

# Appendices

## Appendix A: Original and English Wording of Survey Items on Happiness from the Non-English HSIS-Studies Used in This Book (Tables A.1 and A.2)

For an explanation of the question codes in the last column, see Table 1.1 in Chap. 1.

**Table A.1** Items from the Dutch HSIS-studies

Wording in Dutch	Wording in English	Question code
Voelde u zich de afgelopen 4 weken gelukkig?	During the last 4 weeks, did you feel happy?	M-FH-cm-sq-v-5-b
Voortdurend	All of the time	
Meestal	Most of the time	
Soms	Some of the time	
Zelden	Seldom	
Nooit	Never	
Voelt u zich	Do you feel. . . . .?	M-FH-u-sq-v-3-a
Gelukkig	Happy	
Niet zo gelukkig	Not very happy	
Ongelukkig	Unhappy	O-SLu-g-sq-v-5-c
Hoe tevreden bent u met uw leven in het algemeen?	How satisfied are you with your life in general?	
Volledig tevreden	Completely satisfied	
Tevreden	Satisfied	
Niet tevreden, niet ontevreden	Unsatisfied nor satisfied	
Ontevreden	Unsatisfied	
Volledig ontevreden	Completely unsatisfied	

(continued)

**Table A.1** (continued)

Wording in Dutch	Wording in English	Question code
Vindt u zichzelf gelukkig?	Are you happy with your life?	O-HL-u-sq-v-2-a
Ja	Yes	
Nee	No	
In welke mate vindt u zichzelf een gelukkig mens?	To what extent do you consider yourself a happy person....?	O-HP-u-sq-v-5-d (pair 2, section “ <a href="#">Response options labeled in Dutch</a> ”)
Erg gelukkig	Very happy	
Gelukkig	Happy	
Niet gelukkig, niet ongelukkig	Neither happy nor unhappy	
Ongelukkig	Unhappy	
Erg ongelukkig	Very unhappy	
In welke mate bent u tevreden met het leven dat u op dit moment leidt?	To what extent are you satisfied with the life you currently lead?	O-SLL-c-sq-v-5-d (pair 3, section “ <a href="#">Response options labeled in Dutch</a> ”)
Buitengewoon tevreden	Extraordinarily satisfied	
Zeer tevreden	Very satisfied	
Tevreden	Satisfied	
Tamelijk tevreden	Fairly satisfied	
Niet zo tevreden	Not very satisfied	
Ik ben erg gelukkig met het leven dat ik leid	I am very happy with the kind of life I lead	O-SLL-u-sq-v-5-a
Helemaal mee eens	Strongly agree	
Mee eens	Agree	
Niet mee eens, niet mee oneens	Neither agree nor disagree	
Niet mee eens	Disagree	
Helemaal niet mee eens	Strongly disagree	
In welke mate bent u tevreden met het leven dat u op dit moment leidt?	To what extent are you satisfied with the life you currently lead?	O-SLL-c-sq-v-5-f (pair 2, section “ <a href="#">Response options labeled in Dutch</a> ”)
Erg tevreden	Very satisfied	
Tevreden	Satisfied	
Niet tevreden, niet ontevreden	Neither satisfied, nor dissatisfied	
Ontevreden	Dissatisfied	
Erg ontevreden	Very dissatisfied	
In welke mate vindt u zichzelf een gelukkig mens?	To what extent do you consider yourself a happy person....?	O-HP-u-sq-v-5-a (pair 3, section “ <a href="#">Response options labeled in Dutch</a> ”)
Erg gelukkig	Very happy	
Gelukkig	Happy	
Niet gelukkig, niet ongelukkig	Neither happy nor unhappy	
Niet zo gelukkig	Not very happy	
Ongelukkig	Unhappy	

(continued)

**Table A.1** (continued)

Wording in Dutch	Wording in English	Question code
Nu een vraag over de manier waarop u op het ogenblik vooruit komt: bent u daarover	How satisfied are you with the way you are getting on now?	O-SLS-c-sq-v-3-ab
Zeer tevreden	Very satisfied	
Tevreden	Satisfied	
Ontevreden	Not satisfied	
Vindt u zichzelf.....?	Do you think of yourself as.....?	O-HP-u-sq-v-3-a
Gelukkig	Happy	
Tamelijk gelukkig	Fairly happy	
Ongelukkig	Unhappy	O-HL-u-sq-v-4-a (pair 1, section “Response options labeled in Dutch”)
Hoe gelukkig bent u, alles bijeengenomen?	Taking all things together, would you say you are.....?	
Heel gelukkig	Very happy	
Tamelijk gelukkig	Fairly happy	
Niet zo gelukkig	Not very happy	
Helemaal niet gelukkig	Not at all happy	O-HL-g-sq-v-7-a
Hoe gelukkig of ongelukkig bent u met uw leven in het algemeen?	If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?	
Volkomen gelukkig	Completely happy	
Zeer gelukkig	Very happy	
Tamelijk gelukkig	Fairly happy	
Noch gelukkig, noch ongelukkig	Neither happy nor unhappy	
Tamelijk ongelukkig	Fairly unhappy	
Zeer ongelukkig	Very unhappy	
Volkomen ongelukkig	Completely unhappy	O-SLL-u-sq-v-4-b (pair 1, section “Response options labeled in Dutch”)
Hoe tevreden bent u over het algemeen met het leven dat u leidt?	On the whole how satisfied are you with the life you lead?	
Zeer tevreden	Very satisfied	
Tamelijk tevreden	Fairly satisfied	
Niet zo tevreden	Not very satisfied	
Helemaal niet tevreden	Not at all satisfied	O-SLW-c-sq-v-5-fb
Hoe tevreden bent u met uw leven in het algemeen op dit moment?	How satisfied are you with your life in general these days?	
Zeer tevreden	Very satisfied	
Tamelijk tevreden	Fairly satisfied	
Tevreden noch ontevreden	Satisfied nor dissatisfied	
Tamelijk ontevreden	Fairly dissatisfied	
Zeer ontevreden	Very dissatisfied	

(continued)

**Table A.1** (continued)

Wording in Dutch	Wording in English	Question code
In welke mate vindt u zichzelf een gelukkig mens?	To what extent do you consider yourself a happy person....?	O-HP-u-sq-v-5-h
Buitengewoon gelukkig	Extraordinarily happy	
Zeer gelukkig	Very happy	
Gelukkig	Happy	
Tamelijk gelukkig	Fairly happy	
Niet zo gelukkig	Not very happy	
Over het algemeen kan ik zeggen dat ik min of meer het leven leidt dat ik wil leiden	On the whole my life is close to how I would like it to be	C-RA-u-sq-v-5-a
Volledig akkoord	Strongly agree	
Akkoord	Agree	
Noch akkoord, noch niet akkoord	Neither agree nor disagree	
Niet akkoord	Disagree	
Helemaal niet akkoord	Strongly disagree	
Voelt u zichzelf.	Do you feel. . . . .?	M-FH-u-sq-v-3-d
Gelukkig	Happy	
Tamelijk gelukkig	Fairly happy	
Ongelukkig	Unhappy	
Hoe vaak gedurende de afgelopen 4 weken was u een gelukkig mens?	During the past 4 weeks. . . . Have you been a happy person?	M-TH-cm-sq-v-6-a
Altijd	All of the time	
Meestal	Most of the time	
Vaak	A good bit of the time	
Soms	Some of the time	
Zelden	A little of the time	
Nooit	None of the time	
Voelde u zich de afgelopen 4 weken gelukkig?	During the last 4 weeks, did you feel happy?	M-TH-cm-sq-v-5-c
Voortdurend	Always	
Vaak	Often	
Soms	Sometimes	
Zelden	Seldom	
Nooit	Never	

**Table A.2** Items from the Spanish HSIS-study

Wording in Spanish	Wording in English	Question code
En general, ¿diría Ud. que está . . . con el tipo de vida que lleva?	On the whole how satisfied are you with the life you lead	O-SLL-u-sq-v-4-b
Muy satisfecho/a	Very satisfied	
Más bien satisfecho/a	Fairly satisfied	
No muy satisfecho/a	Not very satisfied	
Nada satisfecho/a	Not at all satisfied	
En general, tal y como están las cosas hoy en día, ¿cómo diría usted que es hoy en día?	Taken all together, how would you say things are these days? Would you say that you are....?	O-HL-c-sq-v-3-ab (pair 1, section “ <a href="#">Response options labeled in Spanish</a> ”)
Muy feliz	Very happy	
Bastante feliz	Fairly happy	
No muy feliz	Not too happy	
En general, tal y como están las cosas hoy en día, ¿cómo diría usted que es hoy en día?	Taken all together, how would you say things are these days? Would you say you are:	O-HL-c-sq-v-4-g
Muy feliz	Very happy	
Bastante feliz	Pretty happy	
No muy feliz	Not too happy	
Muy infeliz	Very unhappy	
En términos generales, ¿diría Ud. que está satisfecho/a con su vida? Diría Ud. que está . . .	In general, would you say that you are satisfied with your life?	O-Slu-g-sq-v-4-c (pair 2, section “ <a href="#">Response options labeled in Spanish</a> ”)
Muy satisfecho/a	Very satisfied	
Bastante satisfecho/a	Fairly satisfied	
No muy satisfecho/a	Not very satisfied	
Para nada satisfecho/a	Not at all satisfied	
En términos generales, diría Ud. que está satisfecho/a con su vida? Diría Ud. que está.	In general, would you say that you are satisfied with your life? Would you say that you are . . .	O-SLu-g-sq-v-4-b
Muy satisfecho/a	Very satisfied	
Bastante satisfecho/a	Quite satisfied	
Satisfecho/a	Satisfied	
No muy satisfecho/a	Not very satisfied	
En líneas generales, ¿diría Ud. que es. . . ?	Taking all things together, would you say you are.....?	O-HL-u-sq-v-4-a (pair 2, section “ <a href="#">Response options labeled in Spanish</a> ”)
Muy feliz	Very happy	
Bastante feliz	Quite happy	
No muy feliz	Not very happy	
Nada feliz	Not at all happy	
En general, teniendo todo en cuenta, ¿cómo ve Ud. su situación actual? Diría que actualmente es Ud. . . .	Taking all things together, how would you say things are these days? Would you say you are..?	O-HL-c-sq-v-4-g
Muy feliz	Very happy	
Bastante feliz	Pretty happy	
Poco feliz	Not too happy	
Nada feliz	Very unhappy	

(continued)

**Table A.2** (continued)

Wording in Spanish	Wording in English	Question code
¿Como satisfecho/a está usted con cómo le está yendo actualmente?	In general, would you say that you are satisfied with your life?	O-SLS-C-sq-v-3-ab (pair 1, section “ <a href="#">Response options labeled in Spanish</a> ”)
Muy satisfecho/a	Very satisfied	
Bastante satisfecho/a	Fairly satisfied	
No muy satisfecho/a	Not very satisfied	
Teniendo en cuenta su vida en general, ¿cómo se considera Ud.?	If you were to consider your life in general, how happy of unhappy would you say you are, on the whole?	O-HL-g-sq-v-7-a
Completamente feliz	Completely happy	
Muy feliz	Very happy	
Bastante feliz	Fairly happy	
Ni feliz, ni desdichado/a	Neither happy nor unhappy	
Bastante desdichado/a	Fairly unhappy	
Muy desdichado/a	Very unhappy	
Completamente desdichado/a	Completely unhappy	
Por lo general, ¿está usted satisfecho con su vida? Señale el número que mejor describa cómo se siente	Taken all things together, how satisfied are you with your life as a whole these days? On the whole, would you say you are.....?	O-SLW-c-sq-v-5-g
Muy satisfecho/a	Very satisfied	
Satisfecho/a	Satisfied	
Neutro/a	Neither satisfied nor dissatisfied	
Insatisfecho/a	Dissatisfied	
Muy insatisfecho/a	Very dissatisfied	

## Appendix B: Statistics of the Assessments by Students in the HSIS-Studies Used (Tables [B.1](#), [B.2](#), [B.3](#), [B.4](#), [B.5](#), [B.6](#), and [B.7](#))

In this appendix we report the main statistics of the assessments by students of the items in the HSIS-studies used in this book. The total number of participating students for each study is given in the header of the table. Only the number of valid assessments is given for each item. An assessment is invalid if, for example, a judge has placed all the sliders of the Scale Interval Recorder in the same position on the scale. Rules for skipping these invalid assessments are given by Kalmijn (2010, pp. 144–145).

