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Special Issue Editorial:

Individual and Society from the European Social Survey Perspective

This issue of the online journal Individual and Society contains a collection of research papers, discussion papers, reports and news from researchers working in ESS national teams in Bulgaria, Estonia, Germany, Hungary, Poland, Portugal and Slovenia.

This special ESS issue celebrates 15 years of the ESS in Slovakia. For this occasion, the Slovak ESS team invited ESS colleagues to submit their papers with the intention to share research findings and exchange methodological and practical (fieldwork) experience.

The papers in this special issue cover both substantial and methodological issues. In "Is Europe happy? An innovative attempt to evaluate it." the authors introduce an innovative attempt to measure quantitatively the proportion of people´s happiness. In "Is satisfaction with healthcare indeed satisfaction with healthcare?," the authors compare public satisfaction with healthcare systems in four types of European healthcare systems and test the hypothesis that healthcare satisfaction is partially a product of the factors outside health care. In "The use of face-to-face interviews in mixed mode design: The problem of the achieved sample," the author presents two experiments that were carried out in connection with the European Social Survey and that were aimed at verifying whether the face-to-face interview used in the mixed mode design did indeed produce the aforementioned benefits, when compared to the use of face-to-face interviewing in unimode surveys. In two discussion papers from Slovenia the fieldwork experience is shared. In "ESS fieldwork in Slovenia: nine rounds of building a successful interviewer network," the authors explain the success in building a reliable interviewer network and describe the changes in the interviewers' management. In 'Fieldwork experiences and monitoring techniques based on round 9 of the European Social Survey,' the authors outline fieldwork monitoring techniques that have been continuously developed with the introduction of the digitalization of contact data opening up additional possibilities for monitoring and maintaining survey data quality.

We appreciate the willingness and cooperation of ESS colleagues to contribute to this special issue and we hope that the readers enjoy this special issue of the journal Individual and Society.

On behalf of the Slovak ESS team

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The use of face-to-face interviews in mixed mode design: The problem of the achieved sample*

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Abstract

Although the face-to-face mode has been losing its appeal due to declining response rates and rising costs, it nevertheless remains the most universal and effective survey mode. Therefore, it could be expected that its use in a mixed mode survey would increase the effectiveness of this design by boosting the response rate and improving the sample composition, not only in comparison with the most commonly used mix of self-administered modes, but also in comparison with unimode face-to-face surveys. The inclusion of the face-to-face mode, which is not only effective but also completely different from self-administered modes, should encourage additional categories of respondents to participate in surveys and, in this way, facilitate the achievement of objectives set for the mixed mode design.

Two experiments carried out in connection with the European Social Survey (ESS) were aimed at verifying whether the face-to-face interview used in the mixed mode design did indeed produce the aforementioned benefits, compared to the use of face-to-face interviewing in unimode surveys. The idea was to boost the response rate and improve the sample composition. Both experiments were based on the sequential design with elements of the concurrent design. In the former, the face-to-face mode was used in the initial phase, whereas in the latter it was used in the follow-up phase. This mode was combined with self-administered modes, including the most effective of them, i.e. the mail mode.

In the experiment aimed at verifying the effectiveness of mixed mode design with face-to-face used first, the ESS main study rounds 6 and 7 were treated as an initial phase. In the follow-up, the interviewers suggested that refusers and non-contacted persons/their proxies take part in the survey, offering a choice between the mail and the EMS (e-mail) mode. The face-to-face phase achieved a high response rate of 74.9% in ESS 6 and 65.8% in ESS 7. The use of self-administered modes in the follow-up increased the response rate by only a fraction of a percentage point in both experiments. Relatively few nonrespondents/proxies agreed to participate in the follow-up, and the completed questionnaires were finally sent back by relatively few of them.

