

# **Cognitive Pretest of a Factorial Survey Experiment on Future Narratives and Family Care**

Background Paper for the SOEP-IS Module 2021/22

## **Charité-Universitätsmedizin Berlin**

Enrique Alonso-Perez

Paul Gellert

Julie Lorraine O'Sullivan

## **DIW**

Stefan Liebig

## **Hertie School Berlin**

Michaela Kreyenfeld

Olan McEvoy

Vincent Ramos

## **Humboldt University**

Philipp Lersch

## **University of Florence**

Giacomo Bazzani

Raffaele Guetto

Daniele Vignoli

## **WZB**

Jan Heisig

Heike Solga

Contact: [julie.osullivan@charite.de](mailto:julie.osullivan@charite.de) and [kreyenfeld@hertie-school.org](mailto:kreyenfeld@hertie-school.org)

Manuscript authors: Enrique Alonso-Perez, Olan McEvoy and Vincent Ramos

October 2021

## **Abstract**

Within the Preparation Module for the Einstein Center for Population Diversity (ECPD), diverse research institutions came together to provide new survey instruments for the innovation sample in the German Socio-Economic Panel (SOEP-IS). With the goal of collecting insightful information about future narratives and family care, central topics of the ECPD research endeavor, factorial survey was chosen as a suitable method. A preliminary set of vignettes was designed conjointly, and before proceeding with the large-scale survey, a series of cognitive pretests were conducted to examine comprehensibility and context effects. In this study we describe the design and analysis of these cognitive pretests, with a special focus on the process of designing the final survey informed by the pretests' feedback.

## Contents

1. Preliminary remark and aim of the pretest .....	4
2. The Factorial Survey Approach .....	4
3. Sample.....	5
4. Conducting the interviews/methods in the pretest .....	5
5. Results.....	6
5.1 First round results.....	6
5.1 Survey changes and second round results .....	7
6. Conclusions and recommendations.....	9
7. References .....	10
Annex I: Survey employed in the first round of pretest.....	11
Annex II: Survey employed in the second round of pretest .....	14
Annex III: Final factorial survey deriving out of the current study .....	16

## **1. Preliminary remark and aim of the pretest**

This project was embedded within the preparation module for the Einstein Centre for Population Diversity (ECPD), a consortium of research institutions established in Berlin. Due to the multidisciplinary nature of these organizations, a joint alliance with the development of a centre could suppose a unique innovative potential to study aspects of diversity in population and family forms. The two applicant organizations are Charité – Universitätsmedizin Berlin and Humboldt-Universität zu Berlin, as well as the Federal Institute for Population Research, the German Socio-Economic Panel (SOEP) at the DIW Berlin, the Hertie School Berlin, the Leverhulme Centre for Demographic Science at Oxford University, the Max Planck Institute for Demographic Research, and the WZB Berlin Social Science Centre.

Before the final submission of ECPD in September 2022, a preparation module was granted to develop the submission proposal and foster interdisciplinary collaborations and research activities that would be eventually performed with establishment of the centre. Within this framework, the initial application highlighted the need for new data that could support the upcoming research, specifically regarding differences in population structures such as family and their effect on family care and future narratives. As a result, and given the collaboration with DIW, the proposal of submitting new questions for the innovation sample in the German Socio-Economic Panel (SOEP-IS) was raised, hence deciding to develop a survey questionnaire that would be added to this panel in the forthcoming wave of year 2022.

The consortium decided to analyse family care as per focusing on the essence of diverse forms of family settings, and merge it to future narratives (Vignoli et al., 2020), whose study is based in the fact that current decisions are influenced by narratives (imaginaries) of the future state of the world (Shiller, 2020). As the goal was to explore individuals' beliefs and judgements, a factorial survey was the most suitable method (Auspurg & Hinz, 2014). This is a design in which respondents are given a series of situation descriptions, named vignettes, and need to base their answers on them. Researchers are able to elicit respondents' preferences indirectly and in a less biased way than with direct questions (Jasso, 2006). In addition to the vignettes, we also included a series of questions on personal plans, financial worries, ageing worries and validated mental health short questionnaires to account for respondents' individual characteristics.