**Table B.1** Assessments by 204 Dutch students of items from Dutch6

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
During the last 4 weeks, did you feel happy?					
All of the time	M-FH-cm-sq-v-5-b (195)	10.0			12
Most of the time		8.5	0.73	0.05	
Some of the time		5.9	1.07	0.08	
Seldom		3.6	1.15	0.08	37
Never		1.3	1.00	0.07	
Do you feel. . . . .?					
Happy	M-FH-u-sq-v-3-a (195)	10.0			1
Not very happy		6.4	1.40	0.10	
Unhappy		3.1	1.34	0.10	8
How satisfied are you with your life in general?					
Completely satisfied	O-SLu-g-sq-v-5-c (194)	10.0			
Satisfied		8.5	0.78	0.32	13
Unsatisfied nor satisfied		5.9	1.01	0.42	
Unsatisfied		4.0	1.19	0.49	
Completely unsatisfied		1.5	1.12	0.46	29
Are you happy with your life?					
Yes	O-HL-u-sq-v-2-a (192)	10.0			-
No		5.8	1.43	0.10	
To what extent do you consider yourself a happy person....?					
Very happy	O-HP-u-sq-v-5-d (194)	10.0			3
Happy		8.3	0.76	0.05	
Neither happy nor unhappy		5.8	1.15	0.08	
Unhappy		4.0	1.27	0.09	
Very unhappy		1.6	1.01	0.07	18
To what extent are you satisfied with the life you currently lead?					
Extraordinarily satisfied	O-SLL-c-sq-v-5-d (196)	10.0			15
Very satisfied		8.9	0.70	0.05	
Satisfied		7.1	1.02	0.07	
Fairly satisfied		5.2	1.46	0.10	
Not very satisfied		3.5	1.83	0.13	10
I am very happy with the kind of life I lead					
Strongly agree	O-SLL-u-sq-v-5a (192)	10.0			13
Agree		8.6	0.72	0.05	
Neither agree nor disagree		6.0	1.02	0.07	
Disagree		4.1	1.20	0.09	
Strongly disagree		1.7	1.18	0.09	22

(continued)

**Table B.1** (continued)

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
To what extent are you satisfied with the life you currently lead?					
Very satisfied	O-SLL-c-sq-v-5-f (193)	10.0			5
Satisfied		8.4	0.77	0.06	
Neither satisfied, nor dissatisfied		5.8	1.04	0.07	
Dissatisfied		4.0	1.18	0.08	
Very dissatisfied		1.8	1.09	0.08	15
To what extent do you consider yourself a happy person....?					
Very happy	O-HP-u-sq-v-5-a (191)	10.0			4
Happy		8.5	0.67	0.05	
Neither happy nor unhappy		5.9	1.08	0.08	
Not very happy		4.1	1.28	0.09	
Unhappy		2.1	1.34	0.10	19
How satisfied are you with the way you are getting on now?					
Very satisfied	O-SLS-c-sq-v-3-ab (196)	10.0			3
Satisfied		7.9	0.87	0.06	
Not satisfied		4.3	1.65	0.12	3

**Table B.2** Assessments by 184 Dutch students of items from Dutch7

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
Do you think of yourself as.....?					
Happy	O-HP-u-sq-v-3-a (181)	10.0			1
Fairly happy		7.2	0.96	0.07	
Unhappy		4.2	1.55	0.11	2
Taking all things together, would you say you are.....?					
Very happy	O-HL-u-sq-v-4-a (176)	10.0			6
Fairly happy		7.9	0.99	0.07	
Not very happy		5.1	1.26	0.09	
Not at all happy		2.9	1.49	0.11	12
If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?					
Completely happy	O-HL-g-sq-v-7-a (158)	10.0			33
Very happy		9.2	0.72	0.06	
Fairly happy		7.5	0.79	0.06	
Neither happy nor unhappy		5.6	0.75	0.06	
Fairly unhappy		4.3	0.81	0.06	
Very unhappy		2.8	0.89	0.07	
Completely unhappy		1.1	0.85	0.07	35

(continued)



**Table B.2** (continued)

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
On the whole how satisfied are you with the life you lead?					
Very satisfied	O-SLL-u-sq-v-4-b (176)	10.0			5
Fairly satisfied		7.8	0.84	0.06	
Not very satisfied		5.1	1.23	0.09	
Not at all satisfied		2.9	1.51	0.11	14
How satisfied are you with your life in general these days?					
Very satisfied	O-SLW-c-sq-v-5-fb (171)	10.0			5
Fairly satisfied		8.1	0.79	0.06	
Satisfied nor dissatisfied		5.7	0.93	0.07	
Fairly dissatisfied		4.2	1.09	0.08	
Very dissatisfied		2.3	1.27	0.10	15
To what extent do you consider yourself a happy person....?					
Extraordinarily happy	O-HP-u-sq-v-5-h (172)	10.0			19
Very happy		8.9	0.75	0.06	
Happy		7.3	0.89	0.07	
Fairly happy		5.5	1.42	0.11	
Not very happy		3.7	1.82	0.14	11
On the whole my life is close to how I would like it to be					
Strongly agree	C-RA-u-sq-v-5-a (164)	10.0			28
Agree		8.7	1.02	0.08	
Neither agree nor disagree		5.9	0.93	0.07	
Disagree		4.3	1.12	0.09	
Strongly disagree		2.0	1.33	0.10	18
Do you feel. . . . .?					
Happy	M-FH-u-sq-v-3-d (179)	10.0			1
Fairly happy		7.1	1.17	0.09	
Unhappy		4.0	1.66	0.12	9
During the past 4 weeks. . . . Have you been a happy person?					
All of the time	M-TH-cm-sq-v-6-a (160)	10.0			33
Most of the time		9.1	0.66	0.05	
A good bit of the time		7.2	0.87	0.07	
Some of the time		5.5	1.12	0.09	
A little of the time		3.6	1.30	0.10	
None of the time		1.4	1.28	0.10	35

(continued)

**Table B.2** (continued)

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
During the last 4 weeks. Did you feel happy?					
Always	M-TH-cm-sq-v-5-c (165)	10.0			20
Often		8.7	0.94	0.07	
Sometimes		6.2	1.03	0.08	
Seldom		4.0	1.26	0.10	
Never		1.8	1.35	0.11	27

**Table B.3** Assessments by 427 Spanish students of items from Spanish9

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
On the whole how satisfied are you with the life you lead					
Very satisfied	O-SLL-u-sq-v-4-b (391)	10.0			52
Fairly satisfied		8.4	1.33	0.07	
Not very satisfied		5.5	1.43	0.07	
Not at all satisfied		2.5	1.70	0.09	33
Taken all together, how would you say things are these days? Would you say that you are....?					
Very happy	O-HL-c-sq-v-3-ab (400)	10.0			30
Fairly happy		7.7	1.57	0.08	
Not too happy		3.4	1.92	0.10	23
Taken all together, how would you say things are these days? Would you say you are:					
Very happy	O-HL-c-sq-v-4-g (378)	10.0			37
Pretty happy		8.2	1.29	0.07	
Not too happy		4.6	1.60	0.08	
Very unhappy		1.7	1.45	0.07	62
In general, would you say that you are satisfied with your life?					
Very satisfied	O-Slu-g-sq-v-4-c (371)	10.0			39
Fairly satisfied		8.2	1.34	0.07	
Not very satisfied		4.6	1.74	0.09	
Not at all satisfied		1.6	1.49	0.08	72
In general, would you say that you are satisfied with your life? Would you say that you are ...					
Very satisfied	O-SLu-g-sq-v-4-b (395)	10.0			42
Quite satisfied		8.3	1.40	0.07	
Satisfied		5.5	1.66	0.08	
Not very satisfied		2.5	1.83	0.09	55
Taking all things together, would you say you are.....?					
Very happy	O-HL-u-sq-v-4-a (389)	10.0			92
Quite happy		8.8	1.20	0.06	
Not very happy		6.1	1.69	0.09	
Not at all happy		3.0	2.06	0.10	64

(continued)

**Table B.3** (continued)

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
Taking all things together, how would you say things are these days? Would you say you are..?					
Very happy	O-HL-c-sq-v-4-g (369)	10.0			40
Pretty happy		8.2	1.33	0.07	
Not too happy		4.6	1.69	0.09	
Very unhappy		1.6	1.64	0.09	86
In general, would you say that you are satisfied with your life?					
Very satisfied	O-SLS-C-sq-v-3-ab (388)	10.0			28
Fairly satisfied		7.7	1.53	0.08	
Not very satisfied		3.3	2.05	0.10	29
If you were to consider your life in general, how happy of unhappy would you say you are, on the whole?					
Completely happy	O-HL-g-sq-v-7-a (300)	10.0			96
Very happy		9.3	0.80	0.05	
Fairly happy		7.4	0.93	0.05	
Neither happy nor unhappy		5.3	1.01	0.06	
Fairly unhappy		3.6	0.93	0.05	
Very unhappy		2.0	0.82	0.05	
Completely unhappy		0.6	0.80	0.05	138
Taken all things together. How satisfied are you with your life as a whole these days? On the whole would you say you are.....?					
Very satisfied	O-SLW-c-sq-v-5-g (325)	10.0			39
Satisfied		8.5	1.12	0.06	
Neither satisfied nor dissatisfied		5.5	1.29	0.07	
Dissatisfied		3.4	1.27	0.07	
Very dissatisfied		1.1	1.11	0.06	90

**Table B.4** Assessments by 348 American students of items from English9

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
In general, how happy would you say you are?					
Very happy	O-HL-g-sq-v-3-a (340)	10.0			12
Fairly happy		7.6	1.23	0.07	
Not at all happy		3.4	1.59	0.09	6
Taken all together, how would you say things are these days? Would you say that you are....?					
Very happy	O-HL-c-sq-v-3-aa (335) ( <i>item intended was O-HL-g-sq-v-3-j</i> )	10.0			9
Pretty happy		7.6	1.22	0.07	
Not too happy		3.5	1.64	0.09	10
If you were to consider your life in general these days, how happy or unhappy would you say you are, on the whole...?					
Very happy	O-HL-c-sq-v-4-f (326)	10.0			11
Fairly happy		7.9	1.07	0.06	
Not very happy		4.3	1.38	0.08	
Not at all happy		1.7	1.32	0.07	34
If you were to consider your life in general, how happy or unhappy would you say you are on the whole?					
Very happy	O-HL-u-sq-v-4-g (325) ( <i>item intended was O-HL-u-sq-v-4-a</i> )	10.0			16
Fairly happy		7.9	1.18	0.07	
Fairly unhappy		4.3	1.32	0.07	
Very unhappy		1.7	1.19	0.07	33
Presently, would you describe yourself as					
Very happy	O-HL-g-sq-v-4-b (323)	10.0			13
Somewhat happy		7.8	1.18	0.07	
Somewhat unhappy		4.4	1.42	0.08	
Very unhappy		1.6	1.26	0.07	19
Taking all things together, would you say you are.....?					
Very happy	O-HL-u-sq-v-4-ac (321)	10.0			13
Rather happy		7.9	1.08	0.06	
Not very happy		4.4	1.31	0.07	
Not at all happy		1.7	1.21	0.07	29

(continued)

**Table B.4** (continued)

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
How happy do you feel as you live now? Please choose one item on this card that comes closest to your feeling					
Very happy	O-HL-c-sq-v-5-e (313)	10.0			15
Fairly happy		8.1	0.94	0.05	
Neither happy nor unhappy		5.4	1.08	0.06	
Fairly unhappy		3.5	1.12	0.06	
Very unhappy		1.4	0.96	0.05	29
Taking all things together in your life, how would you say things are these days? Would you say you are....?					
Very happy	O-HL-c-sq-v-5-a (310)	10.0			9
Happy		8.2	0.83	0.05	
Neither happy nor unhappy		5.5	0.97	0.06	
Unhappy		3.6	1.00	0.06	
Very unhappy		1.4	0.86	0.05	30
If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?					
Completely happy	O-HL-g-sq-v-7-a (295)	10.0			90
Very happy		9.3	0.73	0.04	
Fairly happy		7.3	0.87	0.05	
Neither happy nor unhappy		5.3	0.78	0.05	
Fairly unhappy		3.8	0.79	0.05	
Very unhappy		2.1	0.77	0.04	
Completely unhappy		0.5	0.64	0.04	117
During the past 4 weeks. . . . Have you been a happy person?					

