), B111 (Wave 9), B112 (Wave 10), B138 (Wave 13), and B140 (Wave 15) were conducted via computer-assisted telephone interviews (CATIs). The studies B54 (Wave 2), B56 (Wave 4), B58 (Wave 6), B95 (Wave 8), B113 (Wave 11) and B139 (Wave 14) are online surveys. The study B53 (Wave 1 Test) involves competence tests that have been conducted in parallel to the telephone interviews of the B52 study. In study B114 (Wave 12) a mixed mode design was applied: participants could chose between being interviewed and tested via CATI/CAWI or CAPI. For each wave weights are available for those persons that participated in an interview. Weights for persons participating in competence tests are only available for Wave 1 (i.e. study B53). No weights are provided for persons who attended the competence tests in Wave 5 (study B57), Wave 7 (study B90), and Wave 12 (study B114). Table 2 gives the wave-specific number of participants, temporary dropouts, and final drop-outs in and after the survey.

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[1]For general information on the NEPS, see Blossfeld, Roßbach, and von Maurice (2011). More detailed information is available in the documentation section on the homepage.

Table 1: Attribution of studies to panel waves.

Wave	Study number	Survey Time
Wave 1	B52 CATI	Winter 2010/11
Wave 1 Test	B53 Test	Winter 2010/11
Wave 2	B54 CAWI	Autumn 2011
Wave 3	B55 CATI	Spring 2012
Wave 4	B56 CAWI	Autumn 2012
Wave 5	B59 CATI	Spring/Summer 2013
Wave 5 Test	B57 Test	Spring/Summer 2013
Wave 6	B58 CAWI	Autumn 2013
Wave 7	B94 CATI	Summer 2014
Wave 7 Test	B90 Test	Winter/Spring 2014
Wave 8	B95 CAWI	Autumn 2014
Wave 9	B111 CATI	Spring/Summer 2015
Wave 10	B112 CATI	Spring/Summer 2016
Wave 11	B113 CAWI	Autumn 2016
Wave 12	B114 CAWI	Spring/Summer/Autumn 2017
Wave 13	B138 CATI	Spring/Summer 2018
Wave 14	B139 CAWI	Autumn 2018
Wave 15	B140 CATI	Spring/Summer 2019

2 Panel progress

The following Table 2 details the panel progress of Starting Cohort 5 by differentiating participants, temporary dropouts, and final dropouts for each group separately and in total. Final dropouts are separated into final dropouts due to refusal during the survey period and final dropouts between two consecutive waves. Starting with Wave 7, the number of final dropouts, which have not participated in three consecutive CATIs is reported in the corresponding footnotes.

Table 2: Panel progress of Starting Cohort 5 by wave.

Wave	Sub-sample	Panel Cohort		Status at the end of the wave				
		Panel sample	Gross sample	Participants	Participation proportion	Temporary dropouts	Final dropout (within wave)	Final dropout (after wave)
1	**Total**	-	31082	17909	0.576	-	0	0
	LA	-	7864	5555	0.706	-	0	0
	UNI	-	11904	8023	0.674	-	0	0
	FH	-	7460	3894	0.522	-	0	0
	PR	-	3854	437	0.113	-	0	0
1T	**Total**	17909	17909	5949	0.332	11941	19	0
	LA	5555	5555	2021	0.364	3527	7	0
	UNI	8023	8023	2715	0.338	5303	5	0
	FH	3894	3894	1115	0.286	2772	7	0
	PR	437	437	98	0.224	339	0	0
2	**Total**	17890	17890	12272	0.686	5591	27	13
	LA	5548	5548	3839	0.692	1701	8	2
	UNI	8018	8018	5608	0.699	2395	15	8
	FH	3887	3887	2510	0.646	1374	3	3
	PR	437	437	315	0.721	121	1	0
3	**Total**	17850	17850	13113	0.735	4557	180	31
	LA	5538	5538	4253	0.768	1234	51	9
	UNI	7995	7995	5841	0.731	2076	78	10
	FH	3881	3881	2701	0.696	1135	45	10
	PR	436	436	318	0.729	112	6	2
4	**Total**	17639	17639	11202	0.635	6423	14	19
	LA	5478	5478	3695	0.675	1780	3	2
	UNI	7907	7907	5003	0.633	2898	6	12
	FH	3826	3826	2219	0.580	1602	5	5
	PR	428	428	285	0.666	143	0	0

Table 2: Panel progress of Starting Cohort 5 by wave.

