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"Modernisation of the Harmonised European Time Use Survey"

FINAL TECHNICAL REPORT

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Review of international experiences related to subjective well-being survey items, scales of answers as well as influence of parallel activities on the respondents and their subjective well-being attitudes

1 Review of international experiences related to subjective well-being survey items and scales of answers

1.1. General remarks

Subjective well-being is undoubtedly gaining statistical interest, and though it has its limitations, one can see that more and more major statistical offices and other statistical entities are conducting or planning to conduct some sort of statistical endeavour containing subjective well-beings variables (either as a one or several question in a broader survey, or in a form of survey module, or as a dedicated quantitative survey).

1.2 What is the definition of a subjective well-being?

OECD Guidelines On Measuring Subjective Well-being (hereinafter: OECD Guidelines)[1] cite Diener (2006) who states that, "subjective well-being is an umbrella term for the different valuations people make regarding their lives, the events happening to them, their bodies and minds, and circumstances in which they live". In addition it states that subjective well-being embedds "Good mental states, including all of the various evaluations, positive and negative, that people make of their lives and the affective reaction of people to their experience".

André van Hoorn cites Diener and Seligman (2004: p. 1) to define subjective well being variables as 'people's positive evaluations of their lives', which, in turn, 'includes positive emotion, engagement, satisfaction, and meaning'.[2]

1.3 What are the main components of subjective well-being?

It seems that consensus exist on what is concretely included under the subjective well-being variables

- Life evaluation – a reflective assessment on a person's life or some specific aspect (or domain) of it
- Affect – a person's feelings or emotional states, typically measured with reference to a particular point in time
- Eudaimonia – a sense of meaning and purpose in life, or good psychological functioning

According to the OECD Guidelines, life evaluations capture a reflective assessment on a person's life or some specific aspect of it. Life evaluations are based on how people remember their experiences (Kahneman et al., 1999) and can differ significantly from how they actually experienced things at the time.

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[1] https://www.oecd.org/statistics/oecd-guidelines-on-measuring-subjective-well-being-9789264191655-en.htm

[2] https://www.google.hr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwibptOY9c3bAhVFkRQKHUeCCmwQFggqMAA&url=https%3A%2F%2Fwww.ru.nl%2Fpublish%2Fpages%2F516298%2Fnice_09110.pdf&usg=AOvVaw1XH5KCFupxCWk8pef7C6ji (page 3)

Measures of affect can be thought of as measures of particular feelings or emotional states (e.g. happiness, joy, contentment, sadness, anger, fear, anxiety, etc.), and they are typically measured with reference to a particular point in time.

Eudaimonic well-being goes beyond the respondent's reflective evaluation and emotional states to focus to functioning and the realisation of the person's potential.

1.4 Survey tools, questions and answer scales containing subjective well-being variables

OECD Guidelines recognise the possibility for subjective well-being measures to be included in diary methods, including time-use diaries, Experience Sampling and the Day Reconstruction Method.

In its working papers, United Kingdom Office for National Statistics is highly practical in displaying examples and proposals of concrete measures for each of mentioned types of variables.

Some of examples include[3]

- Standard questions asked in all modules
    - Overall, how satisfied are you with your life nowadays?
    - Overall, to what extent do you feel that the things you do in your life are worthwhile?
    - Overall, how happy did you feel yesterday?
    - Overall, how anxious did you feel yesterday?
- Evaluative module
    - Overall, how satisfied are you with your personal relationships / your physical health / your mental well-being / your work situation / your financial situation / area where you live / amount of time you have to do things you like doing / well-being of your child/children
    - Overall, how satisfied with your life were you 12 months/ 5 years ago?
    - Overall, how optimistic do you feel about the next 12 months / 5 years?
- Eudemonic Module
    - How much control do you feel you have over important aspects of your life?
    - How lonely do you feel in your daily life?
    - In your daily life, how much opportunity do you feel you have to show how capable you are?
    - To what extent do you generally feel you have a sense of direction in your life?
    - How positive do you feel about yourself as a person?
    - How important is it to you to learn new things?
    - How well do you generally get on with people around you?
    - How useful a role do you feel you play in the world around you?
    - To what extent do you feel that people treat you with respect?
    - To what extent do you feel appreciated by the people you know?
    - How optimistic do you feel about your future?
    - To what extent do you feel a sense of accomplishment from things you do in your daily life?
    - How quickly do you feel you return to normal after setbacks in your life?

[3] Lucy Tinkler and Stephen Hicks (Supplementary Paper of UK Office for National Statistics; July 2011): "Measuring Subjective Well-being"

    - To what extent do you feel that you learn new things in your daily life?
    - To what extent do you feel able to deal with important problems in your life?
- Experience Module
    - Overall, how relaxed / calm / content / excited / energised / peaceful / joyful / did you feel yesterday?
    - Overall, how much enjoyment did you experience yesterday?
    - Overall, how much pain / how stressed / worried / angry / lonely / tired / bored did you feel yesterday?
- Wider societal module (additional information aside subjective well-being variables)
    - Do you have any relative, friend or neighbours that you can ask for help?
    - To what extent do you feel that you have someone to discuss personal matters with?
    - To what extent do you feel that you are involved in the local community?
    - To what extent do you feel that this local area is a place where people from different backgrounds get on well together?
    - To what extent do you feel you can influence local decisions?
    - To what extent do you feel people in this local area pull together to improve the neighbourhood?
    - Would you say most people can be trusted?
    - How safe do you feel walking alone in your area after dark?
    - In general how would you rate the quality of the childcare services / health care services for the elderly / state pension system services in the UK?
    - Please tell me how much you personally trust each of the following institutions?
        - Parliament
        - Legal system
        - Police
        - Press
        - Government
        - Political parties
    - To what extent do you feel informed about national affairs?
    - To what extent do you feel you can influence decisions affecting the UK?
    - How satisfied are you with the UK as a country to live in these days?
    - How optimistic are you about the future?

The American Time Use Survey (hereinafter: ATUS) well-being module was part of the survey in 2010, 2012 and 2013. The module concentrated on the three activities, for which respondent was asked about following states: happy, tired, stressed, sad, pain and meaningful.[4]

In contrast, French Time Use Survey ("Enquête Emploi du temps") from 2009-10 contained a sub-sample, whose time-use diaries were enriched by additional column asking respondents, for every 10 minutes episode, to record their affective state on a seven point scale ranging from -3 („very unpleasant") to +3 („very pleasant").

1.5 Issues related to survey implementation

[4] Fleche, S and C. Smith (2017), „Time Use surveys and experienced well-being in France and the United States", OECD Statistics Working Papers, 2017/07, OECD Publishing, Paris. http://dx.doi.org/10.1787/be97d4e6-en

In general, full Time Use Survey should encompass one whole year (emong other, to exclude the overarching influence of certain holydays, parts of year, etc.).

The OECD Guidelines state that "Subjective well-being measures have been found to have relatively high noise-to-signal ratio. For example, in reviewing the evidence, Diener (2011) states that around 60-80% of the variability in life satisfaction scales is associated with long-term factors and that the remaining 20-40% is due to occasion-specific factors and errors of measurement. These occasion-specific factors can include one-off occurrences that affect large numbers of people simultaneously such as major news events or Valentine's Day (Deaton, 2011), or circumstantial events that may affect individuals" momentary mood prior to the survey (Schwarz and Strack, 2003). Whist the latter effect should be sufficiently random to wash out of large representative data sets, the former implies that a reasonable number of days, as well as people, need to be sampled to reduce the risk of systematic error. This is further supported by work demonstrating that the day of the week (e.g. Taylor, 2006; Helliwell and Wang, 2011), the season (Harmatz et al, 2000) and the weather (e.g. Barrington-Leigh, 2008) can also influence certain subjective well-being measures, although results do tend to be more mixed in these areas."

Aside the fact that since a respondent is represented by only two reference days, which therefore limits the insight regarding reasons for certain emotional or cognitive state, also relevant is the issue of internal biological, psychological and other factors which can immensely influence the way people perceive their subjective states. The question of personal character, endurance in situations of difficulties, or even potential over-sensitivity cannot objectively be captured with neither household or individual questionnaire, nor with the diary.

Since the time-use diary does not contain questions as a primary unit of construction, we believe that there is no significant peril that the preceding questions will affect how respondents interpret the meaning of the following item.

On the other hand, since the diary requires a person to enter certain life events, and based on the manner in which surveyed day is different from the "mean statistical day" of the respondents, one cannot exclude that the previously reported events, but also events which happenede in non-surveyed days, will have statistically significant influence of subjective well-being scores detected in other part of the surveyed day. Likewise, not only such influence can be relevant, but also its duration.

With regard manner of implementation, the OECD Guidelines state that "To be most useful to government and other decision makers, however, subjective well being data need to be collected with large and representative samples and in consistent way across different population groups and over time."

Having this in mind, and with regard to all aforementioned reasons, theoretically it would seem ideal to have a continuous implementation of Time-Use Survey with included subjective well-being variables utilized on a longitudinal sample, where the same unit of observation would register its emotional and cognitive states several times within a year. With such practice, and with proper utilization of accompanying short questionnaire probing respondent on major life events which happened in the meantime (administered after the time use diaries have been fulfilled), would seem like an interesting manner for strengthening control and insight of the recorded subjective well-being scores, and of the changes on an individual, but also average level (either on the level of sub-groups or general target population).

This can also be highlighted with the fact that, unlike representative samples for other surveys, it seems hard for a sample of a Time-Use Survey with included well-being variables to be fully representative of the subject matter.

Namely, in the case of administering nationally representative sample for some standard survey, we need to know standard information such as socio-demographic, economical and (potentially) stratification variables. However, unlike standard statistical surveys which measure more or less objective aspects of life (or seek subjective opinions or evaluations of those objective aspects), in which cases we can designate certain weight to each respondent with certain predetermined characteristics, in the case of subjective well-being variables, it seems that psychological characteristic, cognitive level, character and alike is fundamental to understand at least a part of respondents answers to subjective well-being variables.

So, how can we weight individual respondents (or diary episodes) when it comes to answers they provide to subjective well-being variables? It seems hard to state that, for example, an answer provided to subjective well-being questions by a male person of high education living in urban area will represent maybe a 1000 people of the target population with the same or similar characteristics. It seems that, if this represents an issue, it would need to be resolved before initiating full nationally representative quantitative statistical surveys including in part or fully subjective well-being variables.