(continued)

**Table B.4** (continued)

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
All of the time	M-TH-cm-sq-v-6-a (292)	10.0			96
Most of the time		9.2	0.91	0.05	
A good bit of the time		6.9	1.08	0.06	
Some of the time		4.7	1.16	0.07	
A little of the time		2.7	1.05	0.06	
None of the time		0.6	0.92	0.05	133

**Table B.5** Assessments by 270 American students of items from English10

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
In general how satisfying do you find the way you are spending your life these days. Would you call it.....?					
Completely satisfying	O-SLL-c-sq-v-3-a (261)	10.0			23
Pretty satisfying		8.1	1.35	0.08	
Not very satisfying		3.0	1.72	0.11	15
Are you...with the life you lead?					
Very satisfied	O-SLL-u-sq-v-3-a (258)	10.0			9
Fairly satisfied		7.4	1.58	0.10	
Dissatisfied		2.9	1.72	0.11	22
On the whole how satisfied are you with the life you lead?					
Very satisfied	O-SLL-u-sq-v-4-b (247)	10.0			8
Fairly satisfied		7.9	1.13	0.07	
Not very satisfied		4.3	1.45	0.09	
Not at all satisfied		1.6	1.30	0.08	40
I am very happy with the kind of life I lead					
Strongly agree	O-SLL-u-sq-v-5-a (240)	10.0			18
Agree		8.3	1.00	0.06	
Neither agree nor disagree		5.4	1.24	0.08	
Disagree		3.7	1.24	0.08	
Strongly disagree		1.3	1.08	0.07	32

(continued)

**Table B.5** (continued)

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
In general, are you satisfied or dissatisfied with the way things are going in your own personal life?					
Satisfied	O-SLP-g-sq-v-2-b (243)	10.0			–
Dissatisfied		4.7	1.66	0.11	
How satisfied are you with the way you are getting on now?					
Very satisfied	O-SLS-c-sq-v-3-aa (254)	10.0			7
All right		6.9	1.69	0.11	
Not at all		2.4	1.60	0.10	23
On the whole, are you...?					
Fully satisfied	O-Slu-u-sq-v-4-b (242)	10.0			25
Not fully but generally satisfied		8.2	1.45	0.09	
Still dissatisfied		4.4	1.47	0.09	
Extremely dissatisfied		1.5	1.29	0.08	27
Are you satisfied with your life?					
Very much	O-Slu-u-sq-v-4-c (249)	10.0			11
Much		7.9	1.22	0.08	
To some extent		4.8	1.54	0.10	
Not at all		1.8	1.51	0.10	36
How satisfied are you with your life in general these days?					
Very satisfied	O-SLW-c-sq-v-5-fb (241)	10.0			9
Fairly satisfied		8.1	1.11	0.07	
Satisfied nor dissatisfied		5.4	1.20	0.08	
Fairly dissatisfied		3.7	1.17	0.08	
Very dissatisfied		1.4	1.04	0.07	25
All things considered, how satisfied are you with your life as-a-whole these days?					
Completely satisfied	O-SLW-c-sq-v-5-p (240)	10.0			43
Very satisfied		8.8	1.13	0.07	
Satisfied		6.3	1.24	0.08	
Not very satisfied		3.8	1.29	0.08	
Not at all satisfied		1.2	1.14	0.07	46

**Table B.6** Assessments by 245 American students of items from English11

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
In general, how satisfied or dissatisfied are you with the way things are going in your personal life at this time? Are you					
Very satisfied	O-SLP-c-sq-v-4-a (232)	10.0			9
Somewhat satisfied		7.9	1.10	0.07	
Somewhat dissatisfied		4.5	1.28	0.08	
Very dissatisfied		1.7	1.11	0.07	24
In general, how satisfied are you with your life?					
Very satisfied	O-SLu-g-sq-v-4-e (219)	10.0			22
Satisfied		8.3	1.31	0.09	
Dissatisfied		5.4	1.43	0.10	
Very dissatisfied		2.0	1.28	0.09	12
How do you feel about your life as a whole right now? Are you satisfied or dissatisfied?					
Strongly satisfied	O-SLW-c-sq-v-4-b (228)	10.0			9
Somewhat satisfied		7.9	1.24	0.08	
Somewhat dissatisfied		4.4	1.31	0.09	
Strongly dissatisfied		1.6	1.16	0.08	18
Please tell me how satisfied you are with your life overall. Would you say that you are					
Very satisfied	O-SLW-g-sq-v-4-b (228)	10.0			9
Mostly satisfied		8.0	1.24	0.08	
Mostly dissatisfied		4.4	1.37	0.09	
Very dissatisfied		1.7	1.17	0.08	18
We'd like to know how satisfied or dissatisfied you are with different aspects of your life. Are you completely satisfied, somewhat satisfied, somewhat dissatisfied, or completely dissatisfied with.....Your life as a whole?					
Completely satisfied	O-SLu-u-sq-v-4-e (224)	10.0			29
Somewhat satisfied		8.4	1.34	0.09	
Somewhat dissatisfied		4.5	1.26	0.08	
Completely dissatisfied		1.3	1.22	0.08	39
How satisfied are you with your life in general?					
Very satisfied	O-SLW-u-sq-v-4-d (228)	10.0			9
Somewhat satisfied		7.9	1.26	0.08	
Somewhat dissatisfied		4.4	1.31	0.09	
Very dissatisfied		1.6	1.11	0.07	20

(continued)



**Table B.6** (continued)

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
Overall, how satisfied are you with your present life.....?					
Very satisfied	O-SLu-c-sq-v-5-a (222)	10.0			108
Fairly satisfied		9.2	1.03	0.07	
Neither satisfied nor dissatisfied		6.7	1.25	0.08	
Fairly dissatisfied		4.3	1.32	0.09	
Very dissatisfied		2.2	1.45	0.10	20
Taken all things together, how satisfied are you with your life as a whole these days? On the whole, would you say you are.....?					
Very satisfied	O-SLW-c-sq-v-5-g (219)	10.0			7
Fairly satisfied		8.2	0.88	0.06	
Neither satisfied nor dissatisfied		5.4	1.10	0.07	
Fairly dissatisfied		3.6	1.12	0.08	
Very dissatisfied		1.4	0.96	0.07	22
Now I want to ask you about your life as a whole. How satisfied are you with your life as a whole these days? Which letter on the card comes closest to your feelings?					
Completely satisfied	O-SLW-c-sq-v-5-r (220)	10.0			37
Somewhat satisfied		8.6	1.18	0.08	
Neither satisfied nor dissatisfied		5.5	1.13	0.08	
Somewhat dissatisfied		3.6	1.06	0.07	
Completely dissatisfied		1.0	0.97	0.07	56
How do you feel about your life as a whole.....?					
Delighted	O-DT-u-sq-v-7-a (207)	10.0			13
Pleased		8.7	0.72	0.05	
Mostly satisfied		6.7	0.74	0.05	
Mixed		5.1	0.78	0.05	
Mostly dissatisfied		3.7	0.80	0.06	
Unhappy		2.4	0.74	0.05	
Terrible		0.8	0.67	0.05	41

**Table B.7** Assessments by 233 American students of items from English12

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
Taken all together, how would you say things are these days? Would you say that you are....?					
Very happy	O-HL-c-sq-v-3-aa (223)	10.0			5
Pretty happy		7.3	1.40	0.09	
Not too happy		2.5	1.52	0.10	22
Taking all things together, how would you say things are these days? Would you say you are...?					
Very happy	O-HL-c-sq-v-3-ab (225)	10.0			5
Fairly happy		7.3	1.36	0.09	
Not too happy		2.9	1.56	0.10	14
In general, how happy would you say you are?					
Very happy	O-HL-g-sq-v-3-a (223)	10.0			4
Fairly happy		7.4	1.33	0.09	
Not at all happy		2.4	1.53	0.10	18
Generally speaking, how happy would you say you are?					
Very happy	O-HL-g-sq-v-3-k (219)	10.0			4
Somewhat happy		7.2	1.42	0.10	
Not happy		2.7	1.56	0.11	18
In general, how happy would you say you are.....?					
Very happy	O-HL-g-sq-v-3-f (222)	10.0			5
Fairly happy		7.3	1.36	0.09	
Not very happy		2.7	1.58	0.11	23
In general, how happy would you say you are?					
Very happy	O-HL-g-sq-v-3-l (223)	10.0			3
Fairly happy		7.4	1.35	0.09	
Not happy		3.0	1.60	0.11	17
Generally speaking, how happy would you say you are.....?					
Very happy	O-HL-g-sq-v-3-d (223)	10.0			3
Fairly happy		7.2	1.40	0.09	
Not too happy		2.6	1.52	0.10	19
If you were to consider your life in general, how happy or unhappy would you say you are on the whole?					
Very happy	O-HL-g-sq-v-4-g (219)	10.0			4
Fairly happy		7.8	1.07	0.07	
Fairly unhappy		4.3	1.26	0.09	
Very unhappy		1.7	1.06	0.07	21
Would you describe yourself as					
Very happy	O-HP-g-sq-v-4-b (214)	10.0			4
Somewhat happy		7.8	1.04	0.07	
Somewhat unhappy		4.4	1.29	0.09	
Very unhappy		1.7	1.14	0.08	20

(continued)

**Table B.7** (continued)

Item	Question code (valid assessments)	Upper boundary	Standard deviation	Standard error	# zero-width
Taking all things together in your life, how would you say things are these days? Would you say you are					
Very happy	O-HL-c-sq-v-5-g (212)	10.0			8
Fairly happy		8.1	0.93	0.06	
Neither happy not unhappy		5.4	1.09	0.07	
Fairly unhappy		3.6	1.02	0.07	
Very unhappy		1.4	0.95	0.07	22

## Appendix C: Cumulative Frequencies and Parameters Beta Distributions for Groups of European Countries (Tables C.1, C.2, C.3, C.4, C.5, and C.6)

