

# Replication materials for the paper “The Impact of Mining-Induced Earthquakes on Mental Health: Evidence from the Dutch Lifelines Cohort Study and Biobank”

## Contributors

Ailun Shui  
Gerard J. van den Berg  
Jochen O. Mierau  
Laura Viluma

## README

### Overview

The code in this replication package constructs the analysis datasets used to reproduce the tables and figures reported in the following article:

Shui, Ailun; van den Berg, Gerard J.; Mierau, Jochen O.; and Viluma, Laura. “The Impact of Mining-Induced Earthquakes on Mental Health: Evidence from the Dutch Lifelines Cohort Study and Biobank.” *Revise and resubmit (conditional acceptance)* at the *Journal of Health Economics*.

The results reported in the paper are based on survey data from the Dutch Lifelines Cohort Study and Biobank (Lifelines), earthquake data from the Royal Netherlands Meteorological Institute (KNMI), and postcode-related information from Statistics Netherlands (CBS).

The Lifelines data are not publicly available. Researchers may apply for access to the Lifelines data used in this study through the Lifelines data access procedure.

The earthquake data from KNMI are publicly available and can be downloaded directly from KNMI. The postcode-related information (e.g., population characteristics and latitude and longitude coordinates) is also publicly available and can be obtained directly from CBS or via publicly shared links.

To fully replicate the results, users must obtain access to the Lifelines data and request the required Lifelines datasets using the same versions as those employed in this study. Instructions on how to apply for access to Lifelines data, as well as details on the required datasets and variables, are provided below. In the replication materials, we have also shared the links where you can download the earthquake and postcode-related datasets used in the analysis.

All analyses are conducted using Stata version 19.5. The master do-file, `0_run_all.do` (located in the `PROJECT_PATH\` subdirectory), lists and documents all do-files used to convert the raw data, prepare the analysis datasets, and generate all tables and figures reported in both the main text and the Appendix.

Running the full master do-file takes approximately 3 hours and 10 minutes to complete in Lifelines standard virtual machine.

Steps to replicate the analysis (see below for further details):

1. Apply for access to the Lifelines data.
2. Request the Lifelines datasets using the same versions as those used in the analysis.
3. Download the required KNMI and CBS raw data via the provided links.
4. Ensure that all raw datasets (Lifelines, KNMI, and CBS) are stored in the `PROJECT_PATH/analysis/raw` subdirectory.
5. Open the `0_run_all.do` file in the Stata Do-file Editor.
6. Verify that Stata's current working directory is set to the directory containing the `0_run_all.do` file.
7. Run `0_run_all.do`, or alternatively run individual do-files as needed.

## **Data Availability and Provenance Statement**

### **Statement about the rights**

- I certify that the author(s) of the manuscript have legitimate access to, and permission to use, the Lifelines data employed in this study.
- I certify that the author(s) of the manuscript have complied with the guidelines requiring proper acknowledgment of data sources from KNMI and CBS in the appropriate sections of the manuscript.

### **Summary of Availability**

The Lifelines data are not publicly available. Researchers may apply for access through Lifelines. All required datasets can be requested from Lifelines after obtaining the appropriate access permissions. Below, we provide guidance on how to apply for access to Lifelines and which datasets (variables) are required prior to running the code.

The earthquake data from KNMI and the postal code information from CBS are publicly available and can be downloaded directly from their official websites or via the links provided below. In the following section, we describe the datasets and provide the corresponding download links.

### **Details for Lifelines**

The Lifelines datasets used in this manuscript include participants' demographic and socioeconomic characteristics, as well as detailed health information. Below, we provide guidance on how to apply for access to the Lifelines data and specify which datasets (variables) are required to run the replication code.

#### **1. Apply for access to Lifelines**

(If you already have approved access to Lifelines, this step can be skipped.)

Researchers can follow the instructions provided on the Lifelines website (<https://www.lifelines-biobank.com/researchers/working-with-us>) to apply for access to the Lifelines data. In brief, applicants are required to prepare and submit a research proposal to Lifelines, including a summary describing the motivation for the study and detailing how the Lifelines data will be used.