Wave	Sub-sample	Panel Cohort		Status at the end of the wave				
		Panel sample	Gross sample	Participants	Participation proportion	Temporary dropouts	Final dropout (within wave)	Final dropout (after wave)
5	**Total**	17606	17606	12693	0.721	4620	293	3
	LA	5473	5473	4186	0.765	1215	72	0
	UNI	7889	7889	5614	0.712	2149	126	0
	FH	3816	3816	2582	0.677	1145	89	3
	PR	428	428	311	0.727	111	6	0
5T	**Total**	17310	17310	8766	0.506	8538	6	60
	LA	5401	5401	2907	0.538	2493	1	17
	UNI	7763	7763	3962	0.510	3799	2	30
	FH	3724	3724	1687	0.453	2035	2	10
	PR	422	422	210	0.498	211	1	3
6	**Total**	17244	17244	10182	0.590	7041	21	6
	LA	5383	5383	3352	0.623	2028	3	1
	UNI	7731	7731	4593	0.594	3124	14	4
	FH	3712	3712	1975	0.532	1733	4	1
	PR	418	418	262	0.627	156	0	0
7T	**Total**	17217	600	339	0.565	235	26	1
	LA	5379	57	38	0.667	18	1	0
	UNI	7713	343	202	0.589	126	15	0
	FH	3707	158	77	0.487	72	9	1
	PR	418	42	22	0.524	19	1	0
7	**Total**	17190	14464	9610	0.664	4432	422	[a]2104
	LA	5378	2653	1924	0.725	666	63	564
	UNI	7698	7697	5132	0.667	2382	183	976
	FH	3697	3697	2277	0.616	1264	156	519
	PR	417	417	277	0.664	120	20	45

Table 2: Panel progress of Starting Cohort 5 by wave.

Wave	Sub-sample	Panel Cohort		Status at the end of the wave				
		Panel sample	Gross sample	Participants	Participation proportion	Temporary dropouts	Final dropout (within wave)	Final dropout (after wave)
8	**Total**	14664	14664	8628	0.588	6025	11	1
	LA	4751	4751	2933	0.617	1817	1	0
	UNI	6539	6539	3944	0.603	2588	7	0
	FH	3022	3022	1546	0.512	1473	3	1
	PR	352	352	205	0.582	147	0	0
9	**Total**	14652	14652	10096	0.689	4322	234	[b]920
	LA	4750	4750	3430	0.722	1252	68	276
	UNI	6532	6532	4522	0.692	1936	74	411
	FH	3018	3018	1898	0.629	1039	81	214
	PR	352	352	246	0.699	95	11	19
10	**Total**	13498	13498	9089	0.673	4190	219	[c]1207
	LA	4406	4406	3072	0.697	1275	59	457
	UNI	6047	6047	4148	0.686	1817	82	451
	FH	2723	2723	1650	0.606	1001	72	276
	PR	322	322	219	0.680	97	6	23
11	**Total**	12072	12072	7020	0.582	5041	11	7
	LA	3890	3890	2232	0.574	1654	4	2
	UNI	5514	5514	3396	0.616	2115	3	4
	FH	2375	2375	1225	0.516	1146	4	1
	PR	293	293	167	0.570	126	0	0
12	**Total**	12054	12054	8550	0.709	3042	462	[d]726
	LA	3884	3884	2866	0.738	889	129	126
	UNI	5507	5507	3902	0.709	1411	194	367
	FH	2370	2370	1576	0.665	666	128	218
	PR	293	293	206	0.703	76	11	15

Table 2: Panel progress of Starting Cohort 5 by wave.

Wave	Sub-sample	Panel Cohort		Status at the end of the wave				
		Panel sample	Gross sample	Participants	Participation proportion	Temporary dropouts	Final dropout (within wave)	Final dropout (after wave)
13	**Total**	10866	10866	7293	0.671	3315	258	[e]708
	LA	3629	3629	2418	0.666	1122	89	250
	UNI	4946	4946	3392	0.686	1450	104	294
	FH	2024	2024	1296	0.640	670	58	147
	PR	267	267	187	0.700	73	7	17
14	**Total**	9900	9900	5161	0.521	4732	7	4
	LA	3290	3290	1673	0.509	1615	2	2
	UNI	4548	4548	2479	0.545	2065	4	1
	FH	1819	1819	881	0.484	937	1	1
	PR	243	243	128	0.527	115	0	0
15	**Total**	9889	9889	6531	0.660	3115	243	[f]712
	LA	3286	3286	2134	0.649	1065	87	238
	UNI	4543	4543	3087	0.680	1355	101	315
	FH	1817	1817	1139	0.627	627	51	142
	PR	243	243	171	0.704	68	4	17