In our second experiment, face-to-face interviewing was used in the follow-up phase, with self-administered modes used first. The self-administered modes used included regular mail, web and EMS modes. Despite using a rigorous research design in both phases, the obtained response rate was lower by nearly 10 percentage points in comparison with that achieved in the ESS 7 main study carried out in parallel. Although face-to-face proved to be the most

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effective mode in the experiment, the response rate achieved when using it was rather low, and exceeded that achieved in the initial self-administered phase only by a few percentage points.
Analysis of the sample composition obtained in the mixed mode design using face-to-face in the initial phase and self-administered modes in the follow-up (Experiment I) seemed pointless. A negligible increase in response rate (a fraction of a percentage point) compared with the initial phase cannot significantly affect the total mixed mode sample distributions. The analysis of sample composition in the second experiment, based on the reversed sequence (Experiment II, i.e. self-administered modes first), covered six socio-demographics: respondents' sex, age, size of domicile (no. of inhabitants), level of education, number of people in the household and the main activity. Their distributions were compared with those achieved in the ESS 7 main study and with the statistical data for the total population. The mixed mode sample did not differ from the ESS 7 main study sample in terms of five out of six characteristics included in the analysis. A difference was only found in the case of respondents' main activity and is related to the much higher participation of permanently sick or disabled individuals in the mixed mode sample. This means that using a mix of these modes (self-administered and face-to-face, in this sequence) does not improve the sample composition in terms of socio-demographics. In the case of sex and size of domicile (no. of inhabitants), it is not reasonable to expect an improvement, as the distributions of these characteristics obtained in the ESS 7 are very close to those for the total population. However, the distributions of age and level of education differ more from the population, while the distribution of the number of people in the household differs very significantly. Therefore, both samples differ from the total population in a similar way. On the other hand, the use of such a design, despite a lower response rate, did not lead to deterioration of the sample composition.
The similarity of the total mixed mode sample and the sample achieved in the ESS 7 main study results from using the face-to-face mode in the follow-up. For all six analysed characteristics, the sample composition obtained in the initial self-administered phase differs more from the sample achieved in the ESS 7 main study than does the total mixed mode sample from the ESS 7 sample. The greatest, statistically significant differences, were found in the size of domicile (no. of inhabitants) and level of education, whereas smaller differences were found in the sample composition in terms of age. This suggests that if self-administered modes are used in the initial phase, then the use of the face-to-face mode in the follow-up is conducive to selection effects and improvements in the composition of the total mixed mode sample.
The findings from both experiments may undermine the sense of using a mixed mode design with the face-to-face mode used both in the initial phase, and in the follow-up. Application of the face-to-face first design only generates additional costs related to the implementation of the self-administered phase, with no clear outcomes such as an increase in the response rate.
In turn, the application of self-administered modes first and face-to-face in the follow-up does not bring the effects expected from the mixed mode design, not only in terms of response rate, but also in terms of sample composition. Moreover, it fails to achieve another postulate behind the mixed mode design, i.e. reduction of survey costs. The cost of a single case in this experiment was nearly identical to that in the ESS 7, completed entirely face-to-face. It was equivalent to approx. EUR 40.
However, the results of both experiments could have been affected by the use of a rigorous research design in the face-to-face phase. Both in the ESS main study (initial phase in Experiment I), and in the face-to-face follow-up in Experiment II, the interviews were carried out by experienced, highly motivated interviewers, each sampled person received an unconditional gift, and the fieldwork lasted several months. This design also drove up the costs of both surveys.
However, a rigorous research design is applied rarely, even in academic surveys. For this reason, the final section of the article discusses potential consequences for the results of a mixed mode survey if a standard research design were to be used in the face-to-face phase instead of a rigorous design. Other potential reasons behind the results obtained in both experiments are also discussed.

Key words:
Mixed mode data collection, Face-to-face mode, Self-administered modes, Response rate, Sample composition, European Social Survey.

The first draft of this paper was presented during the 7th Conference of the European Survey Research Association (ESRA) in Lisbon, held on 17–21 July 2017.

Research problem

The increasingly more common use of mixed mode data collection is considered to be one of the major survey trends in the early 21st century (Dillman et al., 2009). According to Robert M. Groves (2011: 869) most survey methodologists agree that "we are moving to a future of mixed-mode surveys".