Once the factorial survey was drafted, and before sending it to the DIW for the 2022 SOEP-IS inclusion, we conducted a cognitive pretest from a methodological and technical perspective (Hilton, 2017). Our aims were to assess the comprehensibility of the proposed design, if respondents could complete their tasks without difficulties, and context effects and problems with the question order. Moreover, pretesting would also give us the opportunity to receive specific feedback about respondents' interest in individual questions and the duration of the questionnaire completion (Lenzner et al., 2016). All this coupled with the objective of including newly framed vignettes on a second pretest round. The present study deals with the implementation and evaluation of the pretests, as well as the subsequent final survey recommendations.

## **2. The Factorial Survey Approach**

The most important part regarding design of factorial survey is the construction of a scenario describing persons and their conditions (Liebig et al., 2009). Those characteristics, named dimensions, can be alternated to see how they affect respondents' choices. The main task in the definition of dimensions is to select those that are relevant for the survey evaluation. We intended to create vignettes that would evaluate main aspects of our two topics, namely family care and future narratives, with different dimensions. These were summarised into five dimensions (marital status, employment

status, family complexity, care and intergenerational relations, and future uncertainty). Each of these dimensions would be randomised, with the power sample calculated the following way:

5 dimensions ( $2*3*3*3*4$ ) = 216 vignettes / 4 each respondent = 54 decks

54 decks \* 5 repetitions = 270 respondents at least

To capture respondents' perceptions, two questions needed to be answered for each vignette: one relating to the fertility outcome following social norms (*"Will this couple have a child in the next three years?"*) and another one related to the fertility outcome following personal beliefs of the respondent (*"Should they have a child in the next three years?"*). [For details, see [Annex](#)]

### 3. Sample

The pretest was conducted in two steps, comprising a total of 23 respondents. First, 10 interviews were carried out. These subjects were relatives and social network members, who were considered as representative of the general population while providing insightful feedback. After this first round changes were included upon internal discussion, and the subsequent new questionnaire was tested in 13 new interviews.

Regarding sample characteristics, the first round consisted of five (50%) females and five (50%) males, with an average age of 34.8 years. Average survey completion time was 9.33 minutes. Moreover, the second round consisted of nine (69.2%) females and four (30.8%) males, with an average age of 32.5 years and an average completion time of 9.45 minutes.

### 4. Conducting the interviews/methods in the pretest

The first ten pretest interviews were carried out from September 4<sup>th</sup> to September 9<sup>th</sup>, 2021, and the second thirteen pretest were realized from September 14<sup>th</sup> to September 23<sup>rd</sup>, 2021. All of them were performed by the authors of this study and by members of the Charité team.

The individual test surveys were carried out as follows: first, all team members were informed about the research goal and the specific intentions of this pretest. Second, a randomised set of vignettes was designed, trying to reproduce conditions of SOEP-IS in which each respondent would get a different set of randomised vignettes. Each of the authors of this study approached close relatives or social network members by informing them that they would be asked to participate in the pretest.

The pretest was performed in person with printed questions or online via a video-call in case respondents and interviewers could not meet physically. Before the start of the pretest, a brief description was provided to respondents. This consisted mainly about general information on the survey there were going to be asked to answer, this is, the description of some situations (vignettes), and about our focus on their feedback regarding the survey design rather than their answers.

We performed a non-interventional pretest, meaning we did not provide specific background information about the project or clarification during the test. By doing so, participants were blinded and hence their answers less subject to potential bias. After answering all questions, respondents were asked about general feedback or further clarification. Furthermore, they were walked through the questionnaire and asked if they found logical flaws or design irregularities along the questions.

Finally, all feedback was put in common by grouping all the issues in generalised topics such as layout of the survey, lack of information or answer determinants. After discussing it in internal meetings, a new version of the survey was prepared, which then we used for the second round of pretest.

## 5. Results

The interviewers transcribed the initial input statements, which are complete and reliable. Initially, a global input question was asked: *“First of all, I would like to ask you to describe your overall impressions to me: Please provide general information about the survey and the questionnaire. Tell me everything that is going through your head right now”*. When respondents referred to a specific survey item, more follow-up questions were referred to this item.

