WORKING PAPER

Working conditions and sustainable work

European Working Conditions Telephone Survey 2021: Data validation and editing report

Working conditions in the time of COVID-19: Implications for the future

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Eurofound reference number: WPEF22048

Related report: *European Working Conditions Telephone Survey 2021: Technical report*

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1. Introduction

The report covers the European Working Conditions Telephone Survey (EWCTS) 2021 data validation strategy, implementation and findings.

2. Validation overview

Survey data validation – routing

The routing was specified within the Computer Assisted Telephone Interviewing (CATI) script to determine which respondents should answer each question (e.g. ASK ALL or ASK IF Q1 = 1).

Objective

The routing within the main survey was designed so that each question was only answered if it was appropriate, based on previous responses or overall module selection by the system. The planned checks determined:

- Where a question has been answered but should not have been; and
- Where a question has not been answered but should have been.

Implementation

The routing was taken directly from the questionnaire. Each variable (question) was assigned two new dummy variables; one that stated whether a respondent was 'expected' to have answered the question and one that stated whether they had actually 'answered' the question. These two variables were then compared via a cross-tabulation and any discrepancies were investigated. Given the complexity of the routing logic and the modularisation included, the routing check was also undertaken for each of the selected modules for each respondent.

Survey data validation – permitted values

The question structure was specified within the CATI script and determined which answer options or combinations were available for selection by the interviewer (for closed answer questions) or a permitted range of responses (for open-ended questions).

Objective

It should not be possible for interviewers to select or type in invalid answers for the question displayed on each screen, or for the interviewer to be able to override the hard checks implemented in the routing. The checks determine whether a response has been permitted, when in fact it should not have been. Checks also include any response level filtering originating from the implemented modularisation at project level.

Implementation

The permitted values were taken directly from the main survey data map. Every variable has been defined with a specific set of valid response options. The check was conducted on the frequency of the answers within the variable to identify any non-permitted responses.

Survey data validation – consistency checks

Objective

The checks evaluated the levels of consistency between the questions when the permitted values for the particular variables were further filtered down by answers from the previous questions.

Implementation

The routing conditions were taken from the main survey questionnaire. Variables were cross-checked for missing or extra data via the Dimensions data management script, which was executed on the raw data.

The consistency checks were implemented for the completed interviews, which are classified by the following conditions:

- Respondent is of an appropriate age

  Excluded cases are:
  - SCR_Age < 16 – respondent is of an appropriate age
  - Introduction screen – response "Not eligible, respondent is younger than 16"
  - SCR_Age = Refusal (-999) and Q92b (related to age bands) = Refusal (-999) or Don't know (-888)
- Respondent has been working in the past week

  Excluded cases are
  - Introduction screen – response "Not eligible, respondent does not work"
  - SCR_Work = 2 (Respondent has not worked in previous week)

Table 1: Consistency checks for variables

Checked variable	Depend from	Ask condition
Q92b	SCR_Age	SCR_age = -999
QM3F	QN1	QN1 = 2
Q8a	Q7	Q7 = 3 or -999
Q8b	Q7, Q8a	Q7 = 2 or Q8a = 2, -888 or -999
Q9a	Q7, Q8a ,Q8b	Q7 = 2 or (Q8a = -888 or -999 and Q8b = 1-5 and Q8b = 6-7) or (Q8a <> 1 and Q8b = 1-5)
Q11	Q7, Q8a, Q8b	(Q7 = 1 or Q8a = 1) or (Q8a = 2 and Q8b = 1-5 and Q8b = 6-7) or (Q8a <> 1 and Q8b = 6 – 7 or (Q8b = -888 or -999))
Q12	Q11	Q11 = 2 or Q11 = 3
Q12_1	Q12	Q12 = -997

Checked variable	Depend from	Ask condition
Q12_2	Q12	Q12= -998
Q24C	Q11	Q11 is asked
Q24D1	Q24C	Q24C = 1
Q24D1_1	Q24D1	Q24D1=997
Q24CC	Q24C	(Q24C = 2 or -888 or -999) or Q24D1 = 0
QN4F	Q16a	Q16a > 1
Q62	Q7, Q8a, Q8b	(Q7 = 1 or Q8a = 1) or (Q8a = 2 and Q8b=1-5 or Q8b=6-7) or (Q8a <> 1 and Q8b = 6 - 9)
Q5a	Q17	ALL EXCEPT IF Q17 = -777 OR -888 OR -999
Q5b	Q5a	Q5a = 1 or 2
Q24b	Q24	Q24 = -998
Q28	QN1	QN1 = 2 and (QM3F = 1 or QM3F = 3)
Q28a	Q28	Q28 = -998
QM35_2	QM35	MORE THAN ONE ANSWER ON QM35_1 - ASKED FOR THOSE SELECTED AT QM35_1, BUT NOT FOR STATEMENTS G OR H
Q36	QM35E	QM35E <> 1
Q36_1	Q36	Q36= -997
Q36_2	Q36, Q36_1	Q36>0 and Q36_1>0
Q70	Q7, Q8a, Q8b	(Q7 = 1 or Q8a = 1) or (Q8a = 2 and Q8b <> 8 or 9) or (Q8a <> 1 and Q8b = 6 - 9)
Q71	Q7, Q8a, Q8b	(Q7 = 1 or Q8a = 1) or (Q8a = 2 and Q8b <> 8 or 9) or (Q8a <> 1 and Q8b = 6 - 9)
Q91	Q7, Q8a, Q8b	(IF Q7=2 or (Q8a = 8-9 and (Q8b-1-5 and Q8b=6-7)) or (Q8a ne 1 and Q8b = 1-5 only)]
Q91b	Q7, Q8a, Q8b	(IF Q7=2 or (Q8a = 8-9 and (Q8b-1-5 and Q8b=6-7)) or (Q8a ne 1 and Q8b = 1-5 only)]
Q96	Q95c, Q95I	Q95C = 1 or Q95D=1 or Q95E=1 or Q95G=1 or Q95I = 1
Q101	Q7, Q8a, Q8b	(Q7 = 1 or Q8a = 1) or (Q8a = 2 and Q8b <> 8 or 9) or (Q8a <> 1 and Q8b = 6 - 9)
Q102	Q7, Q8a, Q8b	Q7=2 or (Q8a = 8-9 and (Q8b-1-5 and Q8b=6-7)) or (Q8a ne 1 and Q8b = 1-5 only)
QP15	P13	P13=1
Q1_1	Q1	Q1>1
Q1_2	Q1,Q1_1	Q1 - sum[Q1_1] > 0

In addition, the filtering conditions on question and response level, whenever present, were also checked with the data management script and executed in the Dimensions environment.

Table 2: Additional dependency checks

Checked variable and response	Dependency type	Depend from	Filter condition
Q5a	Ask condition	Module Selection	M2_Module = M2A
Q5b	Ask condition	Module Selection	M2_Module = M2A
Q26	Ask condition	Module Selection	M2_Module = M2c
Q29, grid item Q29A	Filtering	Module Selection	M1_Module = M1B or M1C
Q30, grid item Q30A	Filtering	Module Selection	M1_Module = M1B or M1C
Q30, grid item Q30E	Filtering	Module Selection	M1_Module = M1B or M1C
QN11	Ask condition	Module Selection	M1_Module = M1A or M1B
Q36	Ask condition	Module Selection	M2_Module = M2C
Q36_1	Ask condition	Module Selection	M2_Module = M2C
Q36_2	Ask condition	Module Selection	M2_Module = M2C
Q39	Ask condition	Module Selection	M2_Module = M2A
Q40	Ask condition	Module Selection	M1_Module = M1A or M1C
Q45	Ask condition	Module Selection	M2_Module = M2C
Q49, grid item Q49D	Filtering	Module Selection	M2_Module = M2A
Q54, grid item Q54A	Filtering	Module Selection	M1_Module = M1A or M1B
Q54, grid item Q54C	Filtering	Module Selection	M1_Module = M1A or M1B
QN14A	Ask condition	Module Selection	M2_Module = M2A
Q58	Ask condition	Module Selection	M2_Module = M2A
Q61, grid item B	Filtering	Module Selection	M1_Module = M1B or M1C
Q61, grid item C	Filtering	Module Selection	M1_Module = M1A or M1B
Q61, grid item D	Filtering	Module Selection	M1_Module = M1A or M1B
Q65	Ask condition	Module Selection	M1_Module = M1A or M1B
Q65, grid item A	Filtering	Q7, Q8a, Q8b	(Q7 = 1 or Q8a = 1) or (Q8a = 2 and Q8b <> 8 or 9) or (Q8a <> 1 and Q8b = 6 - 9)
Q70	Ask condition	Module Selection	M2_Module = M2A
Q71	Ask condition	Module Selection	M2_Module = M2A
Q78	Ask condition	Module Selection	M2_Module = M2C
Q80	Ask condition	Module Selection	M1_Module = M1B or M1C
Q81	Ask condition	Module Selection	M1_Module = M1B or M1C
Q89, grid item Q89A	Filtering	Module Selection	M1_Module = M1A or M1C
Q89, grid item Q89B	Filtering	Module Selection	M1_Module = M1A or M1C
Q89, grid item Q89C	Filtering	Module Selection	M1_Module = M1A or M1C
Q95	Ask condition	Module selection	M2_Module = M2C
Q96	Ask condition	Module selection	M2_Module = M2C
Q100	Ask condition	Module selection	M2_Module = M2C
Q101	Ask condition	Module selection	M2_Module = M2A
QN33F	Ask condition	Module selection	M2_Module = M2A

Checked variable and response	Dependency type	Depend from	Filter condition
QM35, grid item QM35A1		Q7, Q8a, Q8b	(Q7 = 1 or Q8a = 1) or (Q8a = 2 and Q8b <> 8 or 9) or (Q8a <> 1 and Q8b = 6 - 9)
QM35, grid item QM35A2		Q7, Q8a, Q8b	(Q7 = 2) or (Q8a = 2 and Q8b = 1 to 7) or (Q8a <> 1 and Q8b = 1-5)

Survey data validation – outliers

Objective

The checks were designed so that any unsatisfactory values were flagged before any data analysis was completed.

Implementation

The checks consisted of creating a percentile distribution of responses and looking for the 1st and 99th percentile. Based on the answer distribution, a list of respondents and their responses were created which served as a basis for additional soft/hard checks for the mainstage fieldwork.

The variables evaluated are listed in the following table:

Table 3: Variables evaluated during the outlier checks

Variable name	Variable description	Range limit according to the questionnaire	Outlier check comment
SCR_Age	Age of respondent	0..110	
Q12	Duration of contract in months	0..120	
Q12_1	Duration of contract in weeks	0..99	
Q12_2	Duration of contract in days	0..99	
Q24D1	Expected working hours per week	0..168	Everything above 56 considered suspicious
Q24D1_1	Expected working hours per month	0..720	Everything above 240 considered suspicious
Q17	Years in company/organisation	0..99	Compared with SCR_AGE – 15
Q24	Normal number of working hours per week	1..168	Everything above 56 considered suspicious
Q24b	Normal number of working hours per month	1..720	Everything above 240 considered suspicious
Q28	Number of average working hours on other job on a weekly basis	1..168	Everything above 56 considered suspicious
Q28a	Number of average working hours on other job on a monthly basis	1..720	Everything above 240 considered suspicious
Q25	How many hours per week would you prefer to work at present	0..168	Everything above 56 considered suspicious

Variable name	Variable description	Range limit according to the questionnaire	Outlier check comment
Q26	Number of usual working days on main job	1..7	
Q36_Minutes	Commute time on a daily basis (minutes)	1..480	
Q36_Hours	Commute time on a daily basis (hours)	1..8	
Q36_2	Days a week do you usually travel from home to work and back?	1..7	
Q96_minutes	Minutes spent on a daily basis on other activities	0..60	
Q96_hours	Hours spend on a daily basis on other activities	0..24	
Q1	Number of people in household	1..20	

In the future, a further check should be added for number of hours that people spend on non-work activities. Two hundred forty-seven respondents, answered with values which imply more than 24 hours per day when including time spent on children care, time spent on relative case and time spent on housework. These values might reflect an overlapping of respondents' activities but in the future some soft checks could be implemented (for example, no more than 8 hours for these activities or the difference between the amount of time spent working and the time spent on these activities). The values for these respondents have been capped at 168 hours per week in the final dataset.

Contact data validation

Objective

The checks were designed so that the contact strategy in each country could be compared to the general contact strategy for the project. This ensured that:

- All calls attempts were in chronological order;
- All calls were made within the fieldwork period for the country;
- All calls were made within the acceptable working hours for the project (08:00 am to 22:00);
- There was at least one weekend call, if possible;
- There was an evening call;
- Call attempts were undertaken on different days and on different parts of the day;
- There was a minimum time limit between call attempts – additional checks were performed; to evaluate the delay between the different call attempts, especially for the CATI link; countries, where the settings were managed at a local level;
- For the pilot there was a minimum of seven days between the first and last call attempt (for no contacts) and for the mainstage fieldwork a minimum of 14 days between the first and last contact;
- There was a minimum of five call attempts before considering a contact to be closed.

Implementation

These checks were performed after an analysis of all call attempts. They were undertaken in the Dimensions for Computer Assisted Telephone Interviewing (CATI) software. The checks were based on aggregated auxiliary variables which were re-coded in the final SPSS delivery:

- ncontacts_total – the total number of contact attempts;
- weekend_contacts – the total number of weekend contact attempts;
- weekday_contacts_evening – the total number of weekday (Mon-Fri) and evening (after 17:00pm) contact attempts;
- Weekday_contacts_daytime - the total number of weekday (Mon-Fri) and weekday (08:00 am – 16:59) contact attempts;
- Fw_period – the number of days between the first and last contact attempt.

The checks performed were conducted on two levels. The first level was the verification of the accuracy of the recoding of variables, based on all contact information for contact times and status. The second level was the identification of contacts who did not comply with any of the fieldwork rules and had a final outcome of “No Answer”.

With information obtained from the call time delay, additional analysis was conducted to identify cases with multiple call attempts in a short period of time, resulting in a refusal or ineligibility to participate. The first identification was multiple calls in a day, then the removal of cases with appointments in the same day, resulting in clean cases for analysis.

3. Implementation, results, and corrective measures

Contact data validation

Contact data was validated as part of the final SPSS file, through the usage of Python[1] scripts. As a further quality check measure, Eurofound prepared an R script with the same checks to give feedback to Ipsos. This was aimed at double proofing the checks.

Data processing was undertaken by using specific programming libraries[2]

- Pandas (v.1.2.4) – a software library written for the Python programming language for data manipulation and analysis. In particular, it offers data structures and operations for manipulating numerical tables and time series. It is free software released under the three-clause BSD licence.
- Pyreadstat (v.1.1.0) – a software library written for the Python programming language for read, write and modify sas (sas7bdat, sas7bcat, xport), spps (sav, zsav, por) and stata (dta) data files into/from pandas dataframes.

The base data structure in the Pandas library is called dataframe. This is a two-dimensional tabular structure with labelled axes (rows and columns). The way this is processed is by loading all the information from the data frame into the available machine memory (RAM[3]) which can make script execution impossible in different machines. To optimise the performance and stability, Ipsos used data separation whenever this did not impact the data validation results. The SPSS file was read through Pyreadstat in chunks of 10,000 rows, which were converted to the Pandas data frame object which was used to perform the different types of checks on each row of data. Effectively this implemented the validation checks on each case in the SPSS file.

- Check for proper recoding of total contacts in summary variable

  Code snippet for validation:

```
def countContacts(rowData):
    returnCount = 0
    for col in range(1,51):
        if pd.isna(rowData['Contact_Outcome_' + str(col)]) == False:
            returnCount+=1

    return returnCount
```

[1] Python – Interpreted high-level general purpose programming language. https://www.python.org/
[2] Library is collection of non-volatile resource, used by computer program. May include configuration data, documentation, help data, message templates, pre-written code and subroutines.
[3] RAM – Random Access Memory – computer memory that can be read and changed in any order, typically used to store working data and machine code.

```
df_temp['contacts_check'] = df_temp.apply(lambda x:
countContacts(x),axis='columns')
df_issue = df_temp.query('contacts_check != ncontacts_total')
```

Identified issues: 0

- Check for proper recoding of weekend contacts in summary variable

```
def countWeekendCalls(rowData):
    returnCount = 0
    for col in range(1,51):
        if pd.isna(rowData['Contact_Outcome_' + str(col)]) == False:
            if rowData['DateOfContact_A2_' + str(col)].strftime('%A') == 'Sunday'
or rowData['DateOfContact_A2_' + str(col)].strftime('%A') == 'Saturday':
                returnCount+=1

    return returnCount
```

```
df_temp['weekend_contact_check'] = df_temp.apply(lambda x: countWeekendCalls(x),
axis='columns')
df_issue  = df_temp.query('weekend_contact_check != weekend_contacts and
not(weekend_contact_check.isna()) and not(weekend_contacts.isna())')
```

- Check for proper recoding of evening contacts in summary variable

```
def countEveningCalls(rowData):
    returnCount = 0
    for col in range(1,51):
        if pd.isna(rowData['Contact_Outcome_' + str(col)]) == False:
            if rowData['DateOfContact_A2_' + str(col)].hour >= 17 and
rowData['DateOfContact_A2_' + str(col)].hour <= 22 and rowData['DateOfContact_A2_'
+ str(col)].strftime('%A') in
['Monday','Tuesday','Wednesday','Thursday','Friday']:
                returnCount+=1

    return returnCount
```

```
df_temp['evening_contact_check'] = df_temp.apply(lambda x: countEveningCalls(x),
axis='columns')
df_issue  = df_temp.query('evening_contact_check != weekday_contacts_evening and
not(weekday_contacts_evening.isna()) and not(evening_contact_check.isna())')

if df_issue.shape[0] > 0:
    #issues encountered
    for index, row in df_issue.iterrows():
        check_SPSS_Log.writelines('\n ID: {0} # number of weekday evening contacts
does not match [weekday_contacts_evening = {1}], weekday evening calls found in
DateOfContact_A2 : {2}'.format(

row['ID'],row['weekday_contacts_evening'],row['evening_contact_check']))

del df_issue
```

Issues identified: 2

- Check for proper recoding of daytime contacts in summary variable

```
def countDayTimeCalls(rowData):
    returnCount = 0
    for col in range(1,51):
        if pd.isna(rowData['Contact_Outcome_' + str(col)]) == False:
            if rowData['DateOfContact_A2_' + str(col)].hour < 17 and
rowData['DateOfContact_A2_' + str(col)].hour >= 7 and rowData['DateOfContact_A2_'
+ str(col)].strftime('%A') in
['Monday','Tuesday','Wednesday','Thursday','Friday']:
                returnCount+=1

    return returnCount
```

```
df_temp['daytime_contact_check'] = df_temp.apply(lambda x: countDayTimeCalls(x),
axis='columns')

df_issue  = df_temp.query('daytime_contact_check != weekday_contacts_daytime and
not(weekday_contacts_daytime.isna()) and not(daytime_contact_check.isna())')

if df_issue.shape[0] > 0:
    #issues encountered
    for index, row in df_issue.iterrows():
        check_SPSS_Log.writelines('\n ID: {0} # number of weekday daytime contacts
does not match [weekday_contacts_daytime = {1}], weekday daytime calls found in
DateOfContact_A2 : {2}'.format(

row['ID'],row['weekday_contacts_daytime'],row['daytime_contact_check']))

del df_issue
```

Issues identified: 743

Table 4 below shows the distribution withing countries and the affected countries.

Table 4: Distribution of issues within countries

Country	Cases
Cyprus	5
Denmark	3
Estonia	711
Montenegro	10
North Macedonia	10
Albania	4

Examining the exact dates and hours of calling, Ipsos noted that the call hours were in the time window of 22:00 – 06:59, primarily concentrated after 00:00. The expectation was that there had been a data export issue with the time format of the time stamps using a 12 hour scheme instead of a 24 hour one.

- Check for contact attempts made within the fieldwork period

```
def checkFWPeriod(rowData):
    returnVal = 0 #indicating no issue
    for col in range(1,51):
        if pd.isna(rowData['DateOfContact_A2_' + str(col)]) == False:
            if rowData['DateOfContact_A2_' + str(col)].date()<date(2021, 3, 8) or
rowData['DateOfContact_A2_' + str(col)].date()>date(2021, 11, 14):
                returnVal= 1

    return returnVal
```

```
df_temp['withingFW_Period'] = df_temp.apply(lambda x: checkFWPeriod(x),
axis='columns')

df_issue  = df_temp.query('withingFW_Period == 1')

if df_issue.shape[0] > 0:
    #issues encountered
    for index, row in df_issue.iterrows():
        check_SPSS_Log.writelines('\n ID: {0} # fieldwork period is outside valid
range. Last Contact date - {1}'.format(row['ID'],row['lastcontactdate']))

del df_issue
```

Identified issues: 24,090

Contact attempts were identified outside of the fieldwork period, mainly to close contacts which had an 'open' status and comply with fieldwork compliance, for the following countries:

Table 5: Contact attempts outside the fieldwork period, per country

Country	IDs with contact attempts
Austria	10,553
Belgium	131
Cyprus	1
Germany	13,348
Croatia	1
Romania	1
Albania	55

For Austria, Germany, Belgium and Albania these were conducted between the 16th and 18th November 2021.

Contact attempts identified outside of the fieldwork period are detailed in the table below.

Table 6: Specific cases with contact attempts outside the fieldwork period

ID	Contact attempt index	Contact attempt time stamp	Note	Cleaning
106235543	1	6-Jan-2021 10:11:00	Part of main fieldwork of DT&P. Fieldwork month and day are swapped.	if (ID = '106235543') DateOfContact_A2_1 = DATE.DMY(1, 6,2021) +TIME.HMS('10','11','00 '). if (ID = '106235543') DateOfContact_A2_1 = DATE.DMY(1, 2,2021) +TIME.HMS('12','50','00 '). if (ID = '106235543') DateOfContact_A2_1 = DATE.DMY(1, 4,2021) +TIME.HMS('15','55','00 '). if (ID = '106235543') DateOfContact_A2_1 = DATE.DMY(1, 4,2021) +TIME.HMS('17','25','00 '). if (ID = '106235543') DateOfContact_A2_1 = DATE.DMY(1, 5,2021) +TIME.HMS('12','06','00 ').
106235543	2	6-Feb-2021 12:50:00	Part of main fieldwork of DT&P. Fieldwork month and day are swapped.	
104005089	1	14-Jul-2020 13:36:58	Faulty date provided by the local fieldwork team	Not needed, record part of main fieldwork, flagged as invalid
113005452	1	5-Mar-2021 16:25:57	Contact attempt recorded during training/test session before fieldwork start. Done by supervisor	Not needed
113005452	2	5-Mar-2021 17:19:44	Contact attempt recorded during training/test session before fieldwork start. Done by interviewer	Not needed
124003600	1	5-Mar-2021 17:42:32	Contact attempt recorded during training/test session before fieldwork start. Done by interviewer	Not needed

- Check for the chronological order of call attempts

```
def CheckCrhonological(rowData):

    result_check=[]

    if rowData['ncontacts_total'] == 1:
        result_check.append(0)
    else:
        for callIndex in range(1,50):
            if pd.isna(rowData['DateOfContact_A2_' + str(callIndex)]) == False and
pd.isna(rowData['DateOfContact_A2_' + str(callIndex+1)]) == False:
                if (rowData['DateOfContact_A2_' + str(callIndex)] -
rowData['DateOfContact_A2_' + str(callIndex+1)]).delta <= 0:
                    result_check.append(0)
                else:
                    result_check.append(1)
    return result_check
def SumCrhonologicalCheck(rowData):
    return sum(rowData['Calls_Chronological'])
```

```
df_temp['Calls_Chronological'] = df_temp.apply(lambda x: CheckCrhonological(x),
axis='columns')
df_temp['Calls_Chronological_Sum'] = df_temp.apply(lambda x:
SumCrhonologicalCheck(x), axis='columns')

df_issue = df_temp.query('Calls_Chronological_Sum>0')

if df_issue.shape[0] > 0:
    #issues encountered
    for index, row in df_issue.iterrows():
        check_SPSS_Log.writelines('\n ID: {0} # calls are not chronological
[{1}]'.format(
            row['ID'],row['Calls_Chronological']))
        #write fix for chronological order issue
        pairCounter = 0
        for pair in row['Calls_Chronological']:
            #Variables for swap:
            #InterviewerID_
            #DateOfContact_A2_
            #Contact_Outcome_
            #Successful_Contact_YN_
            if pair == 1:
                'pariCountr == 0 is Contact_Outcome_1 and Contact_Outcome_2'
                CallsOrder_Recoding.writelines('\n IF (ID=\'{0}\')
InterviewerID_{1}=\'{2}\'.'.format(row['ID'],pairCounter+1,row['InterviewerID_'+st
r(pairCounter+2)]))
                CallsOrder_Recoding.writelines('\n IF (ID=\'{0}\')
InterviewerID_{1}=\'{2}\'.'.format(row['ID'], pairCounter + 2,
row['InterviewerID_' + str(pairCounter + 1)]))

                #DATE.DMY(18,10,2021)+TIME.HMS(17,2,3).
                '''
                x['DateOfContact_A2_1'].month
                x['DateOfContact_A2_1'].day
                x['DateOfContact_A2_1'].year
                row['DateOfContact_A2_1'].hour
                x['DateOfContact_A2_1'].minute
                x['DateOfContact_A2_1'].second
                '''
                revTime =
'DATE.DMY('+str(row['DateOfContact_A2_'+str(pairCounter+2)].day)+','+str(row['Date
OfContact_A2_'+str(pairCounter+2)].month)+','+str(row['DateOfContact_A2_'+str(pair
Counter+2)].year)+')
+TIME.HMS('+str(row['DateOfContact_A2_'+str(pairCounter+2)].hour)+','+str(row['Dat
eOfContact_A2_'+str(pairCounter+2)].minute)+','+str(row['DateOfContact_A2_'+str(pa
irCounter+2)].second)+')'
                CallsOrder_Recoding.writelines('\n IF (ID=\'{0}\')
DateOfContact_A2_{1}={2}.'.format(row['ID'],pairCounter+1,revTime))

                revTime = 'DATE.DMY(' + str(row['DateOfContact_A2_' +
str(pairCounter + 1)].day)  + ',' + \
                          str(row['DateOfContact_A2_' + str(pairCounter +
1)].month) + ',' + str(row[
                              'DateOfContact_A2_' + str(pairCounter + 1)].year) +
') +TIME.HMS(' + str(row[
                              'DateOfContact_A2_' + str(pairCounter + 1)].hour) +
',' + str(row[
                              'DateOfContact_A2_' + str(pairCounter + 1)].minute)
+ ',' + str(row[
```

```
                                'DateOfContact_A2_' + str(pairCounter + 1)].second)
+ ')'
                CallsOrder_Recoding.writelines('\n IF (ID=\'{0}\')
DateOfContact_A2_{1}={2}.'.format(row['ID'], pairCounter + 2, revTime))

                CallsOrder_Recoding.writelines('\n IF (ID=\'{0}\')
Contact_Outcome_{1}={2}.'.format(row['ID'],pairCounter+1,row['Contact_Outcome_'+st
r(pairCounter+2)]))
                CallsOrder_Recoding.writelines('\n IF (ID=\'{0}\')
Contact_Outcome_{1}={2}.'.format(row['ID'], pairCounter + 2,
row['Contact_Outcome_' + str(pairCounter + 1)]))

                CallsOrder_Recoding.writelines('\n IF (ID=\'{0}\')
Successful_Contact_YN_{1}={2}.'.format(row['ID'],pairCounter+1,row['Successful_Con
tact_YN_'+str(pairCounter+2)]))
                CallsOrder_Recoding.writelines('\n IF (ID=\'{0}\')
Successful_Contact_YN_{1}={2}.'.format(row['ID'], pairCounter + 2,
row['Successful_Contact_YN_' + str(pairCounter + 1)]))
            pairCounter+=1


del df_issue
```

Issues identified: 0

- Check for the proper re-coding of the last contact outcome in the summary variable

```
def GetLastOutcome(rowData):
    try:
        result = rowData['Contact_Outcome_' +
str(int(rowData['ncontacts_total']))]
    except:
        print(rowData['ID'] + " issue with interviewer ID")
        result = 5
    return result
```

```
df_temp['lastOutcomeCheck'] = df_temp.apply(lambda x: GetLastOutcome(x),
axis='columns')

df_issue = df_temp.query('lastOutcomeCheck != ContactStatus_Last')

if df_issue.shape[0] > 0:
    #issues encountered
    for index, row in df_issue.iterrows():
        check_SPSS_Log.writelines('\n ID: {0} # last outcome code not pulled
properly [ContactStatus_Last = {1}], Last outcome code found in lastOutcomeCheck :
{2}'.format(
            row['ID'],row['ContactStatus_Last'],row['lastOutcomeCheck']))
        if row['ContactStatus_Last'] == '104':
            Consistency_Recoding.writelines('\n if (\'ID = {0})
Contact_Outcome_{1} = {2}'.format(
            row['ID'],row['ncontacts_total'],row['ContactStatus_Last']))
        else:
            Consistency_Recoding.writelines('\n if (\'ID = {0}) ContactStatus_Last
= {1}'.format(
            row['ID'],row['Contact_Outcome_' + str(int(row['ncontacts_total']))]))
del df_issue
```