A mixed mode design involves the use of different modes in relation to different respondents from the same sample in order to collect the same data.[1] Its application "gives an opportunity to compensate for the weaknesses of each individual mode at an *affordable* cost" (De Leeuw, 2005: 235). The key weakness of contemporary surveys lies in their declining response rate (see, for instance, de Leeuw & de Heer, 2002; de Leeuw, Hox, & Luiten, 2018; Curtin, Presser, & Singer, 2005; Brick & Williams, 2013; Christian et al., 2012) and, as a result, the achieved samples in probability surveys are increasingly self-selected (Miller, 2017). Therefore, the main purpose of mixed mode data collection is to improve the response rate and reduce the nonresponse error when compared to the unimode approach (de Leeuw, 2005; de Leeuw, Hox, & Dillman, 2008; Dillman, Smyth, & Christian, 2014). Another factor of importance is the reduction of survey costs which increase as researchers attempt to reduce the nonresponse rate. These costs are related to the very widespread use of advance letters and respondent incentives, as well as the need to make repeated contact attempts with hard-to-get respondents. Apart from the declining response rate, the rising survey costs have also boosted the appeal of mixed mode data collection (Tourangeau, 2017).

The belief of survey researchers that the use of mixed mode data collection allows them to accomplish the aforementioned goals is based on fairly simple premises. Since people have their preferred mode of survey participation (see, for instance, Olson, Smyth, & Wood, 2012; Groves & Khan, 1979), the use of different modes should encourage participation among additional categories of respondents who are underrepresented in unimode surveys. A mixed mode approach increases the chances that the respondents will find their preferred mode among the modes offered in the survey. As a result, the response rate should go up and the sample composition should be closer to the population (see, for instance, Dillman, West, & Clarc, 1994; Shih & Fan, 2007; Diment & Garrett-Jones, 2007; de Leeuw, Hox, & Dillman, 2008).

The mixed mode surveys based on these premises differ primarily in terms of the modes of data collection used, as well as the research design applied (concurrent vs. sequential) and, in the case of a sequential design, the sequence in which the different modes are used. However, in research practice, the most commonly used modes include the web and mail modes and, less often, telephone interviewing, i.e. the cheapest surveying modes. This is understandable given that one of the important goals of a mixed mode design is, as mentioned earlier, to reduce survey costs. However, if we limit ourselves to those modes only, this will partially challenge the assumptions behind this procedure. As self-administered modes, web and mail modes are closely akin to each other. In both these modes, the respondents are expected to complete the questionnaire by themselves. On the other hand, the use of CATI mode usually produces a very low response rate. From this point of view, it is not surprising that with their joint use the increase in response rate is not large when compared to a unimode survey (Villar & Fitzgerald, 2015, 2017; Shih & Fan,

[1] While the idea to mix surveying modes may be related to various goals and may be applied at different stages of contacting the respondents (de Leeuw 2005; de Leeuw, Hox, & Dillman 2008), this term is currently used mainly for the data collection phase.

2007; Messer & Dillman, 2011; Dillman, Smyth, & Christian, 2014), and the selection effects[2] are relatively weak, without much improvement in the sample composition (Dillman et al., 2009; Wardle & Robinson, 2007; Villar & Fitzgerald, 2015, 2017).

Considering these assumptions behind the mixed mode design, one should expect that the joint use of more varied modes, which are also more effective in terms of the response rate, will enable researchers to achieve the essential goals of this design, i.e. an improvement in both the response rate and the sample composition in comparison with a unimode survey. Apart from the self-administered modes, used normally in mixed mode designs, the idea is to use also the face-to-face mode, which remains the most effective interviewer-mediated mode (de Leeuw, 1992; Holbrook, Green, & Krosnick, 2003). While the application of this design significantly raises the costs of a mixed mode survey, one can nevertheless expect that they will be lower in comparison with a face-to-face survey based on a unimode design.

In this paper, based on the results of mixed mode experiments conducted in Poland in connection with the European Social Survey (ESS), I raise the following questions: (1) does the use of a face-to-face mode in a mixed mode survey, next to self-administered modes, increase the response rate, and (2) will the use of this mode improve the sample composition?

However, the effectiveness of data collection modes cannot be analysed in separation from the research design applied, i.e. concurrent vs. sequential. Many studies have shown that the use of a concurrent research design, i.e. providing the respondents with different options for participation in a survey, does not generally lead to a higher response rate compared to unimode, at least for the mail and web modes (Lozar Manfreda, Vehovar, & Batagelj, 2001; Shih & Fan, 2007; Dillman, West, & Clark, 1994; Millar & Dillmanm, 2011; Smyth et al., 2010; Medway & Fulton, 2012). On the other hand, the response rate can be effectively increased when the same modes are applied sequentially, i.e. one of them is used as the initial mode and then the respondents are switched to another mode, i.e. nonrespondents are offered participation in the same survey via another mode (Shettle & Mooney, 1999; Dillman et al., 2009; Millar & Dillman, 2011). For this reason, the experiments discussed here were based on a sequential design, in order to test the use of the face-to-face mode in the initial phase and in the follow-up phase.