2 Review of international experiences related to influence of parallel activities on the respondents and their subjective well-being attitudes

Review of the literature connected to subjective well-being variables, and their potential inclusion in time-use diary form, indicated an inevitability of intensive response burden.

Namely, unlike Day Reconstruction Method, and even ATUS, which seek subjective well-being measures for only a limited number of activities for one day, in our test we concentrated to subjective well-being variables in relation to each 10-minutes episode.

The aforementioned situation is further emphasised with the fact that information is asked for two reference days (one weekday, one weekend day), and also for three different subjective well-being variables.

Having this in mind, we felt that introduction of further guidelines regarding the proper classification of multitasking into main and secondary activity will represent to excessive response burden, and that it will have high negative consequences on the willingness of respondents to participate in the test, but also to provide statistically sound answers.

We identified several reasons for this.

Harmonized European Time use surveys manual (hereinafter: HETUS Manual)[5] within the part dedicated to time-use diary instructions, states that in case of parallel activities respondent is the one who should decide "which is the main and which is the secondary activity".

[5] http://ec.europa.eu/eurostat/ramon/statmanuals/files/KS-RA-08-014-EN.pdf (page 124)

Likewise, HETUS Manual foresees main general instructions for identification and/or coding of the main and parallel activities, namely[6]

- If the activities are simultaneous, and one of the activities is likely to be the consequence of the other, then the second is coded as the secondary activity and the first as the main activity
- If the activities are simultaneous, and neither of the activities is likely to be the consequence of the other, then the first is coded as the main activity, the other as the secondary activity
- If the activities are sequential, and one of them is clearly longer than the other, then the longer one is coded as the main activity.
- If the activities are sequential, and neither of them is clearly longer than the other, then the first is coded as the main activity and the other activity not at all

Since the object of our investigation here is s subjective relationship between the respondent and the environment surrounding him/her, it is hard to even consider the above mentioned rules fully applicable, because for the respondent, for example, shorter activity can have a significantly larger influence, especially on the affect side, that the longer activity.

On the other hand, making instruction on identification of main and parallel activity on detailed 2 and 3 digit level, would pose a serious threat of design bias, especially having in mind that at the same time we ask respondents of their emotional and cognitive states related to those same activities. In other words, we are not able to know in advance, for each respondent (not even for an average, for that matter), which activity for him/her is the more pronounced trigger of certain emotions and their different level of intensity.

In addition, not only can we not know which of parallel activities had the strongest influence on the respondent, but we cannot possibly know in advance the pre-determined selection for any combination of activities in reported multitasking (i.e. which combination yields what activity as a main one).

Even if this were possible, the instructions given to the respondent would be unacceptably complicated, and virtually non-applicable.

On the orhet hand, as can be seen from the work referencing 2006 ATUS[7] :"it is not obvious how time spent in secondary activities should be counted, because reported secondary activities can be either true simultaneous activities or short-duration sequential activities that are reported as secondary. An example of true simultaneous activities is "preparing dinner" while "listening to the radio," whereas an example of a short-duration sequential activity reported as secondary might be "getting the mail" while "watching TV." This is one of the reasons ATUS 2006 does not explicitly ask respondents to report secondary activities other than secondary childcare.

[6] Ibidem (page 150)
[7] https://www.bls.gov/ore/pdf/ec110040.pdf

Designing subjective well-being survey items and scales of answers and making of adequate instructions for the identification of parallel activities

1 Designing subjective well-being survey items and scales of answers

1.1 General remarks

At this point it might be important to stress that this project embeds inclusion of several well-being variables, to be added to the Time Use Survey diary. This addition was constructed so that for each 10 minutes episode a respondent needs to insert one of proposed answer scale items, for each of three subjective well-being measure.

One of the advantages of using time-use diary is that theoretically we can get a detailed and concrete picture of daily activities, and even their combination and their influence on some subjective well-being aspects for each individual respondent and/or episode.

Not only one can make calculations of the designated answer codes and connect them with the different activities (and therefore different domains)[8], but also this can be taken into correlation with certain socio-demographic variables, presence of other people, etc.

One could even analyse the activities preceding the sudden and sharp change in reported scales of answers, to try to understand the reason for this change.

We certainly need to be aware that the basis for certain emotional or cognitive state does not necessarily have be connected with the activities of surveyed day, especially in those cases which do not include affects, and therefore significant caution needs to be applied when making related analytical activities.

1.2 Designing subjective well-being survey items

In order to test different aspects of subjective well-being, we included in the time-use diary following three questions

- How pleasant[9] did you feel during the episode?
- How fulfilled[10] did you feel during the episode?
- How useful[11] did you feel during the episode?

1.3 Designing scale of answers to subjective well-being survey items

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[8] For example, OECD Guidelines cite Kahneman and Krueger (2006), who report that intimate relations, socialising, relaxing, eating and praying are associated with high levels of net positive affect; while, conversely, commuting, working, childcare and housework are associated with low levels of net positive affect.

[9] Hannu Pääkkönen: „The Time Use Survey as a source of information on subjective well-being“ (https://www.google.hr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0ahUKEwiApvS4_s3bAhXMD8AKHbUJCfEQFggzMAI&url=https%3A%2F%2Fstatswiki.unece.org%2Fdownload%2Fattachments%2F102663901%2FFinland%2520att%25201%2520%25202013-2_paakkonen_EN.pdf%3Fversion%3D1%26modificationDate%3D1414491482531%26api%3Dv2&usg=AOvVaw3CTLEH_emiT0peD_3tbOZq)

[10] Similar to France's Enquête Emploi du temps survey

[11] NEF (New Economic Foundation): "Measuring Well-being – A guide for practitioners" (SROI https://b.3cdn.net/nefoundation/8d92cf44e70b3d16e6_rgm6bpd3i.pdf

Sample was divided into three parts.

For all subjective well-being survey items, one sub-sample was covered with a nominally bipolar answer scale ranging from -3 to +3[12], while the labelling of the anchor extremes was given in the instruction part of the time-use diary (-3 means that a person did not feel at all pleasant/fulfilled/useful; +3 means the person felt absolutely pleasant/fulfilled/useful).[13]

The second sub-sample was provided, also for all subjective well-being survey items, a nominally unipolar scale ranging from 0-10, where anchors for items 0 and 10 were set in the same manner as extremes for -3 and +3 in the first sub-sample.

We felt that numerical values would be more appropriate for this survey tool, and it is also in line with OECD Guideline, which state that "for single item scales 11-point numerical scales also perhaps offer the best balance between scale sensitivity and so much choice that the respondents are overwhelmed".

For the -/+ 3 scale, we deemed it would be interesting to test the shorter and les detailed answer scale to be able to try to compare the mean results between two of them. In addition, it was also motivated by the fact that OECD Guidelines cite Chang (1994) who "highlights previous work indicating that scales with an odd number of points (and therefore a natural mid-point) can result in respondents selecting the middle category by default – and there is reduced utility in the measure." Why not test this hypothesis?

2 Making of adequate instructions for the identification of parallel activities

In accordance with the knoweldge and information recived within implementation of the activity "Review of international experiences related to influence of parallel activities on the respondents and their subjective well-being attitudes", and based on the reasoning contained therein, we decided it would be very contraproductive to include any major instructions with regard to this.

Having aforementioned in mind, and since the sample for both respondents and time-use diaries is not as large, we deemed that the influence of activities, especially in multitasking environment, should be dealt with in the final phase of the project, dedicated to data analysis. Once again, due to the sample size the imperative here would be not to utilise analysis of micro-data to gain statistically sound rates, but by using the analysis of the microdata to produce an analytical matrix for future data collections. In any case, influencing the statistical information pre-determinedly in such manner was considered as potentially detrimental for this objective.

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[12] Layla RICROCH (The National Institute of Statistics and Economic Studies – INSEE): "The 2010 French Time Use Survey and its innovations"
(https://unstats.un.org/unsd/demographic/sconcerns/tuse/Country/france/French_TUS_2010.pdf)

[13] Since negative extremes have been set as "I did not feel at all pleasant/fulfilled/useful" and not to the extent as "I felt completely unpleasant/unfulfilled/useless), practically these are more of a unipolar scales, but it will be interesting to see how respondents comprehend it, and whether the mean values will gravitate to values around "0" and "5"/"6".

Testing of diaries with included well-being and multitasking related survey items (taking into account the results acquired within activity 2)

1 General remarks

The fact that for each 10 minutes episode a respondent has to provide information on three different subjective well-being variables, each containing 7 or 11 different answer scales, places an enormous burden on the respondent.

The intensive burden this places on emotional and cognitive functions of respondent is evident, and the peril of "taking the short-cut" and thus deviating from reporting proper differentiation does exist, but we are of the opinion that the fact that diary will in majority of cases be filled on the same day, or the day after that (similar to Day Reconstruction method)[14], will enable respondent to provide most realistic answers.

OECD Guidelines support this standpoint, as they cite results from UK Office for National Statistics which state that: "the time it takes the respondents to reply to questions on subjective well-being is low, with median response times well under thirty seconds for single item questions (ONS, 2011). (…) "Cognitive testing by the ONS also supports the view that respondents do not generally find subjective questions difficult or upsetting to answer, nor does the inclusion of such questions negatively impacts the response rates of subsequent questions or to the survey as a whole (ONS, 2011; ONS, 2012). Measures of subjective well-being also have low item-specific non response rates (Rasler and Riphahn, 2006), suggesting that respondents do not find these types of questions difficult to answer."[15]

2 Testing

2.1. General overview

Household and individual interviews, as well as testing of time-use diary with included well-being variables, were conducted in the period of 30th April to 16th of May 2018.

The testing was conducted in two phases.

In the first phase, recruitment of households was carried out as well as implementation and collection of household and individual questionnaires for all persons aged 15 and over.

These questionnaires were collected using CAPI / CATI methodology with BLAISE software.[16]

The second phase of the testing consisted of

- Presenting a time-use diary to the recruited households by interviewers
- Monitoring the realization
- Collecting the completed diaries

[14] OECD Guidelines state that: "DRM builds on evidence suggesting that end-of-day mood reports may be more accurate than previously supposed (Parkinson et al., 1995), and that retrospective accounts of mood may be reasonably valid for periods of up to 24 hours (Stone, 1995)."

[15] On the other hand "ONS also reported that some respondents objected to questions that focus on affective experiences on a single day, raising concerns that this may be unrepresentative of how they usually feel."

[16] Household interviews were implemented solely by CAPI method, while for individual interviews a selection between CAPI or CATI method was foreseen.

The methodological design of the research was based on the testing of subjective well-being variables, which included three different versions of time-use diary.