Issues identified: 460

Recoding proposed to address the issue:

```
if (ID='102046246 ') Contact_Outcome_8 =  47.
 if (ID='104003665 ') Contact_Outcome_2 =  47.
 if (ID='104019486 ') Contact_Outcome_1 =  47.
 if (ID='104022061 ') Contact_Outcome_2 =  47.
 if (ID='104033349 ') Contact_Outcome_1 =  47.
 if (ID='104037020 ') Contact_Outcome_3 =  47.
 if (ID='104037229 ') Contact_Outcome_1 =  47.
 if (ID='104039006 ') Contact_Outcome_1 =  47.
 if (ID='104040415 ') Contact_Outcome_1 =  47.
 if (ID='104043017 ') Contact_Outcome_1 =  47.
 if (ID='104045763 ') Contact_Outcome_1 =  47.
 if (ID='104045932 ') Contact_Outcome_3 =  47.
 if (ID='104053868 ') Contact_Outcome_3 =  47.
 if (ID='104055518 ') Contact_Outcome_1 =  47.
 if (ID='104061637 ') Contact_Outcome_1 =  47.
 if (ID='106360340 ') Contact_Outcome_5 =  47.
 if (ID='106361589 ') Contact_Outcome_7 =  47.
 if (ID='106361607 ') Contact_Outcome_4 =  47.
 if (ID='106361905 ') Contact_Outcome_5 =  47.
 if (ID='106362777 ') Contact_Outcome_4 =  47.
 if (ID='106363409 ') Contact_Outcome_4 =  47.
 if (ID='106365392 ') Contact_Outcome_4 =  47.
 if (ID='106366439 ') Contact_Outcome_4 =  47.
 if (ID='106367426 ') Contact_Outcome_5 =  47.
 if (ID='106367609 ') Contact_Outcome_5 =  47.
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 if (ID='106380066 ') Contact_Outcome_5 =  47.
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 if (ID='107012222 ') Contact_Outcome_1 =  47.
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if (ID='107047456 ') Contact_Outcome_6 =  47.
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if (ID='111006877 ') Contact_Outcome_1 =  47.
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if (ID='111033328 ') Contact_Outcome_1 =  47.
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if (ID='118001071 ') Contact_Outcome_5 = 104.
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if (ID='118004394 ') Contact_Outcome_5 = 104.
if (ID='118004525 ') Contact_Outcome_9 = 104.
if (ID='118004698 ') Contact_Outcome_5 = 104.
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if (ID='119018616 ') Contact_Outcome_9 =  47.
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if (ID='119020201 ') Contact_Outcome_1 =  47.
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if (ID='120012744 ') Contact_Outcome_4 = 104.
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if (ID='120013147 ') Contact_Outcome_4 = 104.
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if (ID='120013527 ') Contact_Outcome_3 = 104.
if (ID='120013554 ') Contact_Outcome_1 =  47.
if (ID='120013592 ') Contact_Outcome_3 = 104.
if (ID='120013797 ') Contact_Outcome_3 = 104.
if (ID='120013816 ') Contact_Outcome_3 = 104.
if (ID='120013971 ') Contact_Outcome_3 = 104.
if (ID='120014406 ') Contact_Outcome_1 =  47.
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if (ID='121015243 ') Contact_Outcome_1 = 104.
if (ID='121015681 ') Contact_Outcome_2 = 104.
if (ID='121015966 ') Contact_Outcome_5 = 104.
if (ID='121016478 ') Contact_Outcome_5 = 104.
if (ID='121017427 ') Contact_Outcome_5 = 104.
if (ID='121017484 ') Contact_Outcome_5 = 104.
if (ID='121017952 ') Contact_Outcome_5 = 104.
if (ID='121018366 ') Contact_Outcome_4 = 104.
if (ID='121018487 ') Contact_Outcome_3 = 104.
if (ID='121019136 ') Contact_Outcome_5 = 104.
if (ID='121019689 ') Contact_Outcome_5 = 104.
if (ID='122002930 ') Contact_Outcome_20 = 109.
if (ID='122003132 ') Contact_Outcome_3 = 109.
if (ID='122003900 ') Contact_Outcome_6 =  47.
if (ID='122005627 ') Contact_Outcome_8 = 109.
if (ID='122005793 ') Contact_Outcome_2 = 109.
if (ID='122006504 ') Contact_Outcome_4 =  47.
if (ID='122007160 ') Contact_Outcome_2 =  47.
if (ID='122007400 ') Contact_Outcome_4 = 109.
if (ID='122008005 ') Contact_Outcome_11 = 109.
if (ID='122008010 ') Contact_Outcome_5 =  47.
if (ID='122009095 ') Contact_Outcome_4 =  47.
if (ID='122010557 ') Contact_Outcome_14 = 109.
if (ID='122011568 ') Contact_Outcome_17 = 109.
if (ID='122012055 ') Contact_Outcome_10 = 109.
if (ID='122012318 ') Contact_Outcome_3 =  47.
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if (ID='122012632 ') Contact_Outcome_3 = 109.
if (ID='122013203 ') Contact_Outcome_2 =  47.
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if (ID='122013777 ') Contact_Outcome_2 =  47.
if (ID='122014227 ') Contact_Outcome_3 =  47.
if (ID='122015358 ') Contact_Outcome_3 = 109.
if (ID='122016287 ') Contact_Outcome_3 = 109.
if (ID='122016752 ') Contact_Outcome_5 =  47.
if (ID='122017635 ') Contact_Outcome_3 =  47.
if (ID='122017925 ') Contact_Outcome_6 = 109.
if (ID='122018099 ') Contact_Outcome_5 =  47.
if (ID='122018240 ') Contact_Outcome_2 =  47.
if (ID='122019479 ') Contact_Outcome_1 =  47.
if (ID='122019851 ') Contact_Outcome_5 = 109.
if (ID='122021749 ') Contact_Outcome_26 =  47.
if (ID='122024402 ') Contact_Outcome_10 =  47.
if (ID='122024781 ') Contact_Outcome_5 = 109.
if (ID='122025539 ') Contact_Outcome_4 = 109.
if (ID='122026103 ') Contact_Outcome_1 =  47.
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if (ID='122027580 ') Contact_Outcome_1 =  47.
if (ID='122028001 ') Contact_Outcome_1 =  47.
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if (ID='122031551 ') Contact_Outcome_6 = 109.
if (ID='122033103 ') Contact_Outcome_3 =  47.
if (ID='122033297 ') Contact_Outcome_25 =  47.
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if (ID='122038851 ') Contact_Outcome_14 = 109.
if (ID='122039194 ') Contact_Outcome_8 = 109.
if (ID='122039352 ') Contact_Outcome_13 = 109.
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if (ID='122040717 ') Contact_Outcome_5 =  47.
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if (ID='122042729 ') Contact_Outcome_5 = 109.
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if (ID='122061741 ') Contact_Outcome_9 = 104.
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if (ID='122071543 ') Contact_Outcome_10 = 109.
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if (ID='122086035 ') Contact_Outcome_4 = 109.
if (ID='122087049 ') Contact_Outcome_14 = 109.
if (ID='122087131 ') Contact_Outcome_8 = 109.
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if (ID='122088772 ') Contact_Outcome_1 =  47.
if (ID='122089652 ') Contact_Outcome_1 =  47.
if (ID='122090479 ') Contact_Outcome_7 = 109.
if (ID='122090944 ') Contact_Outcome_1 =  47.
if (ID='122093889 ') Contact_Outcome_4 = 109.
if (ID='122094076 ') Contact_Outcome_5 =  47.
if (ID='122094646 ') Contact_Outcome_10 = 109.
if (ID='122097638 ') Contact_Outcome_13 =  47.
if (ID='122097691 ') Contact_Outcome_3 =  47.
if (ID='122098271 ') Contact_Outcome_1 = 109.
if (ID='122098326 ') Contact_Outcome_18 = 109.
if (ID='122098524 ') Contact_Outcome_6 = 109.
if (ID='122098748 ') Contact_Outcome_2 =  47.
if (ID='122099256 ') Contact_Outcome_11 = 109.
if (ID='122099403 ') Contact_Outcome_1 =  47.
if (ID='122100872 ') Contact_Outcome_3 = 109.
if (ID='122101007 ') Contact_Outcome_4 =  47.
if (ID='122101015 ') Contact_Outcome_2 =  47.
if (ID='122103661 ') Contact_Outcome_21 =  47.
if (ID='122103814 ') Contact_Outcome_17 = 104.
if (ID='122103946 ') Contact_Outcome_16 = 109.
if (ID='122104814 ') Contact_Outcome_2 = 109.
if (ID='122105102 ') Contact_Outcome_2 = 109.
if (ID='122107290 ') Contact_Outcome_2 = 104.
if (ID='122108265 ') Contact_Outcome_7 = 109.
if (ID='122109441 ') Contact_Outcome_3 = 109.
if (ID='122110000 ') Contact_Outcome_7 = 109.
if (ID='122111691 ') Contact_Outcome_19 =  47.
if (ID='122112235 ') Contact_Outcome_10 = 109.
if (ID='122112924 ') Contact_Outcome_2 = 109.
```

```
if (ID='122113076 ') Contact_Outcome_2 =  47.
if (ID='122113236 ') Contact_Outcome_2 =  47.
if (ID='122113502 ') Contact_Outcome_3 = 104.
if (ID='122114082 ') Contact_Outcome_6 =  47.
if (ID='122115187 ') Contact_Outcome_2 =  47.
if (ID='122116405 ') Contact_Outcome_8 = 109.
if (ID='123010213 ') Contact_Outcome_7 = 104.
if (ID='123015677 ') Contact_Outcome_2 = 104.
if (ID='125002110 ') Contact_Outcome_1 = 104.
if (ID='125009106 ') Contact_Outcome_3 = 104.
if (ID='125019592 ') Contact_Outcome_2 = 104.
if (ID='125019761 ') Contact_Outcome_1 = 104.
if (ID='125023101 ') Contact_Outcome_1 = 104.
if (ID='126005683 ') Contact_Outcome_1 = 104.
if (ID='127034475 ') Contact_Outcome_6 = 104.
if (ID='127046360 ') Contact_Outcome_6 = 104.
if (ID='129005999 ') Contact_Outcome_5 = 104.
if (ID='129020318 ') Contact_Outcome_4 = 104.
if (ID='129027152 ') Contact_Outcome_1 = 104.
if (ID='129032790 ') Contact_Outcome_4 = 104.
if (ID='130001728 ') Contact_Outcome_2 = 104.
if (ID='130003207 ') Contact_Outcome_2 = 104.
if (ID='130005097 ') Contact_Outcome_10 = 104.
if (ID='130005749 ') Contact_Outcome_8 = 104.
if (ID='130005773 ') Contact_Outcome_11 = 104.
if (ID='130009205 ') Contact_Outcome_7 = 104.
if (ID='130010230 ') Contact_Outcome_5 = 104.
if (ID='130010869 ') Contact_Outcome_5 = 104.
if (ID='130017757 ') Contact_Outcome_6 = 104.
if (ID='130018327 ') Contact_Outcome_3 = 104.
if (ID='130018972 ') Contact_Outcome_7 = 104.
if (ID='130025972 ') Contact_Outcome_2 = 104.
if (ID='130026268 ') Contact_Outcome_3 = 104.
if (ID='131002421 ') Contact_Outcome_4 = 104.
if (ID='131002628 ') Contact_Outcome_2 = 104.
if (ID='131019066 ') Contact_Outcome_1 = 104.
if (ID='131019765 ') Contact_Outcome_5 = 104.
if (ID='131019922 ') Contact_Outcome_5 = 104.
if (ID='131020887 ') Contact_Outcome_5 = 104.
if (ID='131023206 ') Contact_Outcome_4 = 104.
if (ID='131025916 ') Contact_Outcome_1 = 104.
if (ID='131025922 ') Contact_Outcome_1 = 104.
if (ID='131025936 ') Contact_Outcome_1 = 104.
if (ID='131025952 ') Contact_Outcome_1 = 104.
if (ID='131025974 ') Contact_Outcome_1 = 104.
if (ID='131026030 ') Contact_Outcome_1 = 104.
```

```
if (ID='133002405 ') Contact_Outcome_5 =  47.
if (ID='133010413 ') Contact_Outcome_5 = 104.
if (ID='133012498 ') Contact_Outcome_6 = 104.
if (ID='133017875 ') Contact_Outcome_20 = 104.
if (ID='133033938 ') Contact_Outcome_4 =  47.
if (ID='133046696 ') Contact_Outcome_20 = 104.
if (ID='133050966 ') Contact_Outcome_12 = 104.
if (ID='134045649 ') Contact_Outcome_3 = 104.
if (ID='135001007 ') Contact_Outcome_3 = 104.
if (ID='135001349 ') Contact_Outcome_1 = 104.
if (ID='135001440 ') Contact_Outcome_4 = 104.
if (ID='135001485 ') Contact_Outcome_1 = 104.
if (ID='135001754 ') Contact_Outcome_2 = 104.
if (ID='135001820 ') Contact_Outcome_2 = 104.
if (ID='135001821 ') Contact_Outcome_1 = 104.
if (ID='135001839 ') Contact_Outcome_2 = 104.
if (ID='135001894 ') Contact_Outcome_4 = 104.
if (ID='135002327 ') Contact_Outcome_5 = 104.
if (ID='135002350 ') Contact_Outcome_1 = 104.
if (ID='135002609 ') Contact_Outcome_2 = 104.
if (ID='135002775 ') Contact_Outcome_3 = 104.
if (ID='135003865 ') Contact_Outcome_6 = 104.
if (ID='135004096 ') Contact_Outcome_4 = 104.
if (ID='135004106 ') Contact_Outcome_4 = 104.
if (ID='135004352 ') Contact_Outcome_6 = 104.
if (ID='135004501 ') Contact_Outcome_6 = 104.
if (ID='135006276 ') Contact_Outcome_3 = 104.
if (ID='135007681 ') Contact_Outcome_1 = 104.
if (ID='135008754 ') Contact_Outcome_4 = 104.
if (ID='135009411 ') Contact_Outcome_2 = 104.
if (ID='135010656 ') Contact_Outcome_1 = 104.
if (ID='135011198 ') Contact_Outcome_4 = 104.
if (ID='135011471 ') Contact_Outcome_2 = 104.
if (ID='135011475 ') Contact_Outcome_3 = 104.
if (ID='135011576 ') Contact_Outcome_1 = 104.
if (ID='135011577 ') Contact_Outcome_1 = 104.
if (ID='135011606 ') Contact_Outcome_1 = 104.
if (ID='135011614 ') Contact_Outcome_1 = 104.
if (ID='135011625 ') Contact_Outcome_1 = 104.
if (ID='135011631 ') Contact_Outcome_1 = 104.
if (ID='135011640 ') Contact_Outcome_2 = 104.
if (ID='135011682 ') Contact_Outcome_2 = 104.
if (ID='135011695 ') Contact_Outcome_1 = 104.
if (ID='135011748 ') Contact_Outcome_2 = 104.
if (ID='135011754 ') Contact_Outcome_1 = 104.
if (ID='135011773 ') Contact_Outcome_1 = 104.
```

if (ID='135011805 ') Contact_Outcome_1 = 104.
if (ID='135011830 ') Contact_Outcome_1 = 104.
if (ID='136006569 ') Contact_Outcome_1 = 104.
if (ID='136007710 ') Contact_Outcome_1 = 104.

- Check for the proper re-coding of the last contact interviewer ID in the summary variable

```
def GetLastInterviewerID(rowData):
    return rowData['InterviewerID_' + str(int(rowData['ncontacts_total']))]
```

```
df_temp['lastIntIDCheck'] = df_temp.apply(lambda x: GetLastInterviewerID(x),
axis='columns')

df_issue = df_temp.query('lastIntIDCheck != lastcontactinterviewerid')

if df_issue.shape[0] > 0:
    # issues encountered
    for index, row in df_issue.iterrows():
        try:
            check_SPSS_Log.writelines(
            '\n ID: {0} # last Interviewer ID  not pulled properly [InterviewerID
= {1}], ID in lastIntIDCheck : {2}'.format(
                row['ID'], row['lastcontactinterviewerid'],
row['lastIntIDCheck']))
        except:
            print('log issue with ID ' + str( row['ID']))
del df_issue
```

- Check for the proper re-coding of the last contact date in the summary variable

```
def GetLastContactDate(rowData):
    return rowData['DateOfContact_A2_' + str(int(rowData['ncontacts_total']))]
```

```
df_temp['lastDateCheck'] = df_temp.apply(lambda x: GetLastContactDate(x),
axis='columns')

df_issue = df_temp.query('lastDateCheck != lastcontactdate')

if df_issue.shape[0] > 0:
    # issues encountered
    for index, row in df_issue.iterrows():
        check_SPSS_Log.writelines(
            '\n ID: {0} # last Interviewer ID  not pulled properly [InterviewerID
= {1}], fw period found in lastDateCheck : {2}'.format(
                row['ID'], row['lastcontactdate'], row['lastDateCheck']))
```

Issues identified: 24

Proposed re-coding to clean the inconsistency:

if (ID='107002516') DateOfContact_A2_5 = Date.DMY(25,03,2021)+TIME.HMS(17,24,39).
if (ID='107005148') DateOfContact_A2_5 = Date.DMY(25,03,2021)+TIME.HMS(10,55,03).
if (ID='107005359') DateOfContact_A2_5 = Date.DMY(25,03,2021)+TIME.HMS(11,56,28).

```
if (ID='107006875') DateOfContact_A2_5 = Date.DMY(25,03,2021)+TIME.HMS(13,18,07).
if (ID='107013244') DateOfContact_A2_5 = Date.DMY(25,03,2021)+TIME.HMS(10,51,19).
if (ID='107015879') DateOfContact_A2_5 = Date.DMY(25,03,2021)+TIME.HMS(10,21,43).
if (ID='107016156') DateOfContact_A2_5 = Date.DMY(25,03,2021)+TIME.HMS(13,24,37).
if (ID='107023308') DateOfContact_A2_3 = Date.DMY(06,04,2021)+TIME.HMS(18,18,58).
if (ID='107035967') DateOfContact_A2_5 = Date.DMY(02,06,2021)+TIME.HMS(16,38,58).
if (ID='107046302') DateOfContact_A2_5 = Date.DMY(03,06,2021)+TIME.HMS(18,37,44).
if (ID='107054402') DateOfContact_A2_3 = Date.DMY(12,07,2021)+TIME.HMS(16,52,41).
if (ID='108009272') DateOfContact_A2_4 = Date.DMY(05,05,2021)+TIME.HMS(11,50,56).
if (ID='108013513') DateOfContact_A2_5 = Date.DMY(31,05,2021)+TIME.HMS(15,33,18).
if (ID='108015714') DateOfContact_A2_5 = Date.DMY(16,06,2021)+TIME.HMS(06,58,18).
if (ID='108017126') DateOfContact_A2_2 = Date.DMY(10,07,2021)+TIME.HMS(06,58,32).
if (ID='108017445') DateOfContact_A2_3 = Date.DMY(02,08,2021)+TIME.HMS(13,30,07).
if (ID='111014044') DateOfContact_A2_5 = Date.DMY(10,06,2021)+TIME.HMS(16,03,45).
if (ID='111017163') DateOfContact_A2_3 = Date.DMY(23,03,2021)+TIME.HMS(08,30,22).
if (ID='111020246') DateOfContact_A2_3 = Date.DMY(24,03,2021)+TIME.HMS(08,09,45).
if (ID='111021824') DateOfContact_A2_4 = Date.DMY(14,04,2021)+TIME.HMS(18,01,06).
if (ID='111036300') DateOfContact_A2_5 = Date.DMY(14,06,2021)+TIME.HMS(19,11,04).
if (ID='111045286') DateOfContact_A2_5 = Date.DMY(15,06,2021)+TIME.HMS(17,12,31).
if (ID='121011353') DateOfContact_A2_4 = Date.DMY(21,04,2021)+TIME.HMS(12,45,00).
```

Outlier data checks and results

Checks were implemented by looking at the 1st and 99th percentile of variable distribution, evaluating the probability/accuracy of the information provided and advising on solutions to fix any issues.

The first variable examined was age.

Variable distribution - Age

Table 7: Examined variable name and label

Question Name	Age
Question wording	**Starting with yourself, how old are you?**

Syntax used for producing visual and table results:

missing values age(-999).

execute.

EXAMINE VARIABLES age

/ID=ID

/PLOT HISTOGRAM

/COMPARE GROUPS

/STATISTICS DESCRIPTIVES EXTREME

/CINTERVAL 95

/MISSING PAIRWISE

/NOTOTAL

FREQUENCIES VARIABLES=age

/BARCHART PERCENT

/ORDER=ANALYSIS.

Figure 1: Frequency of answers for the question: Age [all countries]

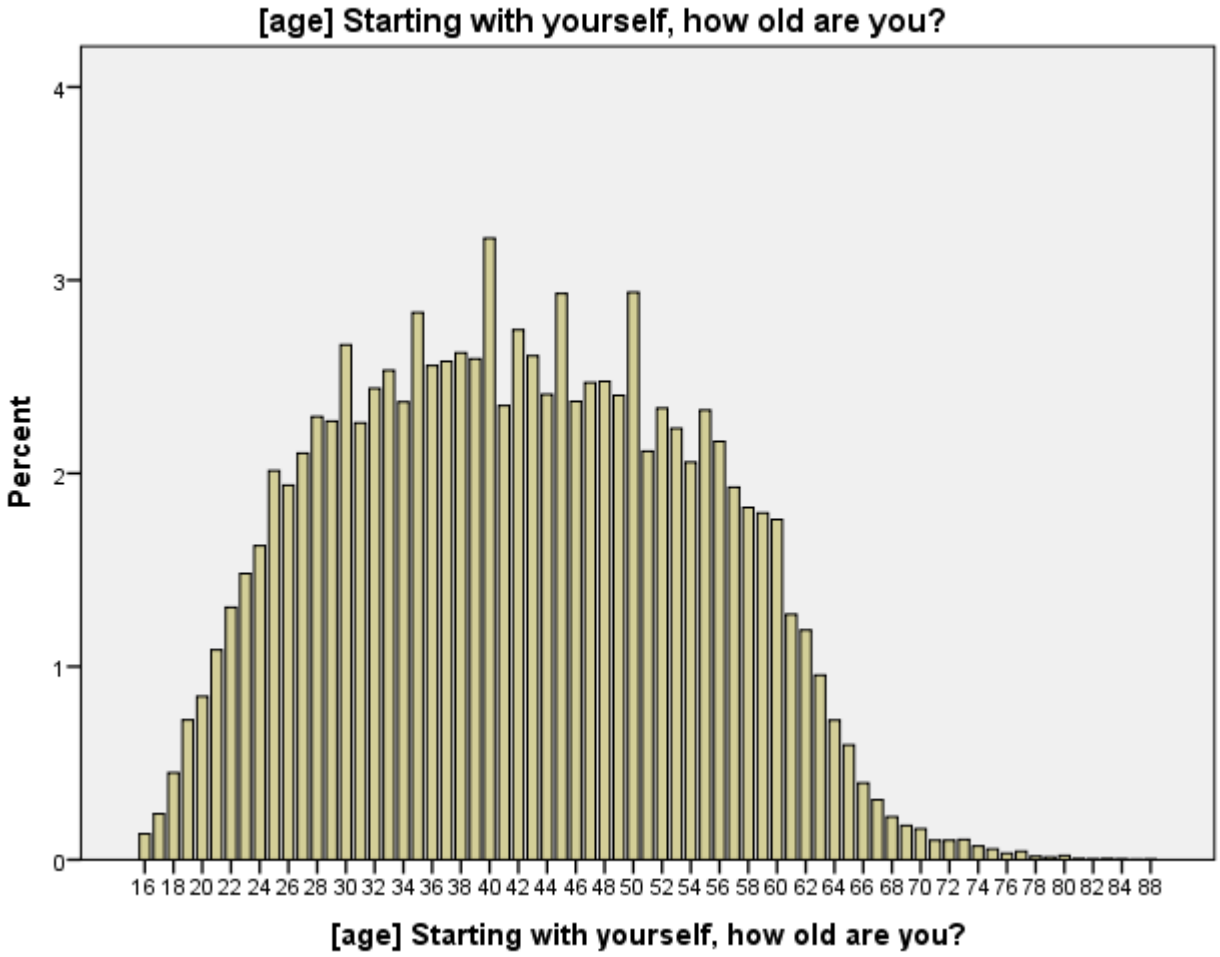


Table 7a: Evaluated records for variable: Age [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[age] Starting with yourself, how old are you?	71631	99.8%	133	0.2%	71764	100.0%

Table 8: Descriptive statistics for the variable: Age [all countries]

Descriptives

			Statistic	Std. Error
[age] Starting with yourself, how old are you?	Mean		41.96	.046
	95% Confidence Interval for Mean	Lower Bound	41.87	
		Upper Bound	42.05	
	5% Trimmed Mean		41.85	
	Median		42.00	
	Variance		151.417	
	Std. Deviation		12.305	
	Minimum		16	
	Maximum		88	
	Range		72	
	Interquartile Range		20	
	Skewness		.115	.009
	Kurtosis		-.764	.018

Table 9: Extreme answers provided for the question: Age [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[age] Starting with yourself, how old are you?	Highest	1	23614	110092924	88
		2	47939	122093398	88
		3	11130	105249000	87
		4	36877	116073197	84
		5	52469	125016420	84[a]
	Lowest	1	70617	136010623	16
		2	70510	136009105	16
		3	70326	136007777	16
		4	70256	136007264	16
		5	69610	136001975	16[b]

a. Only a partial list of cases with the value 84 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 16 are shown in the table of lower extremes.

Variable distribution - Contract_Duration_Month

Table 10: Examined variable name and label

Question Name	Contract_Duration_Month
Question wording	**What is the exact duration of the contract in months?**

Syntax used for producing visual and table results:

missing values contract_duration_month(-999 THRU -778).

execute.

EXAMINE VARIABLES contract_duration_month

/ID=ID

/PLOT HISTOGRAM

/COMPARE GROUPS

/STATISTICS DESCRIPTIVES EXTREME

/CINTERVAL 95

/MISSING PAIRWISE

/NOTOTAL

FREQUENCIES VARIABLES=contract_duration_month

/BARCHART PERCENT

/ORDER=ANALYSIS.

Figure 2: Frequency of non-zero answers for the question: Contract_Duration_Month [all countries]

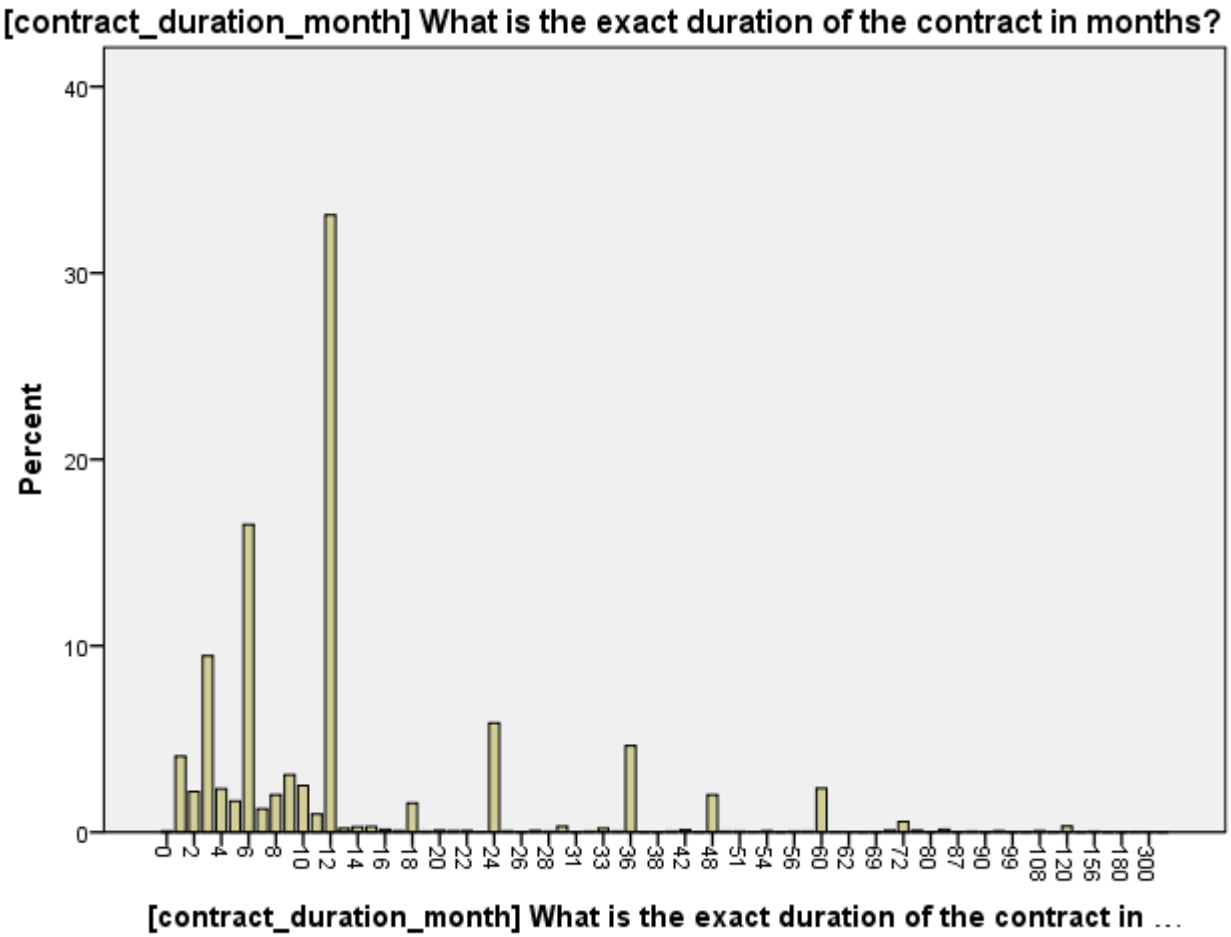


Table 11: Evaluated records for variable: contract_duration_month [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[contract_duration_month] What is the exact duration of the contract in months?	7260	10.1%	64504	89.9%	71764	100.0%

Table 12: Descriptive statistics for the variable: contract_duration_month [all countries]

Descriptives

			Statistic	Std. Error
[contract_duration_month] What is the exact duration of the contract in months?	Mean		14.54	.209
	95% Confidence Interval for Mean	Lower Bound	14.13	
		Upper Bound	14.95	
	5% Trimmed Mean		12.11	
	Median		12.00	
	Variance		316.570	
	Std. Deviation		17.792	
	Minimum		0	
	Maximum		384	
	Range		384	
	Interquartile Range		6	
	Skewness		5.496	.029
	Kurtosis		63.456	.057

Table 13: Extreme answers provided for the question: contract_duration_month [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[contract_duration_month] What is the exact duration of the contract in months?	Highest	1	69368	135011640	384
		2	40795	119006272	300
		3	54411	126007944	300
		4	17005	107055306	264
		5	59411	128021166	264
	Lowest	1	52997	125040461	0
		2	28377	112041734	0
		3	21831	110032414	0
		4	5657	102047006	0
		5	70660	137001326	1[a]

a. Only a partial list of cases with the value 1 are shown in the table of lower extremes.

At the project level there were some outliers with answers of 180 months or more. Six respondents provided such answers.

Table 14: Potential outlier cases - [contract_duration_month]

ID	Response	Comment
107055306	264	Employee, dancer.
116036096	180	Employee, painter and arts work, private sector
119006272	300	Employee, telecommunication technician, private sector
126007944	300	Employee, administration work in private sector
128021166	264	Employee, armed forces
135011640	384	Employee, electrical mechanic, private sector
110032414	0	Employee full time worker with limited duration contract. Usual work requires 40 hours a week
112041734	0	Employee full time worker with limited duration contract. Usual work requires 40 hours a week
125040461	0	Employee part time worker. Usual work requires 40 hours a week

Interviews with no answer provided could be recoded as “Refusal” for the current and subsequent questions.

if (ID = '110032414') contract_duration_month = -999.
if (ID = '112041734') contract_duration_month = -999.
if (ID = '125040461') contract_duration_month = -999.
if (ID = '104003457') contract_duration_days = -999.
if (ID = '110032414') contract_duration_days = -999.
if (ID = '110032414') contract_duration_weeks = -999.
if (ID = '112041734') contract_duration_weeks = -999.
if (ID = '125040461') contract_duration_weeks = -999.
if (ID = '112041734') contract_duration_days = -999.
if (ID = '125040461') contract_duration_days = -999.

When converted to years, responses of 180 months or more yielded implausible answers, ranging from 15 to 32 years. Since the cases are isolated, there was a possibility of interviewer error - typing in weeks instead of months. If these answers are considered to be weeks then the range remains within the region of five years, which is more plausible.

One of the data cleaning options here was to recode the answer as a refusal, or to transfer the answer to contract_duration_weeks. The decision was to recode to refusal.

Variable distribution - Contract_Duration_Weeks

Table 15: Examined variable name and label

Question Name	Contract_Duration_Weeks
Question wording	**What is the exact duration of the contract in weeks?**

Syntax used for producing visual and table results:

```
missing values contract_duration_weeks(-778,-888).
execute.

EXAMINE VARIABLES contract_duration_weeks
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=contract_duration_weeks
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 3: Frequency of non-empty answers for the question: Contract_Duration_Weeks [all countries

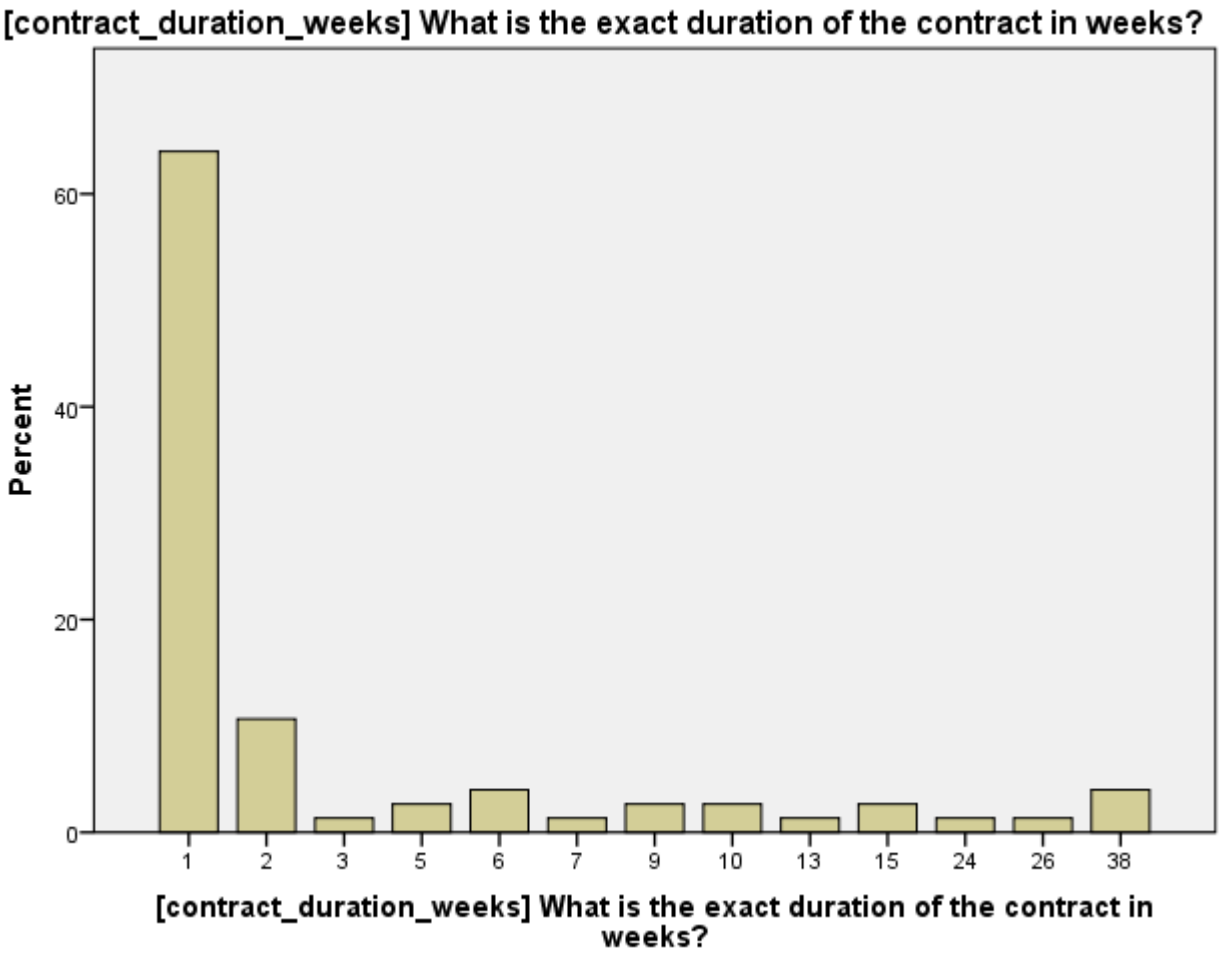


Table 16: Evaluated records for variable: contract_duration_weeks [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[contract_duration_weeks] What is the exact duration of the contract in weeks?	75	0.1%	71689	99.9%	71764	100.0%

Table 17: Descriptive statistics for the variable: contract_duration_weeks [all countries]

Descriptives

			Statistic	Std. Error
[contract_duration_weeks] What is the exact duration of the contract in weeks?	Mean		4.63	.973
	95% Confidence Interval for Mean	Lower Bound	2.69	
		Upper Bound	6.57	
	5% Trimmed Mean		3.11	
	Median		1.00	
	Variance		71.021	
	Std. Deviation		8.427	
	Minimum		1	
	Maximum		38	
	Range		37	
	Interquartile Range		2	
	Skewness		3.002	.277
	Kurtosis		8.817	.548

Table 18: Extreme answers provided for the question: contract_duration_weeks [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[contract_duration_weeks] What is the exact duration of the contract in weeks?	Highest	1	1902	102002159	38
		2	4350	102029880	38
		3	34021	115032296	38
		4	52786	125031957	26
		5	33962	115030186	24
	Lowest	1	27862	112034249	1
		2	27757	112032725	1
		3	26550	112015510	1
		4	26050	112008791	1
		5	25685	112003435	1[a]

a. Only a partial list of cases with the value 1 are shown in the table of lower extremes.

The number of respondents who provided an answer at this question was small (75 cases) compared to the overall survey. Three respondents answered 38 weeks. This occurred in Belgium (2 cases) and in Ireland. This period is usually related to term-time for school activities, which is the case in Ireland. The cases for Belgium are for an assistant carpenter (21 years old) and a social worker, related to temporary COVID-19 measures.

Variable distribution - Contract_Duration_Days

Table 19: Examined variable name and label

Question Name	Contract_Duration_Days
Question wording	**What is the exact duration of the contract in days?**

Syntax used for producing visual and table results:

```
missing values contract_duration_days(-778).
execute.