**Table C.1** Cumulative frequencies and parameters beta distribution life satisfaction in Western Europe

Year	Version	On the whole how satisfied are you with the life you lead?				Alpha	Beta	Estimated population mean
		Not at all satisfied	Not very satisfied	Fairly satisfied	Very satisfied			
2004	EB620	2.3%	12.2%	73.4%	100%	3.20	1.52	6.8
2005	EB634	2.4%	13.0%	72.8%	100%	3.05	1.45	6.8
2006	EB652	2.9%	13.7%	73.8%	100%	2.97	1.46	6.7
2007	EB681	2.4%	11.7%	71.3%	100%	3.12	1.42	6.9
2009	EB724	1.9%	11.7%	69.1%	100%	3.06	1.34	7.0
2010	EB734	2.4%	11.8%	69.7%	100%	3.01	1.34	6.9
2011	EB763	2.3%	12.0%	67.9%	100%	2.88	1.25	7.0
2012	EB773	2.0%	8.9%	67.4%	100%	3.31	1.35	7.1
<b>2012</b>	<b>EB781</b>	<b>2.0%</b>	<b>9.8%</b>	<b>68.1%</b>	<b>100%</b>	<b>3.22</b>	<b>1.35</b>	<b>7.0</b>
2013	EB793	2.1%	8.8%	62.1%	100%	3.00	1.13	7.3
2013	EB801	1.9%	8.8%	62.6%	100%	3.06	1.15	7.3
2014	EB812	1.7%	8.4%	59.6%	100%	2.99	1.07	7.4
2014	EB814	1.3%	6.7%	57.8%	100%	3.31	1.10	7.5
2014	EB823	1.3%	7.6%	60.1%	100%	3.26	1.14	7.4
2015	EB833	1.5%	7.4%	58.8%	100%	3.17	1.09	7.4

**Table C.2** Cumulative frequencies and parameters beta distribution satisfaction with democracy in Western Europe

Year	Version	On the whole how satisfied are you with the way the democracy works in your country?				Alpha	Beta	Estimated population mean
		Not at all satisfied	Not very satisfied	Fairly satisfied	Very satisfied			
2004	EB620	7.4%	35.7%	92.2%	100%	3.32	2.80	5.4
2005	EB634	10.5%	40.4%	92.4%	100%	2.83	2.60	5.2
2006	EB652	10.6%	39.8%	92.2%	100%	2.81	2.55	5.2
2007	EB681	7.4%	32.0%	87.0%	100%	2.88	2.17	5.7
2009	EB724	7.6%	35.2%	91.3%	100%	3.18	2.64	5.5
2010	EB734	7.8%	37.1%	91.3%	100%	3.11	2.64	5.4
2011	EB763	7.2%	33.4%	87.5%	100%	2.89	2.22	5.7
2012	EB773	7.1%	30.5%	88.1%	100%	3.06	2.30	5.7
<b>2012</b>	<b>EB781</b>	<b>8.1%</b>	<b>32.5%</b>	<b>86.6%</b>	<b>100%</b>	<b>2.73</b>	<b>2.07</b>	<b>5.7</b>
2013	EB793	7.5%	29.9%	85.8%	100%	2.82	2.05	5.8
2013	EB801	8.0%	30.8%	84.5%	100%	2.63	1.90	5.8
2014	EB812	6.6%	26.9%	84.6%	100%	2.97	2.03	5.9
2014	EB814	6.8%	27.7%	83.8%	100%	2.83	1.94	5.9
2014	EB823	7.9%	29.5%	85.4%	100%	2.76	1.99	5.8
2015	EB833	6.7%	26.6%	83.2%	100%	2.86	1.91	6.0

**Table C.3** Cumulative frequencies and parameters beta distribution life satisfaction in Southern Europe

Year	Version	On the whole how satisfied are you with the life you lead?				Alpha	Beta	Estimated population mean
		Not at all satisfied	Not very satisfied	Fairly satisfied	Very satisfied			
2004	EB620	3.6%	20.8%	80.1%	100%	3.02	0.99	7.5
2005	EB634	4.1%	22.8%	88.6%	100%	3.57	1.36	7.2
2006	EB652	3.7%	19.9%	83.8%	100%	3.38	1.14	7.5
2007	EB681	4.0%	23.5%	85.6%	100%	3.23	1.19	7.3
2009	EB724	6.5%	28.5%	91.4%	100%	3.17	1.42	6.9
2010	EB734	6.6%	28.3%	89.3%	100%	2.94	1.28	7.0
2011	EB763	7.6%	33.8%	93.7%	100%	3.10	1.57	6.6
2012	EB773	10.2%	36.7%	90.4%	100%	2.36	1.23	6.6
<b>2012</b>	<b>EB781</b>	<b>11.1%</b>	<b>38.5%</b>	<b>91.6%</b>	<b>100%</b>	<b>2.35</b>	<b>1.29</b>	<b>6.5</b>
2013	EB793	13.5%	44.8%	90.1%	100%	1.93	1.16	6.2
2013	EB801	14.1%	42.7%	91.0%	100%	1.97	1.18	6.3
2014	EB812	14.6%	43.5%	89.2%	100%	1.80	1.07	6.3
2014	EB814	8.8%	34.2%	87.0%	100%	2.29	1.08	6.8
2014	EB823	8.4%	34.3%	88.3%	100%	2.43	1.17	6.8
2015	EB833	6.6%	32.4%	88.7%	100%	2.73	1.25	6.9

**Table C.4** Cumulative frequencies and parameters beta distribution satisfaction with democracy in Southern Europe

Year	Version	On the whole how satisfied are you with the way the democracy works in your country?				Alpha	Beta	Estimated population mean
		Not at all satisfied	Not very satisfied	Fairly satisfied	Very satisfied			
2004	EB620	11.1%	46.1%	85.0%	100%	1.92	1.53	5.6
2005	EB634	13.8%	46.1%	90.7%	100%	2.03	1.79	5.3
2006	EB652	10.4%	40.6%	87.3%	100%	2.21	1.69	5.7
2007	EB681	12.3%	45.7%	88.3%	100%	2.02	1.69	5.4
2009	EB724	11.5%	50.3%	93.2%	100%	2.42	2.23	5.2
2010	EB734	14.0%	51.3%	90.3%	100%	1.95	1.81	5.2
2011	EB763	20.8%	61.6%	94.8%	100%	1.74	2.08	4.6
2012	EB773	25.2%	69.4%	95.2%	100%	1.56	2.15	4.2
<b>2012</b>	<b>EB781</b>	<b>27.7%</b>	<b>71.3%</b>	<b>96.3%</b>	<b>100%</b>	<b>1.52</b>	<b>2.24</b>	<b>4.0</b>
2013	EB793	30.8%	75.3%	96.4%	100%	1.42	2.29	3.8
2013	EB801	34.5%	77.2%	96.0%	100%	1.24	2.14	3.7
2014	EB812	31.9%	78.0%	97.8%	100%	1.55	2.66	3.7
2014	EB814	28.3%	71.7%	98.1%	100%	1.66	2.53	4.0
2014	EB823	32.7%	74.2%	98.3%	100%	1.46	2.44	3.7
2015	EB833	25.3%	69.0%	97.4%	100%	1.73	2.45	4.1

**Table C.5** Cumulative frequencies and parameters beta distribution life satisfaction in Eastern Europe

Year	Version	On the whole how satisfied are you with the life you lead?				Alpha	Beta	Estimated population mean
		Not at all satisfied	Not very satisfied	Fairly satisfied	Very satisfied			
2004	EB620	6.8%	30.3%	86.9%	100%	2.12	1.17	6.4
2005	EB634	6.3%	29.8%	85.8%	100%	2.11	1.13	6.5
2006	EB652	5.4%	28.6%	88.0%	100%	2.39	1.28	6.5
2007	EB681	4.8%	25.3%	85.1%	100%	2.38	1.15	6.7
2009	EB724	7.1%	27.1%	87.6%	100%	2.23	1.19	6.5
2010	EB734	5.1%	24.4%	85.7%	100%	2.42	1.17	6.7
2011	EB763	5.7%	27.7%	89.3%	100%	2.49	1.35	6.5
2012	EB773	6.5%	27.2%	88.0%	100%	2.32	1.24	6.5
<b>2012</b>	<b>EB781</b>	<b>5.9%</b>	<b>26.6%</b>	<b>89.9%</b>	<b>100%</b>	<b>2.55</b>	<b>1.38</b>	<b>6.5</b>
2013	EB793	6.4%	29.5%	88.2%	100%	2.28	1.26	6.4
2013	EB801	6.3%	29.9%	89.0%	100%	2.32	1.30	6.4
2014	EB812	6.2%	29.2%	87.0%	100%	2.22	1.20	6.5
2014	EB814	5.0%	24.4%	83.8%	100%	2.30	1.09	6.8
2014	EB823	4.6%	24.1%	84.8%	100%	2.43	1.15	6.8
2015	EB833	4.2%	23.4%	84.8%	100%	2.51	1.16	6.8

**Table C.6** Cumulative frequencies and parameters beta distribution satisfaction with democracy in Eastern Europe

Year	Version	On the whole how satisfied are you with the way the democracy works in your country?				Alpha	Beta	Estimated population mean
		Not at all satisfied	Not very satisfied	Fairly satisfied	Very satisfied			
2004	EB620	19.5%	63.1%	96.7%	100%	1.89	2.19	4.6
2005	EB634	22.8%	65.3%	97.2%	100%	1.74	2.17	4.4
2006	EB652	16.7%	56.6%	95.1%	100%	1.89	1.92	5.0
2007	EB681	12.9%	54.7%	96.2%	100%	2.35	2.26	5.1
2009	EB724	17.2%	57.5%	96.0%	100%	1.95	2.04	4.9
2010	EB734	11.8%	50.1%	96.5%	100%	2.49	2.26	5.2
2011	EB763	15.0%	51.3%	95.1%	100%	2.03	1.90	5.2
2012	EB773	18.7%	57.8%	96.6%	100%	1.89	2.04	4.8
<b>2012</b>	<b>EB781</b>	<b>17.3%</b>	<b>59.2%</b>	<b>96.4%</b>	<b>100%</b>	<b>1.99</b>	<b>2.14</b>	<b>4.8</b>
2013	EB793	24.7%	67.3%	97.4%	100%	1.67	2.19	4.3
2013	EB801	23.2%	65.9%	96.2%	100%	1.62	2.02	4.5
2014	EB812	19.5%	63.6%	97.0%	100%	1.93	2.26	4.6
2014	EB814	19.5%	60.7%	97.3%	100%	1.92	2.19	4.7
2014	EB823	21.5%	59.9%	97.4%	100%	1.78	2.07	4.6
2015	EB833	18.3%	58.3%	96.7%	100%	1.93	2.09	4.8

## Appendix D: Horizontal and Vertical Deviation of Reference Boundaries for Groups of European Countries

The values of the horizontal and vertical deviations depicted in Figs. 9.3 and 9.4 are given in the tables in this appendix. The fixed reference boundaries for the response options of the Eurobarometer item and derived from the beta distribution that best fits the 2012-wave of European Social Survey are given in each table. The response option ‘Very satisfied’ has been omitted from each table, as the reference boundary for this option is by definition equal to 10. The horizontal deviations for each wave of the Eurobarometer are given in the columns below the reference boundaries. The vertical deviations to the cumulative frequencies for each wave are given in the following three columns. A reference to the table in which the cumulative frequency distributions can be found is given above the columns with the vertical deviations for these cumulative frequencies.

**Illustration Horizontal Deviation** The reference boundary for the response option ‘Not very satisfied’ in Table D.1 is equal to 4.23. This horizontal deviation of this reference boundary for the 2005 wave is equal to  $-0.06$ . This means that the beta distribution that best fits the fixed boundaries and the cumulative frequencies of this 2005 wave is equal to the cumulative frequency for the response option ‘Not very satisfied’ at a value of 4.29 on the 0–10 continuum.

