S1 Appendix. Details of survey items on subjective expectations and applied data transformations

A) *Inquiring subjective life expectancy (sLE) using the point-estimate method*

"According to your opinion, until what age will you live?"

B) *Inquiring future health expectations (adapted Global Activity Limitation Indicator, GALI)*

Question item: *"According to your opinion, will you be limited for at least 6 months in activities people usually do because of health problems, and if yes, to what extent?"*

The response options for the relevant ages (60, 70, 80, 90):
"At the age of ..., I will be:
  - *not limited at all*
  - *limited but not severely*
  - *severely limited"*

C) *Imputing subjective healthy life expectancy (sHLE) point estimates*

Point estimates of sHLE were imputed according to respondents' current (at the time of survey) and future GALI responses (at ages 60,70,80 and 90) and sLE according to Eq. 1,

$$sHLE = \begin{cases} type\ 1: \dfrac{a_h + a_l - 0.5}{2} & if\ \exists\ a_h\ \wedge\ \exists\ a_l \wedge sLE > a_l \\[2mm] type\ 2: \dfrac{a_h + sLE}{2} & if\ \exists\ a_h\ \wedge\ \nexists\ a_l \wedge sLE < a_h + 10 \\[2mm] type\ 3: \dfrac{x + a_l - 0.5}{2} & if\ \nexists\ a_h\ \wedge \exists\ a_l \wedge\ sLE > a_l \wedge H = h \\[2mm] type\ 4: \dfrac{x + sLE}{2} & if\ \nexists\ a_h \wedge 0 \leq sLE < x + 10 \wedge H = h \\[2mm] type\ 5: x - 5.25 & if\ \nexists\ a_h \wedge H = l \end{cases} \tag{1}$$

Notation:

x: respondents' age

sLE: the point estimate of subjective life expectancy

$a_h \in \{60,70,80,90\}$: the greatest future (healthy) age without expected limitation

$\exists\ a_h$: future healthy age expectation is reported (e.g., 60 years)

$\nexists\ a_h$: future healthy age expectation is not reported (e.g., the respondent expects disability from 60 years of age)

$a_l \in \{60,70,80,90\}$: the earliest expected future age with limitation ($x \leq a_l$)

$\exists\ a_l$: earliest future age with expected limitation reported (e.g., 70 years)

$\nexists\ a_l$: earliest future age with expected limitation is not reported (e.g., no limitations at 70 years, expected death at 75 years)

$H \in \{h, l\}$: current health measured by GALI ($H = h$: no current limitation, $H = l$: any current limitation)

sHLE point estimate imputation types:

Type 1: both a_h and a_l are provided by the respondent, *sHLE* is the mean of possible ages without limitation

Type 2: a_h and sLE are provided by the respondent, *sHLE* is the mean of possible ages without limitation until expected death

(Assumption: if a_h was provided, then we assumed that respondents' current limitations were temporary and would subside.)

Type 3: no current limitation at age *x*, the future expectation is limitation (a_l) with no future healthy age reported (a_h): sHLE is the weighted mean of all possible ages without limitation between *x* and a_l

Type 4: no current limitation at age *x*, death is expected earlier than future ages with (a_l) or without limitation (a_h): sHLE is the weighted mean of all possible ages without limitation between *x* and *sLE*.

Type 5: current limitation at age *x*, no future age expected without limitation: sHLE is the weighted mean of possible healthy ages before age *x*. (Assumption: the limitation commenced any time during the past 10 years).

Further assumptions: the imagination of immediate death in a healthy person is possible; the GALI suggests 6 months limited period before the commencement of expected future limitations. (Hence the *-0.5* adjustment in the formulas of type 1-, 3- and 5 estimates.)

D) Examples for subjective healthy life expectancy (sHLE) imputation and incongruent response patterns

Type	Age (x)	H_x	H_{60}	H_{70}	H_{80}	H_{90}	a_h	a_l	sLE	sHLE
1	56	h	h	h	l	l	70	80	88	74.75
	67	l	-	h	h	h	90	-	96	93
2	53	h	h	h	-	-	70	-	78	74
	64	l	-	h	h	-	80	-	86	83
3	58	h	l	l	l	-	-	60	80	58.75
	79	h	-	-	l	-	-	80	85	79.25
4	62	h	l	-	-	-	-	60	65	63.5
	80	h	-	-	l	-	-	-	81	80.5
5	51	l	l	l	-	-	-	-	75	45.75
	78	l	-	-	l	l	-	-	90	72.75
Incongruent	53	h	h	l	h	l	-	-	95	-
Incongruent	69	l	-	l	h	l	-	-	90	-

H_x: current limitation at age *x,* measured with the Global Activity Limitation Indicator (GALI), H_{60}-H_{90} future health expectations measured by adapted GALI; *h*: no limitation, *l*: any limitation, a_h: highest future age without expected limitation, a_l: lowest future age with expected limitation, *sLE*: subjective life expectancy*; sHLE*: subjective healthy life expectancy

E) Subjective healthy life expectancy (sHLE) by imputation types