EXAMINE VARIABLES contract_duration_days
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=contract_duration_days
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 4: Frequency of non-empty answers for the question: Contract_Duration_days [all countries

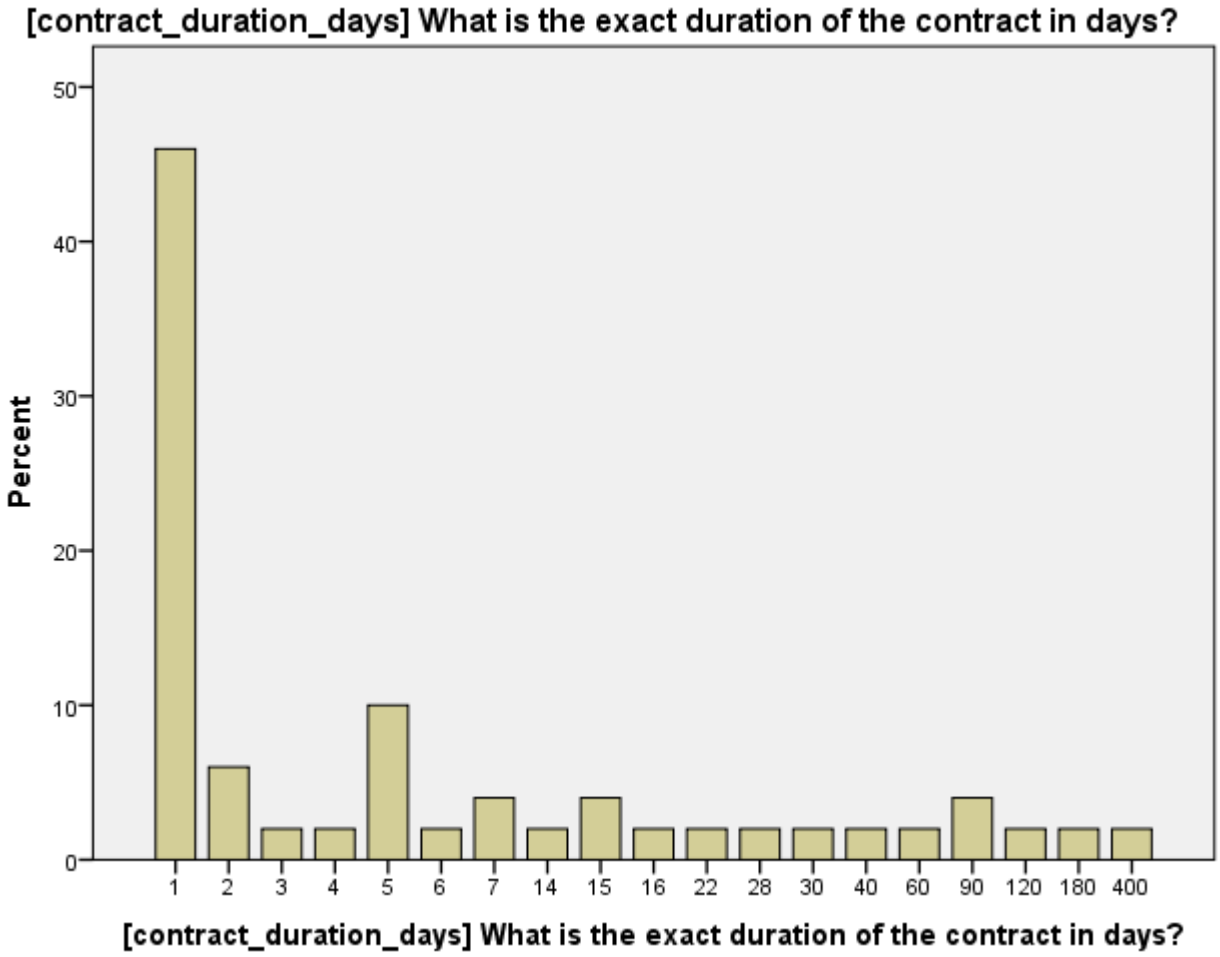


Table 20: Evaluated records for variable: contract_duration_days [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[contract_duration_days] What is the exact duration of the contract in days?	50	0.1%	71714	99.9%	71764	100.0%

Table 21: Descriptive statistics for the variable: contract_duration_days [all countries]

Descriptives

			Statistic	Std. Error
[contract_duration_days] What is the exact duration of the contract in days?	Mean		24.02	9.097
	95% Confidence Interval for Mean	Lower Bound	5.74	
		Upper Bound	42.30	
	5% Trimmed Mean		12.41	
	Median		2.00	
	Variance		4137.571	
	Std. Deviation		64.324	
	Minimum		1	
	Maximum		400	
	Range		399	
	Interquartile Range		14	
	Skewness		4.638	.337
	Kurtosis		24.710	.662

Table 22: Extreme answers provided for the question: contract_duration_days [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[contract_duration_days] What is the exact duration of the contract in days?	Highest	1	52423	125013773	400
		2	49339	123010077	180
		3	63959	131025577	120
		4	2946	102012598	90
		5	51940	124023508	90
	Lowest	1	28150	112038520	1
		2	27883	112034639	1
		3	27589	112030285	1
		4	27430	112028095	1
		5	26902	112020655	1[a]

a. Only a partial list of cases with the value 1 are shown in the table of lower extremes.

Notable outlier data was found in one of the answers, which is 400 days for an 18 year old shop sales assistant. The answer can be cleaned to a one year employment contract.

if (ID = '125013773') contract_duration_days = 365.

Variable distribution - Expected_Hours_Week

Table 23: Examined variable name and label

Question Name	Expected_Hours_Week
Question wording	**How many working hours are you expected to work in a usual week or other specified working period**

Syntax used for producing the visual and table results:

```
missing values expected_hours_week (-888,-997,-999).
execute.

EXAMINE VARIABLES expected_hours_week
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=expected_hours_week
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 5: Frequency of non-empty answers for the question: Expected_hours_week [all countries]

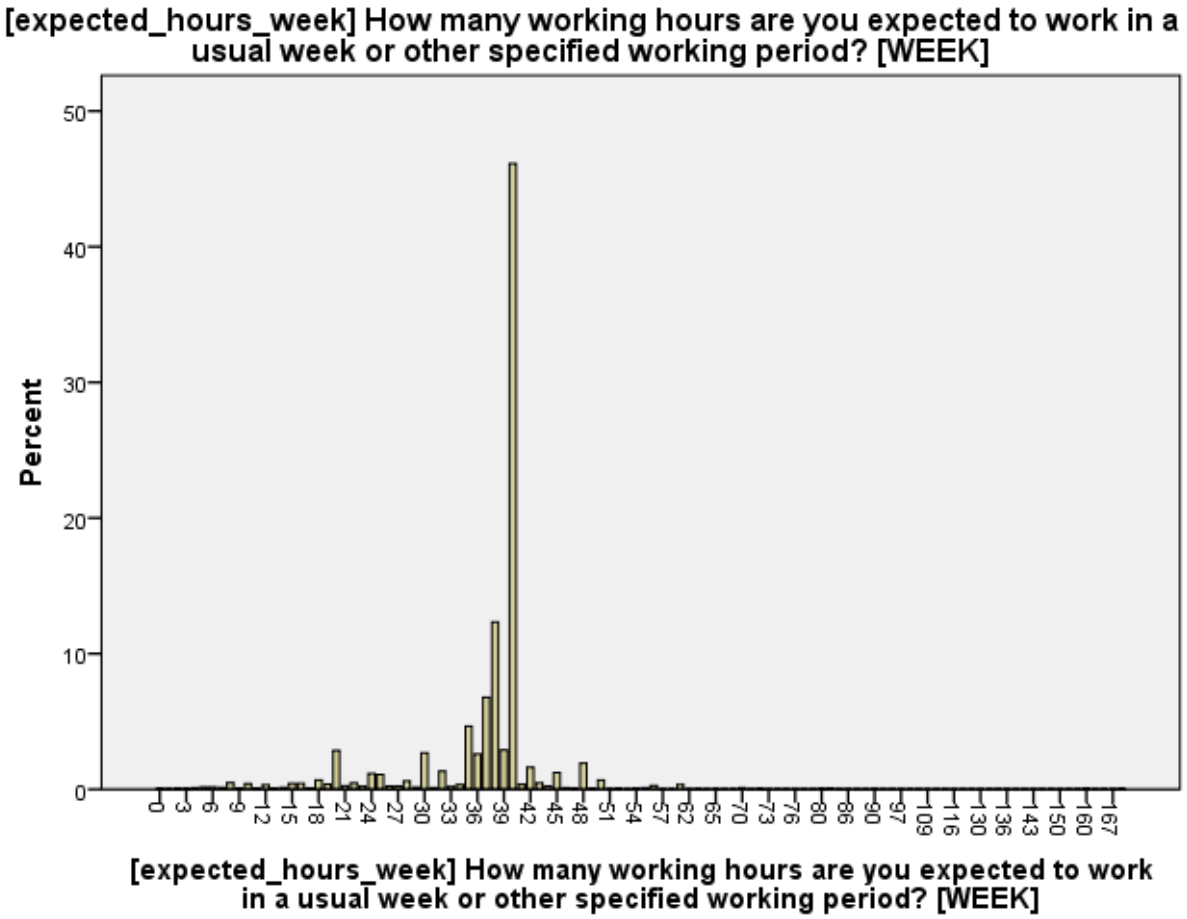


Table 24: Evaluated records for variable: expected_hours_week [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[expected_hours_week] How many working hours are you expected to work in a usual week or other specified working period? [WEEK]	50690	70.6%	21074	29.4%	71764	100.0%

Table 25: Descriptive statistics for the variable: expected_hours_week [all countries]

Descriptives

			Statistic	Std. Error
[expected_hours_week] How many working hours are you expected to work in a usual week or other specified working period? [WEEK]	Mean		37.21	.042
	95% Confidence Interval for Mean	Lower Bound	37.12	
		Upper Bound	37.29	
	5% Trimmed Mean		37.49	
	Median		40.00	
	Variance		88.152	
	Std. Deviation		9.389	
	Minimum		0	
	Maximum		168	
	Range		168	
	Interquartile Range		3	
	Skewness		2.693	.011
	Kurtosis		44.907	.022

Table 26: Extreme answers provided for the question: expected_hours_week [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[expected_hours_week] How many working hours are you expected to work in a usual week or other specified working period? [WEEK]	Highest	1	9570	105017483	168
		2	10948	105239535	168
		3	11206	106004099	168
		4	11401	106021311	168
		5	18419	108013113	168[a]
	Lowest	1	71656	137011191	0
		2	71624	137010918	0
		3	71620	137010893	0
		4	71618	137010872	0
		5	71558	137010462	0[b]

a. Only a partial list of cases with the value 168 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 0 are shown in the table of lower extremes.

The distribution shows that there were 159 potential outlier cases with answers of over 84 hours (12 hours per 7 day working week). The analysis of the data took into consideration the work profile of respondents as well as the usual working hours in a week stated by them.

Ipsos identified a group of people working in high availability, demanding jobs, working upon request, or at specific locations, which justified the high number of working hours stated. For example, nursing/hospital staff, ship deck crew, freight transportation and petroleum extraction operations.

For the remaining records (73) potential typos could be the cause (i.e. a usual working week is around 38 hours as opposed to the stated number of 138).

Looking at the combination of short notice work requests and night work, alongside the usual and expected working hours per week, Ipsos noted that the number of hours was extrememly high even when taking into consideration the roles of respondents.

Table 27: Average expected working hours: short notice requests and night-shift work

	Night work					
Short notice for work	**Always**	**Never**	**Often**	**Rarely**	**Sometimes**	**Grand Total**
Daily	91.3				120.0	98.5
Less often	94.7	138.0			160.0	124.5
NA	115.0	126.8	156.0	122.0	109.5	126.1
Never	110.0	125.8	126.7	114.0	140.7	127.1
Several times a month	117.2	117.1	140.0	137.0	141.6	128.5
Several times a week	91.3				120.0	98.5

Table 28: Average usual working hours: short notice requests and night-shift work

	Night work					
Short notice for work	**Always**	**Never**	**Often**	**Rarely**	**Sometimes**	**Grand Total**
Daily	95.0				40.0	76.7
Less often	96.3	102.0			160.0	107.9
NA	100.0	91.3	36.0	113.5	73.5	84.3
Never	87.0	52.0	68.0	112.0	52.9	64.7
Several times a month	80.9	68.5	140.0	76.0	61.4	71.3
Several times a week	95.0				40.0	76.7

Table 29: Proposed cases for typo data cleaning for the expected_hours_week variable

ID	ISCO 08 Occupation	Nace rev2. Sector of economic activity	Usual hours per week	Expected hours week	Proposed data cleaning value
101054144	Motor vehicle mechanics and repairers	Maintenance and repair of motor vehicles	38.0	138.0	38.0
109008891	Hotel managers	Hotels and similar accommodation	50.0	90.0	50.0
114014814	Petroleum and natural gas refining plant operators	Extraction of crude petroleum	48.0	84.0	48.0
115025327	Police inspectors and detectives	Administration of the State and the economic and social policy of the community	10.0	100.0	10.0
122010080	Aircraft engine mechanics and repairers	Manufacture of air and spacecraft and related machinery	36.0	96.0	36.0

Variable distribution - Seniority

Table 30: Examined variable name and label

Question Name	Seniority
Question wording	**How many years have you been in your company or organization?**

Syntax used for producing the visual and table results:

```
missing values seniority (-999 thru -777).
execute.

EXAMINE VARIABLES seniority
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=seniority
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 6: Frequency of non-empty answers for the question: Contract_Duration_Weeks [all countries]

Table 31: Evaluated records for variable: contract_duration_month [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[seniority] How many years have you been in your company or organisation?	63027	87.8%	8737	12.2%	71764	100.0%

Table 32: Descriptive statistics for the variable: seniority [all countries]

Descriptives

			Statistic	Std. Error
[seniority] How many years have you been in your company or organisation?	Mean		10.87	.040
	95% Confidence Interval for Mean	Lower Bound	10.79	
		Upper Bound	10.94	
	5% Trimmed Mean		9.95	
	Median		7.00	
	Variance		98.888	
	Std. Deviation		9.944	
	Minimum		1	
	Maximum		88	
	Range		87	
	Interquartile Range		13	
	Skewness		1.268	.010
	Kurtosis		1.203	.020

Table 33: Extreme answers provided for the question: seniority [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[seniority] How many years have you been in your company or organisation?	Highest	1	24912	111032391	88
		2	35805	116043448	88
		3	69736	136003144	88
		4	38855	117023655	77
		5	50065	123018681	77
	Lowest	1	71748	137012434	1
		2	71714	137012167	1
		3	71652	137011154	1
		4	71650	137011130	1
		5	71630	137010971	1[a]

a. Only a partial list of cases with the value 1 are shown in the table of lower extremes.

There were 20 cases where seniority had been coded as 60 (or more) years.

Table 34: Seniority comparison with respondent age

RespondentID	Seniority	Age	Age difference
104002733	78	60	18
110092924	88	60	28
111017480	80	60	20
111032391	23	88	-65
114002163	76	60	16
114004883	34	71	-37
114021545	80	61	19
115004987	75	60	15
115012174	71	65	6
115022059	70	60	10
115025157	76	60	16
116043448	43	88	-45
116066494	73	60	13
117023655	43	77	-34
122002892	70	70	0
125026215	73	75	-2
125030882	73	60	13
128038588	81	66	15
130025373	75	60	15
136003144	37	88	-51

All of the cases not marked in red were proposed for the data cleaning procedure:

if (ID="104002733") Seniority = -888.

if (ID="110092924") Seniority = -888.

if (ID="111017480") Seniority = -888.

if (ID="114002163") Seniority = -888.

if (ID="114021545") Seniority = -888.

```
if (ID="115004987") Seniority = -888.
if (ID="115012174") Seniority = -888.
if (ID="115022059") Seniority = -888.
if (ID="115025157") Seniority = -888.
if (ID="116066494") Seniority = -888.
if (ID="122002892") Seniority = -888.
if (ID="125026215") Seniority = -888.
if (ID="125030882") Seniority = -888.
if (ID="128038588") Seniority = -888.
if (ID="130025373") Seniority = -888.
```

Variable distribution - Usual_Hours_Week

Table 35: Examined variable name and label

Question Name	Usual_hours_week
Question wording	**How many hours do you usually work per week in your main paid job?**

Syntax used for producing the visual and table results:

missing values usual_hours_week (-999 thru -888).

execute.

EXAMINE VARIABLES usual_hours_week

/ID=ID

/PLOT HISTOGRAM

/COMPARE GROUPS

/STATISTICS DESCRIPTIVES EXTREME

/CINTERVAL 95

/MISSING PAIRWISE

/NOTOTAL

FREQUENCIES VARIABLES=usual_hours_week

/BARCHART PERCENT

/ORDER=ANALYSIS.

Figure 7: Frequency of non-empty answers for the question: Usual_Hours_week [all countries]

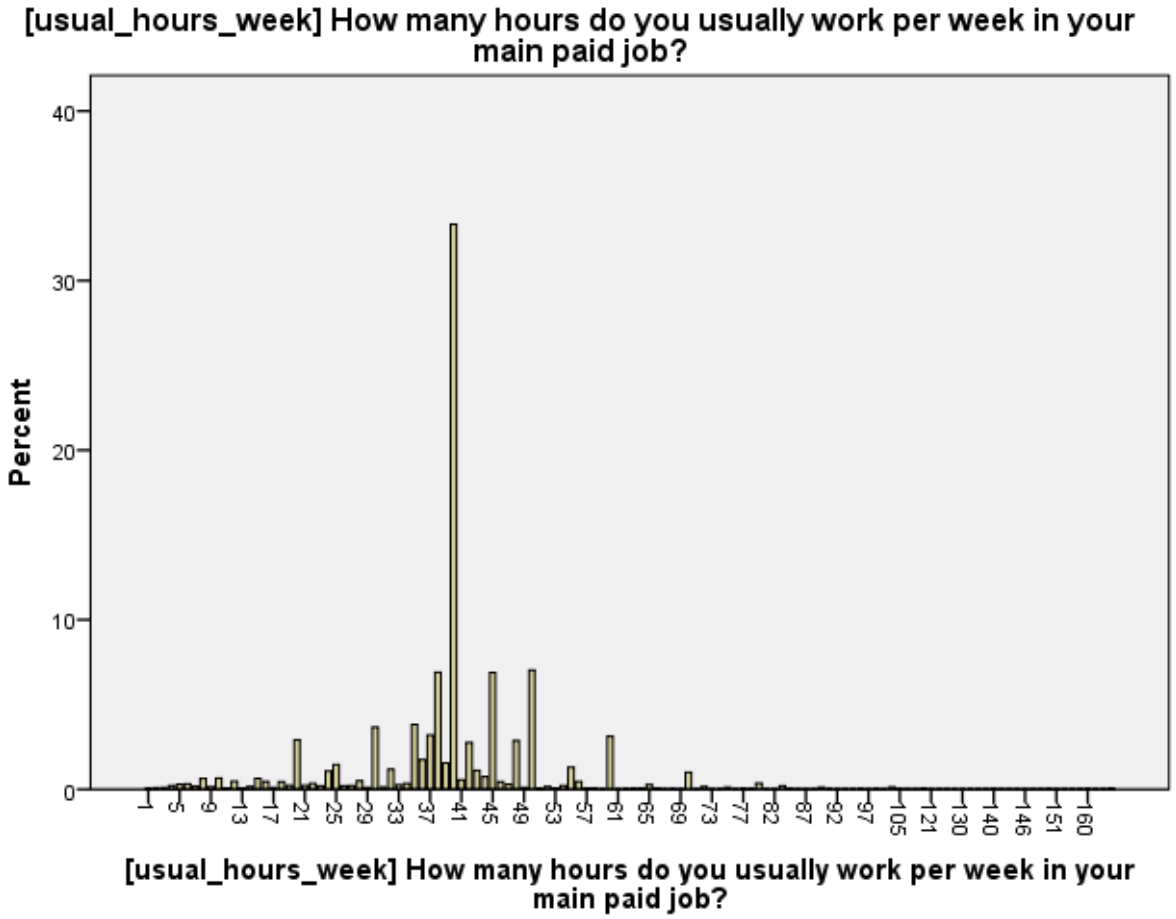


Table 36: Evaluated records for variable: Usual_Hours_week [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[usual_hours_week] How many hours do you usually work per week in your main paid job?	68924	96.0%	2840	4.0%	71764	100.0%

Table 37 Descriptive statistics for the variable: Usual_Hours_week [all countries]

Descriptives

		Statistic	Std. Error
	Mean	39.81	.049

Descriptives

			Statistic	Std. Error
[usual_hours_week] How many hours do you usually work per week in your main paid job?	95% Confidence Interval for Mean	Lower Bound	39.71	
		Upper Bound	39.90	
	5% Trimmed Mean		39.65	
	Median		40.00	
	Variance		162.143	
	Std. Deviation		12.734	
	Minimum		1	
	Maximum		168	
	Range		167	
	Interquartile Range		8	
	Skewness		1.259	.009
	Kurtosis		12.213	.019

Table 38: Extreme answers provided for the question: Usual_Hours_week [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[usual_hours_week] How many hours do you usually work per week in your main paid job?	Highest	1	4302	102029239	168
		2	5139	102039986	168
		3	7014	103008915	168
		4	7633	103014087	168
		5	10948	105239535	168[a]
	Lowest	1	70585	136010357	1
		2	69813	136003711	1
		3	68108	134052467	1
		4	66040	134012655	1
		5	65652	134007138	1[b]

a. Only a partial list of cases with the value 168 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 1 are shown in the table of lower extremes.

There were 117 cases where the answer provided is more than 120 hours. 44 of these cases are for self-employed respondents. For the employed workers, Ipsos checked the contracted hours versus the usual weekly hours stated. Cases with a large gap between the two were typically in the areas of nursing, executive/managerial roles and home-based care workers. For all such fields of work, their required availability throughout the day is higher, which translates into a full working week for such individuals.

Variable distribution - Usual_Hours_Month

Table 39: Examined variable name and label

Question Name	Usual_hours_month
Question wording	**How many hours do you usually work per month in your main paid job?**