The sample consisted of three groups of respondents

- 40 households were engaged with time-use diaries containing answer scale ranging from 0 to 10
- 40 households were engaged to fill time-use diaries containing answer scale ranging from -3 to +3
- 30 households were used as a control group, and the time-use diaries did not contained subjective well-being survey items

The sample was finally created in a manner that three different versions of time-use diary were pre-determined for each recruited household, taking into account the uniform distribution of rural and urban stratum.

The survey was conducted on a regionally homogeneous sample so to reduce effects of situational variables when testing welfare modalities. Therefore, the research was conducted in the area of Slavonia.

2.2 Technical information on implementation of household and individual questionnaires

Within the survey, 110 household questionnaires were collected, for households which agreed to participate. Individual questionnaires were collected for 239 people over the age of 15 from those households. It is worth noting that all persons interviewed did not participate in filling in time-use diary.[17]

Average duration of the BLAISE questionnaire	
Household questionnaire	9 minutes
Individual questionnaire	3.5 minutes

In order to collect information on individuals within the recruited households, interviewers were allowed implementation of one from more different methods

Manner of conducting individual questionnaires	Number of persons
Person to which data refer (in person)	154
Person to which data refer (by telephone)	4
With other household member (in person)	75
With other household member (by telephone)	5
TOTAL	239

[17] The total number of such persons was 20. The most common reason for the lack of participation in filling of time-use diary was the temporary absence of a person. Due to the short duration of the testing on the field, household members who were not present at the moment in the household for the period longer than a week did not have to fill in diaries.

Interviewers collected personal information from the person to whom the data refers and by conducting interviews with another household member in the event that during the recruiting and distribution of diaries the person was not at the household address. Due to the fact that the individual questionnaire contained general information about the person, such as employment and health status, the data collected do not differ regarding the quality from those collected directly from the person to whom the data refer.

2.3 Information on collection of information from time-use diaries

A total of 438 time-use diaries were filled. Each household filled out the same version of the diaries on the pre-determined dates (1 weekday, 1 for the weekend), which were determined by the interviewer according to a specially prepared form.

Strata	Households			Number of retrieved time-use diaries		
	Control group	Answer scale group 1 (-3 do +3)	Answer scale group 2 (0 do 10)	Control group	Answer scale group 1 (-3 do +3)	Answer scale group 2 (0 do 10)
Rural	15	20	20	63*	89*	78
Urban	15	20	20	62	74	72
TOTAL	30	40	40	124	162	150

* One person was given several different versionaof time-use diaries by coincidence

Filled diaries were collected in a manner that the interviewers, following the deadline for completion of the second diary, contacted a household representative and agreed collection of the filled time-use diaries. The number of diaries collected in each household depended on the number of people over the age of 15 who agreed to keep the diary. Thus, more diaries have been collected within the rural stratum than in the urban stratum (230 versus 208 diaries).

Eight interviewers participated in the survey. Out of them, six were responsible for the implementation of 11 households, while two interviewers realized 22 households each (one rural and urban starting point each). Due to the demanding nature the survey has on the respondents and due to the short duration of the field implementation, the starting points of the survey were selected for each interviewer according to the interviewer's place of residence, so that the interviewers worked in their neighborhood. This decision has resulted in better participation of respondents and successful survey implementation within a relatively short time-frame.

The dynamics of survey implementation, for each day of field, is shown in the table below

Date	Number of interviewers on the field	Nomber of recruited households	Number of collected diaries
30.4.	6	19	-
1.5.	2	3	-
2.5.	6	19	-
3.5.	6	17	-

4.5.	3	9	-
5.5.	4	9	-
6.5.	8	3	118
7.5.	7	11	58
8.5.	8	13	58
9.5.	6	7	42
10.5.	5	-	24
11.5.	2	-	10
12.5.	1	-	10
13.5.	2	-	30
14.5.	4	-	48
15.5.	3	-	14
16.5.	6	-	26
TOTAL		110	438

For the purpose of examining the influence of additional columns (i.e. subjective well-being variables) in the diary on the respondent burden, a short questionnaires (with only 3 questions) on the diary filling experience were collected (214 of such questionnaires in total).

The structure of the short questionnaire was following.

Would you say that the filling of the time use diary was

- Very easy
- Easy
- More easy than difficult
- More difficult than easy
- Difficult
- Very difficult

And how much of each of the bellow mentioned parts of time use diary was easy / difficult for filling in (mark one answer for each item, where 1 means very easy and 6 means very difficult, as in the previous question)

- Determining how long individual activity lasted
- Determining which activity is main and which is parallel
- Evaluating feelings of pleasantness/fulfilment/usefulness for each activity[18]
- Designating the location / mode of transport
- Designating „with whom“ part

Have you had any special problems and ambiguities in completing this diary that you would like to highlight? Please use your own words: _____

2.4 Additional qualitative information on impressions of households who agreed to keep the diaries

Qualitative information were collected in two manners.

[18] Except for the members of the control group.

First, at the end of the questionnaire on the diary filling experience, respondents were asked to indicate whether they had any special problems or ambiguities in completing the diary. The majority of respondents indicated that they did not have any problems. Very few respondents mentioned problems in completing the diary, these being individual cases.

With regard to the specific issues, sometimes it was problematic to determine the “usefulness” during the activity (in the versions of time-use diaries with included subjective well-being variables), and in some cases ambiguities with regard recording who they were with during the performance of activity.

Several respondents argued that their experience of fulfilling was interesting because they were thinking more about themselves and how they spent their free time.

Another used manner of collecting qualitative information was the experience of interviewers who noted the impressions they had received by talking with the respondents when presenting diaries to households as well as after the diary filling procedure.

The interviewees state that respondents were often confused by the 10-minute activity intervals, regardless of the fact that instructions indicated that activities can last longer (and the way in which one needs to mark activities which last longer). Due to a 10-minute intervals, the diary initially seemed to the respondents as long and demanding. For this reason, interviewers point out that some respondents reported that it took them a long time to fill their diaries.

Some respondents also commented on the overall survey in the terms as "who needs this", "who designs something like this" and "to fill this person needs to have a college degree" and there is also a general impression of part of respondents who stated that they felt "silly" when filling in the diaries. However, some respondents said that their experience was extremely interesting and that they would like to participate in similar surveys.

Interviewers who worked in rural points noted that during the period of field implementation, there were usual seasonal activities of gardening, mowing and alike, and therefore some respondents had doubts whether these activities should be designated as free time or work, although they themselves state that "they need to do something besides professional work”.

Analysis of data collected

1 Background

The "objective" time used does not necessarily say anything about the individual's own choices. In addition to the time used, researcher interest has occasionally also turned to the subjective aspect of activities, such as for whom the activity is being performed or how social, useful or pleasant it is. Research into subjective experience attempts to increase our knowledge of the reasons behind time use. Subjective data can be used, for example, in explaining differences in the division of tasks and equality between genders.

2. Complete overview of the activity carried out during the performance of the contract

This project provided Croatian Bureau of Statistics with the opportunity to conduct the pilot TUS during the 2018 with the main goal to provide information on using data on subjective well-being.

The main instruments of the pilot survey were

1. The household questionnaire
2. An individual questionnaire for a person aged 15 and over
3. A diary for a person aged 15 and over for three sub-samples
4. Short questionnaire on the experience of fulfilling the diary for three sub-samples

The HETUS Manual foresees main general instructions for identification and/or coding of the main and parallel activities, namely:

- If the activities are simultaneous, and one of the activities is likely to be the consequence of the other, then the second is coded as the secondary activity and the first as the main activity;
- If the activities are simultaneous, and neither of the activities is likely to be the consequence of the other, then the first is coded as the main activity, the other as the secondary activity;
- If the activities are sequential, and one of them is clearly longer than the other, then the longer one is coded as the main activity;
- If the activities are sequential, and neither of them is clearly longer than the other, then the first is coded as the main activity and the other activity not at all.

HETUS Manual, within the part dedicated to time-use diary instructions, states that in case of parallel activities respondent is the one who should decide “which is the main and which is the secondary activity“.

The survey sample was created with the main idea that three different versions of the time-use diary were pre-determined for each recruited household.

The sample consists of three groups of respondents:

1. 40 households with time-use diaries containing answers of a scale on well-being, ranging from -3 to +3;
2. 40 households with time-use diaries containing answers on a scale of well-being, ranging from 0 to 10, and
3. 30 households as a control group and whose time-use diaries did not contain subjective well-being survey items.

According to the selected three sub-samples, three databases were formed based on the data sent in xls format. Namely, those three databases, named WB1, WB2 and KS contain pilot TUS data for sampled Croatia population. These databases have identical structured data based on household questionnaire and individual questionnaire, but they differ with regard the diaries (due to the fact that they have been prepared specially for the particular sub-sample) and additional short questionnaire on the experience of fulfilling the diary.

Dataset WB1 contains a field with the answer scale on a well-being, ranging from -3 to +3, and WB2 contains answers on a scale of well-being ranging from 0 to 10. Finally, dataset KS, the so-called control group, did not contain data on subjective well-being at all.

Based on these three xls file, three SPSS databases were created: WB1, WB2 and KS.

They contained basic information relating to the selected households and the persons who agreed to participate in the survey, as well as the completed diaries. Thus, as it was already mentioned, there were three types of diaries. Equalization of the three databases that were performed, was followed with the additional control of encrypted activities and some corrections were made.

The coding of particular activities from the diaries was a very important and sensitive phase in the survey process that had a great impact on the results and the experienced advantages of the complete survey. Indeed, the coding of activities is not possible without a broader insight into the family, educational and economic context of an individual during those two randomly selected days.

Coding of the place or mode of transport is one of the fields that are predicted for the coding and analyses, too.

In the accepted code system, there are three levels of codes. The first level has 10 categories of activities; from 0 to 9. Within each category of activities at the first level, there is a 1-9 second-level category of activities that defines the first two digits. Within each category of activity at the second level, there can be from 1 to 10 categories of activities of the third level. Codes containing the word "other" include all activities that may not fall into any of the activities named within the given categories.

For the purpose of easier analysis, the activities can be divided into five basic categories: activities of personal care, paid work, unpaid work, studying and free time activities.