### 5.1 First round results

#### • *Layout of the survey*

Most respondents (90%) reported difficulties in the “should have kids” question. They said it was hard to judge or give their opinion due to the limited information, or simply because they did not feel comfortable giving such strong opinions on others’ lives. One of the main goals of the pretest was to evaluate if the vignettes were smooth to read and answer, as well as testing if the amount of information was satisfactory. 60% of respondents said that it was hard to keep concentrated on details, since they had to read five vignettes with long stories, but few details were changed from one to another. Similarly, half of participants reported feeling overwhelmed due to the large amount of information they had to consider. Finally, four respondents mentioned that previous vignettes were shaping their next responses, hence showing some anchoring effect.

Hence, takeaway messages were basically that the vignettes contained too much information which at some point became confusing for respondents, who required too much effort to recall all the changing details. On another note, while the “will have kids” question was easily addressed, the “should” question was reported to be difficult or uncomfortable to answer by almost all respondents.

#### • *Lack of information*

Regarding information that respondents missed when answering the survey, 70% reported that information on relationship quality would have been useful. The main reason was the need to have some additional facts on family climate and how well the relationship was functioning, in order to be able to judge in they would or should have kids. Closely related, 60% also lacked information in the couple’s desire to have kids, which for them would be a fundamental reason to decide if they would and should have kids. Interestingly, 30% claimed that climate change should be included as a determinant of future decisions. Lastly, the following three issues were reported once: missing information on past with previous partners, importance to state if children would be biological or adopted/foster children, and missing information about their general future plans.

As a result, it was obvious that some information regarding family climate or their relationship functioning should be stated for respondents to be able to answer fertility questions.

#### • *Determinants of answers*

40% of respondents mentioned that the couple’s projection of their future economic situation was not a significant factor when judging whether they would have children or not. Much more significant than their economic situation, was their need to care for the mother of the woman in the relationship. Three of the respondents mentioned that the caregiving tasks associated with the mother being sick was a strong determinant of their answer. While this increased burden of care for an ill parent did affect people’s perception of the likelihood of the couple having children, the need to care for children from previous relationships did not have a strong effect. The respondents mentioned that this was a mixed signal, as it signals on one side an increased care load, which the couple would have to deal with, while on the other side the fact that they were already parents was considered to increase their likelihood

of having another child. Finally, some respondents (30% of the sample) considered the age of the woman in the relationship a very strong determinant for their answers. Some respondents felt that the older the woman was, the more she may feel pressure to have children sooner (i.e., within the 3-year timeframe stated in the question), while another respondent thought the contrary.

Based in this information, changes were made to the survey before the second round of pre-testing. Notably, information about children from previous relationship and the couple's subjective outlook on their future economic situation were dropped from the survey.

- *Other issues*

Respondents to the survey mentioned several other issues which they noticed while taking the survey. Some respondents had the issue that they gave the same answers to vignettes with different information, alerting us to the issue that the information may not have a strong enough effect in determining respondents' answers. Another respondent felt that if they had been instructed to read through the different situations first and only then to answer the questions, they would have produced more consistent answers. 40% found problems with the 3-year timeframe in which the couple may have a child, with three respondents mentioning that the relevance of this timeframe was not clear to them and another saying that it was in fact too long. Finally, 30% of the sample mentioned that couples were not diverse enough, in terms of both relationship type (heterosexual) and sociodemographic characteristics.

While the implications of these miscellaneous issues were considered, they mostly fell into one of two categories – the respondents were commenting on something which is a purposeful part of the survey (timeframe) or they were mentioning things which could not be adjusted without adding additional layers of complexity which could obscure the results of the survey (further diversity of relationships). The issue of the information not being determinant or not leading to consistent enough answers was addressed in the second round of pre-testing by reducing the amount of information presented to respondents down to the essential of what we had found to affect respondents' answers.