**Table D.1** Horizontal and vertical deviation for life satisfaction in Western Europe

		On the whole how satisfied are you with the life you lead?					
		Not at all satisfied	Not very satisfied	Fairly satisfied	Not at all satisfied	Not very satisfied	Fairly satisfied
Reference boundaries		2.52	4.23	8.28	See Table C.1 for cumulative frequencies		
Year	Version	Horizontal deviation			Vertical deviation		
2004	EB620	0.07	-0.03	0.01	-0.21% pts	0.28% pts	-0.10% pts
2005	EB634	0.12	-0.06	0.01	-0.38% pts	0.50% pts	-0.21% pts
2006	EB652	0.06	-0.03	0.00	-0.22% pts	0.30% pts	-0.08% pts
2007	EB681	0.04	-0.02	0.00	-0.12% pts	0.15% pts	-0.06% pts
2009	EB724	0.17	-0.08	0.01	-0.46% pts	0.61% pts	-0.22% pts
2010	EB734	0.07	-0.04	0.00	-0.20% pts	0.28% pts	-0.09% pts
2011	EB763	0.14	-0.07	0.01	-0.40% pts	0.53% pts	-0.19% pts
2012	EB773	-0.12	0.05	-0.01	0.28% pts	-0.34% pts	0.11% pts
<b>2012</b>	<b>EB781</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00% pts</b>	<b>0.00% pts</b>	<b>-0.01% pts</b>
2013	EB793	-0.05	0.02	0.00	0.11% pts	-0.15% pts	0.05% pts
2013	EB801	-0.02	0.01	0.00	0.06% pts	-0.09% pts	0.05% pts
2014	EB812	0.03	-0.01	0.00	-0.05% pts	0.04% pts	-0.05% pts
2014	EB814	-0.05	-0.01	0.00	0.08% pts	0.05% pts	0.08% pts
2014	EB823	0.03	-0.04	0.00	-0.06% pts	0.23% pts	-0.01% pts
2015	EB833	-0.02	0.00	0.00	0.04% pts	0.02% pts	0.03% pts

**Illustration Vertical Deviation** It can be seen from Table C.1 that the cumulative frequency for the response option ‘Not very satisfied’ is equal to 13.0%. The vertical deviation for this response option in the 2005 wave is according to Table D.1 equal to 0.50 pts. This means that value of the beta distribution that best fits the fixed boundaries and the cumulative frequencies of the 2005 wave is 12.5% at the reference boundary for the response option ‘Not very satisfied’ (Tables D.2, D.3, D.4, D.5, and D.6).

**Table D.2** Horizontal and vertical deviation for satisfaction with democracy in Western Europe

		On the whole how satisfied are you with the way the democracy works in your country?					
		Not at all satisfied	Not very satisfied	Fairly satisfied	Not at all satisfied	Not very satisfied	Fairly satisfied
Reference boundaries		2.60	4.70	8.10	See Table C.2 for cumulative frequencies		
Year	Version	Horizontal deviation			Vertical deviation		
2004	EB620	0.01	-0.01	0.00	0.0% pts	0.1% pts	0.0% pts
2005	EB634	0.00	0.00	0.00	0.0% pts	0.1% pts	0.0% pts
2006	EB652	-0.01	0.01	-0.01	0.1% pts	-0.2% pts	0.1% pts
2007	EB681	0.02	-0.01	0.01	-0.1% pts	0.2% pts	-0.1% pts
2009	EB724	0.01	-0.01	0.00	0.0% pts	0.1% pts	0.0% pts
2010	EB734	0.05	-0.05	0.03	-0.4% pts	0.8% pts	-0.3% pts
2011	EB763	0.06	-0.05	0.03	-0.5% pts	0.8% pts	-0.3% pts
2012	EB773	-0.05	0.04	-0.02	0.3% pts	-0.6% pts	0.2% pts
<b>2012</b>	<b>EB781</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.0% pts</b>	<b>0.0% pts</b>	<b>0.0% pts</b>
2013	EB793	-0.04	0.04	-0.02	0.3% pts	-0.6% pts	0.2% pts
2013	EB801	-0.01	0.01	0.00	0.1% pts	-0.2% pts	0.1% pts
2014	EB812	-0.09	0.07	-0.03	0.6% pts	-1.0% pts	0.4% pts
2014	EB814	-0.05	0.04	-0.02	0.3% pts	-0.6% pts	0.2% pts
2014	EB823	-0.07	0.07	-0.03	0.5% pts	-1.0% pts	0.4% pts
2015	EB833	-0.08	0.07	-0.02	0.5% pts	-0.9% pts	0.3% pts

**Table D.3** Horizontal and vertical deviation for life satisfaction in Southern Europe

		On the whole how satisfied are you with the life you lead?					
		Not at all satisfied	Not very satisfied	Fairly satisfied	Not at all satisfied	Not very satisfied	Fairly satisfied
Reference boundaries		3.38	5.96	9.31	See Table C.3 for cumulative frequencies		
Year	Version	Horizontal deviation			Vertical deviation		
2004	EB620	0.02	-0.02	0.00	-0.1% pts	0.2% pts	0.0% pts
2005	EB634	-0.14	0.07	-0.02	0.5% pts	-0.9% pts	0.3% pts
2006	EB652	-0.14	0.06	-0.01	0.5% pts	-0.7% pts	0.4% pts
2007	EB681	0.00	0.00	0.00	0.0% pts	0.0% pts	0.0% pts
2009	EB724	-0.15	0.10	-0.03	0.8% pts	-1.4% pts	0.5% pts
2010	EB734	-0.10	0.08	-0.02	0.5% pts	-1.0% pts	0.3% pts
2011	EB763	-0.08	0.06	-0.02	0.5% pts	-0.9% pts	0.3% pts
2012	EB773	0.01	-0.01	0.00	0.0% pts	0.1% pts	0.0% pts
<b>2012</b>	<b>EB781</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.0% pts</b>	<b>0.0% pts</b>	<b>0.0% pts</b>

(continued)



**Table D.3** (continued)

		On the whole how satisfied are you with the life you lead?					
		Not at all satisfied	Not very satisfied	Fairly satisfied	Not at all satisfied	Not very satisfied	Fairly satisfied
Reference boundaries		3.38	5.96	9.31	See Table C.3 for cumulative frequencies		
Year	Version	Horizontal deviation			Vertical deviation		
2013	EB793	0.15	-0.20	0.06	-1.2% pts	2.6% pts	-0.9% pts
2013	EB801	0.04	-0.05	0.02	-0.3% pts	0.7% pts	-0.2% pts
2014	EB812	0.09	-0.13	0.04	-0.7% pts	1.7% pts	-0.6% pts
2014	EB814	0.08	-0.08	0.02	-0.5% pts	1.0% pts	-0.4% pts
2014	EB823	0.07	-0.07	0.02	-0.4% pts	0.9% pts	-0.3% pts
2015	EB833	0.11	-0.08	0.02	-0.6% pts	1.1% pts	-0.4% pts

**Table D.4** Horizontal and vertical deviation for satisfaction with democracy in Southern Europe

		On the whole how satisfied are you with the way the democracy works in your country?					
		Not at all satisfied	Not very satisfied	Fairly satisfied	Not at all satisfied	Not very satisfied	Fairly satisfied
Reference boundaries		2.39	5.40	8.25	See Table C.4 for cumulative frequencies		
Year	Version	Horizontal deviation			Vertical deviation		
2004	EB620	0.00	0.00	0.00	0.0% pts	0.0% pts	0.0% pts
2005	EB634	-0.18	0.29	-0.17	1.8% pts	-4.2% pts	1.8% pts
2006	EB652	-0.19	0.25	-0.12	1.5% pts	-3.6% pts	1.5% pts
2007	EB681	-0.11	0.17	-0.09	1.0% pts	-2.4% pts	1.0% pts
2009	EB724	-0.10	0.14	-0.11	1.0% pts	-2.3% pts	1.0% pts
2010	EB734	-0.05	0.09	-0.05	0.5% pts	-1.3% pts	0.5% pts
2011	EB763	-0.05	0.12	-0.11	0.6% pts	-1.6% pts	0.7% pts
2012	EB773	0.02	-0.05	0.05	-0.2% pts	0.6% pts	-0.3% pts
<b>2012</b>	<b>EB781</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.0% pts</b>	<b>0.0% pts</b>	<b>0.0% pts</b>
2013	EB793	0.03	-0.10	0.12	-0.4% pts	1.1% pts	-0.5% pts
2013	EB801	0.03	-0.15	0.17	-0.5% pts	1.5% pts	-0.7% pts
2014	EB812	0.01	-0.04	0.07	-0.2% pts	0.5% pts	-0.2% pts
2014	EB814	-0.04	0.14	-0.24	0.7% pts	-1.8% pts	0.8% pts
2014	EB823	-0.04	0.15	-0.26	0.6% pts	-1.8% pts	0.8% pts
2015	EB833	-0.04	0.12	-0.18	0.6% pts	-1.7% pts	0.7% pts

**Table D.5** Horizontal and vertical deviation for life satisfaction in Eastern Europe

		On the whole how satisfied are you with the life you lead?					
		Not at all satisfied	Not very satisfied	Fairly satisfied	Not at all satisfied	Not very satisfied	Fairly satisfied
Reference boundaries		2.74	5.11	9.14	See Table C.5 for cumulative frequencies		
Year	Version	Horizontal deviation			Vertical deviation		
2004	EB620	0.18	-0.16	0.04	-1.1% pts	1.8% pts	-0.6% pts
2005	EB634	0.23	-0.20	0.05	-1.3% pts	2.2% pts	-0.8% pts
2006	EB652	0.20	-0.15	0.04	-1.1% pts	1.8% pts	-0.6% pts
2007	EB681	0.19	-0.13	0.03	-0.9% pts	1.4% pts	-0.6% pts
2009	EB724	-0.01	0.01	0.00	0.0% pts	-0.1% pts	0.1% pts
2010	EB734	0.07	-0.05	0.01	-0.3% pts	0.6% pts	-0.2% pts
2011	EB763	0.09	-0.07	0.02	-0.5% pts	0.8% pts	-0.3% pts
2012	EB773	0.03	-0.03	0.01	-0.2% pts	0.3% pts	-0.1% pts
<b>2012</b>	<b>EB781</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.0% pts</b>	<b>0.0% pts</b>	<b>0.0% pts</b>
2013	EB793	0.15	-0.12	0.03	-0.8% pts	1.4% pts	-0.5% pts
2013	EB801	0.14	-0.12	0.03	-0.8% pts	1.5% pts	-0.5% pts
2014	EB812	0.18	-0.15	0.04	-1.0% pts	1.7% pts	-0.6% pts
2014	EB814	0.14	-0.10	0.02	-0.6% pts	1.1% pts	-0.4% pts
2014	EB823	0.15	-0.10	0.02	-0.7% pts	1.1% pts	-0.4% pts
2015	EB833	0.15	-0.10	0.02	-0.6% pts	1.1% pts	-0.4% pts

**Table D.6** Horizontal and vertical deviation for satisfaction with democracy in Eastern Europe

		On the whole how satisfied are you with the way the democracy works in your country?					
		Not at all satisfied	Not very satisfied	Fairly satisfied	Not at all satisfied	Not very satisfied	Fairly satisfied
Reference boundaries		2.51	5.40	8.70	See Table C.6 for cumulative frequencies		
Year	Version	Horizontal deviation			Vertical deviation		
2004	EB620	0.02	-0.04	0.05	-0.3% pts	0.6% pts	-0.3% pts
2005	EB634	0.00	0.00	0.01	0.0% pts	0.1% pts	0.0% pts
2006	EB652	0.00	-0.01	0.00	0.0% pts	0.1% pts	0.0% pts
2007	EB681	0.00	0.00	0.00	0.0% pts	-0.1% pts	0.0% pts
2009	EB724	-0.02	0.03	-0.03	0.2% pts	-0.5% pts	0.2% pts
2010	EB734	-0.08	0.11	-0.11	0.8% pts	-1.8% pts	0.7% pts
2011	EB763	-0.08	0.12	-0.09	0.8% pts	-1.8% pts	0.7% pts
2012	EB773	-0.05	0.10	-0.10	0.6% pts	-1.4% pts	0.6% pts
<b>2012</b>	<b>EB781</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.0% pts</b>	<b>0.0% pts</b>	<b>0.0% pts</b>
2013	EB793	0.00	-0.01	0.02	-0.1% pts	0.2% pts	-0.1% pts
2013	EB801	0.04	-0.09	0.10	-0.5% pts	1.2% pts	-0.5% pts
2014	EB812	0.02	-0.03	0.04	-0.2% pts	0.5% pts	-0.2% pts
2014	EB814	-0.03	0.07	-0.08	0.4% pts	-1.0% pts	0.4% pts
2014	EB823	-0.07	0.15	-0.17	0.9% pts	-2.2% pts	0.9% pts
2015	EB833	-0.04	0.08	-0.08	0.5% pts	-1.1% pts	0.5% pts