Syntax used for producing the visual and table results:

```
missing values usual_hours_month (-999 thru -888).
execute.

EXAMINE VARIABLES usual_hours_month
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=usual_hours_month
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 8: Frequency of non-empty answers for the question: Usual_Hours_Month [all countries]

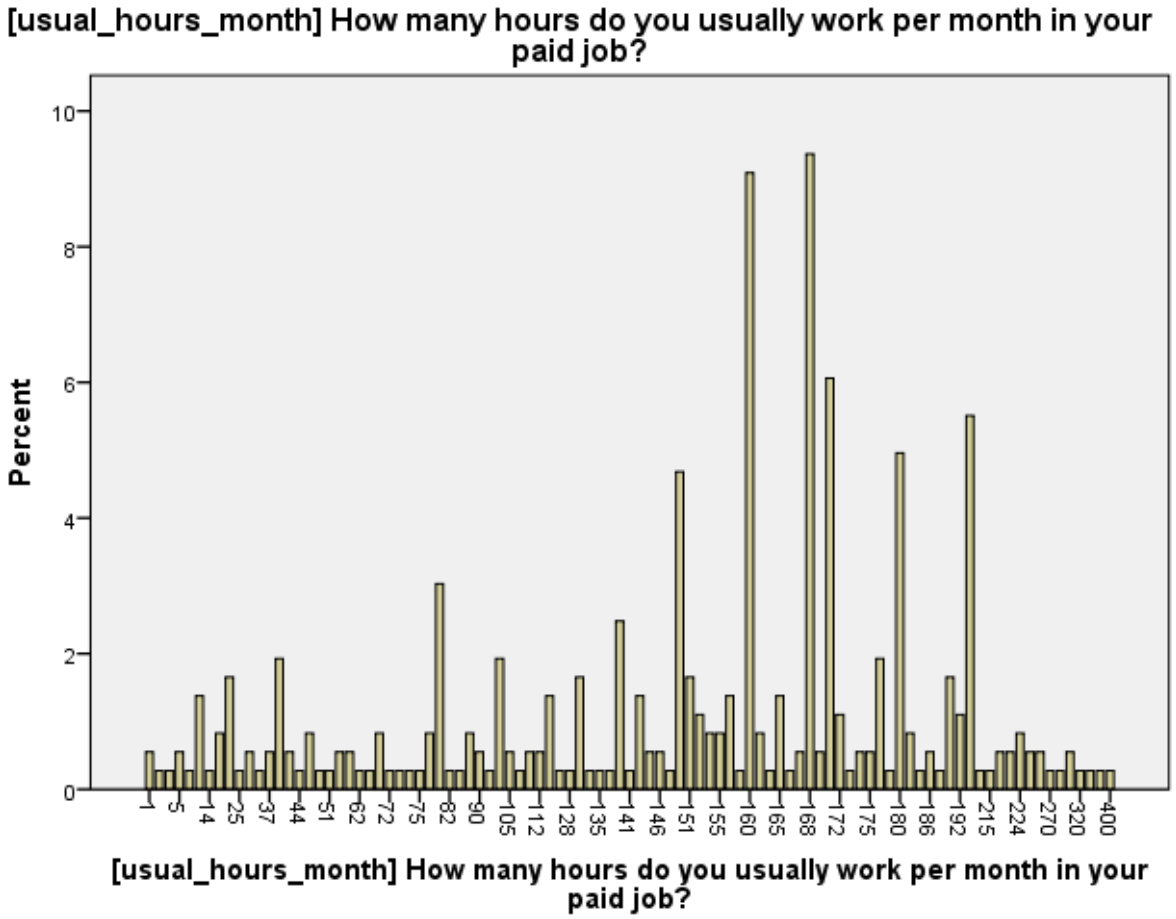


Table 40: Evaluated records for variable: Usual_Hours_month [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[usual_hours_month] How many hours do you usually work per month in your paid job?	363	0.5%	71401	99.5%	71764	100.0%

Table 41: Descriptive statistics for the variable: Usual_Hours_week [all countries]

Descriptives

			Statistic	Std. Error
[usual_hours_month] How many hours do you usually work per month in your paid job?	Mean		143.41	3.214
	95% Confidence Interval for Mean	Lower Bound	137.09	
		Upper Bound	149.73	
	5% Trimmed Mean		143.68	
	Median		160.00	
	Variance		3750.343	
	Std. Deviation		61.240	
	Minimum		1	
	Maximum		400	
	Range		399	
	Interquartile Range		60	
	Skewness		-.175	.128
	Kurtosis		1.529	.255

Table 42: Extreme answers provided for the question: Usual_Hours_month [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[usual_hours_month] How many hours do you usually work per month in your paid job?	Highest	1	47748	122084612	400
		2	9797	105028154	365
		3	7382	103011798	360
		4	57178	127021546	320
		5	5405	102043504	300[a]
	Lowest	1	14076	106246290	1
		2	4754	102034873	1
		3	58475	128002354	2
		4	52777	125031614	4
		5	60460	128041393	5[b]

a. Only a partial list of cases with the value 300 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 5 are shown in the table of lower extremes.

The cases examined with outlier data contain answers of 300 hours or more. Five cases were identified here: three employees and two self-employed. The highest answer given was 400 hours

for a self-employed respondent, working from home all of the time. All respondents have worked in their role for between one and three years, working with a small team or alone.

Variable distribution - Hours_Other_Job_Week

Table 43: Examined variable name and label

Question Name	Hours_other_job_week
Question wording	**How many hours a week on average do you work in job(s) other than your main paid job?**

Syntax used for producing the visual and table results:

missing values hours_other_job_week (-999 thru -888).

execute.

EXAMINE VARIABLES hours_other_job_week

/ID=ID

/PLOT HISTOGRAM

/COMPARE GROUPS

/STATISTICS DESCRIPTIVES EXTREME

/CINTERVAL 95

/MISSING PAIRWISE

/NOTOTAL

FREQUENCIES VARIABLES=hours_other_job_week

/BARCHART PERCENT

/ORDER=ANALYSIS.

Figure 9: Frequency of non-empty answers for the question: hours_other_job_week [all countries]

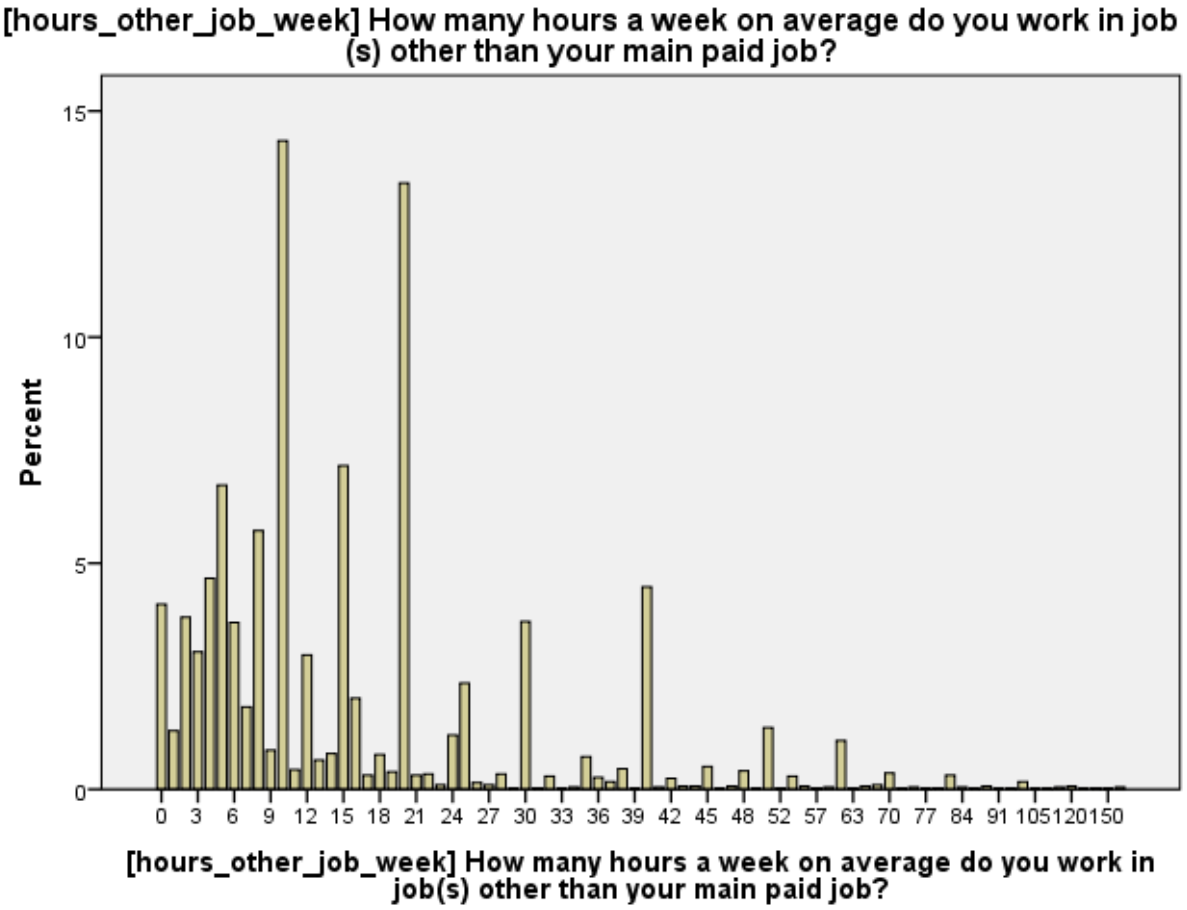


Table 44: Evaluated records for variable: hours_other_job_week [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[hours_other_job_week] How many hours a week on average do you work in job(s) other than your main paid job?	4177	5.8%	67587	94.2%	71764	100.0%

Table 45: Descriptive statistics for the variable: hours_other_job_week [all countries]

Descriptives

			Statistic	Std. Error
[hours_other_job_week] How many hours a week on average do you work in job(s) other than your main paid job?	Mean		16.44	.244
	95% Confidence Interval for Mean	Lower Bound	15.96	
		Upper Bound	16.92	
	5% Trimmed Mean		14.67	
	Median		10.00	
	Variance		249.460	
	Std. Deviation		15.794	
	Minimum		0	
	Maximum		160	
	Range		160	
	Interquartile Range		14	
	Skewness		2.526	.038
	Kurtosis		10.905	.076

Table 46: Extreme answers provided for the question: hours_other_job_week [all countries]

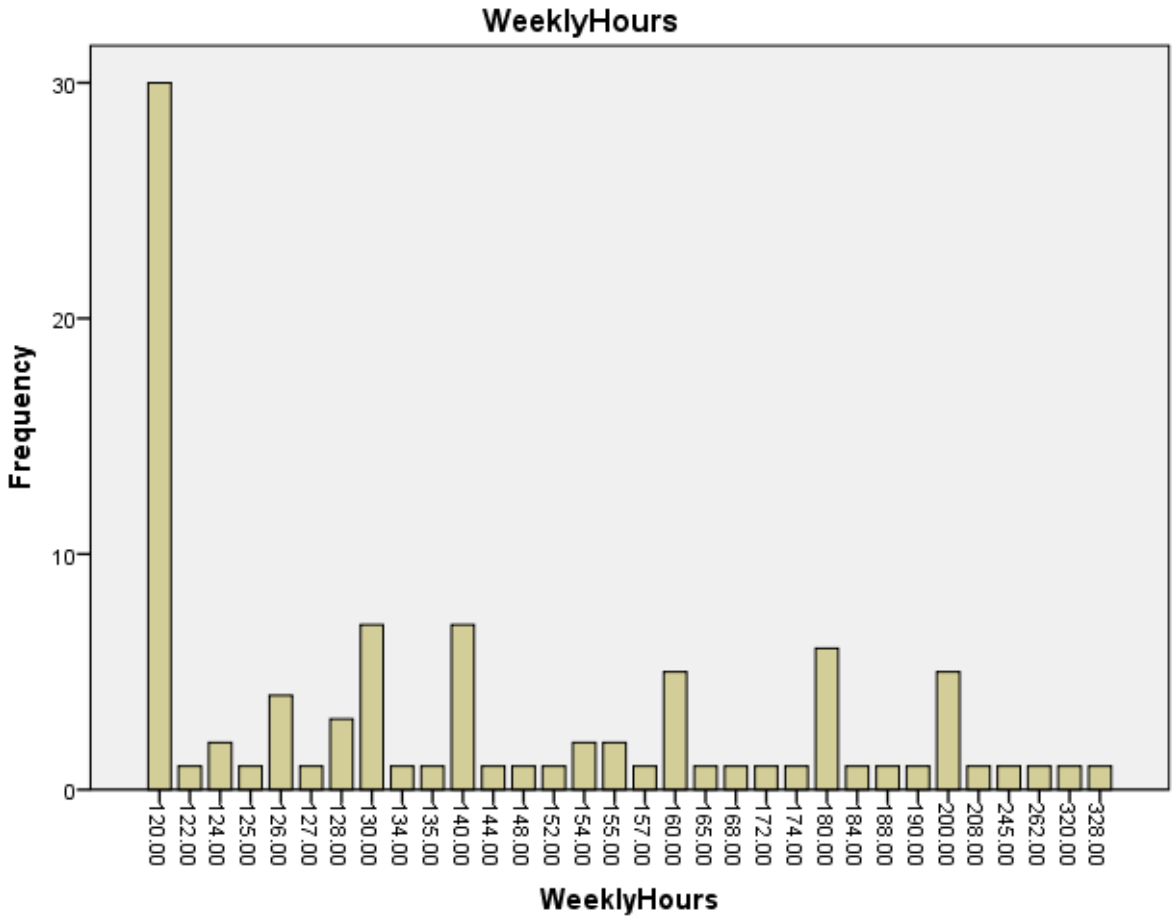
Extreme Values

			Case Number	[ID] Respondent Id	Value
[hours_other_job_week] How many hours a week on average do you work in job(s) other than your main paid job?	Highest	1	4302	102029239	160
		2	42887	120005243	160
		3	22950	110068285	150
		4	34375	116007260	136
		5	24829	111030255	130
	Lowest	1	70653	137001294	0
		2	69845	136004004	0
		3	69812	136003678	0
		4	68222	134054798	0
		5	68109	134052473	0[a]

a. Only a partial list of cases with the value 0 are shown in the table of lower extremes.

The data examination was conducted including data from usual_hours_week. The combined variable from hours_other_job_week and usual_hours_week was filtered down to the cases with 120 hours per week or more. In the data set Ipsos had 94 cases with such answers, reaching impossible values of 300+ hours.

Figure 10: Frequency of non-empty answers for the combined data from: hours_other_job_week and usual_hours_weel[all countries]



From the combined data the distribution of hours between the main and other job(s) was an average of 55.49% hours spent on a main job and 44.51% hours spent on another job. From the cases with 200+ hours, Ipsos examined the job description of the main job, coded through questions Q5, Q6 and Q13, for a better understanding of the work status of the respondents.

Table 47: Additional information for respondents with extreme values in hours_other_job_week [all countries]

ID	usual_hours_week	hours_other_job_week	Total hours weekly	Number of other jobs	selfemp_director	Occupation
102029239	168	160	328	2	Yes	Mobile farm and forestry plant operators
120005243	160	160	320	2	Yes	Shop keepers
116007260	126	136	262	2	No	Ships' deck crews and related workers
112037990	140	105	245	2	No	Aquaculture and fisheries production managers
114002841	168	40	208	2	No	Senior government officials
102007149	100	100	200	2	Yes	Real estate agents and property managers

ID	usual_hours _week	hours_other_ job_week	Total hours weekly	Number of other jobs	selfemp_ director	Occupation
107047200	168	32	200	2	No	Child care workers
114026325	100	100	200	2	No	Security guards
127216711	150	50	200	2	No	Car, taxi and van drivers
136001867	100	100	200	2	No	Mixed crop and animal producers
109023151	90	100	190	2	No	Waiters
122105431	168	20	188	2	Yes	Shop keepers
135007256	84	100	184	2	No	Plumbers and pipe fitters
112046784	160	20	180	2	No	Nursing associate professionals
122046347	140	40	180	2	Yes	Training and staff development professionals
126048406	90	90	180	2	Yes	Managing directors and chief executives
127002938	90	90	180	2	Yes	Restaurant managers
131024938	70	110	180	2	Yes	Restaurant managers
136003887	90	90	180	2	Yes	Heavy truck and lorry drivers
112036881	168	6	174	2	No	Child care workers
111029761	168	4	172	2	No	Home-based personal care workers
111030255	38	130	168	2	NO	Nursing associate professionals

As can be noted from the main occupations of the respondents, they all have at least one job that is perceived by them as a time commitment (i.e. personal shop, childcare, ship deck crew), and this is combined with another job, which is overlapping with the main one. Based on this there is no cleaning proposed by Ipsos for the extreme cases.

Variable distribution - Hours_Other_Job_Month

Table 48: Examined variable name and label

Question Name	Hours_other_job_month
Question wording	**How many hours a month on average do you work in job(s) other than your main paid job?**

Syntax used for producing the visual and table results:

missing values hours_other_job_month (-999 thru -888).

execute.

EXAMINE VARIABLES hours_other_job_month

/ID=ID

/PLOT HISTOGRAM

/COMPARE GROUPS

/STATISTICS DESCRIPTIVES EXTREME

/CINTERVAL 95

/MISSING PAIRWISE

/NOTOTAL

FREQUENCIES VARIABLES=hours_other_job_month

/BARCHART PERCENT

/ORDER=ANALYSIS.

Figure 11: Frequency of non-empty answers for variable: hours_other_job_month [all countries]

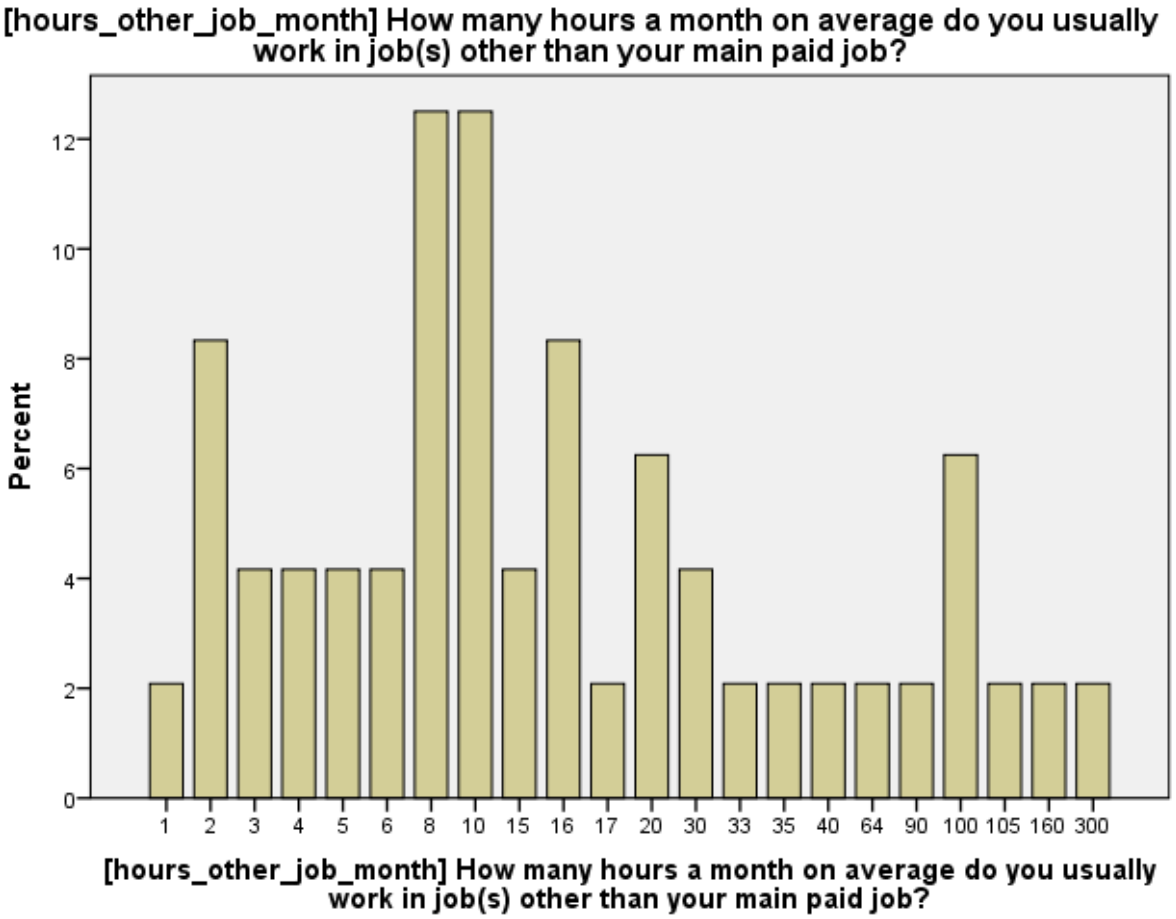


Table 49: Evaluated records for variable: hours_other_job_month [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[hours_other_job_month] How many hours a month on average do you usually work in job(s) other than your main paid job?	48	0.1%	71716	99.9%	71764	100.0%

Table 50: Descriptive statistics for the variable: hours_other_job_month [all countries]

Descriptives

			Statistic	Std. Error
[hours_other_job_month] How many hours a month on average do you usually work in job(s) other than your main paid job?	Mean		31.48	7.623
	95% Confidence Interval for Mean	Lower Bound	16.14	
		Upper Bound	46.82	
	5% Trimmed Mean		23.27	
	Median		10.00	
	Variance		2789.489	
	Std. Deviation		52.816	
	Minimum		1	
	Maximum		300	
	Range		299	
	Interquartile Range		24	
	Skewness		3.409	.343
	Kurtosis		14.171	.674

Table 51: Extreme answers provided for the question: hours_other_job_month [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[hours_other_job_month] How many hours a month on average do you usually work in job(s) other than your main paid job?	Highest	1	70187	136006739	300
		2	53088	125044217	160
		3	67767	134044730	105
		4	29808	113019812	100
		5	33455	115020412	100[a]
	Lowest	1	6081	103001572	1
		2	67432	134036619	2
		3	28250	112039947	2
		4	24494	111022444	2
		5	15678	107011367	2

a. Only a partial list of cases with the value 100 are shown in the table of upper extremes.

Variable distribution - Pref_Hours_week

Table 52: Examined variable name and label

Question Name	Perf_hours_week
Question wording	**How many hours per week would you prefer to work at present? Provided that you could make a free choice regarding your working hours and taking into account the need to earn a living.**

Syntax used for producing the visual and table results:

```
missing values Pref_Hours_week (-999 thru -777).
execute.

EXAMINE VARIABLES Pref_Hours_week
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=Pref_Hours_week
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 12: Frequency of non-empty answers for the question: pref_hours_week [all countries]

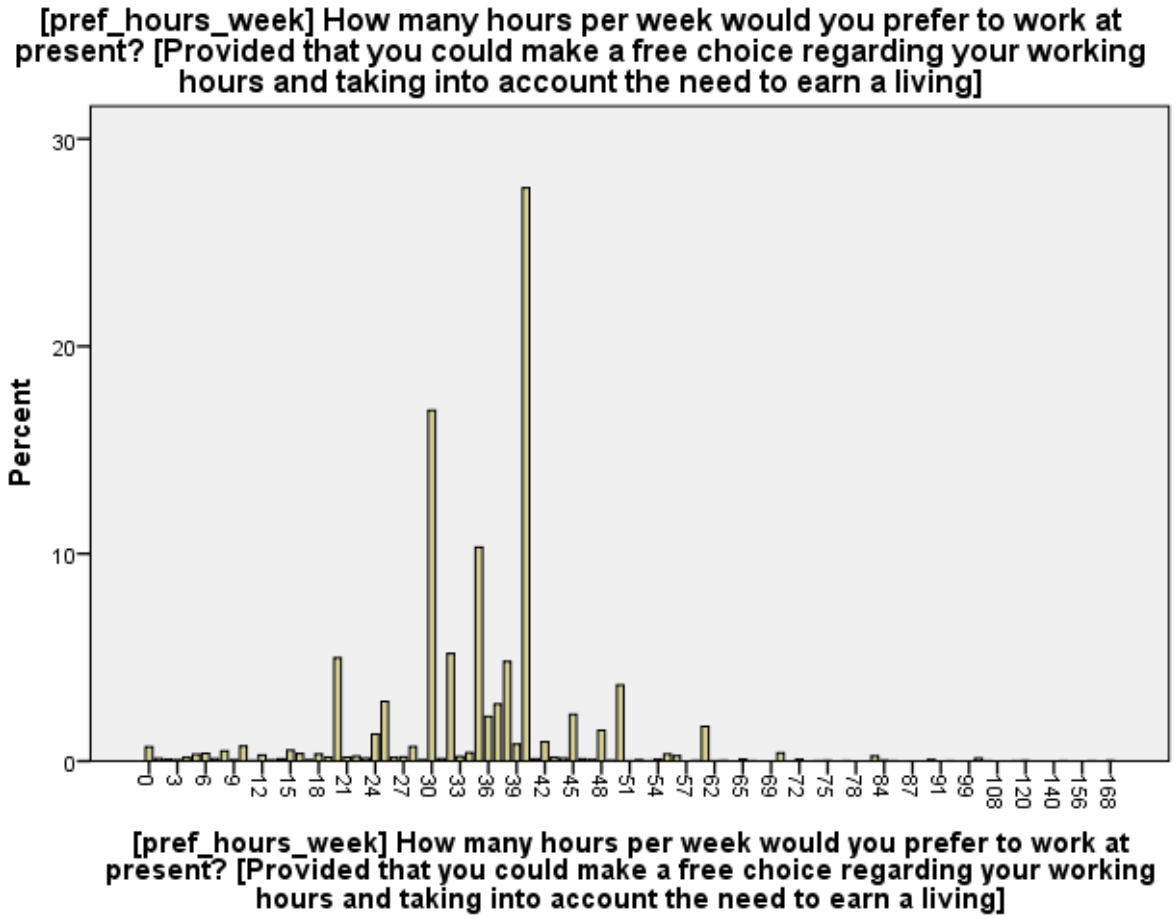


Table 53: Evaluated records for variable: pref_hours_week [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[pref_hours_week]]	54274	75.6%	17490	24.4%	71764	100.0%

Table 54: Descriptive statistics for the variable: pref_hours_week [all countries]

Descriptives

			Statistic	Std. Error
[pref_hours_week] How many hours per week would you prefer to work at present? [Provided that you could make a free choice regarding your working hours and taking into account the need to earn a living]	Mean		35.25	.049
	95% Confidence Interval for Mean	Lower Bound	35.16	
		Upper Bound	35.35	
	5% Trimmed Mean		35.19	
	Median		36.00	
	Variance		128.531	
	Std. Deviation		11.337	
	Minimum		0	
	Maximum		168	
	Range		168	
	Interquartile Range		10	
	Skewness		1.180	.011
	Kurtosis		13.158	.021

Table 55: Extreme answers provided for the question: pref_hours_week [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[pref_hours_week] How many hours per week would you prefer to work at present? [Provided that you could make a free choice regarding your working hours and taking into account the need to earn a living]	Highest	1	6517	103005092	168
		2	10343	105210184	168
		3	29440	113012419	168
		4	29648	113016746	168
		5	56678	127002938	168[a]
	Lowest	1	70095	136005984	0
		2	69981	136004963	0
		3	69827	136003847	0
		4	69696	136002835	0
		5	69622	136002083	0[b]

a. Only a partial list of cases with the value 168 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 0 are shown in the table of lower extremes.

Answers at the lower end of the scale can be expected due to fatigue and the need to rest, or people wishing to stop working. Extreme values on the other end of the spectrum, reaching 168 hours a week, are unexpected.

There are 47 cases (120 hours +) with 13 self-employed and 34 employed respondents. For self-employed people, fully devoting themselves to developing their own business is justified and so the responses are valid.

Focusing on employed people, such responses were more likely to be provided by men (25 cases out of 34). There is a small representation of single person households (6 cases) and for the 30 cases with 3 or more household members.

Variable distribution - Usual_Days

Table 56: Examined variable name and label

Question Name	Usual_days
Question wording	**How many days per week do you usually work in your main paid job?**

Syntax used for producing the visual and table results:

missing values usual_days (-999,-888).

execute.

EXAMINE VARIABLES usual_days

/ID=ID

/PLOT HISTOGRAM

/COMPARE GROUPS

/STATISTICS DESCRIPTIVES EXTREME

/CINTERVAL 95

/MISSING PAIRWISE

/NOTOTAL

FREQUENCIES VARIABLES=usual_days

/BARCHART PERCENT

/ORDER=ANALYSIS.

Figure 13: Frequency of non-empty answers for the question: usual_days [all countries]

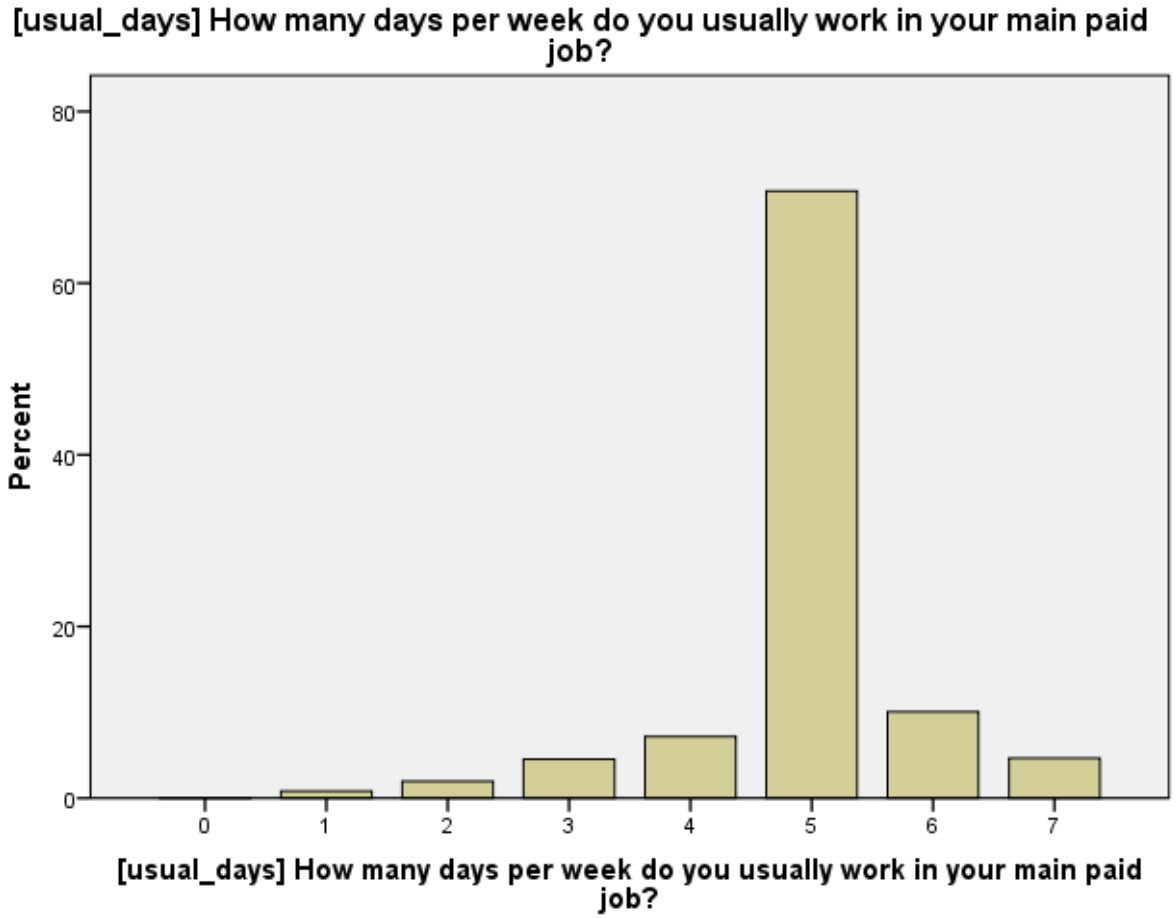


Table 57: Evaluated records for variable: Usual_days [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[usual_days] How many days per week do you usually work in your main paid job?	35363	49.3%	36401	50.7%	71764	100.0%

Table 58: Descriptive statistics for the variable: Usual_days [all countries]

Descriptives

			Statistic	Std. Error
[usual_days] How many days per week do you usually work in your main paid job?	Mean		4.94	.005
	95% Confidence Interval for Mean	Lower Bound	4.93	
		Upper Bound	4.95	
	5% Trimmed Mean		4.98	
	Median		5.00	
	Variance		.857	
	Std. Deviation		.926	
	Minimum		0	
	Maximum		7	
	Range		7	
	Interquartile Range		0	
	Skewness		-1.156	.013
	Kurtosis		4.330	.026

Table 59: Extreme answers provided for the question: Usual_days [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[usual_days] How many days per week do you usually work in your main paid job?	Highest	1	33	101002560	7
		2	35	101002688	7
		3	122	101008043	7
		4	205	101012449	7
		5	280	101017002	7[a]
	Lowest	1	56994	127013893	0
		2	48291	122109980	0
		3	48049	122098211	0
		4	47400	122068588	0
		5	47167	122058976	0[b]

a. Only a partial list of cases with the value 7 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 0 are shown in the table of lower extremes.

Potential outlier data is consistent for 16 respondents who answered 0 for usual days of working.

Table 60: Potential outlier answers provided for the question: Usual_days [all countries]

ID	Country	Employment	Usual_hours_week	Usual_days
103001760	Bulgaria	Employee	40	0
108006061	Estonia	Self-employed	2	0
112036735	France	Employee	-888	0
117021145	Lithuania	Employee	40	0
122003775	Poland	Employee	42	0
122015697	Poland	Employee	40	0
122021204	Poland	Employee	43	0
122031979	Poland	Employee	-888	0
122036345	Poland	Employee	40	0
122045169	Poland	Employee	40	0
122053826	Poland	Employee	40	0
122058976	Poland	Employee	50	0
122068588	Poland	Employee	40	0
122098211	Poland	Employee	44	0
122109980	Poland	Employee	40	0
127013893	Slovakia	Employee	40	0

From the information obtained for them, respondents are most frequently involved in a standard 40 hour working week, which can be translated to 5 working days. Proposed recoding by Ipsos is as folllows:

```
if (ID='103001760') Usual_Days = 5.
if (ID='108006061') Usual_Days =-999.
if (ID='112036735') Usual_Days = -888.
if (ID='117021145') Usual_Days = 5.
if (ID='122003775') Usual_Days = 5.
if (ID='122015697') Usual_Days = 5.
if (ID='122021204') Usual_Days = 5.
if (ID='122031979') Usual_Days = -888.
if (ID='122036345') Usual_Days = 5.
if (ID='122045169') Usual_Days = 5.
if (ID='122053826') Usual_Days = 5.
if (ID='122058976') Usual_Days = 5.
if (ID='122068588') Usual_Days = 5.
if (ID='122098211') Usual_Days = 5.
if (ID='122109980') Usual_Days = 5.
if (ID='127013893') Usual_Days = 5.
```

Variable distribution - Commute_Time_Minutes

Table 61: Examined variable name and label

Question Name	Commute_time_minutes
Question wording	**In total, how many minutes and hours per day do you usually spend travelling from home to work and back? [minutes only]**

Syntax used for producing the visual and table results:

```
missing values commute_time_minutes (-999 thru -777).
execute.

EXAMINE VARIABLES commute_time_minutes
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=commute_time_minutes
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 14: Frequency of non-empty answers for the question: commute_time_minutes [all countries]

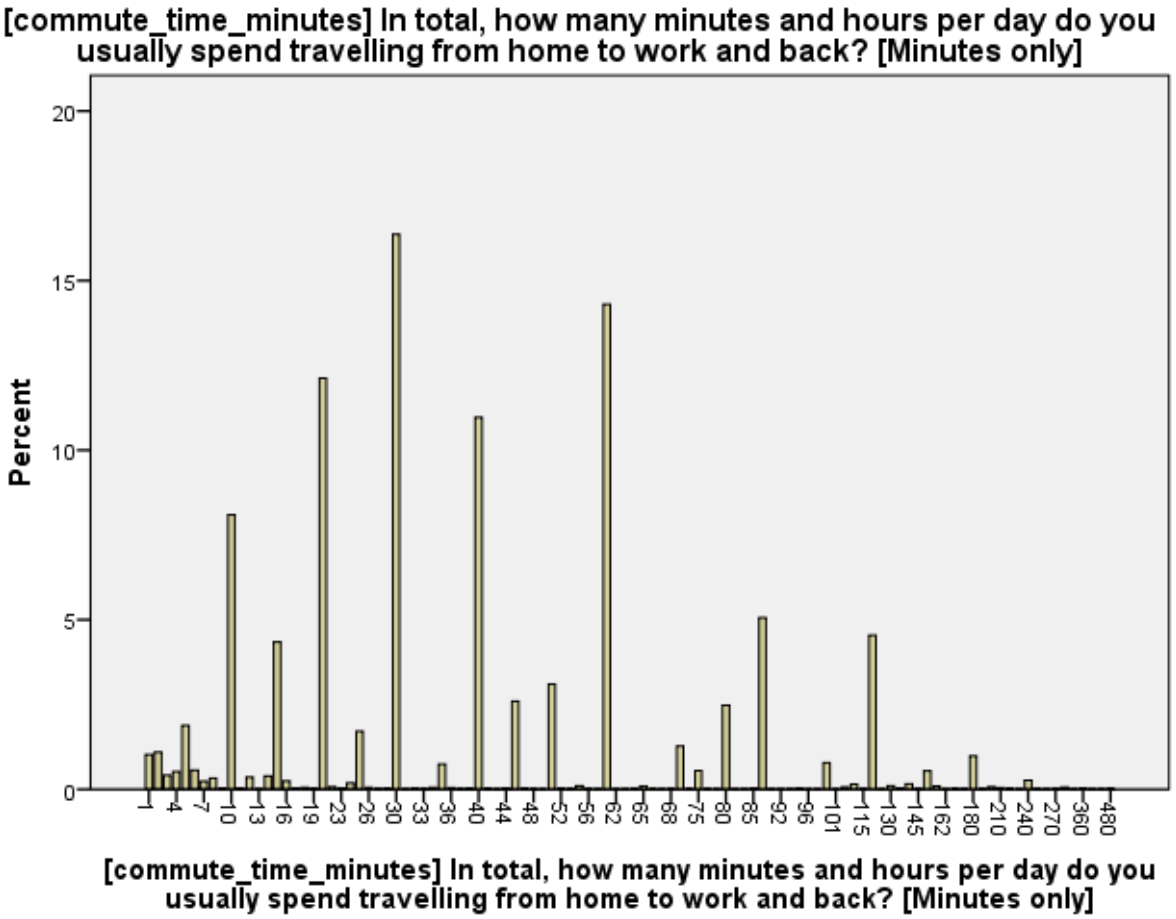


Table 62: Evaluated records for variable: commute_time_minutes [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[commute_time_minutes]	28804	40.1%	42960	59.9%	71764	100.0%

Table 63: Descriptive statistics for the variable: commute_time_minutes [all countries]

Descriptives

			Statistic	Std. Error
[commute_time_minutes] In total, how many minutes and hours per day do you usually spend travelling from home to work and back? [Minutes only]	Mean		44.97	.220
	95% Confidence Interval for Mean	Lower Bound	44.54	
		Upper Bound	45.41	
	5% Trimmed Mean		41.32	
	Median		30.00	
	Variance		1399.341	
	Std. Deviation		37.408	
	Minimum		1	
	Maximum		480	
	Range		479	
	Interquartile Range		40	
	Skewness		2.273	.014
	Kurtosis		10.189	.029

Table 64: Extreme answers provided for the question: commute_time_minutes [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[commute_time_minutes] In total, how many minutes and hours per day do you usually spend travelling from home to work and back? [Minutes only]	Highest	1	13342	106183501	480
		2	14183	106257775	480
		3	36083	116051204	480
		4	66330	134016657	480
		5	67270	134033331	480
	Lowest	1	71731	137012320	1
		2	71452	137008826	1
		3	70946	137004080	1
		4	70564	136010117	1
		5	70510	136009105	1[a]

a. Only a partial list of cases with the value 1 are shown in the table of lower extremes.

For this variable there is potential outlier data in both directions, with a high volume of 1-2 minutes commute time, to cases with 300 minutes or more.

A short commute time is identified in 612 cases (2 minutes or less commuting time). This is occurring more for employed persons (433 cases) and less for the self-employed (179 cases). For employed persons the predominant group is office workers, along with car/taxi drivers (presumably having the vehicle stationed close by their premises) and retail workers.

Compared with EWCS6 data, where the labour market conditions and workplace regulations were different, Ipsos observed the following results, which show less people answering this question (due to modularisation) and a slightly smaller distribution of values than the previous survey iteration:

Table 65: Comparison between EWCS6 and EWCS7 Extraordinary edition data [commute time minutes]

	Valid Completes	Answers		0-2 minutes		3-15 minutes		Max value
EWCS21	71764	28804	39.91%	612	2.12%	4947	17.17%	480
EWCS6	43850	39200	89.40%	1141	2.91%	8250	21.05%	420

Variable distribution - Commute_Time_Hours

Table 66: Examined variable name and label

Question Name	Commute_time_hours
Question wording	**In total, how many minutes and hours per day do you usually spend travelling from home to work and back? [hours only]**

Syntax used for producing the visual and table results:

```
missing values commute_time_hours (-999 thru -777).
execute.