## **5.1 Survey changes and second round results**

Considering the feedback from respondents in the first round, a new version of the survey was prepared for the second round. Most notably, the revised version of the survey had considerably shorter vignettes to minimize the “anchoring effect” -- where the previous vignettes shaped their responses to the succeeding ones. Coupled with this, a pairwise conjoint method was designed, to better summarise the points we want the respondent to focus on. The second pre-test was designed as follows—a brief introductory situation is provided, followed by seven short vignettes containing future care and employment situations. After each vignette, the respondent is asked to answer two questions on a rating scale on how likely they think that the couple will have a child and how likely they think that the couple will separate (both within the next three years). Annex II presents the survey used in the second round. Two versions were used in the second round—one where the couple is in their mid-30s and another where the couple is in their late 20s/early 30s. This variation allows us to analyse whether the age of the characters in the vignette matters. The rest of the survey questions are identical.

In the second round, the sample consisted of thirteen respondents of which four (30.8%) are males and nine (69.2%) are females. The average age was 32.5 years, and the average completion time was 9.45 minutes. The comments of respondents from the second round are summarized as follows:

- *Layout of the survey*

The anchoring effect is still evident in this round— eight respondents (61.5 percent) of the respondents anchored their responses on the previous ones. Similarly, seven respondents (53.8 percent) have explicitly mentioned that the details of the characters outlined in the introductory paragraph become less salient as they go through each of the vignette. This may explain why many respondents relied on their previous responses as a benchmark for answering a vignette. Apart from the more pronounced anchoring effect, another comment given by four respondents (30.8 percent) is that the family situation of the woman was more pronounced in both the introductory paragraph and the vignettes. They suggest including more details on the family situation of the man. Indeed, there were two respondents (15.4) percent who explicitly suggested to improve the explanation of the situation of the couple in the introductory paragraph. Finally, only two respondents (15.4 percent) noted that there were too many vignettes, an improvement from the first round.

- *Answer Options*

In one of the vignettes, a future care situation was provided wherein the woman and her older sister will soon need to share the responsibility of taking care of their severely ill mother. However, four respondents (30.8 percent) mentioned that the exact role of the sister is unclear and the lack of emphasis on the older sister caused them to miss this information when answering the questions after the vignette.

Other comments on the general options have been raised. Two respondents (15.4 percent) mentioned that the questions that begin with “How likely” are missing a comparison since they need to benchmark their response with a counterfactual scenario. Two other respondents (15.4 percent) reported to be unsure of the timeline for the question on how likely the couple will separate (i.e., within the next 3 years?). Finally, one respondent felt confused by vignettes which indicated worries about future employment scenarios. More specifically, there needs to be more context on what being worried about losing his/her job means.

- *Determinants of Answers*

Apart from the anchoring effect which affected the answers of eight respondents (61.5 percent), five reported feeling confusion in terms of whether they should evaluate gender roles in society, for instance, is there a societal expectation for the woman to give care. In addition, four respondents (30.8 percent) also suggested including more information on how good their relationship is, apart from the information already included in the introductory paragraph that the couple has been cohabiting for three years.

Further, the information of how old the woman is also affected their responses, especially for the question on whether they think the couple will have children. Closely related, one respondent mentioned that a woman in her mid-30s may want to have a child but could no longer have. The respondents’ feedback on how the woman’s age affected their answers shows awareness of the effects of aging on fertility but also their uncertainty as to the exact age of when fertility and pregnancy becomes more difficult.

- *Other Issues*

Apart from the vignette questions, the survey also contained questions about their personal plans, general worries, worries about ageing, and their mental health. Among these questions, four respondents (30.8 percent) did not understand what “making ends meet” means. Given that this is an idiomatic English expression, the phrase is not easily understood, especially for non-native speakers. Three respondents (23.1 percent) also felt strange with the question “How often do you feel left out?”, potentially because the perception of being left out is not as clear and salient as other types of worries.



Among personal worries, two respondents (15.4 percent) suggested including a “don’t know yet” option for questions on old age and preferred caregivers since they have never (or extremely seldom) thought about these questions. Another two respondents (15.4) mentioned that financial worries may not only arise from job loss or business failure, but these other reasons are not captured by the questions. Finally, one respondent felt judgemental while answering the survey, especially the vignettes, with the perception that the questions were gossip-like.