Once the application is approved, Lifelines prepares a Data (and Material) Transfer Agreement and issues an official offer. The academic fee for one year of access to the Lifelines Workspace (single user) is approximately €3,650 (as of 2025). The application process typically takes 2–3 months.

## 2. Request the required datasets (variables) from Lifelines

Lifelines follows a data minimization principle, under which data are provided strictly according to the researcher's approved research needs. At the end of this file, we list the minimum set of variables required to run the replication code.

Core information on Lifelines participants, such as demographic characteristics and family relationships, is provided by default and does not need to be requested separately.

## 3. Convert and relocate the requested datasets

Lifelines datasets are originally provided in SPSS format. All datasets must therefore be converted to Stata .dta format using SPSS. We strongly advise against converting the files directly in Stata, as some variable names may be truncated or altered due to format limitations.

After conversion, all Lifelines datasets should be placed in the `PROJECT_PATH\analysis\raw` subdirectory.

#### 4. Notes on our Lifelines datasets

First, the time of Lifelines data requests. For this study, the Lifelines data were requested in two separate rounds: February 2022 and November 2025. In February 2022, we requested all variables required for the main analysis. In November 2025, we requested updated MINI derivative variables. As a result, these datasets were delivered and stored separately.

In the replication materials, different file names are used to distinguish between different versions of the Lifelines datasets. For example, for wave 1A, the health variables requested in February 2022 are stored in the file `1a_v_1_results.dta` (located in the `PROJECT_PATH\analysis\raw` subdirectory). The updated MINI variables requested in November 2025 are stored in `1a_v_1_results_MINI_updated.dta` (also located in the same subdirectory), as these files may contain overlapping variables but different versions.

You can request the datasets at one time. When requesting data from Lifelines, approved variables are typically delivered bundled within the same data files. Therefore, before running the replication code, you must rename the Lifelines data files within the do-file `1_clean_data.do` (located in the `PROJECT_PATH\analysis\script` subdirectory), replacing `1a_v_1_results_MINI_updated.dta` with `1a_v_1_results.dta`. The same procedure applies to wave 2B and wave 3B.

Second, dataset version consistency. Lifelines regularly updates both sample availability and variable definitions. Between 2022 and 2024, the sample availability for wave 3A was updated for few times, and specific variables may also have changed during this period. Our analysis is based on the sample composition and variables available as of February 2022.

To replicate the results, users must therefore request the same dataset versions (202202) as those used in the original analysis. Otherwise, discrepancies in sample size or variable availability may arise.

#### **Earthquake data**

The earthquake data are publicly available and can be downloaded directly from the Royal Netherlands Meteorological Institute (KNMI). We

downloaded the earthquake data in February 2, 2022; the downloaded files record all earthquakes occurring between December 1986 and February 2, 2022. The dataset contains the complete catalogue of recorded earthquakes in the Netherlands and its surrounding areas. The most recent version of the earthquake catalogue is available on the KNMI Data Platform: <https://datapatform.knmi.nl/dataset/aardbevingen-catalogus-1>.

We exclude earthquakes that occurred in the sea or outside the Netherlands (e.g., in Germany).

Please notice that KNMI continuously update their earthquake data and may change the raw format (in our case it is in excel file). Therefore, you may need to select the earthquake data within our research time range and translate it into excel file before running the code.

### **CBS datasets**

Postal-code-related information is available from Statistics Netherlands (CBS).