EXAMINE VARIABLES commute_time_hours
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=commute_time_hours
```

/BARCHART PERCENT

/ORDER=ANALYSIS.

Figure 15: Frequency of non-empty answers for the question: commute_time_hours [all countries]

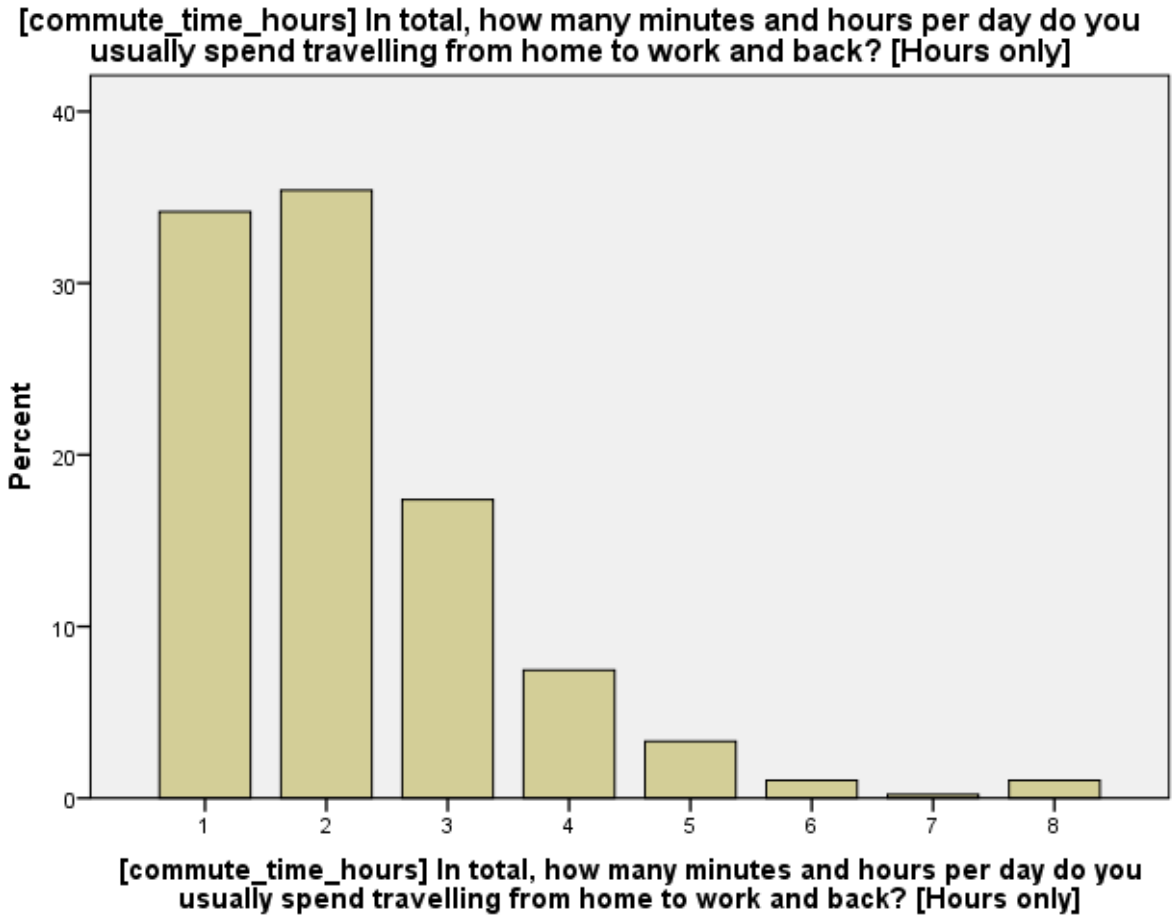


Table 67: Evaluated records for variable: commute_time_hours [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[commute_time_hours]	483	0.7%	71281	99.3%	71764	100.0%

Table 68: Descriptive statistics for the variable: commute_time_hours [all countries]

Descriptives

			Statistic	Std. Error
[commute_time_hours] In total, how many minutes and hours per day do you usually spend travelling from home to work and back? [Hours only]	Mean		2.19	.059
	95% Confidence Interval for Mean	Lower Bound	2.08	
		Upper Bound	2.31	
	5% Trimmed Mean		2.05	
	Median		2.00	
	Variance		1.667	
	Std. Deviation		1.291	
	Minimum		1	
	Maximum		8	
	Range		7	
	Interquartile Range		2	
	Skewness		1.636	.111
	Kurtosis		3.786	.222

Table 69: Extreme answers provided for the question: commute_time_hours [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[commute_time_hours] In total, how many minutes and hours per day do you usually spend travelling from home to work and back? [Hours only]	Highest	1	11816	106056113	8
		2	12747	106131086	8
		3	13719	106214708	8
		4	30878	114005893	8
		5	40512	119001419	8
	Lowest	1	70895	137003690	1
		2	69250	135008983	1
		3	66460	134018694	1
		4	65090	133055733	1
		5	65062	133054194	1[a]

a. Only a partial list of cases with the value 1 are shown in the table of lower extremes.

The variable distribution shows 27 cases with travel time equal to or greater than 5 hours per day.

Examining their occupation and sector of activity, these respondents work in the following areas:

- Construction and building support – areas where the distance from the respondent's place of residence to the construction site can be remote.
- Wood processing, wood cutting and forestry activities, landscape servicing activities – again, areas more likely to be in a remote location.
- Car or heavy truck drivers for freight/people transport – as well as potential remote areas of working (e.g. transport hubs), such workers may have added travel time between locations.

Given the above, all such answers are considered to be plausible, despite the values being higher than the average response.

Variable distribution - Commute_Days

Table 70: Examined variable name and label

Question Name	Commute_days
Question wording	**And how many days a week do you usually travel from home to work and back?**

Syntax used for producing the visual and table results:

```
missing values commute_days (-999,-888).
execute.

EXAMINE VARIABLES commute_days
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=commute_days
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 16: Frequency of non-empty answers for the question: commute_days [all countries]

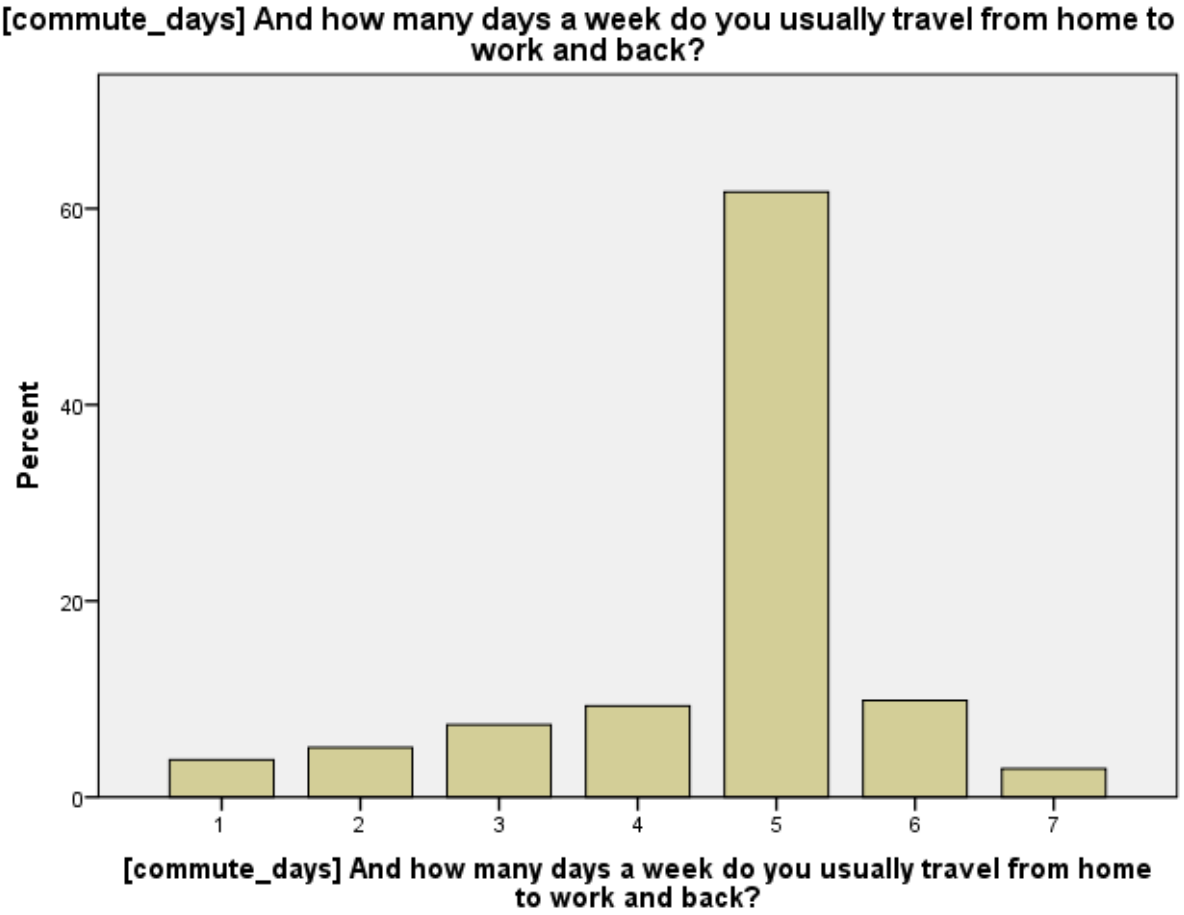


Table 71: Evaluated records for variable: commute_days [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[commute_days]	28666	39.9%	43098	60.1%	71764	100.0%

Table 72: Descriptive statistics for the variable: commute_days [all countries]

Descriptives

			Statistic	Std. Error
[commute_days] And how many days a week do you usually travel from home to work and back?	Mean		4.61	.007
	95% Confidence Interval for Mean	Lower Bound	4.60	
		Upper Bound	4.63	
	5% Trimmed Mean		4.69	
	Median		5.00	
	Variance		1.516	
	Std. Deviation		1.231	
	Minimum		1	
	Maximum		7	
	Range		6	
	Interquartile Range		1	
	Skewness		-1.249	.014
	Kurtosis		1.639	.029

Table 73: Extreme answers provided for the question: commute_days [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[commute_days] And how many days a week do you usually travel from home to work and back?	Highest	1	27	101002215	7
		2	185	101011234	7
		3	296	101018255	7
		4	464	101027040	7
		5	1188	101066942	7[a]
	Lowest	1	71102	137005555	1
		2	70829	137003000	1
		3	70414	136008393	1
		4	70179	136006696	1
		5	70176	136006650	1[b]

a. Only a partial list of cases with the value 7 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 1 are shown in the table of lower extremes.

The observed extreme value of 7 commuting days was observed in 828 cases, shared almost equally between employed and self-employed people (48.1% and 51.9% respectively). In 723 of the cases respondents stated that they usually work 7 days a week.

Table 74: Cross-tabulation of usual days and commute_days [all countries, commute_days = 7]

usual_days	Commute days = 7
-999 (refusal)	2
-888 (DK)	11
1	2
2	2
3	4
4	8
5	48
6	28
7	723
Total	828

Interviews in which there was a significant difference between the usual_days and commute_days – were further examined; 16 interviews in total had answers between 1 and 4 days (inclusive).

Table 75: Details about potential outliers [all countries, commute_days = 7]

ID	Country	Commute Days	Commute_time [minutes]	Usual Working Days	Usual Hours Week	Occupation
102013629	Belgium	7	60	4	-888	Midwifery professionals
105004574	Czechia	7	90	4	48	Security guards
105023042	Czechia	7	40	2	-999	Waiters
105038634	Czechia	7	20	4	20	Beauticians and related workers
106222953	Germany	7	2	4	8	General office clerks
107016508	Denmark	7	120	4	34	Personal care workers in health services not elsewhere classified
107018818	Denmark	7	15	3	28	Shop sales assistants
107041129	Denmark	7	15	3	30	Health professionals not elsewhere classified
107052914	Denmark	7	2	1	48	Forestry labourers
108008015	Estonia	7	15	4	40	Electrical engineers
120002939	Malta	7	60	4	44	Computer network and systems technicians
121014840	Netherlands	7	3	3	18	Health care assistants
122031491	Poland	7	6	2	40	Elementary workers not elsewhere classified

ID	Country	Commute Days	Commute_time [minutes]	Usual Working Days	Usual Hours Week	Occupation
122067115	Poland	7	-997	3	30	Commercial sales representatives
123013486	Portugal	7	4	1	40	Professional services managers not elsewhere classified
127203932	Slovakia	7	60	4	30	Accountants

The table above shows that there are 3 interviews in which information for the usual number of working days was not consistent with the usual working hours. There were 5 cases overall with a commute time of less than or equal to 5 minutes, which potentially indicates teleworking, which can justify the commute days being answered as 7. Ipsos's proposition for cleaning is for cases with full working week in usual_hours_week and 1-2 days in usual_days to recode usual_days and commute_days to 5. For the remaining cases comute_days were recoded equally to usual_days.

```
iF (ID='102013629') Commute_days = 4.
iF (ID='105004574') Commute_days = 4.
iF (ID='105023042') Commute_days = 2.
iF (ID='105038634') Commute_days = 4.
iF (ID='106222953') Commute_days = 4.
iF (ID='107016508') Commute_days = 4.
iF (ID='107018818') Commute_days = 3.
iF (ID='107041129') Commute_days = 3.
iF (ID='107052914') Commute_days = 5.
iF (ID='108008015') Commute_days = 4.
iF (ID='120002939') Commute_days = 4.
iF (ID='121014840') Commute_days = 3.
iF (ID='122031491') Commute_days = 5.
iF (ID='122067115') Commute_days = 3.
iF (ID='123013486') Commute_days = 5.
iF (ID='127203932') Commute_days = 4.
iF (ID='122031491') usual_days = 5.
iF (ID='122067115') usual_days = 5.
iF (ID='107052914') usual_days = 5.
```

Variable distribution - hh_size

Table 76: Examined variable name and label

Question Name	HH_size
Question wording	**Including yourself, can you please tell me how many people live in this household?**