Notes: (i) *LA*: students in teacher education, *UNI*: students at public university without *LA*, *FH*: students at public universities of applied science, *PR*: students at private universities, (ii) 'T' indicates testing, (iii) Discrepancies between the sizes of the gross and the panel cohort samples are due to the short time periods available between forming the wave-specific gross samples and recording all the final drop-outs from previous waves. In some cases, the study of the previous wave was still running while the next wave-specific study already started. [a]: including 2,087 students declared as final drop-outs because of not having participated in three consecutive CATIs. [b]: including 886 students declared as final drop-outs because of not having participated in three consecutive CATIs. [c]: including 1,178 students declared as final drop-outs because of not having participated in three consecutive CATIs. [d]: including 710 students declared as final drop-outs because of not having participated in three consecutive CATIs. [e]: including 694 students declared as final drop-outs because of not having participated in three consecutive CATIs. [f]: including 690 students declared as final drop-outs because of not having participated in three consecutive CATIs.

3 Weighting Adjustments for Wave Participation

To mirror the recruitment and participation process within the weighting adjustments, consecutive modeling of the decision and participation process is performed. The first step in this process corresponds to the sampling of universities and fields of study, and to the recruitment of students. Here, design weights compensate for unequal selection probabilities and selectivity due to initial nonresponse. Then, starting from Wave 2, nonresponse adjusted design weights are derived for each wave. For this purpose, logistic regression models are used. On their basis nonresponse models are estimated and participation probabilities are predicted. These are used as adjustment factors to derive cross-sectional and longitudinal survey weights. The results of the analyses corresponding to the initial wave and all subsequent waves until Wave 8 are given in Zinn et al. (2017), for Wave 9 in Zinn (2017), for Wave 10 in Zinn (2018a), for Wave 11 in Zinn (2018b), for Wave 12 in Zinn (2019), for Wave 13 in Würbach (2020a) and for Wave 14 in Würbach (2020b). In Zinn et al. (2017) also the procedures applied to derive design weights as well as the cross-sectional and longitudinal survey weights is described.

Table 3 shows the estimated model for Wave 15. Previous wave participation, measured as frequency, is still the primary factor in explaining current participation behavior. The more often a person participated in previous waves the higher is the probability for participation in the current wave.[2] Also male respondents and students from university have significant higher participation propensities compared to their counterparts. Upper medium reading competence in Wave 1 and being in region West significantly decrease the participation probability (measured on the basis of the panel cohort at start, N=17,909).

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[2]The associated variable is coded as follows: always/very often (participation in thirteen to eleven waves), often (participation in ten to six waves), seldom (otherwise).

Table 3: Modeling Participation in Wave 15 (i.e., Study B140).

Variable	Reference Category	Estimate	SE
Participation in previous waves	always/very often		
often		−1.957***	0.046
seldom		−5.893***	0.116
University	no		
yes		0.180**	0.061
Gender	female		
male		0.247***	0.047
Teacher Education	no		
yes		0.087	0.056
Funding	private		
public		−0.236	0.144
Field of Study	Field 9		
Field 1		−0.129	0.176
Field 2		0.005	0.068
Field 3		0.006	0.062
Field 4		−0.186	0.106
Field 5		−0.189	0.398
Field 6		−0.075	0.158
Field 7		−0.035	0.083
Field 8		0.094	0.145
Reading Competence Wave 1	low		
Lower medium		−0.071	0.097
Upper medium		−0.247**	0.093
high		−0.086	0.095
missing		−0.070	0.071
Region	East		
West		−0.145**	0.055
Educational Attainment Mother	1a, 1b, 2b		
1c, 2a		0.001	0.096
2a		0.055	0.106
3a, 3b		0.082	0.139
missing		0.152	0.105
Educational Attainment Father	1a, 1b, 2b		
1c, 2a		0.185	0.122
2a		0.234	0.132
3a, 3b		0.249	0.138
missing		0.445***	0.126
Birth Year	< 1989		
1989/90		−0.115*	0.055
> 1990		−0.102	0.063
Migration Background	Generation Status $\geq$ 3		
Generation Status < 3		−0.065	0.063
Sample size	17,906[a]		

Notes: [a] Three of the 17909 students of the Wave 1 panel cohort were abroad at panel start. Thus, per definition they are not part of the SC5 target population.
***, **, and * denote significance at the 0.1%, 1%, and 5% level, respectively.