## Appendix E: Cumulative Distributions and Parameters Beta Distribution

### *E.1: Cumulative Frequencies and Parameters Beta Distribution USA (Tables E.1.1, E.1.2, E.1.3, E.1.4, E.1.5, E.1.6, and E.1.7)*

**Table E.1.1** Cumulative frequencies O-SLP-g-sq-v-2-b, Gallup Poll

Year	In general, are you satisfied or dissatisfied with the way things are going in your own personal life?	
	Dissatisfied	Satisfied
1973	21.3%	100%
1979	21.6%	100%
1981	17.1%	100%

(continued)

**Table E.1.1** (continued)

Year	In general, are you satisfied or dissatisfied with the way things are going in your own personal life?	
	Dissatisfied	Satisfied
1982	23.2%	100%
1983	21.5%	100%
1984	18.5%	100%
1985	16.6%	100%
1986	14.7%	100%
1987	15.1%	100%
1988	14.4%	100%
1990	14.4%	100%
1991	15.4%	100%
1992	21.2%	100%
1993	17.2%	100%
1996	12.2%	100%
1997	14.4%	100%
1998	13.5%	100%
2000	12.1%	100%
2001	14.1%	100%
2006	15.2%	100%
2008	18.7%	100%

**Table E.1.2** Cumulative frequencies O-SLP-c-sq-v-2-a, Gallup Poll

Year	In general, are you satisfied with the way things are going in your personal life at this time?	
	Dissatisfied	Satisfied
2001	15.4%	100%
2002	14.9%	100%
2003	12.5%	100%
2004	13.9%	100%
2007	14.3%	100%
2011	21.2%	100%
2013	20.2%	100%

**Table E.1.3** Cumulative frequencies and parameters beta distribution O-SLP-c-sq-v-4-a, Gallup

Year	In general, how satisfied or dissatisfied are you with the way things are going in your personal life at this time? Are you a person who has all the bad things in his life? Other circles are in between. Which circle do you think comes closest to matching your life?				Parameters best fit beta distribution	
	Very dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Very satisfied	$\alpha$	$\beta$
2001	4.7%	15.0%	45.4%	100%	5.56	2.68
2002	5.1%	15.2%	46.5%	100%	5.54	2.72
2003	4.5%	12.6%	41.4%	100%	5.36	2.40
<b>2004</b>	5.1%	14.3%	40.8%	100%	<b>4.72</b>	<b>2.09</b>

**Table E.1.4** Cumulative frequencies and parameters beta distribution O-SLu-u-sq-v-4-f, Gallup

Year	Overall, how satisfied are you with your life.....?				Parameters best fit beta distribution	
	Very dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Very satisfied	$\alpha$	$\beta$
<b>2005</b>	3.6%	11.5%	49.9%	100%	<b>4.72</b>	<b>2.09</b>
2007	2.7%	8.3%	42.6%	100%	4.84	1.86
<b>2008</b>	4.8%	13.6%	53.5%	100%	<b>4.44</b>	<b>2.12</b>

**Table E.1.5** Cumulative frequencies and parameters beta distribution O-SLu-g-sq-v-4-e, BRFSS

Year	In general, how satisfied are you with your life? Would you say you are ...				Parameters best fit beta distribution	
	Very dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Very satisfied	$\alpha$	$\beta$
2005	1.1%	5.6%	55.4%	100%	4.35	2.11
<b>2006</b>	1.0%	5.0%	54.3%	100%	<b>4.52</b>	<b>2.14</b>
2007	1.1%	5.5%	55.6%	100%	4.40	2.14
<b>2008</b>	1.0%	5.2%	54.6%	100%	<b>4.44</b>	<b>2.12</b>
2009	1.1%	5.9%	55.4%	100%	4.29	2.09
2010	1.0%	5.4%	54.1%	100%	4.35	2.06
2013	1.3%	6.6%	54.1%	100%	–	–
2014	0.8%	4.1%	50.7%	100%	–	–

**Table E.1.6** Cumulative frequencies and parameters beta distribution O-SLu-g-sq-v-4-da, LAPOP

Year	In general, how satisfied are you with your life? Would you say you are ...				Parameters best fit beta distribution	
	Very dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Very satisfied	$\alpha$	$\beta$
<b>2008</b>	6.1%	24.2%	73.7%	100%	<b>4.44</b>	<b>2.12</b>
2010	4.9%	19.5%	69.2%	100%	4.65	2.00
2012	4.0%	19.5%	70.1%	100%	5.03	2.16

**Table E.1.7** Cumulative frequencies and parameters beta distribution O-SLW-c-sq-n-10-a, WVS

Year	All things considered, how satisfied are you with your life as-a-whole now.....?										Parameters best fit beta distribution	
	Dissatisfied	2	3	4	5	6	7	8	9	Satisfied	$\alpha$	$\beta$
1982	0.8%	2.0%	3.8%	7.2%	15.5%	22.8%	37.8%	61.5%	81.7%	100%	3.08	1.23
1990	0.6%	1.4%	3.3%	5.6%	12.7%	19.5%	34.5%	62.6%	84.1%	100%	3.76	1.45
1995	0.9%	2.2%	3.9%	6.7%	14.6%	22.1%	37.6%	63.3%	81.4%	100%	3.10	1.24
1999	0.9%	1.4%	3.3%	5.9%	13.0%	21.3%	39.7%	64.9%	84.1%	100%	3.57	1.44
<b>2006</b>	<b>0.5%</b>	<b>1.4%</b>	<b>3.4%</b>	<b>7.3%</b>	<b>14.6%</b>	<b>24.3%</b>	<b>47.4%</b>	<b>75.6%</b>	<b>93.3%</b>	<b>100%</b>	<b>4.52</b>	<b>2.14</b>
2011	1.2%	2.5%	5.0%	9.6%	16.8%	24.1%	41.3%	71.7%	90.7%	100%	3.44	1.62

**E.2: Cumulative Frequencies and Parameters Beta Distribution Japan (Tables E.2.1, E.2.2, E.2.3, E.2.4, E.2.5, E.2.6, E.2.7, and E.2.8)**

**Table E.2.1** Cumulative frequencies and parameters beta distribution O-SLu-c-sq-v-4-f, LIN

Year	By the way, how do you feel about your life?				Parameters best fit beta distribution	
	I cannot stand my current life	My current life is far from satisfactory	I am not satisfied with my current life, but it is not too bad to keep more or less on the current level	My life could be better, but on the whole I am satisfied with my current life	$\alpha$	$\beta$
1958	9.2%	38.8%	83.7%	100%	3.58	1.96
1959	6.7%	31.9%	82.4%	100%	4.26	2.08
1961	5.6%	35.8%	85.5%	100%	4.72	2.44
1962	5.3%	36.1%	83.5%	100%	4.50	2.28
<b>1963</b>	5.1%	32.7%	80.6%	100%	<b>4.37</b>	<b>2.08</b>

**Table E.2.2** Cumulative frequencies and parameters beta distribution O-SLu-u-sq-v-4-e, LIN

Year	How do you feel about your life?				Parameters best fit beta distribution	
	Extremely dissatisfied	Fairly dissatisfied	Rather satisfied, but not sufficiently	Sufficiently satisfied	$\alpha$	$\beta$
<b>1964</b>	3.5%	37.7%	95.5%	100%	<b>4.37</b>	<b>2.08</b>
1965	4.3%	38.7%	95.4%	100%	4.11	2.00
1966	5.0%	40.2%	95.4%	100%	3.88	1.95
1967	4.3%	38.1%	94.7%	100%	3.97	1.89
1968	4.1%	34.5%	93.7%	100%	3.98	1.78
<b>1969</b>	4.1%	35.5%	94.2%	100%	<b>4.04</b>	<b>1.84</b>

**Table E.2.3** Cumulative frequencies and parameters beta distribution O-SLu-c-sq-v-4-e, LIN

Year	How do you feel with life these days?				Parameters best fit beta distribution	
	Very dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Very satisfied	$\alpha$	$\beta$
<b>1970</b>	3.9%	33.8%	93.9%	100%	<b>4.04</b>	<b>1.84</b>
1971	4.9%	41.5%	95.1%	100%	3.79	1.98
1972	4.6%	39.8%	94.5%	100%	3.79	1.91
1973	5.6%	38.5%	89.8%	100%	2.97	1.40
1974	8.1%	48.7%	96.1%	100%	3.33	2.02
1975	4.8%	38.8%	94.4%	100%	3.75	1.87
1976	4.6%	38.2%	94.1%	100%	3.75	1.84

(continued)

**Table E.2.3** (continued)

Year	How do you feel with life these days?				Parameters best fit beta distribution	
	Very dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Very satisfied	$\alpha$	$\beta$
1977	4.8%	34.9%	90.8%	100%	3.33	1.50
1978	3.9%	34.9%	94.5%	100%	4.12	1.93
1979	3.1%	31.9%	92.8%	100%	4.12	1.78
1980	4.6%	36.6%	94.5%	100%	3.89	1.88
1981	4.6%	35.4%	94.5%	100%	3.94	1.87
1982	4.0%	33.4%	94.2%	100%	4.09	1.87
1983	4.0%	34.5%	94.1%	100%	4.01	1.86
1984	3.9%	34.0%	94.1%	100%	4.07	1.87
1985	3.6%	28.8%	92.6%	100%	4.14	1.73
1986	4.0%	31.2%	93.7%	100%	4.10	1.81
1987	4.1%	34.9%	94.0%	100%	3.94	1.83
1988	4.1%	34.8%	93.7%	100%	3.90	1.81
1989	5.2%	36.3%	94.5%	100%	3.78	1.84
<b>1990</b>	4.3%	32.5%	92.8%	100%	<b>3.81</b>	<b>1.69</b>
1991	3.7%	32.4%	93.2%	100%	4.02	1.78

**Table E.2.4** Cumulative frequencies and parameters beta distribution O-SLW-c-sq-v-4-e, LIN

Year	In general, how satisfied are you with your life? Would you say you are ...				Parameters best fit beta distribution	
	Very dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Very satisfied	$\alpha$	$\beta$
1992	6.5%	28.3%	90.4%	100%	4.93	2.27
1993	6.6%	28.1%	89.4%	100%	4.75	2.16
1994	8%	32.2%	91.4%	100%	4.59	2.27
<b>1995</b>	4.9%	25.3%	89.3%	100%	<b>5.36</b>	<b>2.31</b>
1996	6.3%	28.5%	89.5%	100%	4.81	2.19
1997	8%	31.5%	89.9%	100%	4.36	2.11
<b>1999</b>	10.6%	34.9%	90.3%	100%	<b>3.83</b>	<b>1.99</b>
2001	10.4%	37.1%	91.7%	100%	4.02	2.17
<b>2002</b>	11%	37.7%	91.9%	100%	<b>3.95</b>	<b>2.16</b>
2003	11.8%	40.5%	92.6%	100%	3.88	2.22
2004	10.8%	38.4%	92.6%	100%	4.07	2.26
<b>2005</b>	10.8%	38.7%	92.1%	100%	<b>3.97</b>	<b>2.19</b>
2006	7.5%	32.8%	90.5%	100%	4.51	2.22
2007	9.5%	36.5%	91.6%	100%	4.17	2.21
2008	10.3%	38.9%	91.9%	100%	4.02	2.21
2009	9.8%	38.2%	91.5%	100%	4.05	2.19
2010	9.4%	35.4%	90.8%	100%	4.09	2.12
2011	7.6%	33.6%	89.6%	100%	4.30	2.11