<b>Information</b>	<b>Source</b>	<b>Version</b>	<b>Note</b>
<b>Urbanization</b>	CBS	2020 (v1)	We processed the Excel file to retain only postal code-4 (PC4) identifiers and the corresponding urbanization information (Dutch column name: Stedelijkheid), and converted the data into Stata .dta format. The original files can be accessed through Statistics Netherlands (CBS): <a href="https://www.cbs.nl/nl-nl/dossier/nederland-regionaal/geografische-data/gegevens-per-postcode">https://www.cbs.nl/nl-nl/dossier/nederland-regionaal/geografische-data/gegevens-per-postcode</a> .
<b>Geographic data</b>	CBS	2022 (v3)	These files provide the geographic boundary information for the Netherlands and are used for map construction in Figures 2 and 3. The original geographic boundary files can be accessed via Statistics Netherlands (CBS): <a href="https://www.cbs.nl/nl-nl/dossier/nederland-">https://www.cbs.nl/nl-nl/dossier/nederland-</a>

			<a href="#">regionaal/geografische-data.</a>
<b>Latitude and longitude</b>	Data.overheid.nl	2016	<p>This dataset provides latitude and longitude coordinates for each PC4. The dataset is known as the 4PP database van postcodes. It was previously available via Overheid.nl; however, it is no longer accessible through that platform. An alternative version of the dataset can be obtained from the following sources (free): <a href="https://github.com/bobdenotter/4pp?tab=readme-ov-file">https://github.com/bobdenotter/4pp?tab=readme-ov-file</a>. The most recent version can also be purchased from (charged): <a href="https://www.datavisualiseren.nl/postcodetabel-4-cijferige-postcodes-nederland/">https://www.datavisualiseren.nl/postcodetabel-4-cijferige-postcodes-nederland/</a>. The original source of this dataset is from the CBS. For the analysis, we processed the dataset by retaining only the variables used in the manuscript. The version of the 4PP database van postcodes used in this study is available upon request.</p>

### List of datasets

Data File	Source	Notes	Provided
<b>global_summary.dta</b>	Lifelines	This dataset contains the initial sample information from the raw data. It was requested from Lifelines in February 2022.	no
<b>1a_q_1_results.dta</b>	Lifelines	Dataset of wave 1A. It was requested from Lifelines in February 2022.	no
<b>1b_q_1_results.dta</b>	Lifelines	Dataset of wave 1B. It was requested from Lifelines in February 2022.	no

<b>1c_q_1_results.dta</b>	Lifelines	Dataset of wave 1C. It was requested from Lifelines in February 2022.	no
<b>2a_q_1_results.dta</b>	Lifelines	Dataset of wave 2A. It was requested from Lifelines in February 2022.	no
<b>2b_q_1_results.dta</b>	Lifelines	Dataset of wave 2B. It was requested from Lifelines in February 2022.	no
<b>3a_q_1_results.dta</b>	Lifelines	Dataset of wave 3A. It was requested from Lifelines in February 2022.	no
<b>1a_v_1_results.dta</b>	Lifelines	Dataset of wave 1A. It was requested from Lifelines in February 2022.	no
<b>2a_v_1_results.dta</b>	Lifelines	Dataset of wave 2A. It was requested from Lifelines in February 2022.	no
<b>3a_v_1_results.dta</b>	Lifelines	Dataset of wave 3A. It was requested from Lifelines in February 2022.	no
<b>3a_q_mini_results.dta</b>	Lifelines	Dataset of wave 3A. It was requested from Lifelines in February 2022.	no
<b>1a_v_1_results_updated_MINI.dta</b>	Lifelines	In March 2025, an updated version of the MINI derivatives was added to the Lifelines catalogue. For further details, please refer to the Lifelines Wiki.	no
<b>2a_v_1_results_updated_MINI.dta</b>	Lifelines	The information is the same as for 1a_q_mini_results.	no
<b>3a_q_mini_results.dta</b>	Lifelines	The MINI derivatives for wave 3A. It was requested from Lifelines in February 2022.	no
<b>3a_q_1_results_updated_MINI.dta</b>	Lifelines	The MINI derivatives for wave 3A became available in March 2025, and the variables were requested in November 2025.	no