Syntax used for producing the visual and table results:

```
missing values hh_size (-999,-888).
execute.

EXAMINE VARIABLES hh_size
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=hh_size
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Table 77: Evaluated records for variable: hh_size [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[hh_size]	71472	99.6%	292	0.4%	71764	100.0%

Table 78: Descriptive statistics for the variable: hh_size[all countries]

Descriptives

			Statistic	Std. Error
[hh_size] Including yourself, can you please tell me how many people live in this household?	Mean		2.99	.006
	95% Confidence Interval for Mean	Lower Bound	2.98	
		Upper Bound	3.00	
	5% Trimmed Mean		2.90	
	Median		3.00	
	Variance		2.164	
	Std. Deviation		1.471	
	Minimum		1	
	Maximum		20	
	Range		19	
	Interquartile Range		2	
	Skewness		1.200	.009
	Kurtosis		5.536	.018

The average household member size in Europe is 2.3[4] members (general population). In countries such as North Macedonia and Serbia this rises to over 3 members. The current survey results are in line with expectations for household size.

As there is an expected difference in the distribution between countries, a visual representation of the answers per country is provided below.

There are also potential outliers in the upper extreme values of the distribution.

Figure 17: Extreme answers provided for the question: hh_size [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[hh_size] Including yourself, can you please tell me how many people live in this household?	Highest	1	9035	104057243	20
		2	13308	106180260	20
		3	16920	107052648	20
		4	50359	124001057	20
		5	70873	137003472	20[a]

[4]https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Household_composition_statistics#Increasing_number_of_households_consisting_of_adults_living_alone

Extreme Values

			Case Number	[ID] Respondent Id	Value
	Lowest	1	71678	137011914	1
		2	71583	137010623	1
		3	71449	137008801	1
		4	71298	137006956	1
		5	71290	137006899	1[b]

a. Only a partial list of cases with the value 20 are shown in the table of upper extremes.

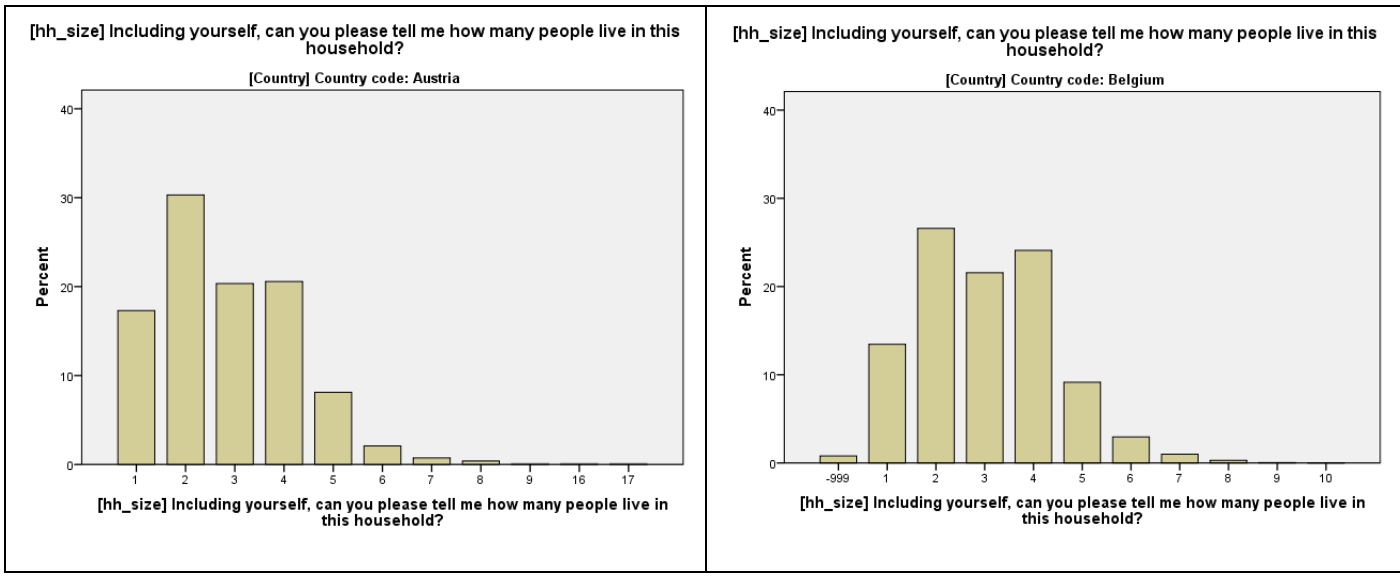
b. Only a partial list of cases with the value 1 are shown in the table of lower extremes.

Overall, 26 respondents provided an answer of 15 persons or over. This was mostly the case in Kosovo, with cases in Austria, Bulgaria, Cyprus, Germany, Denmark, Croatia, Luxembourg, Romania, North Macedonia and Bosnia and Herzegovina.

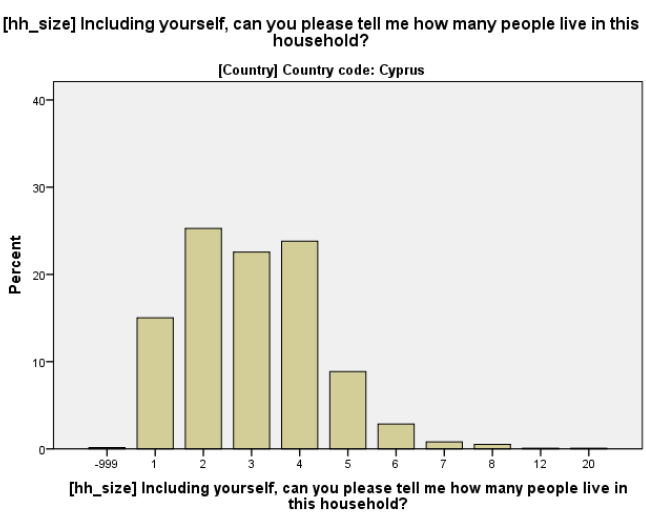
Summary information for the household composition in question relating to the number of children and adults yielded the same number of household members in all cases apart from three. In two of these the difference was within 1 or 2 persons, which could be due to confusion on the respondent's side on self inclusion, or a typo on the interviewer's side.

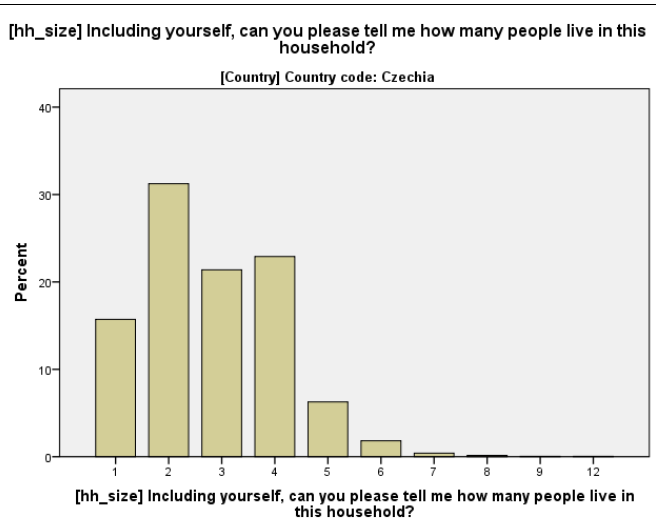
There were 78 cases where the difference in the declared number of total household members was more than 1 or 2 when compared to the sum of the household components. In this case the sum of the components should be used instead of the hh_size, i.e. recoding is necessary. Such issues primarily occurred in Albania and Kosovo, where local teams informed Ipsos that the difference may be related to the household size dynamic due to COVID-19 with expats returning to their country or previous household members, returning to their previous household temporarily (elderly people, students etc.).

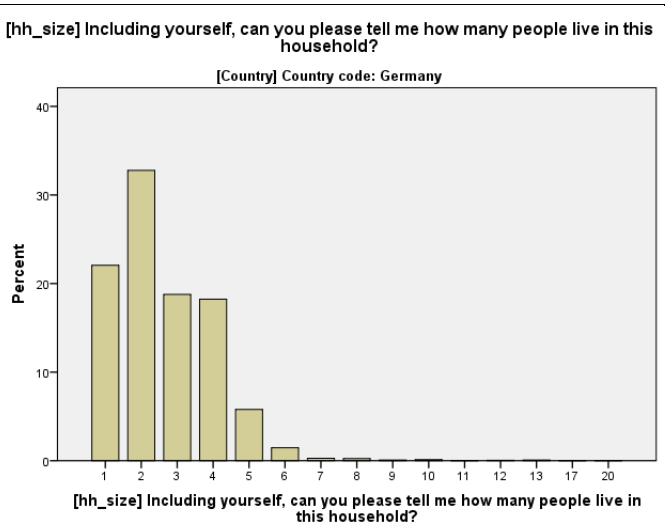
Figure 17a: Household size

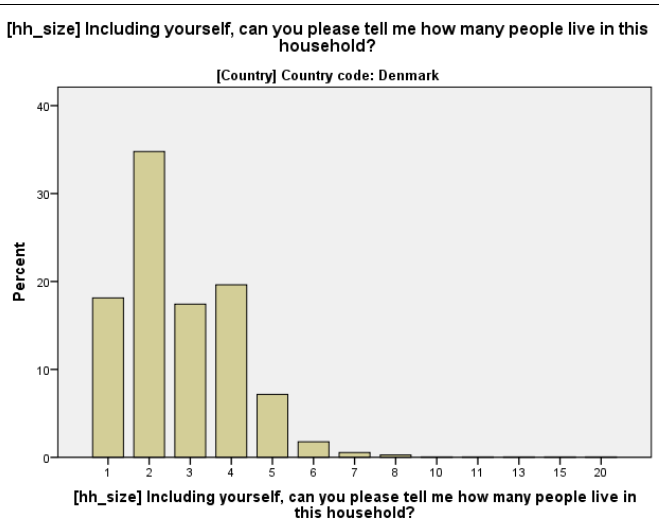


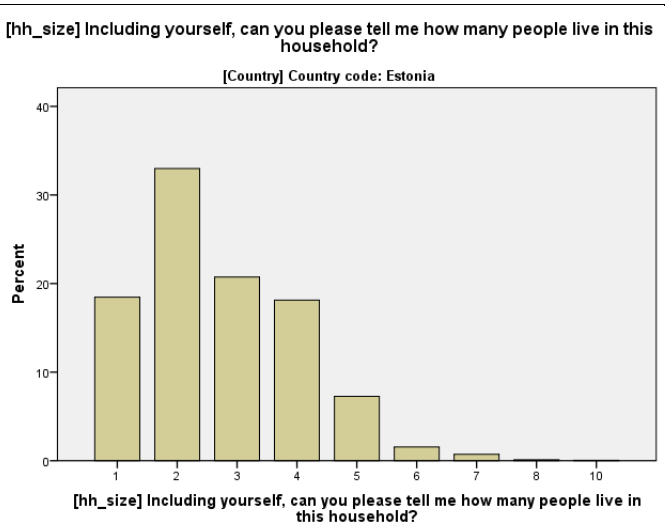

[hh_size] Including yourself, can you please tell me how many people live in this household?
[Country] Country code: Bulgaria
Percent
[hh_size] Including yourself, can you please tell me how many people live in this household?


[hh_size] Including yourself, can you please tell me how many people live in this household?
[Country] Country code: Cyprus
Percent
[hh_size] Including yourself, can you please tell me how many people live in this household?


[hh_size] Including yourself, can you please tell me how many people live in this household?
[Country] Country code: Czechia
Percent
[hh_size] Including yourself, can you please tell me how many people live in this household?

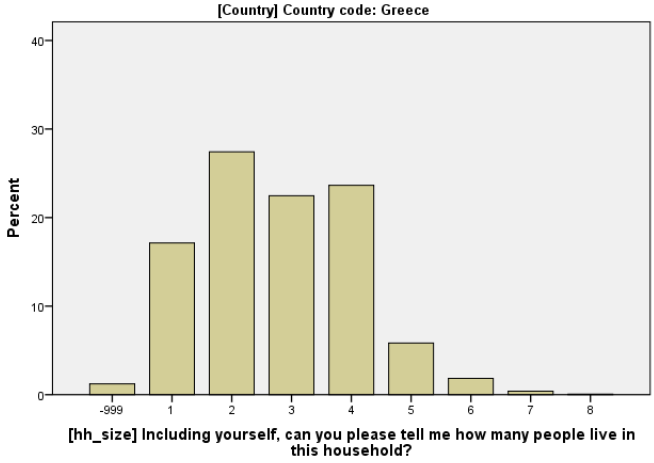

[hh_size] Including yourself, can you please tell me how many people live in this household?
[Country] Country code: Germany
Percent
[hh_size] Including yourself, can you please tell me how many people live in this household?


[hh_size] Including yourself, can you please tell me how many people live in this household?
[Country] Country code: Denmark
Percent
[hh_size] Including yourself, can you please tell me how many people live in this household?


[hh_size] Including yourself, can you please tell me how many people live in this household?
[Country] Country code: Estonia
Percent
[hh_size] Including yourself, can you please tell me how many people live in this household?

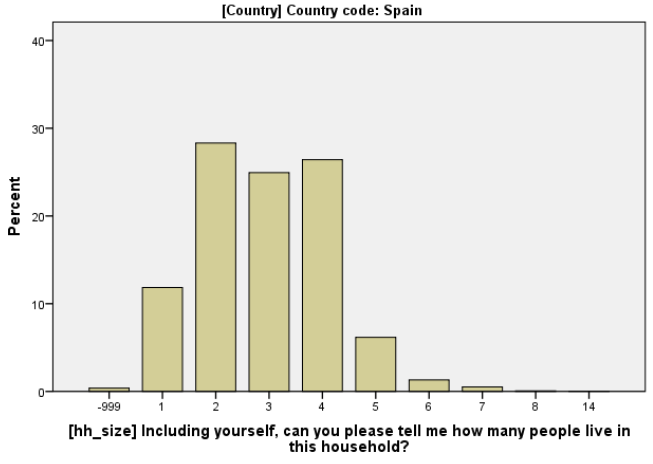
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: Greece



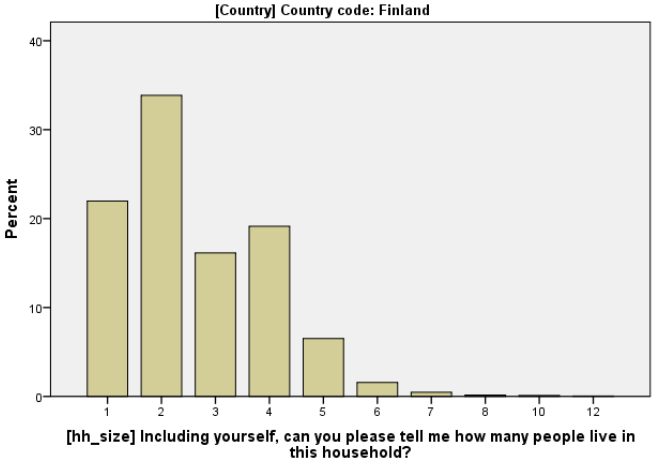
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: Spain



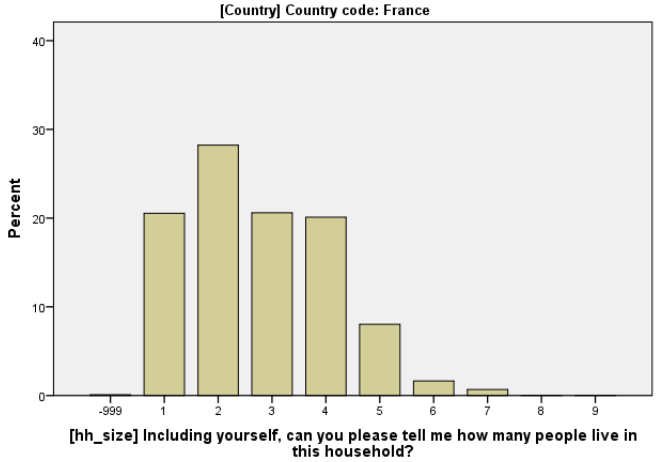
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: Finland



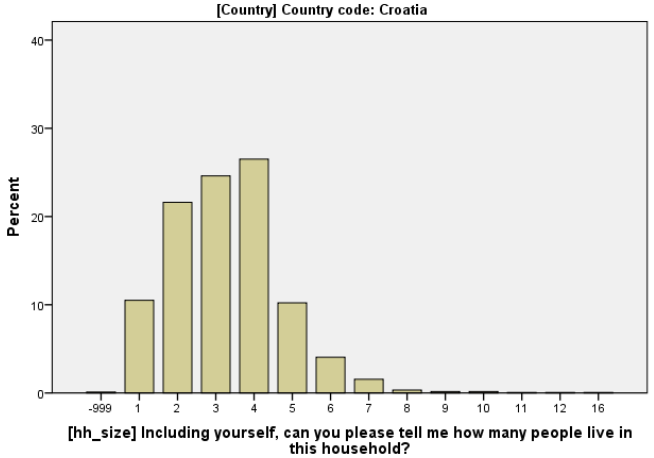
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: France



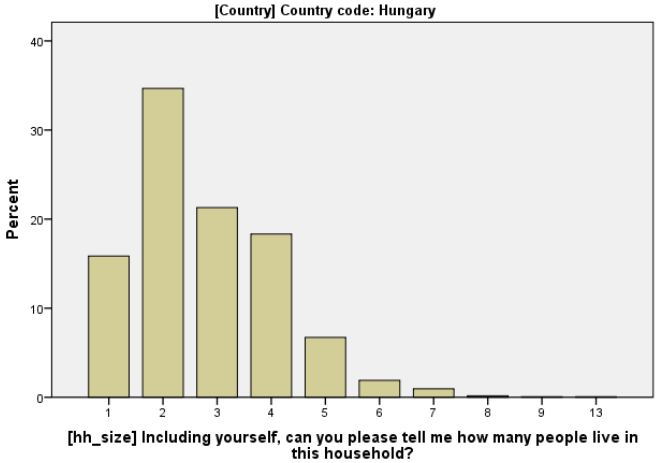
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: Croatia



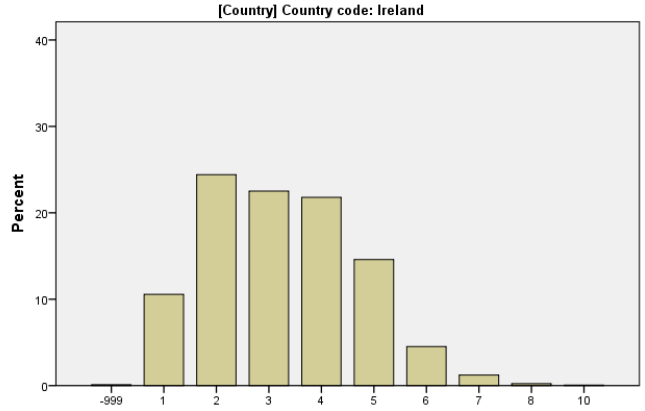
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: Hungary



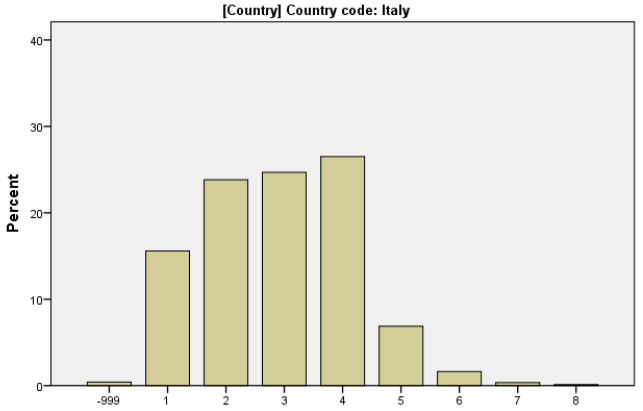
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: Ireland



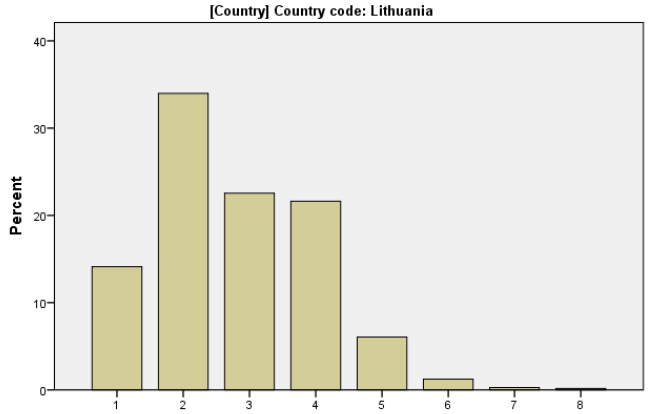
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: Italy



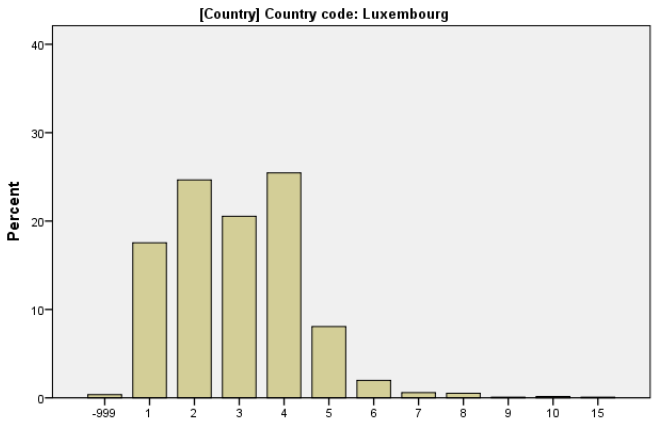
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: Lithuania



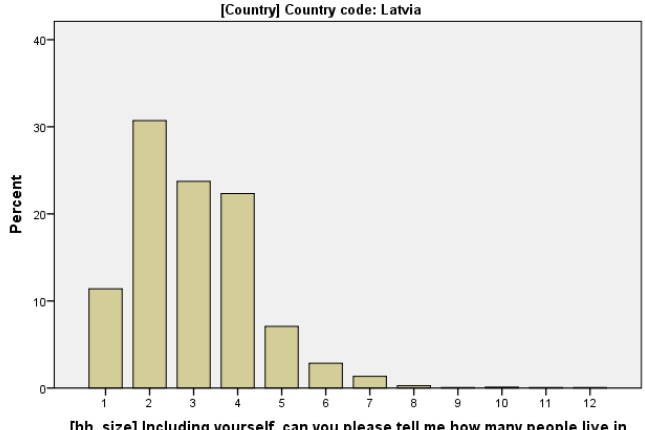
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: Luxembourg



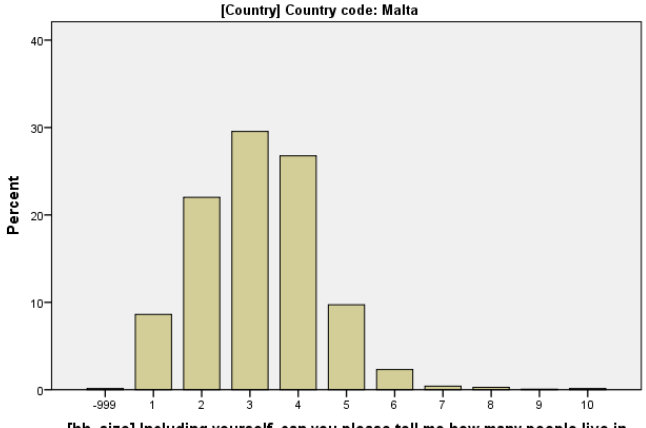
[hh_size] Including yourself, can you please tell me how many people live in this household?

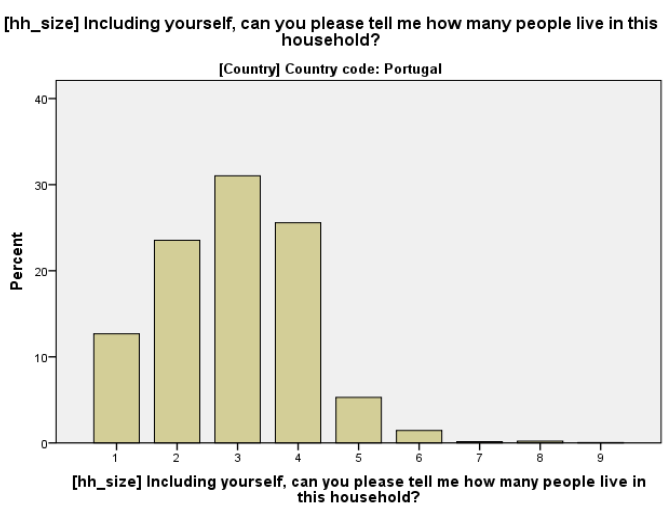
[Country] Country code: Latvia

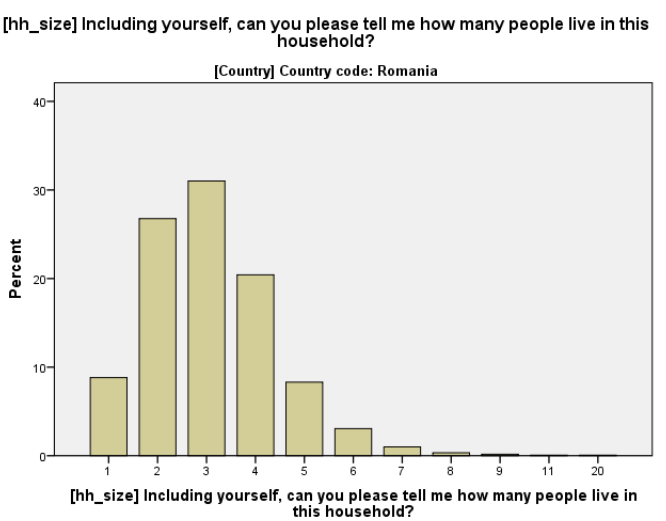


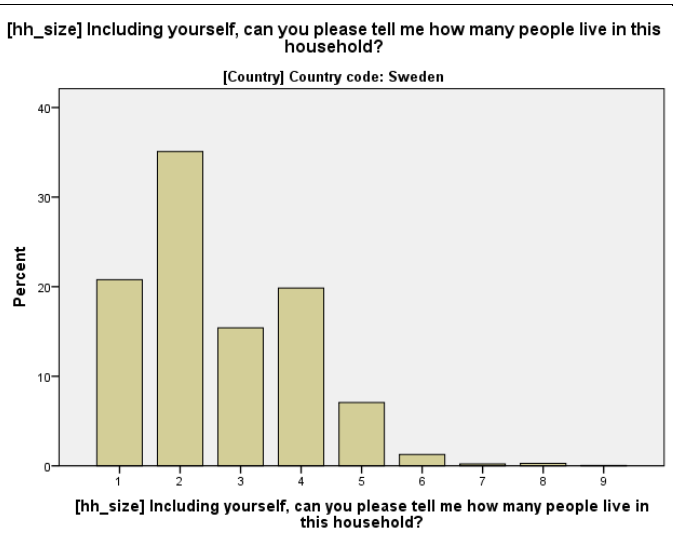
[hh_size] Including yourself, can you please tell me how many people live in this household?

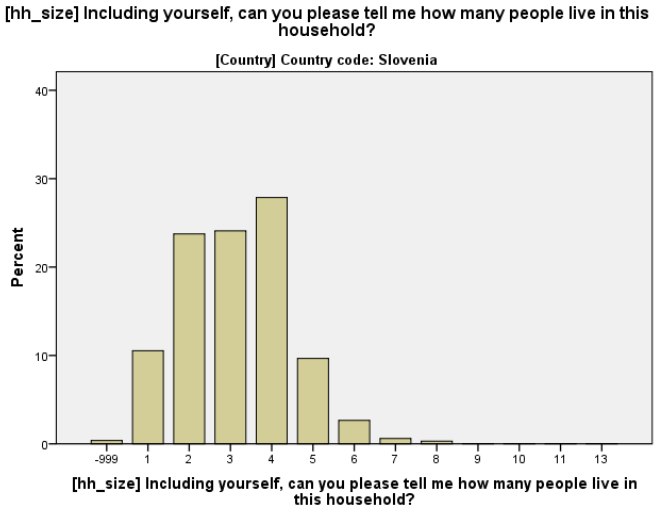
[Country] Country code: Malta





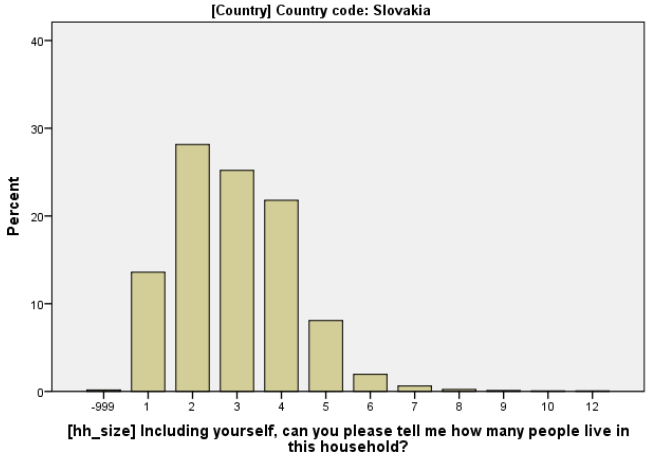






[hh_size] Including yourself, can you please tell me how many people live in this household?

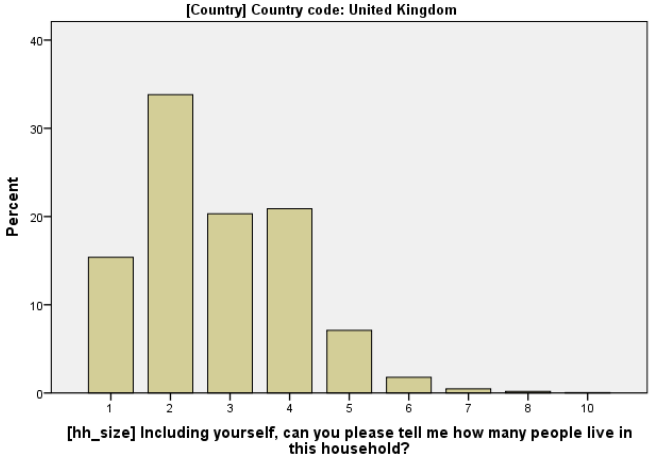
[Country] Country code: Slovakia



[hh_size] Including yourself, can you please tell me how many people live in this household?

[hh_size] Including yourself, can you please tell me how many people live in this household?

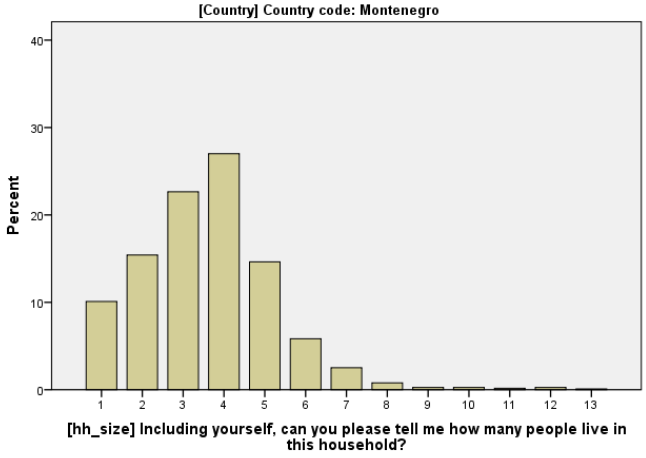
[Country] Country code: United Kingdom



[hh_size] Including yourself, can you please tell me how many people live in this household?

[hh_size] Including yourself, can you please tell me how many people live in this household?

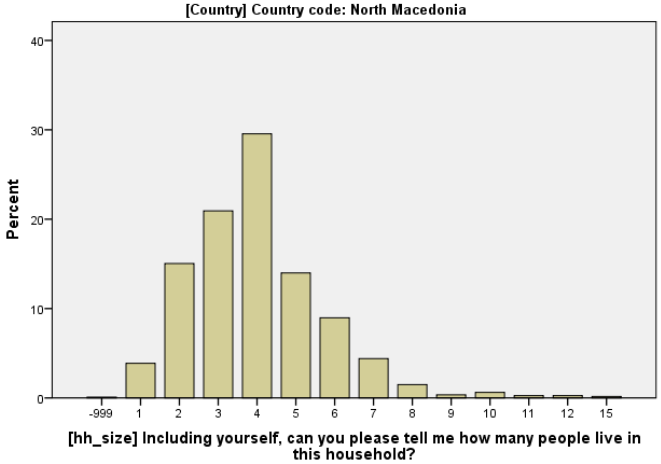
[Country] Country code: Montenegro



[hh_size] Including yourself, can you please tell me how many people live in this household?

[hh_size] Including yourself, can you please tell me how many people live in this household?

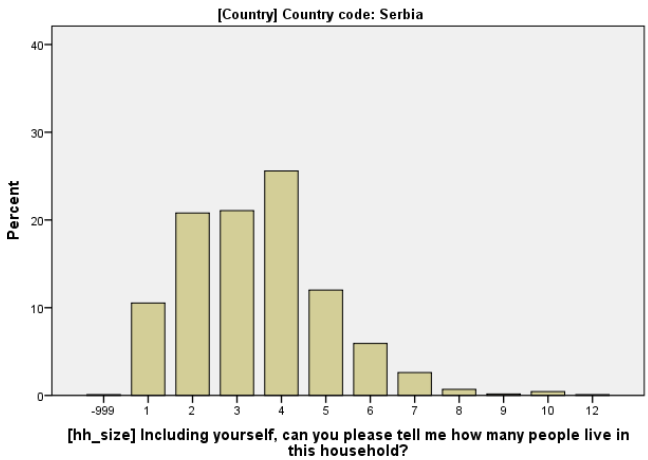
[Country] Country code: North Macedonia



[hh_size] Including yourself, can you please tell me how many people live in this household?

[hh_size] Including yourself, can you please tell me how many people live in this household?

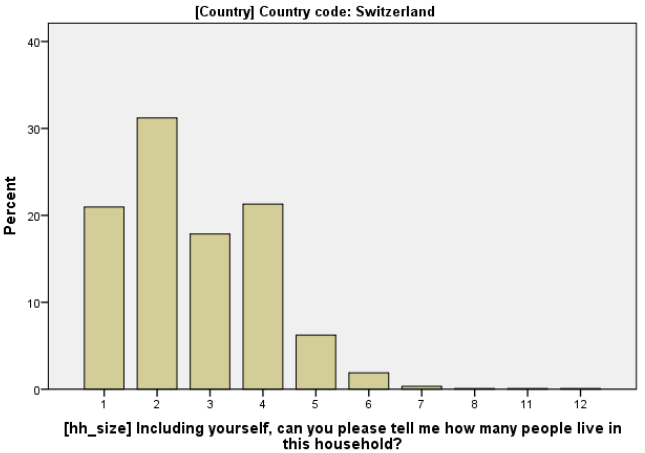
[Country] Country code: Serbia



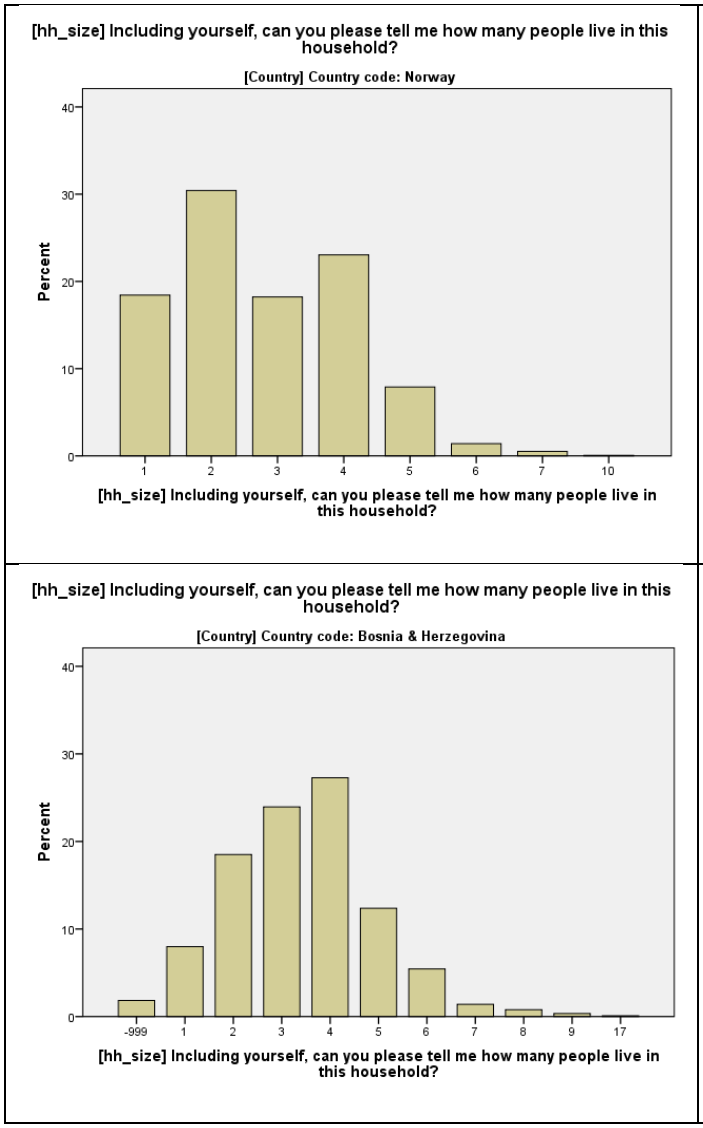
[hh_size] Including yourself, can you please tell me how many people live in this household?

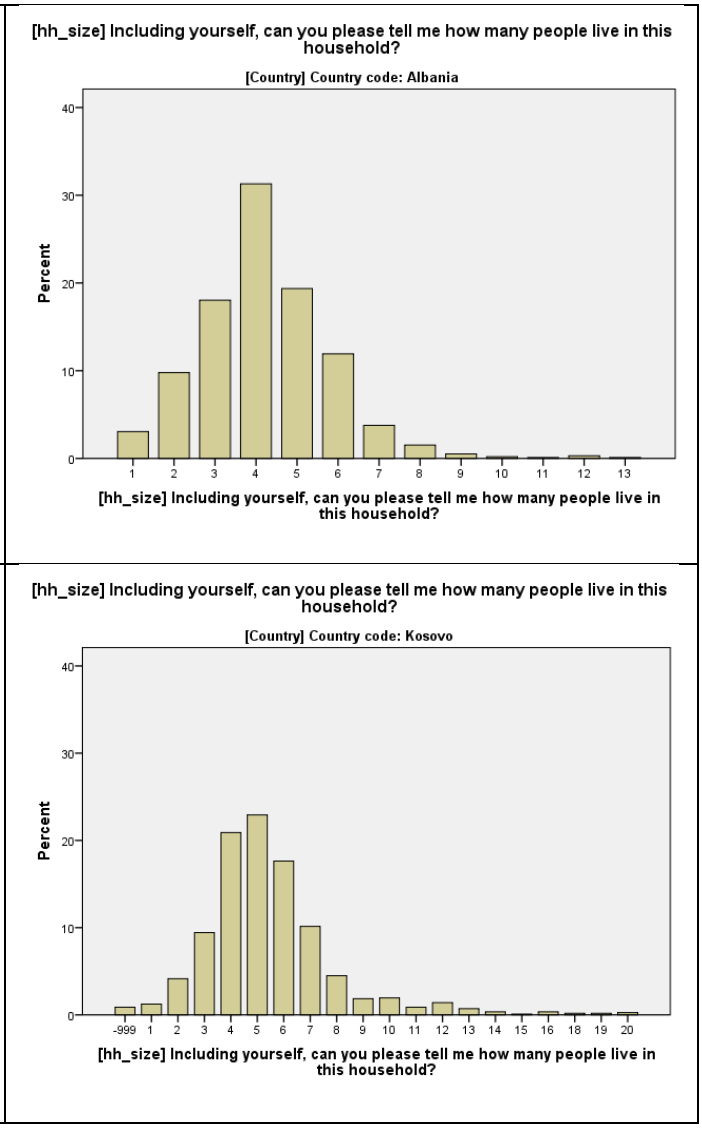
[hh_size] Including yourself, can you please tell me how many people live in this household?

[Country] Country code: Switzerland



[hh_size] Including yourself, can you please tell me how many people live in this household?


[hh_size] Including yourself, can you please tell me how many people live in this household?
[Country] Country code: Norway
Percent
0
10
20
30
40
1
2
3
4
5
6
7
10
[hh_size] Including yourself, can you please tell me how many people live in this household?


[hh_size] Including yourself, can you please tell me how many people live in this household?
[Country] Country code: Albania
Percent
0
10
20
30
40
1
2
3
4
5
6
7
8
9
10
11
12
13
[hh_size] Including yourself, can you please tell me how many people live in this household?

[hh_size] Including yourself, can you please tell me how many people live in this household?
[Country] Country code: Bosnia & Herzegovina
Percent
0
10
20
30
40
-999
1
2
3
4
5
6
7
8
9
17
[hh_size] Including yourself, can you please tell me how many people live in this household?

[hh_size] Including yourself, can you please tell me how many people live in this household?
[Country] Country code: Kosovo
Percent
0
10
20
30
40
-999
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
18
19
20
[hh_size] Including yourself, can you please tell me how many people live in this household?

Variable distribution - time_care_children_hours

Table 79: Examined variable name and label

Question Name	Time_care_children_hours
Question wording	**Caring for and/or educating your children, grandchildren (including people, who don't live in the household) [On average, how many hours per day do you spend on the activity?]**

Syntax used for producing the visual and table results:

```
missing values time_care_children_hours (-999,-888).
execute.

EXAMINE VARIABLES time_care_children_hours
/ID=ID
/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=time_care_children_hours
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 18: Frequency of non-empty answers for the question: Time_care_children_hours [all countries]

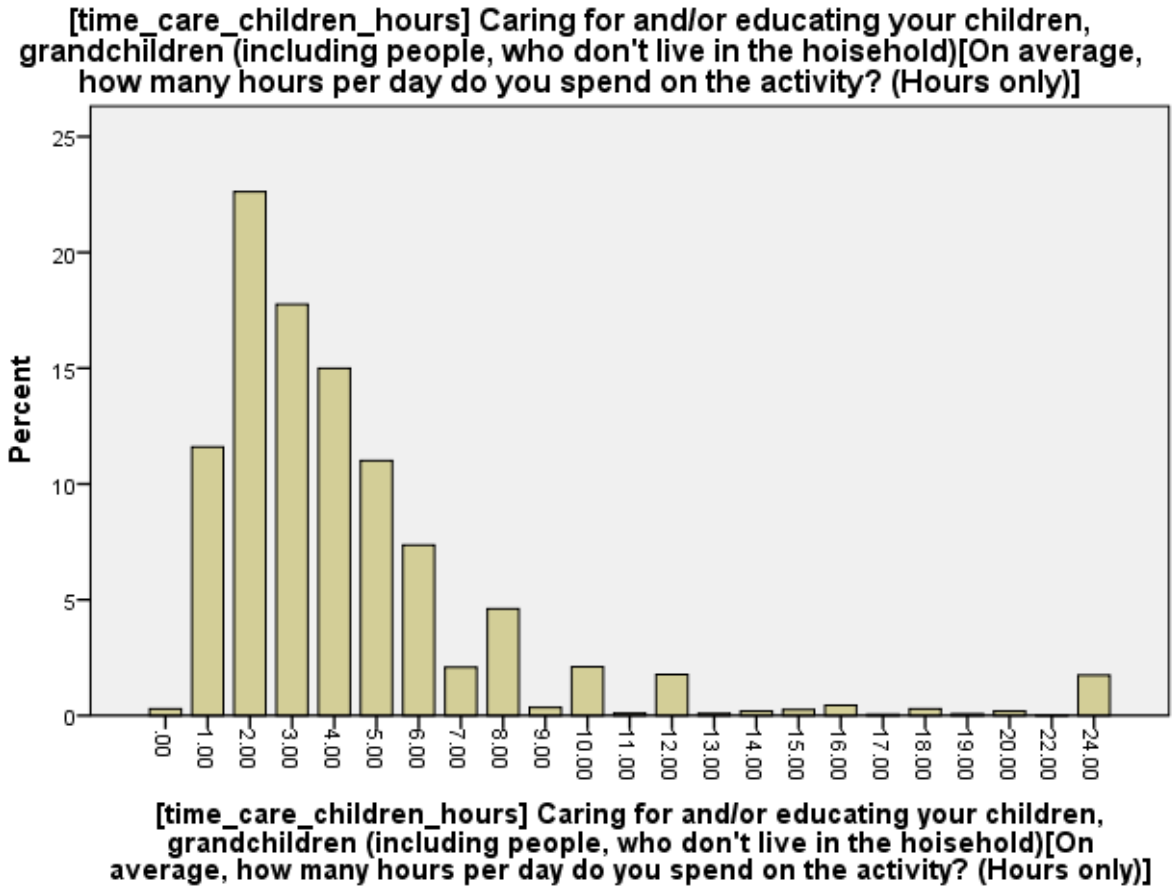


Table 80: Evaluated records for variable: time_care_children_hours [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[time_care_children_hours]	10518	14.7%	61246	85.3%	71764	100.0%

Table 81: Descriptive statistics for the variable: time_care_children_hours [all countries

Descriptives

			Statistic	Std. Error
[time_care_children_hours] Caring for and/or educating your children, grandchildren (including people, who don't live in the hoisehold)[On average, how many hours per day do you spend on the activity? (Hours only)]	Mean		4.3567	.03770
	95% Confidence Interval for Mean	Lower Bound	4.2828	
		Upper Bound	4.4306	
	5% Trimmed Mean		3.8094	
	Median		3.0000	
	Variance		14.949	
	Std. Deviation		3.86641	
	Minimum		.00	
	Maximum		24.00	
	Range		24.00	
	Interquartile Range		3.00	
	Skewness		2.953	.024
	Kurtosis		10.993	.048

Table 82: Extreme answers provided for the question: time_care_children_hours [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[time_care_children_hours] Caring for and/or educating your children, grandchildren (including people, who don't live in the hoisehold)[On average, how many hours per day do you spend on the activity? (Hours only)]	Highest	1	93	101006493	24.00
		2	518	101030319	24.00
		3	686	101040201	24.00
		4	865	101049886	24.00
		5	1234	101069584	24.00[a]
	Lowest	1	67469	134037489	.00
		2	65366	134003340	.00
		3	64526	133029232	.00
		4	62013	130006966	.00
		5	57826	127044627	.00[b]

a. Only a partial list of cases with the value 24.00 are shown in the table of upper extremes.

b. Only a partial list of cases with the value .00 are shown in the table of lower extremes.

There were a small number of cases (30) where the answer provided was equal to 0 hours and no information was obtained regarding minutes. Those respondents have stated daily care of children,

however only 1 stated that there were children in the household grid. For those, the proposed data cleaning procedure was to remove the answer.

There was a second group of outliers where the answer provided was 20+ hours. There were 206 cases where there was at least one child in the household with 84% of these being female respondents. This is considered to be acceptable, due to family obligations.

There are 26 cases remaining with no information provided for children within the household.

The age of respondents is relatively higher with 19 respondents being aged 45 years or more. Without any additional evidence to indicate that the data collected is invalid, Ipsos believe that the high number of hours may relate to grandparents or other relatives (sister, brothers) who are available for childcare assistance at any time throughout the day, but also those where the children live in separate households with their parents.

```
if (ID = '102015434')  time_care_children_hours= -999.
if (ID = '102026371')  time_care_children_hours= -999.
if (ID = '102029021')  time_care_children_hours= -999.
if (ID = '102029747')  time_care_children_hours= -999.
if (ID = '103005978')  time_care_children_hours= -999.
if (ID = '103013517')  time_care_children_hours= -999.
if (ID = '105005665')  time_care_children_hours= -999.
if (ID = '108003106')  time_care_children_hours= -999.
if (ID = '108016705')  time_care_children_hours= -999.
if (ID = '110017425')  time_care_children_hours= -999.
if (ID = '113001350')  time_care_children_hours= -999.
if (ID = '113008904')  time_care_children_hours= -999.
if (ID = '113011866')  time_care_children_hours= -999.
if (ID = '113026988')  time_care_children_hours= -999.
if (ID = '114006332')  time_care_children_hours= -999.
if (ID = '114017534')  time_care_children_hours= -999.
if (ID = '115004809')  time_care_children_hours= -999.
if (ID = '120002051')  time_care_children_hours= -999.
if (ID = '120005096')  time_care_children_hours= -999.
```

```
if (ID = '121003631')  time_care_children_hours= -999.
if (ID = '121007301')  time_care_children_hours= -999.
if (ID = '121010416')  time_care_children_hours= -999.
if (ID = '124007567')  time_care_children_hours= -999.
if (ID = '125073690')  time_care_children_hours= -999.
if (ID = '125085622')  time_care_children_hours= -999.
if (ID = '127044627')  time_care_children_hours= -999.
if (ID = '130006966')  time_care_children_hours= -999.
if (ID = '133029232')  time_care_children_hours= -999.
if (ID = '134003340')  time_care_children_hours= -999.
if (ID = '134037489')  time_care_children_hours= -999.
```

Variable distribution - time_housework_hours

Table 83: Examined variable name and label

Question Name	Time_care_children_hours
Question wording	**Caring for and/or educating your children, grandchildren (including people, who don't live in the household)[On average, how many hours per day do you spend on the activity?]**

Syntax used for producing the visual and table results:

missing values time_housework_hours (-999,-888).

execute.

EXAMINE VARIABLES time_housework_hours

/ID=ID

/PLOT HISTOGRAM

/COMPARE GROUPS

/STATISTICS DESCRIPTIVES EXTREME

/CINTERVAL 95

/MISSING PAIRWISE

/NOTOTAL

FREQUENCIES VARIABLES=time_housework_hours

/BARCHART PERCENT

/ORDER=ANALYSIS.