- **Personal care** - this category covers basic and elementary activities, such as sleeping and taking food, washing, getting dressed and similar personal care activities.
- **Paid work** relates to the time spent doing main and secondary job, on lunch break and commuting to and back from work, as well as other job related activities.
- **Unpaid activities** are work done at home, i.e. that unpaid household work such as cooking, cleaning and tidying up, laundry and ironing, household repairs, taking care of children and adults, unpaid work related travelling, and other.
- **Studying** includes time spent on attending school or university classes, doing homework, studying during free time, travelling and other studying related activities.
- **Free time** includes time spent together with family or friends, on entertainment, culture or sport, watching TV, resting, or as leisure time, on reading books or papers, PC work

or games, as well as the time spent on other similar activities and travelling related to free time activities.
- **Other activities** – other and unspecified activities that could not be classified.

3. Summary of outputs

It might be important to stress that this project embedded the inclusion of several well-being variables which were added to TUS diary. This additional item was constructed for the each 10 minute episode.

Namely, a respondent needed to fulfil one of proposed answers on the scale for each of three subjective well-being variables.

Therefore, in order to test different aspects of subjective well-being, three questions in the TUS diary for the pilot survey, as follows:
- How pleasant did you feel during the episode?
- How fulfilled did you feel during the episode?
- How useful did you feel during the episode?

For all subjective well-being survey items, first sub-sample WB1 was covered with a nominally bipolar answer scale ranging from -3 to +3. Labelling of the extreme values was given in the instruction part of the time-use diary for respondents and it was written that -3 means that a person did not feel at all pleasant, fulfilled and/or useful, and +3 means the person felt absolutely pleasant, fulfilled and / or useful.

The second sub-sample WB2 covered subjective well-being survey items with a nominal unipolar scale ranging from 0 to 10. Extreme values of items were 0 and 10 where 0 meant that a person did not feel pleasant at all, fulfilled and / or useful, and 10 meant that the person felt absolutely pleasant, fulfilled and / or useful.

In the first sub-sample named WB1, where the scale of well-being was from -3 to +3, 163 diaries were fulfilled and in the sub-sample named WB2, where the scale for the well-being was from 0 to 10, 150 diaries were fulfilled. Finally, in the third sub-sample named KS, i.e. control group, in which there were no question on well-being, 125 diaries were fulfilled.

In the following tables, you can find data on the average number of episodes per diary, as well as maximum and minimum number of episodes per diary for each of three sub-samples.

With regard to the mean number of the episodes per diary (main activity only), the situation is as follows:
- WB1 – 23.01
- WB2 – 22.74
- KS – 22.05

Among all three sub-samples, or databases WB1, WB2 and KS, there are no significant differences in the number of episodes per diary, nor in the number of minimum or maximum number of episodes.

Table A. Number of episodes per diary - WB1 database

N	Valid number diary	163
	Missing	0
Mean episodes		23.01
Minimum episodes		9.00
Maximum episodes		50.00

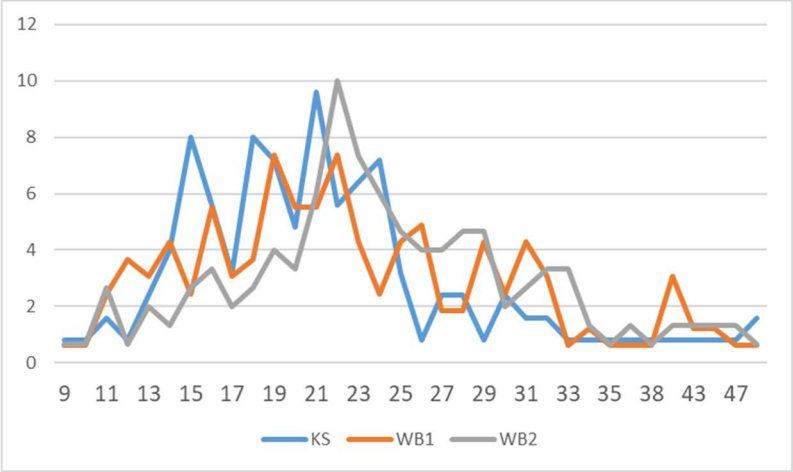
Table B. Number of episodes per diary – WB2 database

N	Valid number diary	150
	Missing	0
Mean episodes		22.74
Minimum episodes		5.00
Maximum episodes		45.00

Table C. Number of episodes per diary – KS database

N	Valid number diary	125
	Missing	0
Mean episodes		22.05
Minimum episodes		9.00
Maximum episodes		50.00

Graph 1. Number of episodes per diary, in %



Graph 1 shows distribution of the episodes by diary in WB1, WB2 and KS databases, in percentage.

3.1 The prevalence of positive well-being feelings when there is only a primary activity and in cases where there are parallel activities related to primary

When analysing sub-sample WB1, whose respondents were filling in well-being answer codes

ranging from -3 to +3for each activity that was written in the diary, 86.5% of all episodes have had data for all three variables: pleasure, fulfilment and usefulness.

Sub-sample WB2, where respondent had to mark well-being with scale from 0 to 10, the percentage is little lower, but still relatively high - 80.2%.

The differences between sub-samples WB1 and WB2 whose main activities have two, or one variable that refers to the well-being are small, but there is some significant differences among sub-samples in the cases when respondents didn't fulfill any of the three well-being variable.

Thus, for respondents from WB1 dataset, one in every twelve activities did not have any outcome for well-being, and for respondents from WB2 dataset, one in every seven activities did not have a well-being score.

Table D. WB1 Distribution of responses by three wellbeing questions, pleasant, fulfilled and useful, TUS pilot, Croatia, 2018

	All three		Two variable		One variable		No variable	
	Number	%	Number	%	Number	%	Number	%
Selected well-beings	3245	86.5	35	0.9	150	4.0	321	8.6

Table E. WB2 Distribution of responses by three wellbeing questions, pleasant, fulfilled and useful, TUS pilot, Croatia, 2018

	All three		Two variable		One variable		No variable	
	Number	%	Number	%	Number	%	Number	%
Selected well-beings	2736	80.2	31	0.9	155	4.5	489	14.3

We analysed the average well-being estimate when the respondent marked only one main activity in the WB1 sub-sample. The results can be found in the Table 1 WB1 bellow.

Table 1. WB1. Average estimate of well-being, diary with modes -3 to 3 (only main activity is recorded), TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Women	Men	Total	Women	Men	Total	Women	Men	Total
Personal care	1.7	1.9	1.8	1.5	1.6	1.5	1.4	1.2	1.4
Paid work	1.1	1.8	1.4	1.2	1.5	1.3	1.8	1.7	1.7
Study	.3	1.0	.7	.1	.8	.5	1.5	1.4	1.5
Unpaid work	1.2	1.3	1.3	1.3	1.6	1.3	1.9	2.0	1.9

Free time	2.0	2.0	2.0	1.9	1.8	1.8	1.5	1.5	1.5
Other		1.0	1.0		0.0	0.0		2.0	2.0

Data shows that for the variable of pleasure, the highest score was for the activities of free time (2.0). It is followed by the activities of personal care and it is interesting that higher average score for the variable of pleasure was given by men, than by women (1.9: 1.7).

As for the paid job, there was a significantly higher rating by men in relation to women (1.8: 1.1), while unpaid work remained on similar rating level among sexes (1.2: 1.3).

Category of fulfilment has received the highest grade for activities of free time and personal care. Among these data, there are no significant gender differences in rating. When it comes to unpaid work, it is interesting that men rated it with a higher scale than women did.

The highest grade for the usefulness was rated for unpaid work with a small gender difference (1.9 for women: 2.0 for men).

The Table 2 WB1 shows average rate of well-being for pleasure, fulfilment and usefulness when it is taken into account main and parallel activities. Concerning the pleasure, the highest grade was given to the activities of personal care (2.3) and free time (2.2), and among them there is no differences among sexes.

The category of fulfilment has received the highest rate in personal care and free time as main activities and there is no differences between sexes, too.
The category of the usefulness has received the highest rates for unpaid work and personal care.

Table 2. WB1. Average estimate of well-being, diary with modes -3 to 3 (both, main and parallel activities are recorded), TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Women	Men	Total	Women	Men	Total	Women	Men	Total
Personal care	2.3	2.3	2.3	2.1	2.1	2.1	1.7	1.6	1.6
Paid work	1.7	1.9	1.8	1.4	1.3	1.3	1.6	1.4	1.5
Study	1.2	.8	1.0	.8	-.1	.6	.4	2.1	.9
Unpaid work	1.6	1.6	1.6	1.5	1.6	1.5	2.1	2.1	2.1
Free time	2.2	2.2	2.2	2.0	2.0	2.0	1.5	1.3	1.4

For sub-sample WB2 where well-being was rated from 0 to 10, for the category of pleasure the highest rate, as can be seen from the Table 3 WB2, was given for activities of free time (8.2 for total population, and for both sexes), and for personal care activities, with the small differences between men and women (8.1: 7.9). Higher rate was given for the pleasure of paid and unpaid work, with the fact that the value is higher among the sexes for paid work.

As for the category of fulfilment, the same main activities, paid and unpaid work, were rated by the highest rates and there is almost no difference between the sexes.

The usefulness category of well-being is highly rated for the unpaid and paid work, with the note that men gave small preference to paid work.

Table 3. WB2: Average estimate of well-being, diary with modes 0 to 10 (only main activity is recorded), TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Women	Men	Total	Women	Men	Total	Women	Men	Total
Personal care	7.9	8.1	8.0	7.7	7.8	7.8	7.4	7.8	7.6
Paid work	6.9	7.4	7.1	6.6	7.3	6.9	7.6	8.3	7.9
Study	5.8	5.1	5.5	5.8	5.2	5.5	6.0	5.5	5.8
Unpaid work	6.8	7.1	6.9	6.9	7.2	7.0	7.9	8.1	8.0
Free time	8.2	8.2	8.2	8.0	7.9	8.0	7.5	7.7	7.5
Other	5.0		5.0	5.0		5.0	5.0		5.0

When we observe situations where both main and parallel activities are included (Table 4 WB2), the highest grade is assessed when the main activity was free time, as well as personal care and it is worth to mention that women gave higher score than men (8.9: 8.2).

In addition, in the next category, the category of fulfilment, the same main activities were rated by the highest grade, and as in the case of personal care, the women rated with the higher scores than men (8.6: 7.9).

Speaking about the usefulness, highest grades were given to unpaid activities which are accompanied by some parallel activities (8.2). It is followed by the personal care and free time. It is interesting that sex differences are visible when the main activity of personal care is followed by a parallel activity (8.0 women: 7.4 men).