## **6. Conclusions and recommendations**

In this section, we summarize once again the most important results of the pretest and make recommendations for an improved last version of the entire survey material. We focus on the second round, since improvements coming from the first round were already concluded and implemented. Results from our sample in the second pretest round display that the questionnaire takes slightly less than 10 minutes to complete, including all the follow-up personal questions. This is aligned to the estimated time by the researchers. However, completion time could be adjusted to the SOEP-IS requirements by reducing the number of vignettes per respondent (currently seven) or excluding certain follow-up questions.

All pretest respondents considered the questionnaire fairly interesting and comprehensive, being able to complete all questions from the vignettes without substantial difficulties. Although we detected the presence of an anchoring effect to preceding answers, the final questionnaire conducted in SOEP-IS will provide a randomised order of vignettes, hence dismissing this anchoring bias. Coupled with this, we recommend creating a more comprehensive initial description, since several respondents reported trouble in recalling the characters’ information in the introductory paragraph. On another note, to avoid confusion regarding judgement on gender-roles within family, it would be sensible to include the health situation of male’s parents. Making family situation of the man equally noticeable would reduce the possibility of thinking about gender-stereotypic distribution of household duties. Furthermore, there were no major substantial issues regarding the survey design since abovementioned comments regarding other minor parts can be easily amended.

The second pretest round made clear that the pairwise-conjoint design facilitates comprehensiveness of the overall factorial survey. One of the most important critiques was the excessive amount of information and subsequent length of the vignette design, which was successfully addressed with this new tabulated design. Moreover, despite factorial survey indirectly elicits preferences based on respondents’ beliefs, the pretests showed aversion towards the initial “should” question, since it requested too much personal judgement. As proven by the second round, we recommend substituting these strong assertions by the likelihood form. Finally, the number of dimensions was sound, for that reason researchers should adhere to this design.

As a conclusion, a final version of this factorial survey that conforms to the recommendations of the present study is included in Annex III.

## 7. References

- Auspurg, K., & Hinz, T. (2014). *Factorial survey experiments* (Vol. 175). Sage Publications.
- Hilton, C. E. (2017). The importance of pretesting questionnaires: a field research example of cognitive pretesting the Exercise referral Quality of Life Scale (ER-QLS). *International Journal of Social Research Methodology*, 20(1), 21-34. <https://doi.org/10.1080/13645579.2015.1091640>
- Jasso, G. (2006). Factorial survey methods for studying beliefs and judgments. *Sociological Methods & Research*, 34(3), 334-423. <https://doi.org/10.1177%2F0049124105283121>
- Lenzner, T., Neuert, C., & Otto, W. (2016). Cognitive pretesting. *GESIS Survey Guidelines*, 3. [https://doi.org/10.15465/gesis-sg\\_en\\_010](https://doi.org/10.15465/gesis-sg_en_010)
- Liebig, S., Sauer, C., Auspurg, K., Hinz, T., Schupp, J., & Donaubauer, A. (2009). A Factorial Survey on the Justice of Earnings within the SOEP-Pretest 2008. <http://hdl.handle.net/10419/36216>
- Shiller, R. J. (2020). *Narrative Economics: How Stories Go Viral and Drive Major Economic Events*. Princeton University Press. <https://doi.org/doi:10.1515/9780691212074>
- Vignoli, D., Bazzani, G., Guetto, R., Minello, A., & Pirani, E. (2020). Uncertainty and Narratives of the Future: A Theoretical Framework for Contemporary Fertility. In (pp. 25-47). Springer International Publishing. [https://doi.org/10.1007/978-3-030-48519-1\\_3](https://doi.org/10.1007/978-3-030-48519-1_3)

## **Annex I: Survey employed in the first round of pretest**

Introductory text: In the following we present different scenarios to you. After each scenario, we will ask you to evaluate whether or not the couple should or will have children. Thus, we would like you to distinguish between their probable behaviour and what you would think is appropriate in this situation.