**Table E.2.5** Cumulative frequencies and parameters beta distribution O-SLu-c-sq-v-5-n, EAVS

Year	Overall, to what degree are you satisfied with your life these days?					Parameters best fit beta distribution	
	Dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Satisfied	$\alpha$	$\beta$
1988	2.7%	12.3%	25.6%	67.1%	100%	3.61	1.83
2002	2.4%	10.7%	25.7%	66.2%	100%	3.75	1.86
<b>2005</b>	2.9%	11.7%	29.3%	72.4%	100%	<b>3.97</b>	<b>2.19</b>

**Table E.2.6** Cumulative frequencies and parameters beta distribution O-SLu-g-sq-v-5-e, LPS

Year	How satisfied or dissatisfied are you with your life in general?					Parameters best fit beta distribution	
	Dissatisfied	Rather dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Satisfied	$\alpha$	$\beta$
1978	5.1%	15.8%	42.6%	89.0%	100%	4.01	1.63
1981	5.3%	16.3%	43.5%	89.4%	100%	3.97	1.64
1984	3.5%	15.1%	35.6%	86.3%	100%	4.15	1.50
1987	5.3%	20.0%	50.1%	89.9%	100%	3.75	1.69
<b>1990</b>	5.4%	20.5%	46.3%	90.8%	100%	<b>3.81</b>	<b>1.69</b>
1993	4.6%	20.4%	48.0%	93.0%	100%	4.27	1.95
1995	4.8%	16.4%	40.0%	85.9%	100%	3.68	1.42
1996	6.5%	22.6%	52.4%	92.3%	100%	3.72	1.81
1999	7.4%	24.1%	55.8%	94.1%	100%	3.81	1.98
<b>2002</b>	7.2%	26.6%	58.7%	95.3%	100%	<b>3.94</b>	<b>2.16</b>

**Table E.2.7** Cumulative frequencies and parameters beta distribution O-SLu-g-sq-v-5-e, FLS

Year	How satisfied are you with your current life as a whole?					Parameters best fit beta distribution	
	Dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Fairly satisfied	Satisfied	$\alpha$	$\beta$
1995	2.8%	12.4%	34.8%	89.8%	100%	3.98	1.73
1997	2.9%	12.3%	34.9%	90.6%	100%	4.07	1.79
<b>1999</b>	3.5%	16.3%	45.4%	93.2%	100%	<b>3.83</b>	<b>1.99</b>

**Table E.2.8** Cumulative frequencies and parameters beta distribution O-SLW-c-sq-n-10-a, WVVS

Year	All things considered, how satisfied are you with your life as-a-whole now.....?										Parameters best fit beta distribution	
	Dissatisfied	2	3	4	5	6	7	8	9	Satisfied	$\alpha$	$\beta$
1981	1.2%	2.6%	7.0%	12.6%	24.4%	46.2%	65.1%	86.1%	95.4%	100%	5.48	2.38
1990	0.9%	1.9%	5.8%	12.0%	25.3%	47.0%	67.0%	90.8%	96.6%	100%	6.31	2.81
<b>1995</b>	1.6%	3.1%	6.9%	11.3%	25.7%	45.7%	63.2%	87.2%	94.7%	100%	<b>5.36</b>	<b>2.31</b>
2000	1.7%	3.8%	8.7%	15.0%	28.3%	46.9%	63.5%	88.4%	95.3%	100%	5.00	2.26
<b>2005</b>	0.9%	2%	5.8%	9.4%	17.9%	33.7%	54.0%	81.9%	95.4%	100%	<b>3.97</b>	<b>2.19</b>
2010	1.3%	2.5%	6.0%	12.0%	24.4%	35.7%	54.5%	80.6%	91.9%	100%	3.13	1.78

**E.3: Cumulative Frequencies and Parameters Beta Distribution The Netherlands (Tables E.3.1, E.3.2, E.3.3, E.3.4, E.3.5, and E.3.6)**

**Table E.3.1** Cumulative frequencies and parameters beta distribution O-SLL-u-sq-v-4-b, EB

Year	On the whole how satisfied are you with the life you lead?				Parameters best fit beta distribution	
	Not at all satisfied	Not very satisfied	Fairly satisfied	Very satisfied	$\alpha$	$\beta$
1973	0.7%	6.9%	60.5%	100%	7.74	3.31
1975	2.1%	8.4%	64.6%	100%	7.26	3.34
1976	1.5%	8.7%	59.6%	100%	6.70	2.88
<b>1977</b>	1.8%	7.7%	59.6%	100%	<b>6.88</b>	<b>2.94</b>
1978	1.1%	6.3%	54.9%	100%	7.17	2.83
1979	0.4%	4.3%	54.5%	100%	8.42	3.23
1980	0.4%	5.1%	53.2%	100%	7.76	2.95
1981	1.6%	6.9%	55.8%	100%	6.70	2.69
1982	0.8%	5.9%	53.7%	100%	7.20	2.81
1983	1.3%	6.7%	60.1%	100%	7.61	3.24
1984	0.8%	5.7%	53.6%	100%	7.23	2.82
1985	2.2%	9.3%	63.0%	100%	6.79	3.08
<b>1986</b>	1.4%	7.3%	62.4%	100%	<b>7.51</b>	<b>3.32</b>
1987	1.2%	7.7%	61.2%	100%	7.35	3.20
1988	1.5%	6.7%	56.1%	100%	6.80	2.73
1989	0.8%	5.3%	54.0%	100%	7.53	2.90
1990	0.8%	6.2%	55.3%	100%	7.44	2.94
1991	0.7%	5.1%	51.0%	100%	7.26	2.67
1992	1.0%	6.2%	50.7%	100%	6.72	2.50
<b>1993</b>	0.8%	5.8%	53.7%	100%	<b>7.22</b>	<b>2.82</b>
1994	1.3%	7.1%	57.0%	100%	7.06	2.89
1995	1.5%	6.7%	52.3%	100%	6.37	2.44
1997	0.8%	7.2%	53.5%	100%	6.70	2.61
1998	0.9%	5.4%	56.3%	100%	7.86	3.15
1999	0.6%	4.5%	58.7%	100%	8.88	3.61
2000	1.1%	7.1%	61.7%	100%	7.74	3.38
2001	0.9%	5.6%	51.1%	100%	6.98	2.60
2002	1.1%	7.2%	59.4%	100%	7.31	3.11
2003	1.6%	9.8%	60.4%	100%	6.45	2.84
2004	2.0%	7.7%	56.2%	100%	6.30	2.57
2005	0.5%	4.7%	53.1%	100%	7.88	2.98
<b>2006</b>	1.1%	4.9%	52.9%	100%	<b>7.64</b>	<b>2.90</b>
2007	0.5%	4.0%	48.8%	100%	7.81	2.78
2008	0.4%	3.0%	47.3%	100%	8.67	3.00
2009	0.5%	4.4%	49.4%	100%	7.62	2.74

(continued)

**Table E.3.1** (continued)

Year	On the whole how satisfied are you with the life you lead?				Parameters best fit beta distribution	
	Not at all satisfied	Not very satisfied	Fairly satisfied	Very satisfied	$\alpha$	$\beta$
2010	0.6%	5.0%	49.6%	100%	7.24	2.63
2011	0.8%	4.2%	47.2%	100%	7.31	2.53
2012	1.2%	5.7%	49.2%	100%	6.49	2.35
2013	1.3%	5.3%	54.1%	100%	7.29	2.82
2014	0.5%	5.4%	49.6%	100%	7.14	2.60
2015	0.6%	4.2%	47.5%	100%	7.28	2.53

**Table E.3.2** Cumulative frequencies and parameters beta distribution O-SLL-c-sq-v-5-d, CBS

Year	How satisfied are you with your current life as a whole?					Parameters best fit beta distribution	
	Not very satisfied	Fairly satisfied	Satisfied	Very satisfied	Extraordinary satisfied	$\alpha$	$\beta$
1974	6.0%	19.1%	62.5%	91.9%	100%	7.27	3.00
<b>1977</b>	7.0%	20.7%	65.8%	91.5%	100%	<b>6.88</b>	<b>2.94</b>
1980	6.6%	17.2%	58.2%	88.4%	100%	6.12	2.64
1983	4.7%	19.1%	66.4%	93.0%	100%	7.74	3.64
<b>1986</b>	4.9%	16.9%	61.3%	91.5%	100%	<b>7.51</b>	<b>3.32</b>
1989	4.1%	14.1%	45.8%	82.1%	100%	6.19	2.40
1990	3.8%	13.7%	47.2%	83.8%	100%	6.59	2.60
1991	4.3%	12.6%	46.4%	83.4%	100%	6.59	2.57
1992	4.1%	13.0%	47.2%	84.1%	100%	6.69	2.64
<b>1993</b>	3.8%	12.2%	45.9%	84.2%	100%	<b>7.22</b>	<b>2.82</b>
1994	6.2%	18.0%	52.8%	88.2%	100%	6.84	2.76
1995	4.8%	16.6%	51.4%	87.0%	100%	7.12	2.77
1996	5.1%	15.2%	52.0%	88.0%	100%	7.52	2.93
<b>1997</b>	3.4%	12.7%	59.4%	92.0%	100%	<b>7.58</b>	<b>2.90</b>
1998	2.9%	12.4%	59.0%	91.7%	100%	7.67	2.90
1999	3.4%	12.0%	58.7%	91.6%	100%	7.57	2.85
2000	3.3%	11.4%	58.8%	91.5%	100%	7.68	2.88
2001	3.3%	11.4%	58.1%	91.6%	100%	7.67	2.86
2002	4.3%	12.4%	56.8%	91.6%	100%	7.21	2.71

(continued)

**Table E.3.2** (continued)

Year	How satisfied are you with your current life as a whole?					Parameters best fit beta distribution	
	Not very satisfied	Fairly satisfied	Satisfied	Very satisfied	Extraordinary satisfied	$\alpha$	$\beta$
2003	3.6%	12.3%	58.2%	91.3%	100%	7.37	2.78
2004	3.9%	12.0%	58.9%	92.0%	100%	7.52	2.86
2005	4.1%	12.9%	60.7%	92.3%	100%	7.37	2.88
<b>2006</b>	3.4%	12.5%	58.7%	92.2%	100%	<b>7.64</b>	<b>2.90</b>
2007	3.4%	11.9%	57.8%	92.3%	100%	7.77	2.92
2008	3.4%	11.0%	56.1%	91.6%	100%	7.74	2.84
2009	3.6%	11.8%	54.9%	89.9%	100%	7.13	2.58

**Table E.3.3** Cumulative frequencies and parameters beta distribution O-SLL-c-sq-v-5-d, SCP

Year	How satisfied are you with your current life as a whole?					Parameters best fit beta distribution	
	Not very satisfied	Fairly satisfied	Satisfied	Very satisfied	Extraordinary satisfied	$\alpha$	$\beta$
1974	6.4%	19.6%	62.7%	91.5%	100%	6.85	2.88
<b>1977</b>	6.6%	19.8%	65.2%	91.4%	100%	<b>6.88</b>	<b>2.94</b>
1989	4.4%	14.9%	47.4%	82.9%	100%	6.13	2.39
1990	4.1%	14.5%	48.7%	84.5%	100%	6.60	2.62
<b>1993</b>	4.0%	12.8%	47.3%	84.7%	100%	<b>7.22</b>	<b>2.82</b>
<b>1997</b>	3.5%	13.3%	58.8%	92.0%	100%	<b>7.58</b>	<b>2.90</b>
1999	3.7%	13.1%	60.6%	91.1%	100%	7.35	2.84
2000	4.0%	13.4%	57.4%	91.8%	100%	7.36	2.80