Table 4. WB2: Average estimate of well-being, diary with modes 0 to 10 (both, main and parallel activities are recorded), TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Women	Men	Total	Women	Men	Total	Women	Men	Total
Personal care	8.9	8.2	8.7	8.6	7.9	8.4	8.0	7.4	7.8
Paid work	7.0	8.0	7.3	6.6	7.7	6.8	6.2	7.7	6.5

Study	6.4	3.1	4.5	6.6	4.0	5.1	7.0	4.3	5.4
Unpaid work	7.9	7.9	7.9	8.0	7.7	8.0	8.2	8.3	8.2
Free time	9.0	8.9	8.9	8.7	8.8	8.7	7.8	7.8	7.8
Other	10.0		10.0	10.0		10.0	10.0		10.0

Overall, with regard to both sub-samples, the highest grades for all three categories of well-being were assessed for activities related to personal care and free time, and at the same time the lowest grades were given for activities related to the activities of study.

3.2 Investigation of percentage of activities that were marked with a positive or negative well-being and connection with socio-demographic attributes of the sample/respondents like gender, educational level, type of the settlement, self- declared status, and alike

For the purposes of the analysis, well-being categories are grouped into three sub-categories: category of positive feeling, category of negative feeling and category with the mean value.

For WB1 dataset in which positive feelings are displayed on a scale from 1 to 3, negative from -3 to -1, and the middle category is 0, the following results are obtained in Table 5 WB1.

Table 5. WB1: Percentage of positive wellbeing (responses: 1 to 3), by sex, TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Personal care	78.8	73.4	75.4	69.3	66.3	67.4	56.5	60.4	58.9
Paid work	71.1	60.4	65.7	63.9	53.5	58.6	68.0	62.4	65.2
Study	76.2	54.7	64.2	57.1	49.1	52.6	78.6	64.2	70.5
Unpaid work	72.3	65.5	66.7	69.1	63.0	64.2	81.9	77.6	78.4
Free time	86.0	80.2	82.8	75.7	75.8	75.8	62.9	65.1	64.1
Other	100.0		100.0	0.0		0.0	100.0		100.0

The percentage of respondents who rated positive activity with grades from 1 to 3 is 82.8% for free time (86% of men, compared to 80.2% of women). Similarly, personal care is close to it, but it is interesting that higher percentage of men positively rated the category of pleasure of unpaid work than women. From all of that, it is possible to conclude that men perform unpaid work which they enjoy more than women do.

The category of fulfilment was marked with the positive well-being for the same categories of activities that relate to the free time and personal care, and it should be pointed out that higher percentage of men rated it than women (69.3% men: 66.3% women).

When we observe percentage of the positively rated activity for variable usefulness, unpaid work was rated by a higher grade and with the higher percentage among men than among women (81.9% men: 77.6% women). The next main activity is study and men rated in the higher percentage than women did (78.6% men: 64.2% women).

Table 6. WB1: Percentage of negative wellbeing (responses: -3 to -1), by sex, TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Personal care	3.9	7.3	6.1	3.2	6.5	5.3	6.8	5.6	6.1
Paid work	4.1	14.9	9.6	6.2	12.9	9.6	5.2	9.9	7.6
Study	14.3	26.4	21.1	14.3	26.4	21.1	4.8	5.7	5.3
Unpaid work	9.6	12.0	11.5	2.7	8.8	7.7	2.1	2.7	2.6
Free time	2.5	3.2	2.9	1.2	2.4	1.9	6.1	5.6	5.8
Other	0.0		0.0	0.0		0.0	0.0		0.0

With regard to the negative rates, from -3 to -1, activities of study and unpaid work were rated with the highest percentage and it refers to the well-being variables of pleasure, as well as the fulfilment (Table 6 WB1). For these negative rates, higher percentage of women compared to men it is evident.

Usefulness has received the highest percentage of negative scores for activities related to paid work and it resulted in a higher percentage of women than men (9.9% women: 5.2% men).

The smallest percentage of respondents, as regards to all three categories of wellbeing, estimated negatively the activities of free time.

When the values of well-being are marked with 0 for all three categories (Table 7 WB1), 12.8% were indifferent when it comes to the activities of unpaid work for a pleasure, and at the same time 21.1% for study activities when it comes to the fulfilment. It is interesting that 28.6% of men evaluated as 0.

Table 7. WB1: Percentage if response is wellbeing 0, by se, by sex, TUS pilot Croatia, 2018

	Pleasant	Fulfilled	Useful

Main activities	Men	Women	Total	Men	Women	Total	Men	Women	Total
Personal care	6.0	5.1	5.4	16.3	11.4	13.2	24.9	19.8	21.7
Paid work	6.2	5.0	5.6	11.3	14.9	13.1	8.2	8.9	8.6
Study	9.5	9.4	9.5	28.6	15.1	21.1	16.7	20.8	18.9
Unpaid work	13.8	12.6	12.8	20.2	16.5	17.2	10.6	10.8	10.8
Free time	5.2	6.0	5.6	14.7	10.2	12.2	22.6	18.0	20.0
Other	0.0		0.0	100.0		100.0	0.0		0.0

Usefulness was marked with 0 in 21.7% for personal care activities, and men recorded it more than women did (24.9% men: 19.8% women).

In the WB2 sub-samples where the scale of wellbeing is from 0 to 10, the wellbeing categories are also grouped into three grades. Positive feelings of well-being are ranged from 6 to 10, negative from 0 to 4 and the middle category is ranged 5.

Table 8. WB2: Percentage of wellbeing responses 6 to 10 (upper rang), by sex, TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Personal care	75.9	68.8	71.3	71.0	67.0	68.4	66.9	61.0	63.1
Paid work	67.7	61.5	64.2	60.2	57.4	58.6	75.3	63.9	68.8
Study	25.9	51.9	38.9	29.6	51.9	40.7	22.2	51.9	37.0
Unpaid work	69.8	58.0	61.3	67.9	59.6	61.9	78.4	69.1	71.6
Free time	77.1	75.9	76.4	71.1	72.7	72.1	64.8	63.0	63.7
Other		33.3	33.3		33.3	33.3		33.3	33.3

The percentage of respondents who highly rated the positive activities from 6 to 10 are 76.4% for free time as for as pleasure. Personal care is similarly rated and it is interesting that higher percentage of men positively rated the category pleasure for unpaid work than women (69.8%

men: 58.0% women).

The positive feelings were reported for the fulfilment of activities related to free time and personal care and it is the similar situation when looking at the sex of respondent when it comes free time - 67.9% men: 59.6% women.

When it comes to positively evaluated activities reported for variable usefulness, unpaid work is rated by a highest grade and more often by men than women (78.4%: 69.1%). The next category is the category of paid work and men rated it with the higher scores than women did, too (75.3%: 63.9%).

Table 9. WB2: Percentage of wellbeing responses 0 to 4 (lower rang), by sex, TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Personal care	5.1	7.0	6.3	7.8	7.6	7.6	9.9	12.0	11.3
Paid work	12.9	13.1	13.0	9.7	15.6	13.0	4.3	10.7	7.9
Study	37.0	25.9	31.5	37.0	22.2	29.6	18.5	29.6	24.1
Unpaid work	10.4	13.3	12.5	11.2	11.9	11.7	5.2	8.2	7.4
Free time	4.4	6.0	5.4	5.7	6.2	6.0	11.1	10.8	10.9
Other		0.0	0.0		0.0	0.0		0.0	0.0

Grades from 0 to 4 (Table 9 WB2) for the category of pleasure were reported for the activities that relates to study and paid work with evidently greater percentage of women than men.

Usefulness was rated with the highest percentage of negative grades for activities that relate to study and personal care, with a higher percentage of women. The smallest percentage of respondents negatively estimated the activities spent on the unpaid work - 7.4% for total population.

When well-being is rated with 5 (Table 10 WB2) for all three categories of well-being, 18.5% of them expressed their indifference when it comes to the study for pleasure and fluffiness and 27.7% when it comes to usefulness. Even 44.4% of men evaluated study with 5.

Table 10. WB2: Percentage if wellbeing response is 5, by sex, TUS pilot Croatia, 2018

	Pleasant	Fulfilled	Useful

Main activities	Men	Women	Total	Men	Women	Total	Men	Women	Total
Personal care	3.9	4.2	4.1	3.9	5.4	4.9	4.7	6.9	6.1
Paid work	7.5	8.2	7.9	14.0	9.0	11.2	5.4	8.2	7.0
Study	22.2	14.8	18.5	18.5	18.5	18.5	44.4	11.1	27.8
Unpaid work	7.5	8.7	8.3	7.5	8.1	7.9	6.7	3.8	4.6
Free time	3.8	2.2	2.8	7.3	5.4	6.2	6.0	8.0	7.2
Other		66.7	66.7		66.7	66.7		66.7	66.7

When analysing the data for the WB1 sub-sample by age, for the purposes of the analysis (Tables 11WB1, 12 WB1 and 13 WB1), we grouped ages into three generations, i.e. in the three age groups: young up to 29, the middle generation for persons aged 30 to 64 and the older generation, for 65 and plus years.

When we observe the percentage of positively rated activities from 1 to 3 for variable of pleasure and usefulness, all three generations have given a positive rating for free time. Even 81.0% of middle-aged respondents said that they were very fulfilled when they were doing activities related to free time.

Negative grades ranging from -3 to -1, for variable of pleasure and fulfilment, was reported by young people in the highest percentage for study-related activities (20.2%).

The highest percentage of young people negatively assessed variable usefulness for activities related to personal care (6.7%), the middle generation - paid work (8.3) and the oldest - free time (5.4%).

When pleasure and fulfilment was rated with 0, young population rated it most significantly for the study activities (9.6%), while the middle and older generation rated it for unpaid work (11.3%: 21.3%). Variable for usefulness was rated with 0 with the highest percentage for activities related to personal care by young and middle generation, while older generation rated it for unpaid work.