- **Marital status:**
  - Tom (32) and Lena (30) are married.
  - Tom (32) and Lena (30) are cohabiting
- **Employment status:**
  - They are both working.
  - While Tom is employed, Lena is currently out of work.
  - While Lena is employed, Tom is currently out of work.
- **Family complexity**
  - They do not have any children yet.
  - Tom does not have any biological children yet. Lena has a child from a previous partnership. The child lives in the same household.
  - Tom does not have any biological children yet. Lena has a child from a previous partnership. The child does, however, not live with them, but with Lena's ex-partner.
- **Care and intergenerational relations**
  - Lena's mother lives close by, while her father died several years ago. Unfortunately, she has developed a chronic illness and Lena fears that the situation will deteriorate. She is particularly concerned, because she does not have any siblings and will therefore be the main caregiver taking care of her mother in her home.
  - Lena's mother lives close by, while her father died several years ago. Unfortunately, she has developed a chronic illness and Lena fears that the situation will deteriorate. She is particularly concerned as she will be the primary responsible as she does not have any siblings. She is determined to talk to her mother about a move to a long-term care facility.
  - Lena's mother lives close by, while her father died several years ago. Her mother is however still a fairly active person. She takes long walks every morning with her dog.
- **Future uncertainty.** The couple talks regularly about their future plans.
  - They are both generally positive when they think about their future economic situation.
  - They are both generally negative when they think about their future economic situation.
  - While Lena is fairly positive when she thinks of her future economic situation, Tom is rather pessimistic.
  - While Tom is fairly positive when she thinks of his future economic situation, Lena is rather pessimistic.

**Will** this couple have a child in the next three years?

0 definitely not - 10 definitely yes

**Should** they have a child in the next three years?

0 definitely not - 10 definitely yes

**Respondents were given 5 randomised vignettes and subsequent questions. Example:**

Tom (32) and Lena (30) are married and both working. Tom does not have any biological children yet. Lena has a child from a previous partnership. The child lives in the same household. Lena's mother lives close by, while her father died several years ago. Unfortunately, she has developed a chronic illness and Lena fears that the situation will deteriorate. She is particularly concerned as she will be the primary responsible as she does not have any siblings. She is determined to talk to her mother about a move to a long-term care facility. The couple talks regularly about their future plans, and they are both generally positive when they think about their future economic situation.

**Will** this couple have a child in the next three years?

Definitely not

Definitely yes

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

**Should** they have a child in the next three years?

Definitely not

Definitely yes

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

### PERSONAL PLANS

- (If age<45) Do you plan to have (another) child?

Definitely not	Probably not	Don't know	Probably yes	Definitely yes

- (If previous question yes) Do you plan to have it in the next three years?

Definitely not	Probably not	Don't know	Probably yes	Definitely yes

- (If with partner) Do you think that your partner plans to have (another) child?

Definitely not	Probably not	Don't know	Probably yes	Definitely yes

- (If previous question yes) Do you think that your partner plans to have (another) child in the next three years?

Definitely not	Probably not	Don't know	Probably yes	Definitely yes

### WORRIES

- (If employed) Are you worried to lose your job or that your business will go bankrupt?

Great worries	Some worries	No worries

- (If partner employed) Are you worried that your partner may lose his/her job or his/her business gets bankrupt?

Great worries	Some worries	No worries

- When you think of the next three years: Are you worried about the financial situation of your household?

Great worries	Some worries	No worries

- Our household can hardly make ends meet.  
Fully disagree

Fully agree



### WORRIES AND OLD AGE

- (If age<55) Are you concerned about suffering from severe memory loss in old age?

Great worries	Some worries	No worries

- Are you concerned about needing long-term care in old age?

Great worries	Some worries	No worries

- Are you concerned about suffering from severe mobility restrictions in old age?

Great worries	Some worries	No worries

- Are you concerned about losing your ability to take part in social activities in old age?

Great worries	Some worries	No worries

- Should you be in need of nursing care in old age, who should be your main caregiver?