Previous research findings

As mentioned earlier, the face-to-face mode is used very rarely in mixed mode designs. However, it has been applied in, among others, a series of experiments conducted in connection with the ESS.[3]

In an experiment conducted in the Netherlands in parallel with the ESS round 4 (main study), the web and telephone modes were also applied along with the face-to-face mode. Two designs were used, i.e. concurrent and sequential, in the following sequence: web survey, telephone interview,

[2] Selection effects occur when the respondents who choose different modes differ from one another (Vannieuwenhuyze, Loosveldt, & Molenberghs, 2010). This is a key assumption when using mixed mode data collection. If this effect does not occur, then the unimode sample will be equally representative for the population, and the use of the mixed mode will no longer be justified (Vannieuwenhuyze, 2014; Revilla, 2010).

[3] These studies covered a broad range of issues: apart from response rate, sample composition, and survey costs, they also covered, inter alia, mode effects (see Jäckle et al., 2006, 2008, 2010; Roberts et al., 2008; Eva et al., 2010; Martin, 2011, Martin & Lynn, 2011, a summary of those studies in: Villar & Fitzgerald, 2015, 2017). Since the experiments presented later in the article were conducted in connection with the European Social Survey (ESS), this section presents mostly the results of studies connected with that project. This helps to eliminate the effect of the survey topic on the results, and makes the comparisons of results more valid. As shown by Groves, Presser, and Dipko (2004), the survey topic has a considerable impact on survey participation decisions.

followed by face-to-face interviews.[4] The response rates[5] in both experimental designs were very close (45.9% and 45.0%), but lower than in comparison with the response rate obtained in the ESS main study, conducted as a unimode face-to-face study (52.0%). Regardless of the design used, web survey turned out to be the most effective mode.

The use of the mixed mode design did not improve the composition of the achieved sample in comparison with the ESS main study: both samples were very close and different in a similar way from the Dutch population overall. However, the similarity of both samples resulted from the use of telephone and face-to-face modes. The composition of the sample achieved using web only (in a sequential design) differed significantly from that obtained in the ESS main study. This seems to indicate that the use of the face-to-face mode in the follow-up step is conducive to improvements in sample composition, at least when the web mode is used in the initial phase.
In the mixed mode approach, irrespective of its design (sequential or concurrent), the cost of one case was lower by about 2/3 when compared to the ESS 4 main study (Eva et al., 2010).
Subsequent mixed mode experiments within the ESS mixed mode methodology programme were conducted in Estonia, the United Kingdom and Sweden. Each country implemented the design it deemed most appropriate given the country's survey environment. However, the design included the face-to-face mode in all cases.
Estonia applied a sequential design with the web mode in the initial phase. The response rate achieved in the experiment was nearly identical with that in the ESS main study conducted fully on a face-to-face basis (66.2% vs. 67.8%). The web mode, used in the initial phase, turned out to be the most effective.
The sample composition achieved in the experiment was very close to the ESS main study sample and to the statistical data for the population. But again, as in the Netherlands, this result was achieved by using the face-to-face mode in the follow-up phase.
As for the cost per case in the experiment, it was—contrary to expectations—very similar to the cost in the face-to-face ESS main study (Ainsaar et al., 2013).
Partially different results were obtained in an experiment carried out in the United Kingdom, where the design was identical to that applied in Estonia. The response rate in the mixed mode experiment was only 39% compared to 55% in the ESS main study. Nevertheless, the composition of the samples achieved were similar to each other in both surveys and generally comparable to the general population data.
In the experiment carried out in Sweden, two sequential designs were used: response enhancing and cost-effective. In the first one, face-to-face was used as the initial mode, with telephone interviews as the follow-up mode. In the cost-effective design, the reverse order was applied. As in the UK, the response rate in the experiment was significantly lower than in the ESS main study carried out in parallel. In the response-enhancing design, the response rate was 38%, with 50% in the ESS main study (Villar & Fitzgerald, 2015, 2017).
The results of the experiments presented here, although not entirely consistent, suggest that the use of the mixed mode design with face-to-face interviews leads to a reduced response rate