Table 11. WB1: Percentage of positive wellbeing (responses: 1 to 3), by age groups, TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Age group				Age group				Age group			
	-29	30-64	65+	Total	-29	30-64	65+	Total	-29	30-64	65+	Total
Personal care	72.4	79.4	61.0	75.4	62.9	71.5	54.9	67.4	46.9	62.8	59.2	58.9
Paid work	42.9	71.8		65.7	35.7	64.7		58.6	52.4	68.6		65.2
Study	64.9	0.0		64.2	53.2	0.0		52.6	71.3	0.0		70.5
Unpaid work	67.2	69.3	55.7	66.7	56.7	69.1	46.4	64.2	62.7	83.2	63.9	78.4
Free time	82.1	86.7	70.3	82.8	73.2	81.0	61.5	75.8	60.0	67.2	59.5	64.1
Other		100.0		100.0		0.0		0.0		100.0		100.0

Table 12. WB1: Percentage of negative wellbeing (responses: -3 to -1), by age groups, TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Age group				Age group				Age group			
	-29	30-64	65+	Total	-29	30-64	65+	Total	-29	30-64	65+	Total
Personal care	6.7	6.0	5.2	6.1	3.7	5.9	4.7	5.3	6.7	6.6	2.3	6.1
Paid work	9.5	9.6		9.6	11.9	9.0		9.6	4.8	8.3		7.6
Study	20.2	100.0		21.1	20.2	100.0		21.1	4.3	100.0		5.3
Unpaid work	10.4	12.6	7.7	11.5	9.0	7.6	7.7	7.7	1.5	2.8	2.2	2.6
Free time	1.7	2.9	4.7	2.9	.4	1.9	4.1	1.9	4.3	6.7	5.4	5.8
Other		0.0		0.0		0.0		0.0		0.0		0.0

Table 13. WB1: Percentage if response is 0, by age groups, TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Age group				Age group				Age group			
	-29	30-64	65+	Total	-29	30-64	65+	Total	-29	30-64	65+	Total
Personal care	4.0	5.6	6.6	5.4	16.9	13.2	7.5	13.2	29.8	21.6	9.9	21.7
Paid work	7.1	5.1		5.6	14.3	12.8		13.1	4.8	9.6		8.6
Study	9.6	0.0		9.5	21.3	0.0		21.1	19.1	0.0		18.9

Unpaid work	7.5	11.3	21.3	12.8	19.4	16.3	20.2	17.2	20.9	7.7	19.7	10.8
Free time	6.0	5.7	4.7	5.6	16.2	11.6	8.1	12.2	25.5	20.6	9.5	20.0
Other		0.0		0.0		100.0		100.0		0.0		0.0

With regard WB2 sub-sample, young and older generations evaluated positively pleasure and fulfilment variables, from 6 to 10, for activities related to personal care - over 60% (Tables 14WB2, 15 WB2 and 16 WB2). The middle generation express positive feelings for the same variables for free time activities (80.9%: 74.7%). As for the usefulness variables, the highest percentage of young and elderly people gave to unpaid work (over 60%), and middle generation rated it at the same way for paid work (70.6%).

For a less a positive grade (from 0 to 4) when it comes to pleasure and fulfilment, the highest percentage of young people rated study activities (31.4%).

When the values of well-being were rated with 0, when it comes to pleasure and fulfilment young population was most indifferent for study activities (17.6%). The usefulness variable had the highest percentage for youth for activities related to studies, personal care for the middle generation, and unpaid work for older generation.

Table 14. WB2: Percentage of wellbeing responses 6 to 10 (upper rang), by age groups, TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Age group				Age group				Age group			
	-29	30-64	65+	Total	-29	30-64	65+	Total	-29	30-64	65+	Total
Personal care	69,0	73,1	63,9	71,3	65,5	70,0	62,8	68,4	55,3	65,5	58,1	63,1
Paid work	52,4	65,5		64,2	52,4	59,3		58,6	52,4	70,6		68,8
Study	39,2	33,3		38,9	39,2	66,7		40,7	33,3	100,0		37,0
Unpaid work	63,3	63,6	52,0	61,3	63,3	62,4	59,6	61,9	67,3	73,7	65,2	71,6
Free time	68,9	80,9	62,9	76,4	65,5	74,7	66,4	72,1	52,9	67,7	56,0	63,7
Other		33,3		33,3		33,3		33,3		33,3		33,3

Table 15. WB2: Percentage of wellbeings responses 0 to 4 (lower rang), by age groups, TUS pilot Croatia, 2018

Main activities	Pleasant	Fulfilled	Useful
	Age group	Age group	Age group

	-29	30-64	65+	Total	-29	30-64	65+	Total	-29	30-64	65+	Total
Personal care	15,2	5,5	1,6	6,3	18,8	6,6	1,6	7,6	23,9	9,8	5,8	11,3
Paid work	14,3	12,9		13,0	14,3	12,9		13,0	19,0	6,7		7,9
Study	31,4	33,3		31,5	31,4	0,0		29,6	25,5	0,0		24,1
Unpaid work	16,3	13,4	8,6	12,5	18,4	12,5	7,1	11,7	14,3	7,3	6,1	7,4
Free time	12,6	4,2	3,4	5,4	15,1	4,8	2,6	6,0	24,4	9,5	3,4	10,9
Other		0,0		0,0		0,0		0,0		0,0		0,0

Table 16. WB2: Percentage if wellbeing response is 5 (center rang value), by age groups, TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Age group				Age group				Age group			
	-29	30-64	65+	Total	-29	30-64	65+	Total	-29	30-64	65+	Total
Personal care	3,6	4,9	,5	4,1	3,6	5,7	2,1	4,9	8,6	6,5	1,6	6,1
Paid work	4,8	8,2		7,9	4,8	11,9		11,2	0,0	7,7		7,0
Study	17,6	33,3		18,5	17,6	33,3		18,5	29,4	0,0		27,8
Unpaid work	8,2	8,5	7,6	8,3	6,1	8,8	5,1	7,9	6,1	5,1	2,5	4,6
Free time	4,2	3,1	0,0	2,8	5,0	7,5	,9	6,2	8,4	8,3	,9	7,2
Other		66,7		66,7		66,7		66,7		66,7		66,7

For the purpose of data analysis, we grouped population into three groups: population with primary or less education, with secondary education and with higher/high education (Table 17 WB1, 18 WB1 and 19 WB1).

When it comes to data from WB1 sub-sample, looking at only positive grades from 1 to 3 for variables pleasure and fulfilment, interviewed persons with the highest level of education gave best grades to the free time related activities (91.9%).

With regard to negative spectrum of grades ranging from -3 to -1, the highest percentage of them was given to study activities, regardless of the level of education.

When the values for the well-being were rated with 0, the highest percentage evaluated activities related to unpaid work in the variable of pleasure and fulfilment, regardless of the level of education. Speaking about the variable of usefulness, the highest percentage of persons with elementary school evaluated study activities in such manner, for secondary school it was

the case for care, while in case of persons with higher education paid work was the frontrunner.

Table 17. WB1: Percentage of positive wellbeings (responses: 1 to 3), by highest level of education, TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Highest level of education				Highest level of education				Highest level of education			
	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total
Personal care	70.3	73.3	86.9	75.4	60.9	64.6	82.2	67.4	54.1	56.5	71.0	58.9
Paid work	8.3	71.8	61.4	65.7	16.7	62.0	59.1	58.6	25.0	70.4	59.1	65.2
Study	64.4	63.8	66.7	64.2	42.2	61.7	66.7	52.6	64.4	76.6	66.7	70.5
Unpaid work	56.8	64.0	77.8	66.7	46.6	60.6	80.8	64.2	78.8	77.0	81.6	78.4
Free time	76.9	82.1	91.9	82.8	63.0	75.7	90.0	75.8	59.0	60.5	82.5	64.1
Other		100.0		100.0		0.0		0.0		100.0		100.0

Table 18. WB1: Percentage of negative wellbeings (responses: -3 to -1), by highest level of education, TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Highest level of education				Highest level of education				Highest level of education			
	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total
Personal care	7.5	6.3	4.0	6.1	4.5	5.7	4.7	5.3	7.1	6.6	3.4	6.1

Paid work	8.3	7.7	15.9	9.6	0.0	9.2	13.6	9.6	0.0	6.3	13.6	7.6
Study	26.7	14.9	33.3	21.1	24.4	17.0	33.3	21.1	6.7	2.1	33.3	5.3
Unpaid work	17.8	12.3	6.9	11.5	11.0	9.0	3.1	7.7	1.7	3.0	1.9	2.6
Free time	4.6	2.8	1.3	2.9	2.3	2.1	.6	1.9	5.8	7.1	1.3	5.8
Other		0.0		0.0		0.0		0.0		0.0		0.0

Table 19. WB1: Percentage if response is 0, by highest level of education, TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Highest level of education				Highest level of education				Highest level of education			
	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total
Personal care	5.3	6.3	2.7	5.4	18.0	13.9	6.7	13.2	22.2	22.2	19.5	21.7
Paid work	0.0	7.0	2.3	5.6	8.3	15.5	6.8	13.1	0.0	9.9	6.8	8.6
Study	4.4	14.9	0.0	9.5	28.9	14.9	0.0	21.1	24.4	14.9	0.0	18.9
Unpaid work	20.3	12.5	10.3	12.8	37.3	15.9	11.1	17.2	14.4	9.8	11.5	10.8
Free time	5.8	6.1	3.8	5.6	22.0	11.0	6.3	12.2	22.5	21.2	13.1	20.0
Other		0.0		0.0		100.0		100.0		0.0		0.0

With regard positive rates from 6 to 10, free time activities were best assessed with regard variables of pleasure and fulfilment, regardless of the educational level (Table 20 WB2, 21 WB2 and 22 WB2). Variable of usefulness was rated with the highest rates for persons no matter of the level of education and activities of unpaid work.

For rates between 0 and 4, the highest percentage for pleasure and fulfilment relates to study and paid work, for categories of persons with primary and secondary school.

When the value for well-being is 5, the highest percentage for all three variables is present for persons with elementary school and for activities that relates to study.

