Weighting for an all German representative sample in ISSP 1998

East-West weighting for analyses of reunified Germany

ISSP 1998 was run as part of the SOWI-Bus 1998 where Eastern Germany was overrepresented by design compared to the sample size for Western Germany. This oversampling was deliberately done in order to obtain a sample size for Eastern Germany which allows for sub-group analyses.

If ISSP 1998 data are used for analyses of reunified Germany, this disproportionality between the Eastern and Western German samples should be taken into account by applying weighting procedures (see microcensus distribution in table 1a). In addition, due to the random route sample design of SOWI-Bus 1998 target persons have different inclusion probabilities depending on the number of adults in households which also need to be considered by a transformation weight (see table 2a with the frequency distribution of households in ISSP 1998).

Please find below the stepwise calculation process of an all German representative weight that takes both oversampling (see table 1b) and household sampling (see table 2b) into account. The final design weight is described in table 3.

SPSS syntax to achieve the final design weight is enclosed.

1a. Microcensus 1997 and ISSP 1998 data.

	Microcensus 1997			ISSP 1998		
	West	East	Total	West	East	Total
	(N_w)	(N_o)	(N)	(n_w)	(n_o)	(n)
German and foreign **persons** in private accommodation which are 18 or older	332023	76635	408658	1000	1006	2006

*anonym sub-sample of the Mikrozensus 1997 (ZUMA-file).

1b. Oversampling weight taking into account the disproportional distributions of Eastern and Western Germany

- West	$\dfrac{n}{n_w}$	x	$\dfrac{N_W}{N}$	=	2006/ 1000	x	332023/ 408658	= 1,62981
- East	$\dfrac{n}{n_o}$	x	$\dfrac{N_O}{N}$	=	2006/ 1006	x	76635/ 408658	= 0,37392

2a. ISSP 1998: modified v253 household cycle; adults only (=> hhsize)

Household size with n of adults	$n_{hh\text{-}west}$	$n_{hh\text{-}east}$	sum	total n of adults	$n_{pers\text{-}west}$	$n_{pers\text{-}east}$
1	294	333		1	294	333
2	589	555		2	1178	1110
3	86	92		3	258	276
4	25	24		4	100	96
5	5	1		5	25	5
6	1	1		6	6	6
total n of HH	1000	1006	2006	total n of persons	1861	1826

2b. Transformation weight taking into account inclusion probabilities of persons in households

- West	=	hhsize	x	$\frac{n_{hh\text{-}west}}{n_{pers\text{-}west}}$	=	hhsize	x	1000/ 1861	=	hhsize	x	0,53734551
- East	=	hhsize	x	$\frac{n_{hh\text{-}east}}{n_{pers\text{-}east}}$	=	hhsize	x	1006/ 1826	=	hhsize	x	0,550931

3. Combining oversampling and transformation weights into one total design weight

	West	East	
Oversampling weight East-West	1,62981	0,37392	based on microcensus
Transformation weight	0,53734551	0,550931	based on ISSP 1998
product of both weights=total weight	**0,87577109**	**0,20600412**	

4. Weighting factors for analyses of overall Germany

$Weight_{west} = weight_{design\ west} * weight_{transformation\ west} * hhsize = 0,87577109 * hhsize$

$Weight_{east} = weight_{design\ east} * weight_{transformation\ east} * hhsize = 0,20600412 * hhsize$

(Calculation based on Gabler 1994)

Reference

Gabler, Siegfried (1994), ALLBUS-Baseline-Studie 1991 und ALLBUS 1992: Ost-West Gewichtung der Daten, ZUMA-Nachrichten 35, Jg. 18, November 1994, 77-81

SPSS syntax to adjust for design (both household and East - West)

```
*** issp1998: v253=household cycle combining information on n of adults and n of children.
recode v253(1 thru 4=1)(5 thru 8=2) (9,10=3)(11,12=4) (13,14=5) (15,16=6) (17,18=7) (19,20=8) (21,22=9)
 (23,24=10) (25,26=11) (27,28=12) (ELSE=99) into hhsize.
var labels hhsize ' reduced household size: adults'.
***1 missing in east germany coded into most frequent category 2.
recode hhsize (99=2).
***v3=2: west; v3=3: east.
If (v3=2)weight=0.87577109*hhsize.
If (v3=3)weight=0.20600412*hhsize.
Execute.
```