Figure 19: Frequency of non-empty answers for the question: time_housework_hours [all countries]

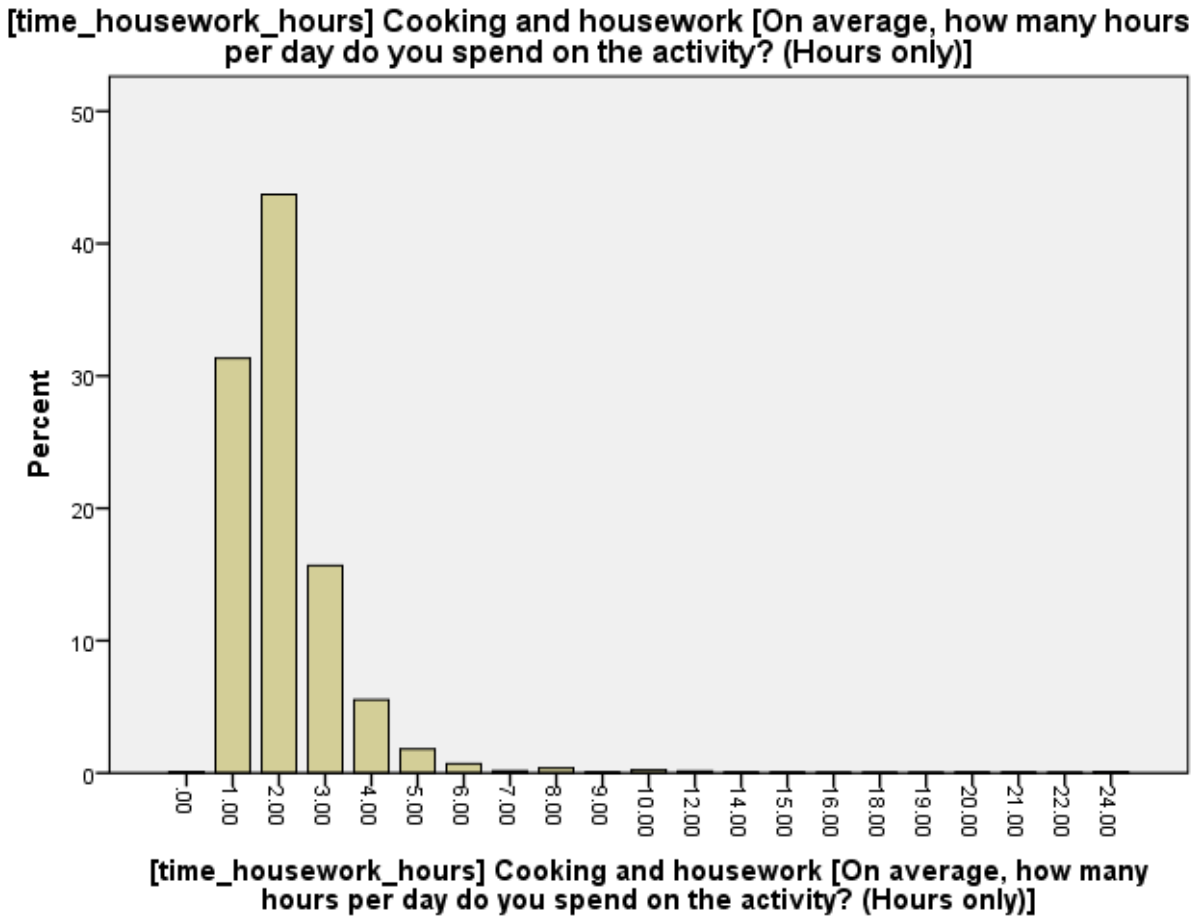


Table 84: Evaluated records for variable: time_housework_hours [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[time_housework_hours]	16996	23.7%	54768	76.3%	71764	100.0%

Table 85: Descriptive statistics for the variable: time_housework_hours [all countries]

Descriptives

			Statistic	Std. Error
[time_housework_hours] Cooking and housework [On average, how many hours per day do you spend on the activity? (Hours only)]	Mean		2.1380	.01131
	95% Confidence Interval for Mean	Lower Bound	2.1158	
		Upper Bound	2.1601	
	5% Trimmed Mean		1.9733	
	Median		2.0000	
	Variance		2.176	
	Std. Deviation		1.47497	
	Minimum		.00	
	Maximum		24.00	
	Range		24.00	
	Interquartile Range		1.00	
	Skewness		5.872	.019
	Kurtosis		65.655	.038

Table 86: Extreme answers provided for the question: time_housework_hours [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[time_housework_hours] Cooking and housework [On average, how many hours per day do you spend on the activity? (Hours only)]	Highest	1	686	101040201	24.00
		2	3294	102016425	24.00
		3	4914	102037090	24.00
		4	9507	105014510	24.00
		5	31643	114016904	24.00[a]
	Lowest	1	69821	136003788	.00
		2	62904	131002777	.00
		3	60313	128038711	.00
		4	58304	127215216	.00
		5	52921	125036368	.00[b]

a. Only a partial list of cases with the value 24.00 are shown in the table of upper extremes.

b. Only a partial list of cases with the value .00 are shown in the table of lower extremes.

There were a small number of cases where the answers provided were equal to 0 hours and no information obtained in minutes. For those, the proposed data cleaning procedure was to remove

the answer in time_housework_hours and replace the answer in time_housework with Don't know (-888).

```
if (ID = '102008972')  time_housework_hour = $SYSMIS.
if (ID = '102014676')  time_housework_hour = $SYSMIS.
if (ID = '107029731')  time_housework_hour = $SYSMIS.
if (ID = '108014522')  time_housework_hour = $SYSMIS.
if (ID = '109009931')  time_housework_hour = $SYSMIS.
if (ID = '109025828')  time_housework_hour = $SYSMIS.
if (ID = '112025498')  time_housework_hour = $SYSMIS.
if (ID = '118027325')  time_housework_hour = $SYSMIS.
if (ID = '121010801')  time_housework_hour = $SYSMIS.
if (ID = '122003397')  time_housework_hour = $SYSMIS.
if (ID = '125033742')  time_housework_hour = $SYSMIS.
if (ID = '125036368')  time_housework_hour = $SYSMIS.
if (ID = '127215216')  time_housework_hour = $SYSMIS.
if (ID = '128038711')  time_housework_hour = $SYSMIS.
if (ID = '131002777')  time_housework_hour = $SYSMIS.
if (ID = '136003788')  time_housework_hour = $SYSMIS.

if (ID = '102008972')  time_housework = -888.
if (ID = '102014676')  time_housework = -888.
if (ID = '107029731')  time_housework = -888.
if (ID = '108014522')  time_housework = -888.
if (ID = '109009931')  time_housework = -888.
if (ID = '109025828')  time_housework = -888.
if (ID = '112025498')  time_housework = -888.
if (ID = '118027325')  time_housework = -888.
if (ID = '121010801')  time_housework = -888.
if (ID = '122003397')  time_housework = -888.
if (ID = '125033742')  time_housework = -888.
if (ID = '125036368')  time_housework = -888.
if (ID = '127215216')  time_housework = -888.
if (ID = '128038711')  time_housework = -888.
if (ID = '131002777')  time_housework = -888.
if (ID = '136003788')  time_housework = -888.
```

There was a second group of outliers where the answer provided was 20+ hours. There were 24 cases, predominantly female (19 out of 21). All such households contain at least two household members, predominantly with children, which leads to a perception of a 24 hour commitment to the household more likely during interviewing.

Variable distribution - time_care_relatives_hours

Table 87: Examined variable name and label

Question Name	Time_care_relatives_hours
Question wording	**Caring for elderly/ disabled relatives (including people, who don't live in the household) [On average, how many hours per day do you spend on the activity?**

Syntax used for producing the visual and table results:

```
missing values time_care_relatives_hours (-999,-888).
execute.

EXAMINE VARIABLES time_care_relatives_hours
/ID=ID/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=time_care_relatives_hours
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 20: Frequency of non-empty answers for the question: time_care_relatives_hour [all countries]

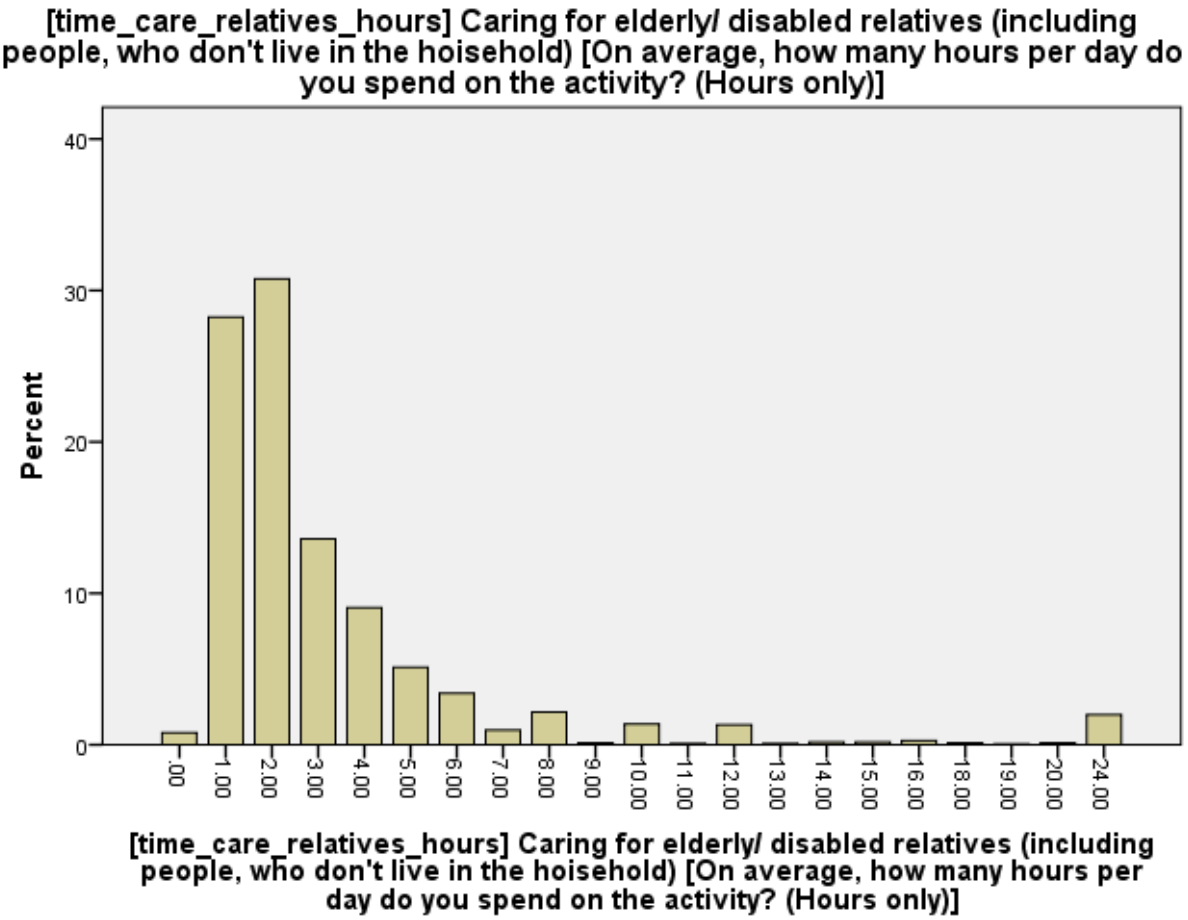


Table 88: Evaluated records for variable: time_care_Relatives_hour [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[time_care_relatives_hours]	2266	3.2%	69498	96.8%	71764	100.0%

Table 89: Descriptive statistics for the variable: time_care_relatives_hour [all countries]

Descriptives

			Statistic	Std. Error
[time_care_relatives_hours] Caring for elderly/ disabled relatives (including people, who don't live in the hoisehold) [On average, how many hours per day do you spend on the activity? (Hours only)]	Mean		3.3257	.08165
	95% Confidence Interval for Mean	Lower Bound	3.1656	
		Upper Bound	3.4858	
	5% Trimmed Mean		2.6845	
	Median		2.0000	
	Variance		15.108	
	Std. Deviation		3.88690	
	Minimum		.00	
	Maximum		24.00	
	Range		24.00	
	Interquartile Range		3.00	
	Skewness		3.599	.051
	Kurtosis		14.932	.103

Table 90: Extreme answers provided for the question: time_care_relatives_hour [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[time_care_relatives_hours] Caring for elderly/ disabled relatives (including people, who don't live in the hoisehold) [On average, how many hours per day do you spend on the activity? (Hours only)]	Highest	1	93	101006493	24.00
		2	1447	101086287	24.00
		3	6371	103003872	24.00
		4	7708	103014687	24.00
		5	9507	105014510	24.00[a]
	Lowest	1	69160	135007909	.00
		2	69117	135007457	.00
		3	63730	131019405	.00
		4	63016	131005060	.00
		5	56684	127003163	.00[b]

a. Only a partial list of cases with the value 24.00 are shown in the table of upper extremes.

b. Only a partial list of cases with the value .00 are shown in the table of lower extremes.

There were a small number of cases where the answer provided was equal to 0 hours and no information has been obtained about minutes. For those, the proposed data cleaning procedure was

to remove the answer in time_care_relatives_hours and replace the answer in time_care_relatives with Don't know (-888).

```
if (ID = '102009255')  time_care_relatives_hour = $SYSMIS.     if (ID = '102009255')  time_care_relatives = -888.
if (ID = '103011088')  time_care_relatives_hour = $SYSMIS.     if (ID = '103011088')  time_care_relatives = -888.
if (ID = '106227247')  time_care_relatives_hour = $SYSMIS.     if (ID = '106227247')  time_care_relatives = -888.
if (ID = '107001206')  time_care_relatives_hour = $SYSMIS.     if (ID = '107001206')  time_care_relatives = -888.
if (ID = '109005870')  time_care_relatives_hour = $SYSMIS.     if (ID = '109005870')  time_care_relatives = -888.
if (ID = '109008320')  time_care_relatives_hour = $SYSMIS.     if (ID = '109008320')  time_care_relatives = -888.
if (ID = '112032479')  time_care_relatives_hour = $SYSMIS.     if (ID = '112032479')  time_care_relatives = -888.
if (ID = '112032778')  time_care_relatives_hour = $SYSMIS.     if (ID = '112032778')  time_care_relatives = -888.
if (ID = '113032074')  time_care_relatives_hour = $SYSMIS.     if (ID = '113032074')  time_care_relatives = -888.
if (ID = '116027208')  time_care_relatives_hour = $SYSMIS.     if (ID = '116027208')  time_care_relatives = -888.
if (ID = '117006438')  time_care_relatives_hour = $SYSMIS.     if (ID = '117006438')  time_care_relatives = -888.
if (ID = '117014101')  time_care_relatives_hour = $SYSMIS.     if (ID = '117014101')  time_care_relatives = -888.
if (ID = '120011768')  time_care_relatives_hour = $SYSMIS.     if (ID = '120011768')  time_care_relatives = -888.
if (ID = '127003163')  time_care_relatives_hour = $SYSMIS.     if (ID = '127003163')  time_care_relatives = -888.
if (ID = '131005060')  time_care_relatives_hour = $SYSMIS.     if (ID = '131005060')  time_care_relatives = -888.
if (ID = '131019405')  time_care_relatives_hour = $SYSMIS.     if (ID = '131019405')  time_care_relatives = -888.
if (ID = '135007457')  time_care_relatives_hour = $SYSMIS.     if (ID = '135007457')  time_care_relatives = -888.
if (ID = '135007909')  time_care_relatives_hour = $SYSMIS.     if (ID = '135007909')  time_care_relatives = -888.
```

There was second group of outliers where the answer provided was 20+ hours. There were 48 respondents with the following demographic profile:

- 1 respondent lives in a single person household in Sweden with a job, but did not work last week.
- 16 male respondents (age 24-62, with a median of 53), 29 Female (age 30-63, with a median of 49). All are living in at least two member households.
- For the female respondents, 19 have at least one unemployed/on sick leave/other household member. For males there are 9 such respondents.

There are 33 respondents, for which there was no direct data evidence for adult household members, needing special care. However, this does not guarantee the invalidity of data, since

respondents may be taking care of family members living nearby or not being counted in the household grid data.

Table 91: Respondents without a direct data link to elder household members

RespondentID	Country	Gender	Age	Household size
101086287	Austria	Female	50	2
103014687	Bulgaria	Female	49	2
105014510	Czechia	Male	53	12
105245931	Czechia	Female	50	2
106231032	Germany	Female	31	3
107003964	Denmark	Female	30	2
108010408	Estonia	Male	54	3
110073154	Spain	Female	36	5
113012760	Croatia	Female	49	3
113015648	Croatia	Female	48	3
113018731	Croatia	Female	60	4
113019896	Croatia	Female	33	5
113032741	Croatia	Female	35	3
114023706	Hungary	Female	50	5
115011411	Ireland	Male	61	3
115024923	Ireland	Female	59	3
118045582	Luxembourg	Male	50	4
119012927	Latvia	Male	24	2
120005148	Malta	Female	40	3
122027034	Poland	Female	42	5
122039438	Poland	Male	50	4
122110390	Poland	Male	54	3
124006105	Romania	Male	49	3
124012788	Romania	Female	47	3
125031068	Sweden	Female	63	2
125037695	Sweden	Female	48	3
126040836	Slovenia	Male	58	2
129002617	Montenegro	Male	53	5
129011319	Montenegro	Male	56	3
129015781	Montenegro	Female	51	8
131003804	Serbia	Female	52	2
131020070	Serbia	Male	56	3
135002817	Albania	Female	38	3

Variable distribution - time_care_children_minutes

Table 92: Examined variable name and label

Question Name	Time_care_relatives_minutes
Question wording	**Caring for and/or educating your children, grandchildren (including people, who don't live in the household) [On average, how many minutes per day do you spend on the activity?**

Syntax used for producing the visual and table results:

```
missing values time_care_children_minutes (-999,-888).
execute.

EXAMINE VARIABLES time_care_children_minutes
/ID=ID/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=time_care_children_minutes
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 21: Frequency of non-empty answers for the question time_care_childre_minutes [all countries]

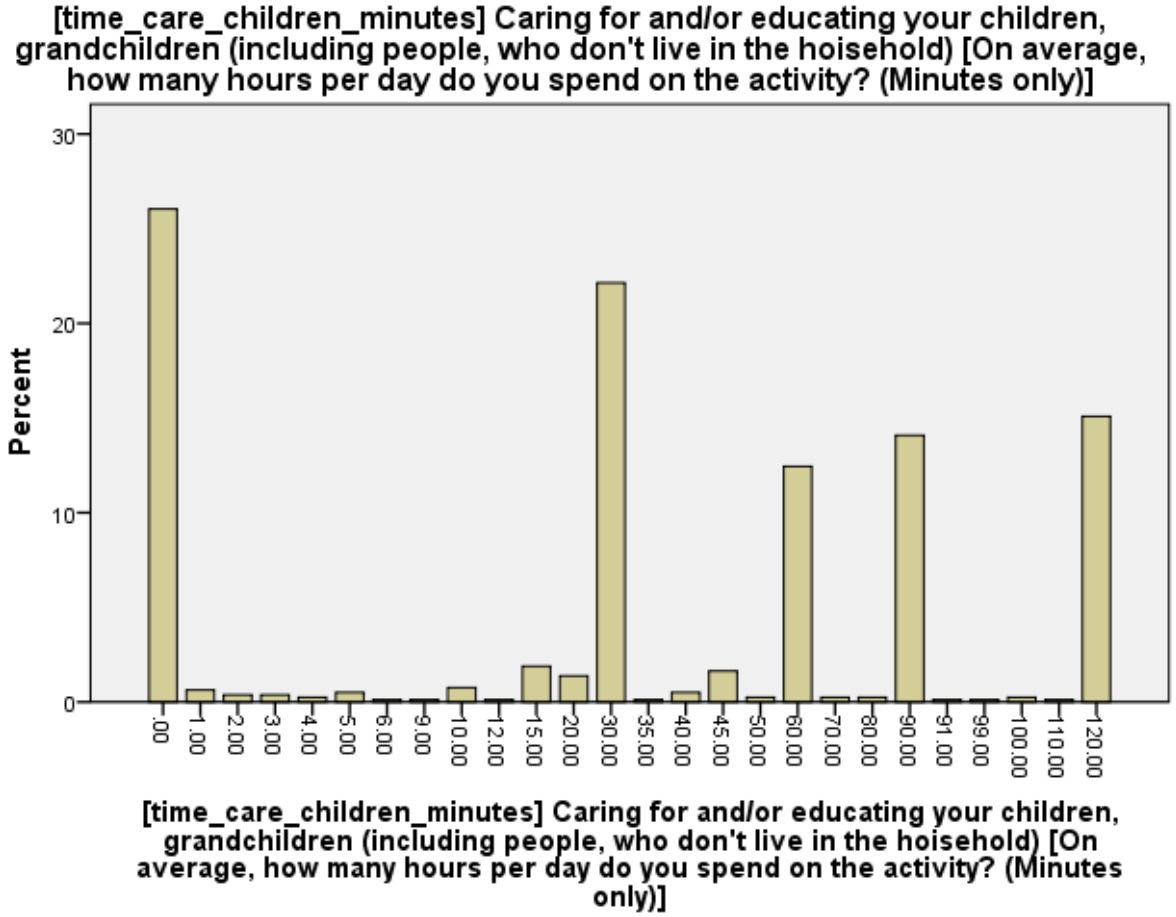


Table 93: Evaluated records for variable: time_care_children_minutes [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[time_care_children_minutes]	795	1.1%	70969	98.9%	71764	100.0%

Table 94: Descriptive statistics for the variable: time_care_childre_minutes [all countries]

Descriptives

			Statistic	Std. Error
[time_care_children_minutes] Caring for and/or educating your children, grandchildren (including people, who don't live in the hoisehold) [On average, how many hours per day do you spend on the activity? (Minutes only)]	Mean		47.7484	1.51980
	95% Confidence Interval for Mean	Lower Bound	44.7651	
		Upper Bound	50.7317	
	5% Trimmed Mean		46.3871	
	Median		30.0000	
	Variance		1836.289	
	Std. Deviation		42.85195	
	Minimum		.00	
	Maximum		120.00	
	Range		120.00	
	Interquartile Range		90.00	
	Skewness		.456	.087
	Kurtosis		-1.175	.173

Table 95: Extreme answers provided for the question: time_care_childre_minutes [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[time_care_children_minutes] Caring for and/or educating your children, grandchildren (including people, who don't live in the hoisehold) [On average, how many hours per day do you spend on the activity? (Minutes only)]	Highest	1	6330	103003622	120.00
		2	6495	103004829	120.00
		3	6676	103006410	120.00
		4	6688	103006549	120.00
		5	6751	103006922	120.00[a]
	Lowest	1	63983	131026052	.00
		2	63976	131025974	.00
		3	63973	131025916	.00
		4	63940	131025051	.00
		5	63694	131018750	.00[b]

a. Only a partial list of cases with the value 120.00 are shown in the table of upper extremes.

b. Only a partial list of cases with the value .00 are shown in the table of lower extremes.

The question related to minutes is asked without any information obtained in the additional variable, related to hours. All values are combined in a new variable - time_care_children_total_minutes. This means that the recoding of answers, e.g. 60 minutes and 120 minutes to 1 and 2 hours is not required.

There were a significant number of cases with the answer of 0 minutes, which invalidates the answer provided in the preceding question “time_care_children Caring for and/or educating your children, grandchildren [In general, how often are you involved in any of the following activities outside work?]

Table 96: Flagged issues for data cleaning related to country and interviewer

Country	Cases identified	Interviewers associated	Average cases per interviewer	Maximum cases per interviewer
Serbia	27	5	5.4	11
Latvia	26	2	13.0	25
Portugal	18	3	6.0	9
Sweden	18	5	3.6	8
Lithuania	15	3	5.0	14
Montenegro	16	2	8.0	14
Belgium	14	5	2.8	7
Slovenia	10	3	3.3	6
Finland	8	2	4.0	5
North Macedonia	6	2	3.0	4
United Kingdom	6	4	1.5	3
Greece	5	3	1.7	1
Ireland	4	2	2.0	4
Austria	4	1	4.0	4
Germany	5	1	5.0	4
Slovakia	4	4	1.0	1
Italy	3	1	3.0	3
Netherlands	3	3	1.0	1
Poland	3	2	1.5	2
Croatia	2	2	1.0	1
Czechia	3	2	1.5	1
Denmark	2	2	1.0	1
Bulgaria	1	1	1.0	1
France	1	1	1.0	1
Hungary	1	1	1.0	1
Luxembourg	1	1	1.0	1
Spain	1	1	1.0	1

In almost all of the countries the frequency of cases suggested isolated cases. However in some countries there was a tendency for interviewer mistakes.

The identified interviewers with issues were LV1226, ME46140, RS45815, PT8143204, FI3016, LT1377, BE1024, DE6158, 41823.ips.si.dsumah

The data cleaning proposition included removing the “0” answer and replacing it with $SYSMIS and changing the answer in time_care_children to Don’t know (-888)

```
if (ID = '101052535') time_care_children_minutes = $SYSMIS.   if (ID = '101052535') time_care_children = -888.
if (ID = '101059567') time_care_children_minutes = $SYSMIS.   if (ID = '101059567') time_care_children = -888.
if (ID = '101061387') time_care_children_minutes = $SYSMIS.   if (ID = '101061387') time_care_children = -888.
if (ID = '101067307') time_care_children_minutes = $SYSMIS.   if (ID = '101067307') time_care_children = -888.
if (ID = '102001663') time_care_children_minutes = $SYSMIS.   if (ID = '102001663') time_care_children = -888.
if (ID = '102001891') time_care_children_minutes = $SYSMIS.   if (ID = '102001891') time_care_children = -888.
if (ID = '102002579') time_care_children_minutes = $SYSMIS.   if (ID = '102002579') time_care_children = -888.
if (ID = '102002673') time_care_children_minutes = $SYSMIS.   if (ID = '102002673') time_care_children = -888.
if (ID = '102003106') time_care_children_minutes = $SYSMIS.   if (ID = '102003106') time_care_children = -888.
if (ID = '102006745') time_care_children_minutes = $SYSMIS.   if (ID = '102006745') time_care_children = -888.
if (ID = '102006817') time_care_children_minutes = $SYSMIS.   if (ID = '102006817') time_care_children = -888.
if (ID = '102007295') time_care_children_minutes = $SYSMIS.   if (ID = '102007295') time_care_children = -888.
if (ID = '102008704') time_care_children_minutes = $SYSMIS.   if (ID = '102008704') time_care_children = -888.
if (ID = '102009179') time_care_children_minutes = $SYSMIS.   if (ID = '102009179') time_care_children = -888.
if (ID = '102009377') time_care_children_minutes = $SYSMIS.   if (ID = '102009377') time_care_children = -888.
if (ID = '102011110') time_care_children_minutes = $SYSMIS.   if (ID = '102011110') time_care_children = -888.
if (ID = '102013592') time_care_children_minutes = $SYSMIS.   if (ID = '102013592') time_care_children = -888.
if (ID = '102041292') time_care_children_minutes = $SYSMIS.   if (ID = '102041292') time_care_children = -888.
if (ID = '103003724') time_care_children_minutes = $SYSMIS.   if (ID = '103003724') time_care_children = -888.
if (ID = '105006891') time_care_children_minutes = $SYSMIS.   if (ID = '105006891') time_care_children = -888.
if (ID = '105028397') time_care_children_minutes = $SYSMIS.   if (ID = '105028397') time_care_children = -888.
if (ID = '105200179') time_care_children_minutes = $SYSMIS.   if (ID = '105200179') time_care_children = -888.
if (ID = '106163082') time_care_children_minutes = $SYSMIS.   if (ID = '106163082') time_care_children = -888.
if (ID = '106178452') time_care_children_minutes = $SYSMIS.   if (ID = '106178452') time_care_children = -888.
if (ID = '106203466') time_care_children_minutes = $SYSMIS.   if (ID = '106203466') time_care_children = -888.
if (ID = '106258632') time_care_children_minutes = $SYSMIS.   if (ID = '106258632') time_care_children = -888.
if (ID = '106362310') time_care_children_minutes = $SYSMIS.   if (ID = '106362310') time_care_children = -888.
if (ID = '107033068') time_care_children_minutes = $SYSMIS.   if (ID = '107033068') time_care_children = -888.
if (ID = '107043369') time_care_children_minutes = $SYSMIS.   if (ID = '107043369') time_care_children = -888.
if (ID = '109006924') time_care_children_minutes = $SYSMIS.   if (ID = '109006924') time_care_children = -888.
if (ID = '109011238') time_care_children_minutes = $SYSMIS.   if (ID = '109011238') time_care_children = -888.
if (ID = '109011649') time_care_children_minutes = $SYSMIS.   if (ID = '109011649') time_care_children = -888.
if (ID = '109013141') time_care_children_minutes = $SYSMIS.   if (ID = '109013141') time_care_children = -888.
if (ID = '109013595') time_care_children_minutes = $SYSMIS.   if (ID = '109013595') time_care_children = -888.
if (ID = '110074696') time_care_children_minutes = $SYSMIS.   if (ID = '110074696') time_care_children = -888.
if (ID = '111003716') time_care_children_minutes = $SYSMIS.   if (ID = '111003716') time_care_children = -888.
if (ID = '111006102') time_care_children_minutes = $SYSMIS.   if (ID = '111006102') time_care_children = -888.
if (ID = '111006918') time_care_children_minutes = $SYSMIS.   if (ID = '111006918') time_care_children = -888.
if (ID = '111017971') time_care_children_minutes = $SYSMIS.   if (ID = '111017971') time_care_children = -888.
if (ID = '111019946') time_care_children_minutes = $SYSMIS.   if (ID = '111019946') time_care_children = -888.
if (ID = '111029191') time_care_children_minutes = $SYSMIS.   if (ID = '111029191') time_care_children = -888.
if (ID = '111031161') time_care_children_minutes = $SYSMIS.   if (ID = '111031161') time_care_children = -888.
if (ID = '111032230') time_care_children_minutes = $SYSMIS.   if (ID = '111032230') time_care_children = -888.
if (ID = '112038144') time_care_children_minutes = $SYSMIS.   if (ID = '112038144') time_care_children = -888.
if (ID = '113030059') time_care_children_minutes = $SYSMIS.   if (ID = '113030059') time_care_children = -888.
if (ID = '113030917') time_care_children_minutes = $SYSMIS.   if (ID = '113030917') time_care_children = -888.
if (ID = '114024115') time_care_children_minutes = $SYSMIS.   if (ID = '114024115') time_care_children = -888.
if (ID = '115013434') time_care_children_minutes = $SYSMIS.   if (ID = '115013434') time_care_children = -888.
if (ID = '115019777') time_care_children_minutes = $SYSMIS.   if (ID = '115019777') time_care_children = -888.
```

```
if (ID = '115025411')  time_care_children_minutes = $SYSMIS.    if (ID = '115025411')  time_care_children = -888.
if (ID = '115031191')  time_care_children_minutes = $SYSMIS.    if (ID = '115031191')  time_care_children = -888.
if (ID = '116006102')  time_care_children_minutes = $SYSMIS.    if (ID = '116006102')  time_care_children = -888.
if (ID = '116017657')  time_care_children_minutes = $SYSMIS.    if (ID = '116017657')  time_care_children = -888.
if (ID = '116030371')  time_care_children_minutes = $SYSMIS.    if (ID = '116030371')  time_care_children = -888.
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if (ID = '131018750')  time_care_children_minutes = $SYSMIS.    if (ID = '131018750')  time_care_children = -888.
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if (ID = '131025916')  time_care_children_minutes = $SYSMIS.    if (ID = '131025916')  time_care_children = -888.
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if (ID = '131026052')  time_care_children_minutes = $SYSMIS.    if (ID = '131026052')  time_care_children = -888.
```

Variable distribution - time_housework_minutes

Table 97: Examined variable name and label

Question Name	Time_housework_minutes
Question wording	**Cooking and housework [On average, how many minutes per day do you spend on the activity?**