Partner	
Son	
Son-in-law	
Daughter	
Daughter-in-law	
Other family member	
Professional caregiver living in my home (24h care)	
Mobile nursing service visiting my home	

**Annex II: Survey employed in the second round of pretest**

Introductory text: In the following, we present different “**employment and care scenarios**” to you. After each scenario, we will ask you to evaluate whether the couple is likely to have children on the short run (three years). We also ask you to evaluate how likely you think that they will separate. 0 means very unlikely and 10 means very likely.

**SITUATION:** Tom (32) and Lena (30) have been living together for three years and generally agree that they may have children together. Lena’s mother lives close by, while her father died several years ago.

Future care situation	Future employment situation	Likely to have children	Likely to separate
Her mother has developed a severe illness, which means that Lena will soon <b>need to take care of her</b> .	<b>Both are out of work</b> and unlikely that they will find a job swiftly.	0 (unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)	0 (unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)
Her mother has developed a severe illness, which means that her mother must move in a <b>long-term care facility</b> .	Both are in <b>stable employment</b> . It is unlikely that they will lose their jobs.	0 (unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)	0 (unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)
Her mother is still very active and <b>does not need any care</b> .	Tom is in stable employment, but <b>Lena is worried</b> that she may lose her job.	0 (unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)	0 (unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)
Her mother has developed a severe illness, which means that Lena and her older sister will soon <b>need to take care of her</b> .	Lena is in stable employment, but <b>Tom is worried</b> that he may lose his job.	0 (unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)	0 (unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)

Respondents were given 7 randomised vignettes and subsequent questions. Example:

Future care situation	Future employment situation
Her mother has developed a severe illness, which means that her mother must move in a <b>long-term care facility</b> .	Both are in <b>stable employment</b> . It is unlikely that they will lose their jobs.

How likely do you think they will have a child in the next three years?

Unlikely

Very likely



How likely do you think that they will separate?

Unlikely

Very likely



*\*Personal plans, worries and old age were the same as in the first round, therefore we do not include them here to avoid repetition.*

**CURRENT HEALTH SITUATION**

- It is my own actions that determine how healthy I am

Strongly disagree	Disagree	Mildly disagree	Mildly agree	Agree	Strongly agree

- How often do you feel that you lack companionship?

Hardly ever	Some of the time	Often

- How often do you feel left out?

Hardly ever	Some of the time	Often

- How often do you feel isolated from others?

Hardly ever	Some of the time	Often

Over the last 2 weeks, how often have you been bothered by the following problems?

- Little interest or pleasure in doing things

Not at all	Several days	More than half days	Nearly every day

- Feeling down, depressed, or hopeless

Not at all	Several days	More than half days	Nearly every day

**Annex III: Final factorial survey deriving out of the current study**

Introductory text: In the following, we present five different “**employment and care scenarios**” to you. After each scenario, we will ask you to evaluate whether the couple is likely to have children on the short run (next three years). We also ask you to evaluate how likely you think that they will separate in the next three years. 0 means very unlikely and 10 means very likely.

**SITUATION:** Tom (32) and Lena (30) have been living together for three years and generally agree that they may have children together. Both are in stable employment; they work full-time and wish to continue doing so. Tom has no brothers and sisters, and his parents live further away. Lena's sister and mother live close by, while her father died several years ago.

Future care situation	Future employment situation	Likely to have children (in the next three years)	Likely to separate (in the next three years)
Her mother has developed a severe illness, which means that Lena will <b>soon need to take care of her alone.</b>	Both <b>are not worried</b> that they may lose their jobs.	0 (very unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)	0 (very unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)
Her mother has developed a severe illness, which means that she will <b>soon move in a long-term care facility.</b>	Both <b>are worried</b> that they may lose their jobs.	0 (very unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)	0 (very unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)
Her mother is still very active and <b>does not need any care.</b>	<b>Lena is worried</b> that she may lose her job.	0 (very unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)	0 (very unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)
Her mother has developed a severe illness, which means that <b>Lena and her older sister will soon need to take care of her.</b>	<b>Tom is worried</b> that he may lose his job.	0 (very unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)	0 (very unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)

\*All the follow-up questions on personal plans, financial/economic worries, worries and old age, and current health situation should be included in the same form as they were in the second pretest round. We do not include them in this space to avoid repetition.