**Table E.3.4** Cumulative frequencies and parameters beta distribution O-SLW-c-sq-n-10-a, WVS

Year	All things considered, how satisfied are you with your life as-a-whole now.....?										Parameters best fit beta distribution	
	Dissatisfied	2	3	4	5	6	7	8	9	Satisfied	$\alpha$	$\beta$
1981	0.2%	1%	2.3%	3.9%	9.8%	17.8%	37.5%	71.6%	85.7%	100%	4.75	1.86
1990	0.5%	1.3%	2.4%	3.6%	8.3%	15.8%	33.1%	70.6%	88.5%	100%	5.23	2.02
1999	0.4%	0.7%	1.2%	1.7%	4.8%	10.4%	30.5%	72.1%	90.6%	100%	7.65	2.75
<b>2006</b>	0.1%	0.4%	0.8%	2.1%	5.4%	13.3%	35.9%	76.2%	90.4%	100%	<b>7.64</b>	<b>2.90</b>
2008	0.1%	0.3%	0.9%	1.8%	3.5%	7.6%	24.2%	69.1%	91.1%	100%	9.41	3.15
2012	0.2%	0.5%	2%	3.8%	7.1%	16.4%	42.7%	81.7%	96.4%	100%	7.80	3.40

**Table E.3.5** Cumulative frequencies and parameters beta distribution O-SLL-c-sq-n-10-a, SCP

Year	How satisfied are you with the life you currently lead?										Parameters best fit beta distribution	
	Completely dissatisfied	2	3	4	5	6	7	8	9	Completely satisfied	$\alpha$	$\beta$
2004	0.5%	0.7%	1.3%	2.5%	5.4%	14.1%	39.3%	79.3%	93.2%	100%	7.61	2.99
<b>2006</b>	0.4%	0.7%	1.4%	2.1%	5.0%	13.0%	37.4%	77.9%	92.2%	100%	<b>7.64</b>	<b>2.90</b>
2008	0.2%	0.4%	0.6%	1.6%	3.7%	9.6%	31.9%	74.3%	90.7%	100%	8.36	2.90

**Table E.3.6** Cumulative frequencies and parameters beta distribution O-SLW-c-sq-n-11-cd, ESS

Year	All things considered, how satisfied are you with your life as a whole nowadays?											Parameters best fit beta distribution	
	Extremely dissatisfied	1	2	3	4	5	6	7	8	9	Extremely satisfied	$\alpha$	$\beta$
2002	0.5%	0.9%	1.3%	2.5%	4.5%	8.8%	14.0%	34.0%	73.5%	91.1%	100%	7.19	2.55
2004	0.6%	1.2%	1.7%	2.9%	4.8%	9.1%	16.4%	38.9%	75.5%	92.0%	100%	6.92	2.60
<b>2006</b>	0.4%	0.6%	1.4%	3.1%	5.0%	9.2%	15.3%	38.4%	77.9%	93.6%	100%	<b>7.64</b>	<b>2.90</b>
2008	0.3%	0.4%	1.1%	2.0%	3.7%	7.1%	12.4%	35.0%	75.5%	93.2%	100%	8.28	2.96
2010	0.3%	0.6%	1.0%	1.8%	3.1%	6.6%	11.7%	30.7%	74.2%	92.7%	100%	8.54	2.93
2012	0.2%	0.4%	0.9%	2.1%	3.3%	6.1%	11.7%	27.0%	66.7%	90.9%	100%	8.07	2.56
2014	0.4%	0.5%	0.8%	1.9%	3.7%	7.3%	14.4%	36.4%	75.8%	93.0%	100%	7.99	2.91



***E.4: Cumulative Frequencies and Parameters Beta Distribution Spain (Tables E.4.1, E.4.2, and E.4.3)***

**Table E.4.1** Cumulative frequencies and parameters beta distribution O-SLL-u-sq-v-4-b, EB

Year	On the whole how satisfied are you with the life you lead?				Parameters best fit beta distribution	
	Not at all satisfied	Not very satisfied	Fairly satisfied	Very satisfied	$\alpha$	$\beta$
2002	2.4%	16.9%	82.7%	100%	3.78	1.85
2003	1.7%	16.4%	80.5%	100%	3.80	1.77
2004	2.7%	13.3%	69.8%	100%	3.10	1.21
2005	2.2%	14.4%	79.8%	100%	3.85	1.74
2006	1.0%	10.6%	76.4%	100%	4.49	1.78
2007	1.3%	12.6%	78.6%	100%	4.23	1.80
<b>2008</b>	1.8%	15.8%	82.4%	100%	<b>4.02</b>	<b>1.91</b>
2009	4.3%	22.2%	85.7%	100%	3.26	1.84
2010	5.6%	23.1%	84.1%	100%	2.88	1.63
2011	6.5%	23.9%	84.1%	100%	2.71	1.57
2012	7.4%	29.8%	86.7%	100%	2.57	1.68
2013	8.3%	30.4%	83.9%	100%	2.25	1.44
2014	6.1%	27.7%	82.4%	100%	2.48	1.46
2015	4.0%	22.7%	83.1%	100%	3.06	1.67

**Table E.4.2** Cumulative frequencies and parameters beta distribution O-SLW-c-sq-n-10-a, WVS

Year	All things considered, how satisfied are you with your life as-a-whole now.....?										Parameters best fit beta distribution	
	Dissatisfied	2	3	4	5	6	7	8	9	Satisfied	$\alpha$	$\beta$
1981	1.3%	2.9%	7.2%	15.0%	28.5%	43.2%	65.6%	84.8%	91.5%	100%	2.90	1.86
1990	1.1%	2.1%	4.6%	7.7%	20.0%	33.3%	53.2%	76.5%	87.8%	100%	3.20	1.63
1995	1.2%	2.2%	6.0%	11.4%	29.6%	45.5%	74.5%	76.7%	91.9%	100%	2.97	1.88
1999	1.4%	2.7%	5.7%	9.7%	20.7%	33.0%	54.0%	75.9%	87.6%	100%	2.89	1.51
2000	0.8%	1.5%	3.9%	6.7%	20.6%	36.3%	60.3%	80.9%	89.8%	100%	3.64	1.97
2007	0.3%	0.5%	1.8%	3.9%	10.9%	24.7%	51.7%	79.9%	94.1%	100%	5.99	2.81
<b>2008</b>	0.8%	1.5%	4.2%	7.5%	15.4%	25.2%	45.5%	77.5%	90.8%	100%	<b>4.02</b>	<b>1.91</b>
2011	0.9%	1.8%	4.2%	8.9%	22.7%	37.9%	63.5%	86.7%	94.1%	100%	4.07	2.42

**Table E.4.3** Cumulative frequencies and parameters beta distribution O-SLW-c-sq-n-11-cd, ESS

Year	All things considered, how satisfied are you with your life as a whole nowadays?											Parameters best fit beta distribution	
	Extremely dissatisfied	β	2	3	4	5	6	7	8	9	Extremely satisfied	α	β
2002	0.4%	1%	2.4%	4.9%	8.1%	18.6%	31.8%	55.6%	80%	89%	100%	3.56	1.87
2004	0.9%	1.3%	2.7%	4.9%	8.4%	18.4%	29.9%	51.8%	78.9%	89.6%	100%	3.53	1.81
2006	0.5%	1.1%	2.2%	3.6%	5.4%	13%	22.9%	44.1%	74.2%	88.9%	100%	4.07	1.82
<b>2008</b>	0.3%	0.6%	1.5%	3.8%	7.6%	16.3%	25.6%	46.4%	76.8%	90.3%	100%	<b>4.02</b>	<b>1.91</b>
2010	0.7%	1%	1.4%	3.1%	6.1%	14.8%	25.1%	48%	78.8%	91.1%	100%	4.31	2.07
2012	2.4%	3.2%	5.5%	9.3%	13.3%	24.4%	35.3%	53%	75.6%	86.9%	100%	2.47	1.36
2014	0.4%	0.5%	0.8%	1.9%	3.7%	7.3%	14.4%	36.4%	75.8%	93.0%	100%	7.99	2.91

# Glossary

- Anchor point** Response option at the beginning or the end of a discrete scale.
- Beta distribution** Continuous distribution on a two-sided bounded continuum with shape parameters  $\alpha$  and  $\beta$ .
- Continuum approach** A method to estimate a population mean and standard deviation of the continuous cumulative distribution function that best fits the points on a common, bounded continuum at which response options for a given response scale transit from one to another combined with the frequency distribution of the primary response scale.
- Extreme** The boundary of the continuum within which the range of values of a continuous distribution falls.
- Happiness scale interval study** Study to look at survey questions on happiness using verbal response options with the intent to determine consistently what degrees of happiness are denoted by the labels used for these options when the questions are asked in different languages and different subpopulations are addressed.
- (In)comparability problem** The incomparability of survey results due to differences in response scales used.
- Item** A survey question and its corresponding response options.
- Linear stretch method** Transformation method by which a discrete primary scale is transformed in such a way that the rank of the 'lowest' response option is always projected onto 0 and the 'highest' onto the highest value of the range, and all the intermediate options are given equally spaced numbers in between the two points.
- Numerical scale** Response scale with a discrete number of response options, with only the anchor points labeled verbally and all other response options labeled with a number.
- Rank method** Method according to which the sample mean is calculated as the weighted average of the ranks of the response options using the relative frequencies as weights.
- Rating scale** Discrete response scale to rate the response to a survey question.

**Reference boundary** Boundary between two response options of a discrete primary response scale derived from a reference distribution for the frequency distribution in the same year as the year on which the reference distribution is based.

**Reference distribution** Continuous cumulative distribution based on an appropriate primary scale and frequency distribution in a given year to be used as a reference to derive reference boundaries for the response options of a discrete primary scale given the frequency distribution for this primary scale in the same year as the year on which the reference distribution is based.

**Reference distribution method** Method according to which the boundaries between the response options of a primary scale are derived from a reference distribution given the frequency distribution for this primary scale is in the same year as the year on which the reference distribution is based, and for samples from the same population.

**Scale interval method** Method according to which judges assess the points on a common, bounded continuum in which verbal response options for a given response scale transit from one to another. A population mean and standard deviation are estimated using the Continuum Approach.

**Scale interval recorder** Web-based instrument to be used for the assessment of the points on a common, bounded continuum at which verbal response options for a given response scale transit from one option to another.

**Scale transformation** Transformation of the response options of a primary scale into numerical secondary ratings, usually on a common range.

**Semantic judgment of fixed word value method** Method according to which fixed values are assigned to the labels of verbal response options, based on the rating by experts of a series of qualifications that can be given to verbal response options on a common numerical scale. The sample mean is calculated using the Weighted Average Approach.

**Translation bias** Poor comparability of data due to the translation phenomenon where adverbs used in a label of a response options are not necessarily translated to a synonymous adverb in the translation language, thus causing errors of nuancing, for example by judges judging survey items.

**Verbal scale** Response scale with a discrete number of response options labeled with descriptive text.

**Weighted average approach** Method according to which the sample mean for a survey item is calculated as the weighted average of the values assigned to the response options of a discrete scale using the relative frequencies as weights. Generalization of the Rank Method, as it is not required that the numbers assigned to the response options are equal to the ranks of these response options to calculate a sample mean.

**World database of happiness** Archive of research findings on subjective enjoyment of one's life as a whole. The procedure to estimate the population mean and standard deviation presented in this book were developed in the context of this project (go to: <http://worlddatabaseofhappiness.eur.nl/>).