Syntax used for producing the visual and table results:

```
missing values time_housework_minutes (-999,-888).
execute.

EXAMINE VARIABLES time_housework_minutes
/ID=ID/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=time_housework_minutes
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 22: Frequency of non-empty answers for the question: time_housework_minutes [all countries]

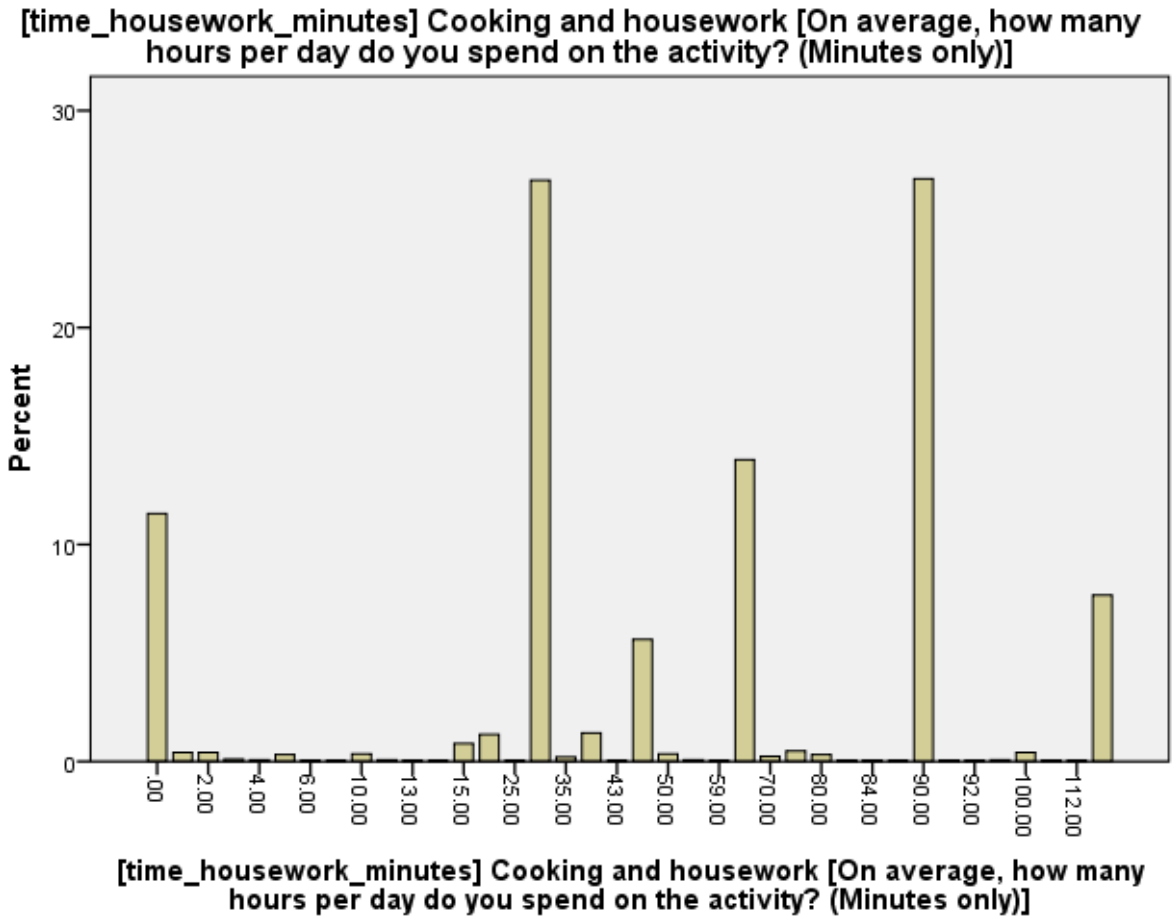

Table 98: Evaluated records for variable: time_housework_minutes [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[time_housework_minutes]	2897	4.0%	68867	96.0%	71764	100.0%

Table 99: Descriptive statistics for the variable: time_housework_minutes [all countries]

Descriptives

			Statistic	Std. Error
[time_housework_minutes] Cooking and housework [On average, how many hours per day do you spend on the activity? (Minutes only)]	Mean		55.0822	.66291
	95% Confidence Interval for Mean	Lower Bound	53.7823	
		Upper Bound	56.3820	
	5% Trimmed Mean		54.5357	
	Median		60.0000	
	Variance		1273.086	
	Std. Deviation		35.68034	
	Minimum		.00	
	Maximum		120.00	
	Range		120.00	
	Interquartile Range		60.00	
	Skewness		.136	.045
	Kurtosis		-1.078	.091

Table 100: Extreme answers provided for the question: time_housework_minutes [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[time_housework_minutes] Cooking and housework [On average, how many hours per day do you spend on the activity? (Minutes only)]	Highest	1	257	101015398	120.00
		2	1390	101081240	120.00
		3	2480	102007792	120.00
		4	2876	102011705	120.00
		5	2952	102012663	120.00[a]
	Lowest	1	68815	135004109	.00
		2	66757	134023033	.00
		3	65909	134010689	.00
		4	65727	134008112	.00
		5	64143	133009448	.00[b]

a. Only a partial list of cases with the value 120.00 are shown in the table of upper extremes.

b. Only a partial list of cases with the value .00 are shown in the table of lower extremes.

Question related to minutes were asked without any information obtained for the additional variable, related to hours. All values were combined in new variable - time_housework_total_minutes. This means that the recoding of answers, e.g. 60 minutes and 120 minutes to 1 and 2 hours was not required.

There were a significant number of cases where the answer given was 0 minutes (11,4%, 331 cases), which invalidated the answer provided in the preceding question "time_housework Cooking and housework [In general, how often are you involved in any of the following activities outside work?]"

Table 101: Flagged issues for data cleaning in relation to country and interviewer

Country	Cases identified	Interviewers associated	Average cases per interviewer	Maximum cases per interviewer
Slovenia	36	2	18.00	20
Latvia	32	3	10.67	27
Serbia	32	3	10.67	14
Portugal	27	4	6.75	17
Belgium	25	7	3.57	14
Finland	25	5	5.00	20
Lithuania	23	2	11.50	21
Sweden	19	7	2.71	9
Montenegro	16	2	8.00	14
United Kingdom	15	5	3.00	7
Germany	14	3	4.67	12
Ireland	13	7	1.86	6
Austria	5	1	5.00	5
Denmark	5	4	1.25	2
Spain	5	2	2.50	4
Czechia	4	3	1.33	2
North Macedonia	4	2	2.00	3
Poland	4	4	1.00	1
Cyprus	3	2	1.50	2
Croatia	3	3	1.00	1
Italy	3	2	1.50	2
Netherlands	3	3	1.00	1

Country	Cases identified	Interviewers associated	Average cases per interviewer	Maximum cases per interviewer
Norway	3	1	3.00	3
Slovakia	3	3	1.00	1
France	2	2	1.00	1
Greece	2	2	1.00	1
Luxembourg	2	2	1.00	1
Albania	1	1	1.00	1
Switzerland	1	1	1.00	1
Hungary	1	1	1.00	1

In almost all of the countries the frequency of cases suggests isolated cases. However in some countries there was a tendency for interviewer mistakes.

The identified interviewers with issues were LV1226, ME46140, RS45815, PT8143204, FI3016, LT1377, BE1024, DE6158, 41823.ips.si.dsumah, 42169.ips.si.kmanfr

The data cleaning proposition included removing the answer “0” and replacing it with $SYSMIS and changing the answer in time_housework_minutes to Don’t know (-888)

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if (ID = '101052635') time_housework_minutes = $SYSMIS.   if (ID = '101052635') time_housework = -888.
if (ID = '101057938') time_housework_minutes = $SYSMIS.   if (ID = '101057938') time_housework = -888.
if (ID = '101061387') time_housework_minutes = $SYSMIS.   if (ID = '101061387') time_housework = -888.
if (ID = '101067307') time_housework_minutes = $SYSMIS.   if (ID = '101067307') time_housework = -888.
if (ID = '101072733') time_housework_minutes = $SYSMIS.   if (ID = '101072733') time_housework = -888.
if (ID = '102001598') time_housework_minutes = $SYSMIS.   if (ID = '102001598') time_housework = -888.
if (ID = '102001663') time_housework_minutes = $SYSMIS.   if (ID = '102001663') time_housework = -888.
if (ID = '102001953') time_housework_minutes = $SYSMIS.   if (ID = '102001953') time_housework = -888.
if (ID = '102002579') time_housework_minutes = $SYSMIS.   if (ID = '102002579') time_housework = -888.
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if (ID = '102006447') time_housework_minutes = $SYSMIS.   if (ID = '102006447') time_housework = -888.
if (ID = '102007732') time_housework_minutes = $SYSMIS.   if (ID = '102007732') time_housework = -888.
if (ID = '102007995') time_housework_minutes = $SYSMIS.   if (ID = '102007995') time_housework = -888.
if (ID = '102008568') time_housework_minutes = $SYSMIS.   if (ID = '102008568') time_housework = -888.
if (ID = '102008704') time_housework_minutes = $SYSMIS.   if (ID = '102008704') time_housework = -888.
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if (ID = '123002360')  time_housework_minutes = $SYSMIS.   if (ID = '123002360')  time_housework = -888.
if (ID = '123002438')  time_housework_minutes = $SYSMIS.   if (ID = '123002438')  time_housework = -888.
if (ID = '123004760')  time_housework_minutes = $SYSMIS.   if (ID = '123004760')  time_housework = -888.
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if (ID = '123007113')  time_housework_minutes = $SYSMIS.   if (ID = '123007113')  time_housework = -888.
if (ID = '123007276')  time_housework_minutes = $SYSMIS.   if (ID = '123007276')  time_housework = -888.
if (ID = '123007509')  time_housework_minutes = $SYSMIS.   if (ID = '123007509')  time_housework = -888.
if (ID = '123007665')  time_housework_minutes = $SYSMIS.   if (ID = '123007665')  time_housework = -888.
if (ID = '123008248')  time_housework_minutes = $SYSMIS.   if (ID = '123008248')  time_housework = -888.
if (ID = '123008920')  time_housework_minutes = $SYSMIS.   if (ID = '123008920')  time_housework = -888.
if (ID = '123009046')  time_housework_minutes = $SYSMIS.   if (ID = '123009046')  time_housework = -888.
if (ID = '123009184')  time_housework_minutes = $SYSMIS.   if (ID = '123009184')  time_housework = -888.
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if (ID = '123011968')  time_housework_minutes = $SYSMIS.   if (ID = '123011968')  time_housework = -888.
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if (ID = '123015306')  time_housework_minutes = $SYSMIS.   if (ID = '123015306')  time_housework = -888.
if (ID = '123015439')  time_housework_minutes = $SYSMIS.   if (ID = '123015439')  time_housework = -888.
if (ID = '123015453')  time_housework_minutes = $SYSMIS.   if (ID = '123015453')  time_housework = -888.
if (ID = '123015675')  time_housework_minutes = $SYSMIS.   if (ID = '123015675')  time_housework = -888.
if (ID = '123016926')  time_housework_minutes = $SYSMIS.   if (ID = '123016926')  time_housework = -888.
if (ID = '123021932')  time_housework_minutes = $SYSMIS.   if (ID = '123021932')  time_housework = -888.
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if (ID = '125001992')  time_housework_minutes = $SYSMIS.   if (ID = '125001992')  time_housework = -888.
if (ID = '125002466')  time_housework_minutes = $SYSMIS.   if (ID = '125002466')  time_housework = -888.
if (ID = '125002851')  time_housework_minutes = $SYSMIS.   if (ID = '125002851')  time_housework = -888.
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if (ID = '125005338')  time_housework_minutes = $SYSMIS.   if (ID = '125005338')  time_housework = -888.
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if (ID = '125066387')  time_housework_minutes = $SYSMIS.   if (ID = '125066387')  time_housework = -888.
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if (ID = '125081195')  time_housework_minutes = $SYSMIS.   if (ID = '125081195')  time_housework = -888.
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if (ID = '126003857')  time_housework_minutes = $SYSMIS.   if (ID = '126003857')  time_housework = -888.
if (ID = '126004288')  time_housework_minutes = $SYSMIS.   if (ID = '126004288')  time_housework = -888.
if (ID = '126007730')  time_housework_minutes = $SYSMIS.   if (ID = '126007730')  time_housework = -888.
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if (ID = '126021166')  time_housework_minutes = $SYSMIS.   if (ID = '126021166')  time_housework = -888.
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if (ID = '127009122')  time_housework_minutes = $SYSMIS.   if (ID = '127009122')  time_housework = -888.
if (ID = '127027122')  time_housework_minutes = $SYSMIS.   if (ID = '127027122')  time_housework = -888.
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if (ID = '128017109')  time_housework_minutes = $SYSMIS.   if (ID = '128017109')  time_housework = -888.
if (ID = '128017276')  time_housework_minutes = $SYSMIS.   if (ID = '128017276')  time_housework = -888.
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if (ID = '128023914')  time_housework_minutes = $SYSMIS.   if (ID = '128023914')  time_housework = -888.
if (ID = '128024285')  time_housework_minutes = $SYSMIS.   if (ID = '128024285')  time_housework = -888.
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if (ID = '128035734')  time_housework_minutes = $SYSMIS.   if (ID = '128035734')  time_housework = -888.
if (ID = '128036962')  time_housework_minutes = $SYSMIS.   if (ID = '128036962')  time_housework = -888.
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if (ID = '129002277')  time_housework_minutes = $SYSMIS.   if (ID = '129002277')  time_housework = -888.
if (ID = '129002353')  time_housework_minutes = $SYSMIS.   if (ID = '129002353')  time_housework = -888.
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if (ID = '129003487')  time_housework_minutes = $SYSMIS.   if (ID = '129003487')  time_housework = -888.
if (ID = '129005237')  time_housework_minutes = $SYSMIS.   if (ID = '129005237')  time_housework = -888.
if (ID = '129005803')  time_housework_minutes = $SYSMIS.   if (ID = '129005803')  time_housework = -888.
if (ID = '129006039')  time_housework_minutes = $SYSMIS.   if (ID = '129006039')  time_housework = -888.
if (ID = '129006245')  time_housework_minutes = $SYSMIS.   if (ID = '129006245')  time_housework = -888.
if (ID = '129006255')  time_housework_minutes = $SYSMIS.   if (ID = '129006255')  time_housework = -888.
if (ID = '129006282')  time_housework_minutes = $SYSMIS.   if (ID = '129006282')  time_housework = -888.
if (ID = '129011222')  time_housework_minutes = $SYSMIS.   if (ID = '129011222')  time_housework = -888.
if (ID = '129014556')  time_housework_minutes = $SYSMIS.   if (ID = '129014556')  time_housework = -888.
if (ID = '129025070')  time_housework_minutes = $SYSMIS.   if (ID = '129025070')  time_housework = -888.
if (ID = '130001302')  time_housework_minutes = $SYSMIS.   if (ID = '130001302')  time_housework = -888.
if (ID = '130002068')  time_housework_minutes = $SYSMIS.   if (ID = '130002068')  time_housework = -888.
if (ID = '130002259')  time_housework_minutes = $SYSMIS.   if (ID = '130002259')  time_housework = -888.
if (ID = '130006379')  time_housework_minutes = $SYSMIS.   if (ID = '130006379')  time_housework = -888.
if (ID = '131001276')  time_housework_minutes = $SYSMIS.   if (ID = '131001276')  time_housework = -888.
if (ID = '131001377')  time_housework_minutes = $SYSMIS.   if (ID = '131001377')  time_housework = -888.
if (ID = '131002475')  time_housework_minutes = $SYSMIS.   if (ID = '131002475')  time_housework = -888.
if (ID = '131003550')  time_housework_minutes = $SYSMIS.   if (ID = '131003550')  time_housework = -888.
if (ID = '131004338')  time_housework_minutes = $SYSMIS.   if (ID = '131004338')  time_housework = -888.
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if (ID = '131005042')  time_housework_minutes = $SYSMIS.   if (ID = '131005042')  time_housework = -888.
if (ID = '131005060')  time_housework_minutes = $SYSMIS.   if (ID = '131005060')  time_housework = -888.
if (ID = '131005453')  time_housework_minutes = $SYSMIS.   if (ID = '131005453')  time_housework = -888.
if (ID = '131006494')  time_housework_minutes = $SYSMIS.   if (ID = '131006494')  time_housework = -888.
if (ID = '131007700')  time_housework_minutes = $SYSMIS.   if (ID = '131007700')  time_housework = -888.
if (ID = '131009182')  time_housework_minutes = $SYSMIS.   if (ID = '131009182')  time_housework = -888.
if (ID = '131009367')  time_housework_minutes = $SYSMIS.   if (ID = '131009367')  time_housework = -888.
if (ID = '131010166')  time_housework_minutes = $SYSMIS.   if (ID = '131010166')  time_housework = -888.
if (ID = '131010208')  time_housework_minutes = $SYSMIS.   if (ID = '131010208')  time_housework = -888.
if (ID = '131010602')  time_housework_minutes = $SYSMIS.   if (ID = '131010602')  time_housework = -888.
if (ID = '131010852')  time_housework_minutes = $SYSMIS.   if (ID = '131010852')  time_housework = -888.
if (ID = '131010911')  time_housework_minutes = $SYSMIS.   if (ID = '131010911')  time_housework = -888.
if (ID = '131011084')  time_housework_minutes = $SYSMIS.   if (ID = '131011084')  time_housework = -888.
if (ID = '131011423')  time_housework_minutes = $SYSMIS.   if (ID = '131011423')  time_housework = -888.
if (ID = '131011693')  time_housework_minutes = $SYSMIS.   if (ID = '131011693')  time_housework = -888.
if (ID = '131013212')  time_housework_minutes = $SYSMIS.   if (ID = '131013212')  time_housework = -888.
if (ID = '131013218')  time_housework_minutes = $SYSMIS.   if (ID = '131013218')  time_housework = -888.
if (ID = '131014453')  time_housework_minutes = $SYSMIS.   if (ID = '131014453')  time_housework = -888.
if (ID = '131014695')  time_housework_minutes = $SYSMIS.   if (ID = '131014695')  time_housework = -888.
if (ID = '131014915')  time_housework_minutes = $SYSMIS.   if (ID = '131014915')  time_housework = -888.
if (ID = '131015036')  time_housework_minutes = $SYSMIS.   if (ID = '131015036')  time_housework = -888.
if (ID = '131015633')  time_housework_minutes = $SYSMIS.   if (ID = '131015633')  time_housework = -888.
if (ID = '131016096')  time_housework_minutes = $SYSMIS.   if (ID = '131016096')  time_housework = -888.
if (ID = '131018968')  time_housework_minutes = $SYSMIS.   if (ID = '131018968')  time_housework = -888.
if (ID = '131019216')  time_housework_minutes = $SYSMIS.   if (ID = '131019216')  time_housework = -888.
if (ID = '131019688')  time_housework_minutes = $SYSMIS.   if (ID = '131019688')  time_housework = -888.
if (ID = '131024573')  time_housework_minutes = $SYSMIS.   if (ID = '131024573')  time_housework = -888.
if (ID = '133009448')  time_housework_minutes = $SYSMIS.   if (ID = '133009448')  time_housework = -888.
if (ID = '134008112')  time_housework_minutes = $SYSMIS.   if (ID = '134008112')  time_housework = -888.
if (ID = '134010689')  time_housework_minutes = $SYSMIS.   if (ID = '134010689')  time_housework = -888.
if (ID = '134023033')  time_housework_minutes = $SYSMIS.   if (ID = '134023033')  time_housework = -888.
if (ID = '135004109')  time_housework_minutes = $SYSMIS.   if (ID = '135004109')  time_housework = -888.
```

Variable distribution - time_care_relatives_minutes

Table 102: Examined variable name and label

Question Name	Time_care_relatives_minutes
Question wording	**Caring for elderly/disabled relatives (including people, who don't live in the household) [On average, how many minutes per day do you spend on the activity?]**

Syntax used for producing the visual and table results:

```
missing values time_care_relatives_minutes (-999,-888).
execute.

EXAMINE VARIABLES time_care_relatives_minutes
/ID=ID/PLOT HISTOGRAM
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING PAIRWISE
/NOTOTAL

FREQUENCIES VARIABLES=time_care_relatives_minutes
 /BARCHART PERCENT
 /ORDER=ANALYSIS.
```

Figure 23: Frequency of answers in question [time care relatives – minutes]

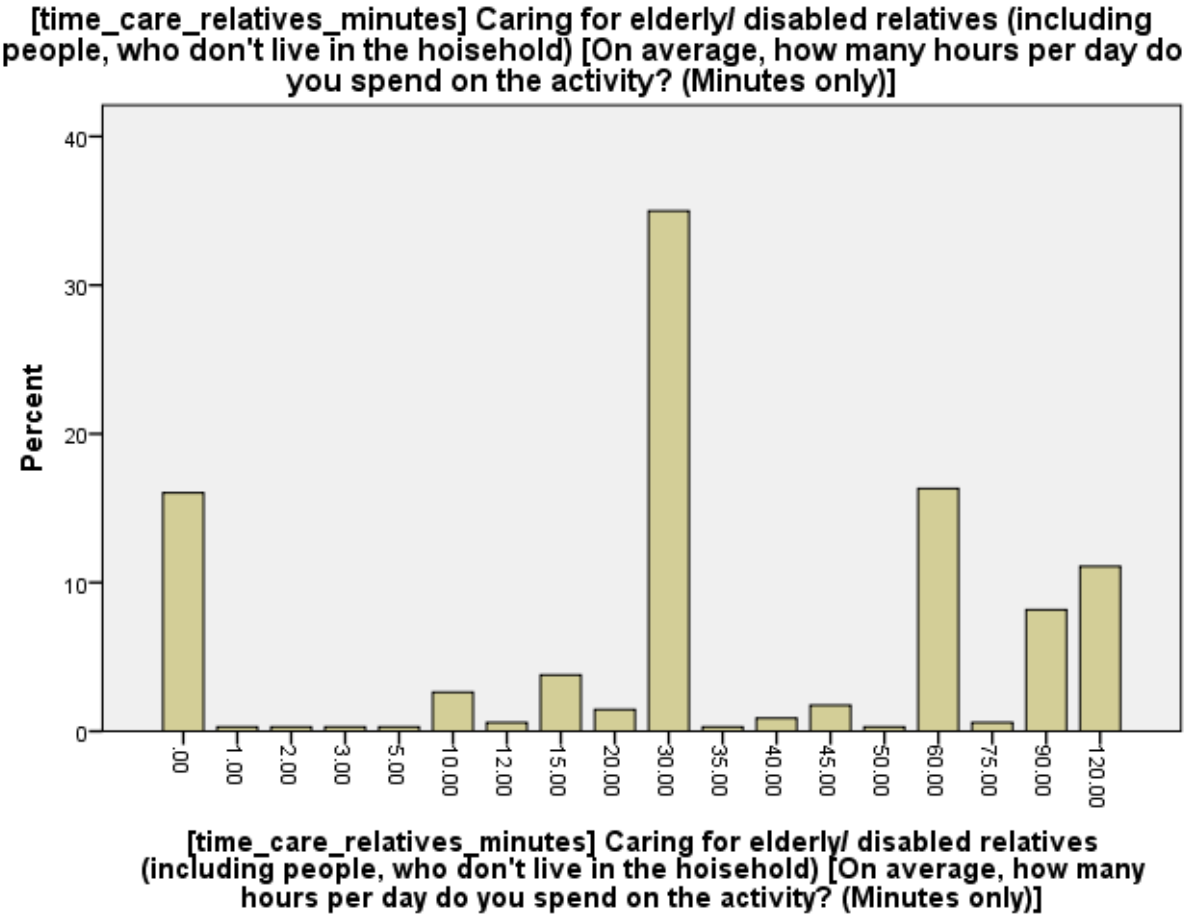

Table 103: Evaluated records for variable: time_care_relatives_minutes [all countries]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
[time_care_relatives_minutes]	343	0.5%	71421	99.5%	71764	100.0%

Table 104: Descriptive statistics for the variable: time_care_relatives_minutes [all countries]

Descriptives

			Statistic	Std. Error
[time_care_relatives_minutes] Caring for elderly/ disabled relatives (including people, who don't live in the hoisehold) [On average, how many hours per day do you spend on the activity? (Minutes only)]	Mean		43.9796	1.97646
	95% Confidence Interval for Mean	Lower Bound	40.0920	
		Upper Bound	47.8671	
	5% Trimmed Mean		42.1995	
	Median		30.0000	
	Variance		1339.897	
	Std. Deviation		36.60461	
	Minimum		.00	
	Maximum		120.00	
	Range		120.00	
	Interquartile Range		40.00	
	Skewness		.817	.132
	Kurtosis		-.296	.263

Table 105: Extreme answers provided to the question: time_care_relatives_minutes [all countries]

Extreme Values

			Case Number	[ID] Respondent Id	Value
[time_care_relatives_minutes] Caring for elderly/ disabled relatives (including people, who don't live in the hoisehold) [On average, how many hours per day do you spend on the activity? (Minutes only)]	Highest	1	6352	103003736	120.00
		2	6439	103004412	120.00
		3	6495	103004829	120.00
		4	6735	103006856	120.00
		5	19681	109013631	120.00[a]
	Lowest	1	63973	131025916	.00
		2	63726	131019321	.00
		3	63694	131018750	.00
		4	63469	131014137	.00
		5	63367	131011693	.00[b]

a. Only a partial list of cases with the value 120.00 are shown in the table of upper extremes.

b. Only a partial list of cases with the value .00 are shown in the table of lower extremes.

The question related to minutes was asked without any information obtained for the additional variable, related to hours. All values were combined in a new variable – time_care_relatives_total_minutes. This meant that the recoding of answers, e.g. 60 minutes and 120 minutes to 1 and 2 hours was not required.

There were a significant number of cases with the answer "0 minutes" (55 cases, 16% of answered), which invalidated the answer provided in the preceding question "time_care_relatives - Caring for elderly/ disabled relatives [In general, how often are you involved in any of the following activities outside work?]"

The distribution of the issue was uneven across countries but did affect a total of 55 interviews.

Table 106: Flagged issues for data cleaning, in function to country and interviewer

Country	Cases identified	Interviewers associated	Average cases per interviewer	Maximum cases per interviewer
Serbia	16	4	4	10
Cyprus	1	1	1	1
Montenegro	7	1	7	7
Latvia	5	1	1	5
Slovenia	4	2	2	3
Belgium	3	3	1	1
Ireland	2	2	1	1
Bulgaria	2	1	2	2
Croatia	2	2	1	1
Portugal	2	2	1	1
United Kingdom	2	1	2	1
Denmark	1	1	1	1
Spain	1	1	1	1
Finland	1	1	1	1
Hungary	1	1	1	1
Italy	1	1	1	1
Lithuania	1	1	1	1
Sweden	1	1	1	1
Slovakia	1	1	1	1
North Macedonia	1	1	1	1

In almost all of the countries the frequency of cases suggested isolated cases. However, in Serbia, Latvia and Montenegro there was a tendency for interviewer mistakes.

The Identified interviewers with issues were LV1226, ME46140, RS45815.

The data cleaning proposition included removing the answer "0" and replacing it with $SYSMIS and changing the answer in time_care_relatives to Don't know (-888)

if (ID = '102002687') time_care_relatives_minutes = $SYSMIS.

if (ID = '102002774') time_care_relatives_minutes = $SYSMIS.

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if (ID = '102027397')  time_care_relatives_minutes = $SYSMIS.
if (ID = '103002126')  time_care_relatives_minutes = $SYSMIS.
if (ID = '103003724')  time_care_relatives_minutes = $SYSMIS.
if (ID = '104045882')  time_care_relatives_minutes = $SYSMIS.
if (ID = '107054785')  time_care_relatives_minutes = $SYSMIS.
if (ID = '110043781')  time_care_relatives_minutes = $SYSMIS.
if (ID = '111032230')  time_care_relatives_minutes = $SYSMIS.
if (ID = '113018508')  time_care_relatives_minutes = $SYSMIS.
if (ID = '113031091')  time_care_relatives_minutes = $SYSMIS.
if (ID = '114025575')  time_care_relatives_minutes = $SYSMIS.
if (ID = '115009034')  time_care_relatives_minutes = $SYSMIS.
if (ID = '115025411')  time_care_relatives_minutes = $SYSMIS.
if (ID = '116025870')  time_care_relatives_minutes = $SYSMIS.
if (ID = '117015520')  time_care_relatives_minutes = $SYSMIS.
if (ID = '119003153')  time_care_relatives_minutes = $SYSMIS.
if (ID = '119012517')  time_care_relatives_minutes = $SYSMIS.
if (ID = '119017680')  time_care_relatives_minutes = $SYSMIS.
if (ID = '119020168')  time_care_relatives_minutes = $SYSMIS.
if (ID = '119030632')  time_care_relatives_minutes = $SYSMIS.
if (ID = '123005940')  time_care_relatives_minutes = $SYSMIS.
if (ID = '123015453')  time_care_relatives_minutes = $SYSMIS.
if (ID = '125010071')  time_care_relatives_minutes = $SYSMIS.
if (ID = '126013455')  time_care_relatives_minutes = $SYSMIS.
if (ID = '126013883')  time_care_relatives_minutes = $SYSMIS.
if (ID = '126014699')  time_care_relatives_minutes = $SYSMIS.
if (ID = '126016987')  time_care_relatives_minutes = $SYSMIS.
if (ID = '127027122')  time_care_relatives_minutes = $SYSMIS.
if (ID = '128021181')  time_care_relatives_minutes = $SYSMIS.
if (ID = '128036962')  time_care_relatives_minutes = $SYSMIS.
if (ID = '129001990')  time_care_relatives_minutes = $SYSMIS.
if (ID = '129002712')  time_care_relatives_minutes = $SYSMIS.
if (ID = '129005237')  time_care_relatives_minutes = $SYSMIS.
if (ID = '129005349')  time_care_relatives_minutes = $SYSMIS.
if (ID = '129011632')  time_care_relatives_minutes = $SYSMIS.
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if (ID = '129026873')  time_care_relatives_minutes = $SYSMIS.
if (ID = '129027509')  time_care_relatives_minutes = $SYSMIS.
if (ID = '130002973')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131001276')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131001542')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131004355')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131004440')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131006526')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131006693')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131007973')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131009934')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131010166')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131010911')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131011133')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131011693')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131014137')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131018750')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131019321')  time_care_relatives_minutes = $SYSMIS.
if (ID = '131025916')  time_care_relatives_minutes = $SYSMIS.
if (ID = '102002687')  time_care_relatives = -888.
if (ID = '102002774')  time_care_relatives = -888.
if (ID = '102027397')  time_care_relatives = -888.
if (ID = '103002126')  time_care_relatives = -888.
if (ID = '103003724')  time_care_relatives = -888.
if (ID = '104045882')  time_care_relatives = -888.
if (ID = '107054785')  time_care_relatives = -888.
if (ID = '110043781')  time_care_relatives = -888.
if (ID = '111032230')  time_care_relatives = -888.
if (ID = '113018508')  time_care_relatives = -888.
if (ID = '113031091')  time_care_relatives = -888.
if (ID = '114025575')  time_care_relatives = -888.
if (ID = '115009034')  time_care_relatives = -888.
if (ID = '115025411')  time_care_relatives = -888.
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if (ID = '116025870')  time_care_relatives = -888.
if (ID = '117015520')  time_care_relatives = -888.
if (ID = '119003153')  time_care_relatives = -888.
if (ID = '119012517')  time_care_relatives = -888.
if (ID = '119017680')  time_care_relatives = -888.
if (ID = '119020168')  time_care_relatives = -888.
if (ID = '119030632')  time_care_relatives = -888.
if (ID = '123005940')  time_care_relatives = -888.
if (ID = '123015453')  time_care_relatives = -888.
if (ID = '125010071')  time_care_relatives = -888.
if (ID = '126013455')  time_care_relatives = -888.
if (ID = '126013883')  time_care_relatives = -888.
if (ID = '126014699')  time_care_relatives = -888.
if (ID = '126016987')  time_care_relatives = -888.
if (ID = '127027122')  time_care_relatives = -888.
if (ID = '128021181')  time_care_relatives = -888.
if (ID = '128036962')  time_care_relatives = -888.
if (ID = '129001990')  time_care_relatives = -888.
if (ID = '129002712')  time_care_relatives = -888.
if (ID = '129005237')  time_care_relatives = -888.
if (ID = '129005349')  time_care_relatives = -888.
if (ID = '129011632')  time_care_relatives = -888.
if (ID = '129026873')  time_care_relatives = -888.
if (ID = '129027509')  time_care_relatives = -888.
if (ID = '130002973')  time_care_relatives = -888.
if (ID = '131001276')  time_care_relatives = -888.
if (ID = '131001542')  time_care_relatives = -888.
if (ID = '131004355')  time_care_relatives = -888.
if (ID = '131004440')  time_care_relatives = -888.
if (ID = '131006526')  time_care_relatives = -888.
if (ID = '131006693')  time_care_relatives = -888.
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if (ID = '131007973') time_care_relatives = -888.

if (ID = '131009934') time_care_relatives = -888.

if (ID = '131010166') time_care_relatives = -888.

if (ID = '131010911') time_care_relatives = -888.

if (ID = '131011133') time_care_relatives = -888.

if (ID = '131011693') time_care_relatives = -888.

if (ID = '131014137') time_care_relatives = -888.

if (ID = '131018750') time_care_relatives = -888.

if (ID = '131019321') time_care_relatives = -888.

if (ID = '131025916') time_care_relatives = -888.

Other data revisions

1. **Questionnaire routing design**

   Due to a design routing error (Q8b-1-5 and Q8b=6-7 instead of Q8b=6-7), 221 self-employed who replied that they were working for a temporary agency should have received the employees' questions instead. The 'employee_routed' value has been set to 'Employee' and for questions 'response_business';' important_decisions'; 'prop_rev_client' the values have been set to missing for these respondents. Replies to question 'support_colleagues_or_peers' have been set to missing and the replies copied over to 'support_colleagues' which is the equivalent question for employees. The impact on data quality is negligible as it affects a small part of the sample and most of the answers, except those detailed above, can be kept.

2. **Removed interviews due to missing interivewer paradata**

Six interviews, 1 in Norway and 5 in Ireland, have been removed due to missing interviewer's paradata by Eurofound.The IDs are:

- 115006349,
- 115024460,
- 115013636,
- 115024509,
- 115012300,
- 134045649.

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency established in 1975. Its role is to provide knowledge in the area of social, employment and work-related policies according to Regulation (EU) 2019/127.