<b>sec_family_relations.dta</b>	Lifelines	This file contains family relationships within Lifelines.	no
<b>zipcode_location.dta</b>	Data.overheid.nl - CBS	This file contains PC4 information, including the corresponding province and precise geographic coordinates, based on the 4PP database van postcodes.	Please download the 4PP database van postcodes using the shared link provided. The version of the 4PP database van postcodes used in this study is available upon request.
<b>earthquake_raw_data.dta</b>	Royal Netherlands Meteorological Institute (KNMI)	The induced earthquake raw data were downloaded from the KNMI on February 02, 2022. The do-file 0_process_raw.do (located in the PROJECT_PATH/analysis/scripts subdirectory) preprocesses the data by converting it from Excel format to Stata .dta format and matching earthquake locations to PC4 identifiers and provinces. In addition, the do-file extracts the event date and constructs a unique identifier for each earthquake. If you download the latest version of the earthquake data, you should retain only earthquakes that occurred on or before January 2022 (inclusive).	Please download the earthquake raw data from KNMI using the shared link provided.
<b>CBS_wijken2022.shp</b>	CBS	In the Netherlands, “wijken” (plural of wijk) refers to neighborhoods or districts within a municipality. This file contains the geographic map information used to generate Figures 2 and 3 in the paper. The data correspond to the 2022 version.	Please download the CBS_wijken2022.shp using the shared link provided.
<b>pc-wijk.dta</b>	CBS	This file contains wijk-level information, including the corresponding province and PC4. The dataset serves as a	yes

		bridge linking the geographic boundary information at the wijk level to the earthquake data at the PC-4 level, and is used to generate Figures 2 and 3 in the manuscript.	
<b>Urbanization_id.dta</b>	CBS	This file contains urbanization information constructed based on the CBS_pc4_2020_v1.xlsx. The original variable was recategorized into an urbanization measure in 0_process_raw.do; further details are provided in the paper.	Please download the CBS_pc4_2020_v1.xlsx using the shared link provided.
<b>zipcode4_population_2020.dta</b>	CBS	This file contains PC4 and the corresponding population information, based on the file CBS_pc4_2020_v1.xlsx. The do-file 0_process_raw.do (in the PROJECT_PATH/analysis/scripts subdirectory) extracts the PC4 identifiers and the associated population variable and saves the result in Stata .dta format.	Please download the CBS_pc4_2020_v1.xlsx using the shared link provided.

## Computational requirements

### 1. Hardware requirements

All analyses were conducted using the standard Lifelines virtual machine (Windows-UMCG-Default-24-01, version 1.0.1), which runs a Windows operating system with 4 CPU cores and 16 GB of RAM. While the computational resources of the virtual machine can be resized if needed, all results reported in this paper were produced using the standard configuration.

### 2. Software requirements and license

- All analyses were conducted using Stata for Windows, version 19.5. All do-files are also compatible with Stata version 18.
- Lifelines provides a licensed version of Stata within Lifelines virtual machine.

## **Description of programs/codes**

### **Overview**

The Stata do-file `0_run_all.do` (located in the `PROJECT_PATH\` subdirectory) lists and documents all do-files used for data preparation, data analysis, and the generation of tables and figures for both the main paper and the Appendix, as detailed below.

Approximate time needed to reproduce the analyses on a standard Lifelines virtual machine:

- 3 hours and 10 minutes

### **Instruction to Replicators**

To replicate our analysis, please follow the steps below:

#### **1. Access to Lifelines and data request**

Apply for access to Lifelines and request the variables described above. Please note that Lifelines updates sample availability and variable coverage over time. For example, the available sample size for wave 3A increased from approximately 25,000 observations in 2022 to more than 65,000 observations in 2024. Therefore, it is essential to request the same dataset versions (202202) as those described above.

#### **2. Data format and directory structure**

Convert the requested Lifelines datasets from SPSS format to Stata format and place them in the appropriate directory (PROJECT\_PATH\analysis\raw).

Download the earthquake data from KNMI and the PC4-related information from CBS via the shared links. Ensure that the data correspond to the same versions used in this study. Place the files in the appropriate directory (PROJECT\_PATH/analysis/raw).

### 3. Open the master do-file

Open the `0_run_all.do` file using the Stata Do-file Editor.