4 Summary of Weights

Table 4 lists the types of weights provided for SUF release version 15-0-0 and Table 5 gives some summary statistics of the weights provided. All weights are provided in a trimmed and standardized form. For Wave 1, additionally a set of extrapolated cross-sectional weights is given allowing extrapolating sample distributions to the population level of first-year students in the winter semester 2010/2011 according to the field of study, institution type, sex, nationality, and kind of funding. No general recommendation for the usage of sampling weights can be given. However, some advices are given in Zinn et al. (2017) and in Zinn, Würbach, Steinhauer, and Hammon (2018).

Table 4: Types of weights provided.

Type of weight	Label
Weights of strata	w_h
Weights of students participating in B52	w_t1
Weights (extrapolated) of students participating in B52	w_t1ext
Weights of students participating in B53	w_t1comp
Weights of students participating in B54	w_t2
Weights of students participating in B55	w_t3
Weights of students participating in B56	w_t4
Weights of students participating in B59	w_t5
Weights of students participating in B58	w_t6
Weights of students participating in B94	w_t7
Weights of students participating in B111	w_t9
Weights of students participating in B112	w_t10
Weights of students participating in B113	w_t11
Weights of students participating in B114	w_t12
Weights of students participating in B138	w_t13
Weights of students participating in B139	w_t14
Weights of students participating in B140	w_t15
Weights of students participating in all online studies	w_allCAWI
Weights of students participating in the telephone interviews	w_allCATI
Weights of students participating in all studies so far	w_allWaves

Table 5: Summary statistics for all weights provided.

Label of weight	Cases	Min.	Lower Quart.	Median	Mean	Upper Quart.	Max.
w_h	17,906	1.667	1.667	6.286	4.764	6.286	6.366
w_t1	17,906	0.009	0.329	0.997	1.000	1.328	3.386
w_t1ext	17,906	0.174	6.020	18.272	18.469	24.326	325.273
w_t1comp	5,949	0.146	0.302	0.825	1.000	1.298	4.134
w_t2	12,270[a]	0.009	0.348	0.920	1.000	1.330	3.680
w_t3	13,110[b]	0.008	0.308	0.875	1.000	1.275	3.923
w_t4	11,199[a]	0.008	0.308	0.835	1.000	1.277	4.118
w_t5	12,690[b]	0.009	0.302	0.871	1.000	1.269	4.013
w_t6	10,181[c]	0.017	0.319	0.798	1.000	1.277	4.254
w_t7	9,608[a]	0.007	0.578	0.795	1.000	1.125	3.802
w_t8	8,627[c]	0.011	0.272	0.752	1.000	1.147	4.678
w_t9	10,095[c]	0.008	0.324	0.843	1.000	1.252	4.118
w_t10	9,088[c]	0.008	0.281	0.806	1.000	1.184	4.366
w_t11	7,019[c]	0.009	0.349	0.748	1.000	1.202	4.412
w_t12	8,548[a]	0.008	0.296	0.836	1.000	1.294	4.225
w_t13	7,292[c]	0.008	0.309	0.788	1.000	1.284	4.279
w_t14	5,160[c]	0.009	0.402	0.712	1.000	1.144	4.494
w_t15	6,530[c]	0.015	0.391	0.771	1.000	1.341	4.097
w_allCAWI	2,976[c]	0.044	0.287	0.591	1.000	1.099	5.046
w_allCATI	3,216[c]	0.022	0.246	0.385	1.000	0.831	5.425
w_allWaves	1,387[c]	0.129	0.480	0.770	1.000	1.269	3.904

Notes: [a]For two of the participants no weights are provided since they studied abroad at panel start (in Wave 1). For them no calibrated weights can be derived. [b]For three of the participants no weights are provided since they studied abroad at panel start (in Wave 1). [c]For one participant no weight is provided since she/he studied abroad at panel start (in Wave 1). For her/him no calibrated weight can be derived.

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