Table 20. WB2: Percentage of wellbeing responses 6 to 10 (upper rang), by highest level of education, TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Highest level of education				Highest level of education				Highest level of education			
	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total
Personal care	65,4	70,6	83,1	71,3	65,9	66,0	80,2	68,4	59,4	64,7	63,7	63,1
Paid work	61,1	59,1	81,3	64,2	55,6	53,0	77,1	58,6	61,1	67,8	75,0	68,8
Study	39,2	33,3		38,9	39,2	66,7		40,7	33,3	100,0		37,0
Unpaid work	51,4	58,6	82,8	61,3	57,4	59,2	76,1	61,9	69,9	68,0	85,0	71,6
Free time	65,6	76,4	90,6	76,4	66,0	71,5	81,3	72,1	54,5	65,0	72,5	63,7
Other		100,0	0,0	33,3		100,0	0,0	33,3		100,0	0,0	33,3

Table 21. WB2: Percentage of wellbeings responses 0 to 4 (lower rang), by highest level of education, TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Highest level of education				Highest level of education				Highest level of education			
	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total
Personal care	9,8	4,6	6,3	6,3	11,9	5,8	6,8	7,6	15,8	6,8	18,1	11,3
Paid work	27,8	14,1	4,2	13,0	33,3	12,1	8,3	13,0	33,3	5,4	6,3	7,9
Study	31,4	33,3		31,5	31,4	0,0		29,6	25,5	0,0		24,1
Unpaid work	22,9	9,9	6,1	12,5	20,1	9,0	8,3	11,7	13,7	5,3	5,0	7,4

Free time	12,0	3,6	1,3	5,4	12,0	4,1	3,1	6,0	18,2	5,8	14,4	10,9
Other		0,0	0,0	0,0		0,0	0,0	0,0		0,0	0,0	0,0

Table 22. WB2: Percentage if wellbeing response is 5 (center rang value), by highest level of education, , TUS pilot Croatia, 2018

Main activities	Pleasant				Fulfilled				Useful			
	Highest level of education				Highest level of education				Highest level of education			
	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total	Primary or less	Secondary	Higher/ High	Total
Personal care	4,1	4,2	3,8	4,1	3,1	5,5	5,9	4,9	5,7	4,9	11,0	6,1
Paid work	5,6	8,1	8,3	7,9	5,6	13,4	6,3	11,2	0,0	6,7	10,4	7,0
Study	17,6	33,3		18,5	17,6	33,3		18,5	29,4	0,0		27,8
Unpaid work	8,4	10,1	2,8	8,3	7,6	8,5	6,7	7,9	4,4	5,3	2,8	4,6
Free time	2,9	2,2	4,4	2,8	5,7	4,4	11,3	6,2	6,7	6,8	8,8	7,2
Other		0,0	100,0	66,7		0,0	100,0	66,7		0,0	100,0	66,7

Similar analyses could be done based on WB1 and WB2 sub-samples by utilization of data for urban and rural population, or population disaggregated by self-declared employment status. For the purpose of additional overview of provided data, additional tables are given in the Annex 1 of this Report.

3.3 The influence of the question with whom respondents were performing activities and well-being related variables

Based on the analysis of the activities performed by respondents and whether he/she performed this activity alone or in the presence of other persons in relation to well-being variables, we can conclude that almost all the activities performed in the presence of the other persons got higher rate of well-being (Table 23 to Table 26).

In the case of respondents from WB1 sub-sample, for activities that relate to personal care, the average score of pleasure is higher if person is not alone, than if the person is alone (2.1: 1.7).

However, when it comes to activities related to paid work for usefulness, the average rate of well-being is higher when the person is alone (1.6: 1.4).

This relationship is the same when it comes to fulfilment. Nevertheless, for the usefulness, all activities have a higher average grade when someone is present.

The WB2 sub-sample has the same ratio as in the WB1 sample in all three WB categories.

Table 23. WB1: Average estimate of well-being, diary with modes -3 to 3, with whom (ALONE), TUS pilot Croatia, 2018

Main activities	Alone											
	Pleasant			Fulfilled			Useful			WB Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Personal care	1.9	1.7	1.7	1.5	1.5	1.5	1.2	1.4	1.3	1.5	1.4	1.5
Paid work	1.9	1.2	1.6	1.5	1.1	1.3	1.5	1.5	1.5	1.6	1.3	1.5
Study	.8	-.4	.3	.7	-.6	.1	1.3	.9	1.1	1.0	.0	.5
Unpaid work	1.4	1.2	1.2	1.6	1.2	1.2	2.1	1.9	2.0	1.7	1.4	1.4
Free time	2.0	2.0	2.0	1.7	1.7	1.7	1.2	1.4	1.4	1.6	1.7	1.6
Other												
Total	1.8	1.5	1.6	1.5	1.4	1.4	1.4	1.6	1.5	1.6	1.4	1.5

Table 24. WB1: Average estimate of well-being, diary with modes -3 to 3), with whom (WITH SOMEBODY), TUS pilot Croatia, 2018

Main activities	With somebody											
	Pleasant			Fulfilled			Useful			WB Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Personal care	2.1	2.2	2.1	1.9	1.9	1.9	1.4	1.6	1.5	1.8	1.8	1.8
Paid work	1.6	1.2	1.4	1.5	1.4	1.4	1.9	2.0	1.9	1.7	1.5	1.6
Study	1.1	1.2	1.2	.5	1.0	.8	1.9	1.2	1.4	1.2	1.1	1.2
Unpaid work	1.4	1.6	1.6	1.6	1.6	1.6	1.9	2.0	2.0	1.6	1.6	1.6
Free time	2.1	2.2	2.2	2.0	2.1	2.0	1.6	1.6	1.6	1.8	1.9	1.9

Other	1.0		1.0	0.0		0.0	2.0		2.0	1.0		1.0
Total	1.9	1.9	1.9	1.8	1.8	1.8	1.6	1.7	1.7	1.8	1.8	1.8

Table 25. WB2: Average estimate of well-being, diary with modes 0 to 10, with whom (ALONE), TUS pilot Croatia, 2018

Main activities	Alone											
	Pleasant			Fulfilled			Useful			WB Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Personal care	7.6	8.0	7.9	7.3	7.8	7.6	7.1	7.4	7.3	7.2	7.5	7.4
Paid work	8.4	7.1	7.6	8.3	6.5	7.2	8.4	7.1	7.6	8.3	6.9	7.4
Study	4.4	5.6	4.9	4.7	5.5	5.0	5.0	6.2	5.5	4.7	5.8	5.1
Unpaid work	7.0	6.8	6.8	6.8	6.9	6.9	7.6	7.7	7.6	6.8	6.8	6.8
Free time	7.9	8.2	8.1	7.5	7.9	7.8	7.5	7.0	7.2	7.6	7.5	7.5
Other		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Total	7.4	7.6	7.5	7.2	7.4	7.4	7.3	7.4	7.4	7.2	7.2	7.2

Table 26. WB2: Average estimate of well-being, diary with modes 0 to 10 , with whom (WITH SOMEBODY), TUS pilot Croatia, 2018

Main activities	With somebody											
	Pleasant			Fulfilled			Useful			WB Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Personal care	8.5	8.4	8.5	8.3	8.2	8.2	8.2	7.8	7.9	7.8	7.8	7.8
Paid work	6.9	6.9	6.9	6.8	6.6	6.7	8.2	7.7	7.9	6.8	7.0	6.9
Study	4.8	6.1	5.6	5.0	6.2	5.8	5.4	6.2	5.9	5.0	6.2	5.8
Unpaid work	7.6	7.7	7.7	7.8	7.8	7.8	8.7	8.4	8.5	7.9	7.5	7.6
Free time	8.8	8.6	8.7	8.6	8.5	8.5	7.9	8.0	8.0	7.8	8.1	8.0
Other		10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0
Total	8.2	8.1	8.1	8.1	8.0	8.1	8.2	8.0	8.1	7.7	7.7	7.7

4 Main findings and recommendations for future work

The main conclusion of experts is that pilot survey, although conducted on the small sample, provided some valuable experiences that could be used for the future TUS work on a bigger sample size of households.

- *Proposal for sending mail to households addresses in advance to selected households with the information that they will be visited by interviewers*

When household receive information that the CBS interviewers will visit them for conducting the survey, they will be ready for their visits and they will be informed on time about the action. It would be of a great help if the action will be announced in the local electronic and printed media.

Also, an idea that could be used for the preparation of the letter to households is to include, for example, the data on how many hours and minutes women and men spend in paid and unpaid work.

- *Recommendation for organizing the common training for the interviewers and controllers for the fieldwork*

Interviewers and controllers should receive unique methodological and organizational recommendations for conducting the survey, no matter if it is a pilot or a main survey. In addition, they should be provided with printed copies of methodological and organizational manuals, as well as with supporting documents for the fieldwork (maps, addresses of the selected households, time schedule of the action). The interviewers should be informed that they would be monitored during the whole fieldwork period by fieldwork controllers. That means that organization in charge for the fieldwork has to provide constant control and supervision of the interviewers. Fieldwork controllers have to be active in the field during the whole period of the fieldwork.

- *Croatian Bureau of Statistics should provide continuous monitoring of the engaged interviewers and controllers*

Namely, it was evident that interviewers omitted to check input of the diaries taken over from the respondents during the fieldwork. There were a lot of empty columns and rows in the diaries that were collected from the respondents and one of the important future duties of the interviewers engaged for the TUS should be to check the diaries. Namely, when interviewer takes over the diary, he/she should check how respondent fulfilled it.

This primarily relates to the column containing the main activity, but this recommendation should also relate to the field referring to parallel activities, place and mode of transport, with whom the activity was undertaken. This is especially due to the case that new diary columns referring to well-being assessment were included in TUS diaries for two out of three sub-sample groups. Overall, all mentioned fields should be filled in better and the focus should be on the checking of the material during the realization of the fieldwork.

- *Croatian Bureau of Statistics should organize and provide the common reliable*

training for the coding of activities in diaries, no matter if coders are employers of Croatian Bureau of Statistics or not. In addition, a unique codebook that consists of translated HETUS activities needs to be prepared. Some national specific codes could be included in this codebook (for example: "boćanje" - throwing down small solid balls).

Since the respondents wrote down the activities they performed during the day in their own words, it was necessary to code activities for data entry and for data processing phase process. Based on the written text, the coding of activity was done according to the codebook that complies with European recommendations.

The coding should be done on the basis of common training of coders. The main idea is that coders have a unique manual with the translated codes for activities and unique approach for coding the problematic ones.

One of the recommendations should be that coders may have short meetings on the weekly basis for exchanging experiences and finding the new solutions that can raise up during the coding. Also, exchanging the solutions by phone or by mail should also be possible. Overall, coders should be in touch during the whole coding phase due to challenges or unpredictable moments which could raise up and for up keeping of standardized and unique procedures for problematic activities.

- *Fieldwork controllers and interviewers should take care about the coverage and response of the selected households*

Planning of the activities of the interviewers and controllers in the fieldwork should be done in advance and they should keep the planned dates and dynamic. In addition, the survey material should be successively collected on a weekly basis.