### 4. Set the working directory

Ensure that Stata's current working directory is set to the directory containing the `0_run_all.do` file. If necessary, change the working directory by typing, for example: `cd "USER_PATH"`, where USER\_PATH depends on your local file system and the location of the replication directory.

### 5. Run the code

Run `0_run_all.do`, or alternatively run individual do-files as needed.

## Details

The do-file `0_process_raw.do` processes all raw files from KNMI and CBS, converts them into Stata .dta format, and selects the variables used in this study.

The do-file `1_clean_data.do` constructs a panel dataset of Lifelines participants, including basic demographic and socioeconomic variables as

well as core health outcomes. Specifically, it builds a longitudinal panel of all the participants (18+) of Lifelines and merges core variables from different waves (different datasets) into a single dataset. In addition, the do-file identifies participants' mobility status based on changes in their residential location across waves.

The do-file `2_a_earthquake_APGA.do` calculates accumulated peak ground acceleration (APGA) over a three-year time window. Running this file generates the earthquake variable used in the main specification.

The do-file `2_b_earthquake_timewindow_cutoffs.do` calculates APGA over a five-year time window as well as over the full period from 1986 to the survey date. Running this file generates the treatment variables used in the sensitivity analyses.

The do-file `2_c_earthquake_distance_cutoffs.do` calculates APGA using distance cutoffs of 5 km and 10 km. Compared with `2_a_earthquake_APGA.do`, this file applies distance thresholds when calculating PGA. Earthquakes with epicentral distances (i.e., the distance between the earthquake epicenter and the residence of Lifelines participants) exceeding the specified cutoffs are excluded from the APGA calculation.

The do-file `2_d_earthquake_number.do` calculates the number of earthquakes (notice and weak events) within a three-year time window. Running this file generates the treatment variables used in the sensitivity analyses.

The do-file `3_descriptive_analysis.do` prepares the analytical sample, performs the descriptive analyses, and generates Table 1 in the main text.

The do-file `4_a_main_specification.do` implements the main empirical specifications and generates Tables 2–4 in the main text.

The do-file `4_b_main_specification_scenario.do` implements a scenario analysis based on the main specification to estimate the real effects.

The do-file `5_a_robustness_mobility.do` performs sensitivity analyses addressing the impact of selective migration on the identification strategy and generates Tables 5–6 in the main text.

The do-file `5_b_robustness_timewindow_cutoffs.do` performs sensitivity analyses that vary the temporal window used to construct APGA and generates Table 7 in the main text.

The do-file `5_c_robustness_distance_cutoffs.do` performs sensitivity analyses that vary the spatial distance cutoffs used to construct APGA and generates Table 8 in the main text.

The do-file `5_d_robustness_earthquake_number.do` performs sensitivity analyses using the number of earthquakes as the treatment variable and generates Table 9 in the main text.

The do-file `5_e_robustness_diagnosis.do` performs sensitivity analyses using diagnosed depression and anxiety as health outcomes and generates Table A.4 in the Appendix.

The do-file `Figure_1_earthquake_number.do` generates Figure 1 in the main text.

The do-file `Figure_2&3_APGA_visualization.do` generates Figures 2 and 3 in the main text.

The do-file `Figure_4_attenuation.do` generates Figure 4 in the main text.

The do-file `Figure_5&6_difference_deciles.do` generates Figures 5 and 6 in the main text.

The do-file `Appendix_Table_A2_statistic_difference.do` generates Table A.2 in the Appendix.

The do-file `Appendix_Table_A3_MDEs.do` generates Table A.3 in the Appendix.