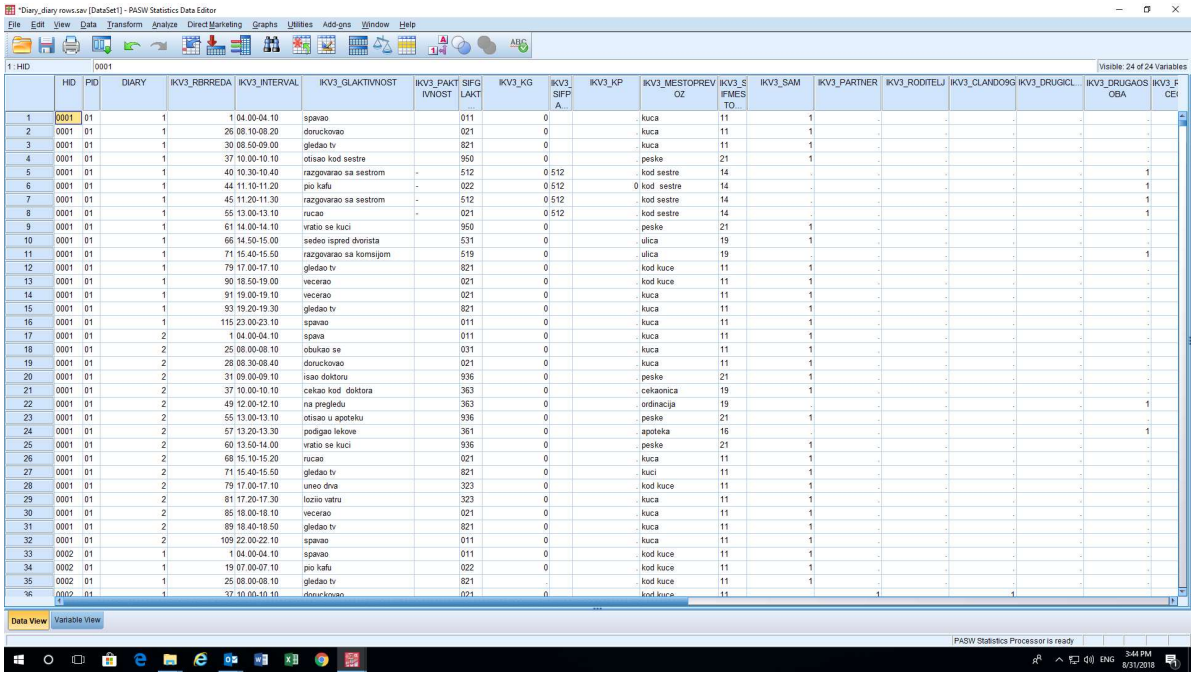
- *The rules of logical controls should be included in the Blaise application for data entry*

There were some mistakes and oversights that could avoided with the stronger logical control. In addition, for the next time, there were lot of missing fields present and that should be less of the case in the future. For example, providing logical control in the application for CAPI, during the interviewing or data entering, could indicate missing data, fields that are omitted or fields with an unacceptable answers.

- *Data entry software should provide output tables with the data that are more standardized and defined.*

Output tables should be better organized. Namely, there should be three database for three different questionnaires. Three databases should be provided for the next wave of TUS data collection. For example database named HH, with the data from the household questionnaires, IND with the data from the individual questionnaires and Diary with the data from the diaries. These three database should be with the fixed and comparable variables (See below example of the SPSS print screen).

SPSS print screen



- *Three databases should be use for the merging of data and bases.*

All these data should provide, for the beginning, the calculation of the mean time, participation rate and mean time among doers. Of course, all these data should be disaggregated by gender, age, type of settlement, self-declared status in employment, by the level of education etc.

- *For the future usage of the TUS data, three databases should be comparable.*

For the tabulation plan, you can use matrix for the 5 main activities, and for presenting data disaggregated by gender, type of settlement etc. In matrix you can find 2-digits code activities that can be used for the analyses of TUS data. Matrix is provided as an supplementary document to this Report.

- *Subjective well-being could be measured in a variety of ways.*

People's emotional and cognitive evaluations of their lives includes what people call happiness, pleasure, peace, fulfilment, or life satisfaction. For the emotional components, survey measures feelings of joy and pleasure. The cognitive component of subjective well-being measures satisfaction and fulfilment in various life domains or activities. Of course, these ratings are based on the emotional, social, concrete and specific experiences of individuals. In addition, it depends on specific events and activities and it is in the correlation with the specific period of time of life or day.

Overall, both components, emotional and cognitive, make complex global approach of the individual well-being.

This kind of survey should be used for the improvement and strengthening of the subjective well-being measures, especially for the comparison and analysis of different activities and time schedules. Cross-sectional analysis could be supported with the individual components that

relates to the gender, age, education, economy status.

- *An overall conclusion of this pilot survey is that bipolar scales provided more reliable and trusted source of data.*

Namely, one in four members of older generation did not fulfil scale 0-10. Probably, it was hard to measure and to express well-being on the offered scale.

5. Identification of any major problems, which may have risen during the performance of the contract and solutions proposed

There were no significant problems during the performance of the activity.

6. Assessment of the impact of the activities carried out

Working through this process, it is evident that clear focus should be on what is manageable and achievable within the existing capacities and capabilities of Croatian Bureau of Statistics.

7. Recommendations for the follow up steps

- Proposal for sending mail in advance to selected households with the information that they will be visited by interviewers;
- To organize the training for the interviewers and controllers for the fieldwork;
- Interviewers should be under the constant control and supervision by the fieldwork controllers during the period for the fieldwork;
- Fieldwork controllers and interviewers should take care of the coverage of the selected households;
- Fieldwork controllers and interviewers should take care of the fulfilment of the diaries;
- To organize the reliable training for the coders of the activities in diaries and to prepare unique codebook;
- The rules of logical controls should be included in the Blaise application for data entry;
- Coders should stay in touch during the code process due to challenges or unpredictable moments which could raise up;
- Speaking about the diary coding phase, trained coders should hold regular weekly meetings and keep consultations by e-mail with the main idea being to keep the standardized and unique procedures for problematic activities;
- Survey material should be successively collected on a weekly basis;
- Survey diaries should be successively coded and entered;
- Subjective well-being could be measured in a variety of ways. For the emotional components, survey measures feelings of joy and pleasure. The cognitive component of subjective well-being measures satisfaction and fulfilment in various life domains or activities. All in all, both components, emotional and cognitive, make complex global approach of the individual well-being;
- An overall conclusion of this pilot survey is that bipolar scale provided more reliable and trusted source of data;

Annex 1. Additional statistical overview

Table 1. WB1: Percentage of positive wellbeing (responses: 1 to 3), by type of settlement, TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Type of settlement			Type of settlement			Type of settlement		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Personal care	66.8	80.5	75.4	52.3	76.5	67.4	50.5	64.0	58.9
Paid work	54.1	70.8	65.7	37.7	67.9	58.6	57.4	68.6	65.2
Study	69.0	62.1	64.2	44.8	56.1	52.6	79.3	66.7	70.5
Unpaid work	59.7	72.0	66.7	55.8	70.5	64.2	70.0	84.7	78.4
Free time	78.4	85.9	82.8	66.4	82.4	75.8	56.5	69.4	64.1
Other	100.0		100.0	0.0		0.0	100.0		100.0

Table 2. WB1: Percentage of negative wellbeing (responses: -3 to -1), by type of settlement, TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Type of settlement			Type of settlement			Type of settlement		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Personal care	8.5	4.6	6.1	7.6	3.9	5.3	8.3	4.7	6.1
Paid work	3.3	12.4	9.6	4.9	11.7	9.6	4.9	8.8	7.6
Study	20.7	21.2	21.1	17.2	22.7	21.1	6.9	4.5	5.3
Unpaid work	16.5	7.8	11.5	11.2	5.0	7.7	4.8	.9	2.6
Free time	4.3	1.9	2.9	2.7	1.3	1.9	8.3	4.1	5.8
Other	0.0		0.0	0.0		0.0	0.0		0.0

Table 3. WB1: Percentage if response is 0, by type of settlement, , TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Type of settlement			Type of settlement			Type of settlement		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Personal care	8.2	3.8	5.4	22.0	7.9	13.2	23.6	20.5	21.7
Paid work	11.5	2.9	5.6	27.9	6.6	13.1	8.2	8.8	8.6
Study	10.3	9.1	9.5	37.9	13.6	21.1	13.8	21.2	18.9
Unpaid work	17.4	9.4	12.8	23.1	12.7	17.2	18.3	5.0	10.8
Free time	8.0	3.9	5.6	18.9	7.5	12.2	22.4	18.4	20.0
Other	0.0		0.0	100.0		100.0	0.0		0.0

Table 4. WB2: Percentage of wellbeing responses 6 to 10 (upper rang), by type of setlement, TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Type of settlement			Type of settlement			Type of settlement		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Personal care	65.0	75.6	71.3	60.4	73.9	68.4	55.6	68.2	63.1
Paid work	55.3	70.0	64.2	50.6	63.8	58.6	61.2	73.8	68.8
Study	33.3	43.3	38.9	33.3	46.7	40.7	16.7	53.3	37.0
Unpaid work	60.6	61.8	61.3	60.6	63.0	61.9	68.8	74.0	71.6
Free time	68.6	82.2	76.4	62.2	79.3	72.1	56.2	69.3	63.7
Other	0.0	100.0	33.3	0.0	100.0	33.3	0.0	100.0	33.3

Table 5. WB2: Percentage of wellbeing responses 0 to 4 (lower rang), by type of settlement, TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Type of settlement			Type of settlement			Type of settlement		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Personal care	10.7	3.4	6.3	12.8	4.1	7.6	16.3	7.8	11.3
Paid work	16.5	10.8	13.0	21.2	7.7	13.0	14.1	3.8	7.9
Study	41.7	23.3	31.5	45.8	16.7	29.6	37.5	13.3	24.1
Unpaid work	13.4	11.8	12.5	12.2	11.3	11.7	6.7	8.0	7.4
Free time	9.7	2.2	5.4	11.2	2.2	6.0	17.2	6.2	10.9
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6. WB2: Percentage if wellbeing response is 5 (center rang value), by type of setlement, TUS pilot Croatia, 2018

Main activities	Pleasant			Fulfilled			Useful		
	Type of settlement			Type of settlement			Type of settlement		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Personal care	4.8	3.6	4.1	6.2	4.0	4.9	6.6	5.8	6.1
Paid work	16.5	2.3	7.9	15.3	8.5	11.2	11.8	3.8	7.0
Study	16.7	20.0	18.5	12.5	23.3	18.5	37.5	20.0	27.8
Unpaid work	8.9	7.8	8.3	8.5	7.4	7.9	5.8	3.6	4.6
Free time	4.2	1.8	2.8	7.3	5.3	6.2	6.0	8.0	7.2
Other	100.0	0.0	66.7	100.0	0.0	66.7	100.0	0.0	66.7