## List of tables and figures

Tables and Figures in the main paper	Program	Output file	Note
<b>Table 1</b>	3_descriptive_analysis.do	Table_1_descriptive_statistics.tex	
<b>Table 2</b>	4_a_main_specification.do	Table_2_main_specification.tex	
<b>Table 3</b>	4_a_main_specification.do	Table_3_dep_symptoms.tex	
<b>Table 4</b>	4_a_main_specification.do	Table_4_anx_symptoms.tex	
<b>Table 5</b>	5_a_robustness_mobility.do	Table_5_migration.tex	
<b>Table 6</b>	5_a_robustness_mobility.do	Table_6_nomover.tex	
<b>Table 7</b>	5_b_robustness_timewindow_cutoffs.do	Table_7_timewindow_cutoffs.tex	
<b>Table 8</b>	5_c_robustness_distance_cutoffs.do	Table_8_distance_cutoffs.tex	
<b>Table 9</b>	5_d_robustness_earthquake_number.do	Table_9_earthquake_number.tex	
<b>Figure 1</b>	Figure_1_earthquake_number.do	Figure_1_earthquake_number.png	
<b>Figure 2&amp;3</b>	Figure_2&3_APGA_visualization.do	Figure_2_APGA_visualization_Groningen.png; Figure_3_APGA_visualization_Northern.png	
<b>Figure 4</b>	Figure_4_attenuation.do	Figure_4_attenuation.png	
<b>Figure 5&amp;6</b>	Figure_5&6_difference_dec	Figure_5_depression_deciles.png;	

	iles	Figure_6_anxiety_deciles.png;	
<b>Tables in Appendices</b>			
<b>Table A.1</b>	N.A.		This table was constructed based on the Lifelines questionnaire (MINI interview) and the DSM-IV. For further details, please refer to Appendix A of the paper.
<b>Table A.2</b>	Appendix_Table_A2_statistic_difference.do		The results reported in Table A.2 were generated using this file, and the table was constructed manually.
<b>Table A.3</b>	Appendix_Table_A3_MDEs.do		The results reported in Table A.3 were generated using this file, and the table was constructed manually.
<b>Table A.4</b>	5_e_drobustness_dignosis.do	Table_A4_dignosis	The results reported in Table A.4 were generated using this file, and the table was constructed manually.

**List of Requested Lifelines Variables (Attached below)**



Order details

Order number	
Email	
User	

Selection criteria

Assessment	1a 1b 1c 2a 2b sec 3a 3b
HideZeroData	true

Variables

Demographics

Education

degree_father_fam_q_1	1a 2a 2b 3a 3b
degree_highest_adu_q_1	1a 2a 2b 3a 3b
degree_highest_adu_q_1_a	1a 2a 2b 3a 3b
degree_mother_fam_q_1	1a 2a 2b 3a 3b
educational_attainment_adu_c_1	1a 2a 2b 3a 3b

Income

income_net_adu_q_1_a	1a 2b
income_net_adu_q_1_v1	1a 2b
income_net_adu_q_1_v2	1a 2b
income_net_adu_q_1_v3	1a 2b

Mental health

Depression & anxiety (MINI)

mini_a_adu_q_1	1a 2a 3a
mini_a_adu_q_2	1a 2a 3a
mini_a_adu_q_3_a	1a 2a 3a
mini_a_adu_q_3_a1	1a 2a 3a
mini_a_adu_q_3_a1a	1a 2a 3a
mini_a_adu_q_3_a1b	1a 2a 3a
mini_a_adu_q_3_a2	1a 2a 3a
mini_a_adu_q_3_a3	1a 2a 3a
mini_a_adu_q_3_b	1a 2a 3a
mini_a_adu_q_3_c	1a 2a 3a
mini_a_adu_q_3_c1	1a 2a 3a
mini_a_adu_q_3_c1a	1a 2a 3a
mini_a_adu_q_3_c2	1a 2a 3a
mini_a_adu_q_3_c2a	1a 2a 3a
mini_a_adu_q_3_d	1a 2a 3a
mini_a_adu_q_3_e	1a 2a 3a
mini_a_adu_q_3_f	1a 2a 3a
mini_a_adu_q_3_g	1a 2a 3a
mini_a_adu_q_3_h	1a 2a 3a
mini_a_adu_q_5_a	1a 2a 3a
mini_a_adu_q_5_a1	1a 2a 3a
mini_a_adu_q_5_b	1a 2a 3a
mini_agph_adu_c_1	1a 2a 3a
mini_anyanx_adu_c_2	1a 2a 3a
mini_anydep_adu_c_1	1a 2a 3a
mini_anyipp_adu_c_2	1a 2a 3a
mini_b_adu_q_1	1a 2a 3a
mini_b_adu_q_2	1a 2a 3a
mini_b_adu_q_3_a	1a 2a 3a

mini_b_adu_q_3_b	1a 2a 3a
mini_b_adu_q_3_c	1a 2a 3a
mini_b_adu_q_3_d	1a 2a 3a
mini_b_adu_q_3_e	1a 2a 3a
mini_b_adu_q_3_f	1a 2a 3a
mini_b_adu_q_4	1a 2a 3a
mini_dys_adu_c_1	1a 2a 3a
mini_e_adu_q_2	1a 2a 3a
mini_e_adu_q_3	1a 2a 3a
mini_e_adu_q_4_a	1a 2a 3a
mini_e_adu_q_4_b	1a 2a 3a
mini_e_adu_q_4_c	1a 2a 3a
mini_e_adu_q_4_d	1a 2a 3a
mini_e_adu_q_4_e	1a 2a 3a
mini_e_adu_q_4_f	1a 2a 3a
mini_e_adu_q_4_g	1a 2a 3a
mini_e_adu_q_4_h	1a 2a 3a
mini_e_adu_q_4_i	1a 2a 3a
mini_e_adu_q_4_j	1a 2a 3a
mini_e_adu_q_4_k	1a 2a 3a
mini_e_adu_q_4_l	1a 2a 3a
mini_e_adu_q_4_m	1a 2a 3a
mini_e_adu_q_6	1a 2a 3a
mini_f_adu_q_1	1a 2a 3a
mini_f_adu_q_2	1a 2a 3a
mini_g_adu_q_1	1a 2a 3a
mini_g_adu_q_2	1a 2a 3a
mini_g_adu_q_3	1a 2a 3a
mini_g_adu_q_4	1a 2a 3a
mini_gad_adu_c_1	1a 2a 3a
mini_h_adu_q_1	1a 2a 3a
mini_h_adu_q_2	1a 2a 3a
mini_h_adu_q_3	1a 2a 3a
mini_h_adu_q_4	1a 2a 3a
mini_mdd_adu_c_1	1a 2a 3a
mini_o_adu_q_1_a	1a 2a 3a
mini_o_adu_q_1_b	1a 2a 3a
mini_o_adu_q_2	1a 2a 3a
mini_o_adu_q_3_a	1a 2a 3a
mini_o_adu_q_3_b	1a 2a 3a
mini_o_adu_q_3_c	1a 2a 3a
mini_o_adu_q_3_d	1a 2a 3a
mini_o_adu_q_3_e	1a 2a 3a
mini_o_adu_q_3_f	1a 2a 3a
mini_pd_adu_c_2	1a 2a 3a
mini_performed_q_1	1a 2a 3a
mini_performed_q_1_a	1a 2a 3a
mini_performed_q_2	1a 2a 3a
mini_sph_adu_c_1	1a 2a 3a

## Secondary & linked data

### Educational attainment

educational_attainment_adu_c_1	1a 2a 2b 3a 3b
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### MINI derivatives

mini_agph_adu_c_1	1a 2a 3a
mini_anyanx_adu_c_2	1a 2a 3a
mini_anydep_adu_c_1	1a 2a 3a
mini_anyipp_adu_c_2	1a 2a 3a
mini_dys_adu_c_1	1a 2a 3a
mini_gad_adu_c_1	1a 2a 3a
mini_mdd_adu_c_1	1a 2a 3a
mini_pd_adu_c_2	1a 2a 3a
mini_sph_adu_c_1	1a 2a 3a

## Wellbeing & subjective health

**Quality of Life (RAND)**

rand\_generalhealth\_adu\_q\_01  
rand\_generalhealth\_adu\_q\_02

1a 1b 1c 2a 2b 3a 3b  
1a 1b 1c 2a 2b 3a 3b