[4] In the experiment, all the respondents were recruited by telephone. However, in the case of 30% of households, the telephone number could not be ascertained. The respondents were contacted face to face, with an offer to take part in a personal interview, followed by a web interview and, thirdly, a telephone interview. The results of the experiment discussed in this part of the article do not cover that group. I discuss them later in the article.
[5] In accordance with the rules adopted in the ESS, the response rate is the quotient of the number of achieved complete interviews and the number of individuals (households, addresses) selected, minus ineligibles (European Social Survey, 2013).

compared to a unimode face-to-face survey, rather than to an increase in the response rate, as might have been expected. The sample composition is not improved, either. Such a result occurred regardless of the design used in mixed mode (concurrent vs. sequential) or the use of other modes (except face-to-face).

As for the comparison between use of the face-to-face mode in the initial and the follow-up phase, the results of the aforementioned Dutch experiment indicate that the application of this mode in the follow-up phase renders slightly better results. We should bear in mind that in part of the randomly drawn sample (where it was not possible to ascertain the phone number), the sequential design was used, with the face-to-face mode in the initial phase (see footnote 4). The response rate in this group was lower by more than five percentage points in comparison with the sequential design used in the same experiment, where the face-to-face mode was used in the follow-up phase (after web and telephone interviewing). Moreover, the sample achieved using the face-to-face mode first differs much more from the sample achieved in the ESS main study than the sample achieved using the face-to-face mode in the follow-up phase. The costs of using face-to-face mode first were also significantly higher compared to using face-to-face in the follow-up phase (Eva et al., 2010; Villar & Fitzgerald, 2015).

Partially different results were obtained in an experiment conducted in connection with the Raising Healthy Children (RHC) survey in the state of Washington. The participating young people, about 18 years old, were subdivided into two groups, where face-to-face and web modes were used in a different order. The response rate in both groups was similar, although slightly higher when using face-to-face first (94% vs. 90%). The distribution of answers to substantive questions (the authors do not reveal the socio-demographics) was very close in the case of both designs. However, the costs per case were much higher when using face-to-face first (McMorris et al., 2009).

These experiments are not fully comparable due to the use of different sets of modes, different survey topics, different populations, as well as the longitudinal character of the RHC survey. This may be the underlying cause of the discrepancy in their results. However, they suggest that the order of using the face-to-face mode (in the initial phase vs. the follow-up phase) does not translate into significant differences in the response rate achieved, although it may translate into differences in sample composition. The results of both experiments are convergent in terms of survey costs. Using the face-to-face mode in the initial phase generates much higher costs compared to using web mode first. This is understandable because with this design the vast majority of cases were completed on the face-to-face basis.

The European Social Survey in Poland

Much like the majority of cross-national time series surveys, the European Social Survey (ESS) has been conducted using the face-to-face mode on a probabilistic, general sample of respondents aged 15+. In Poland, this is a sample of individuals. The interview takes over one hour to complete.

The experiments presented below were completed in connection with rounds 6 and 7 of the ESS. The 6th round of the ESS was carried out on a sample of 2,706 individuals during the period from the 19th of September 2012 to the 8th of January 2013. The sample for the 7th round comprised 2,715 individuals. The survey was conducted from the 20th of April to the 31st of August 2015. The fieldwork was carried out by the Centre for Sociological Research (CSR), affiliated to the Institute of Philosophy and Sociology of the Polish Academy of Sciences. The CSR specialises in fieldwork for academic research.

The ESS survey was conducted according to a rigorous research design, aimed at maximising the response rate. The interviews were carried out by experienced and highly motivated interviewers, additionally trained in refusal avoidance and refusal conversion. The vast majority of the interviewers had also participated in the earlier ESS rounds. Their work was systematically monitored throughout the fieldwork period.

Two advance letters were sent to the sampled persons. The first one contained an insert presenting an interesting finding from the previous ESS round. This was intended to generate the respondents' interest in participating in the survey and to show that participation does not require any special competences. The purpose of the second letter was to maintain the motivation of the sampled persons to participate in the survey. Each sampled person received an unconditional gift. Also, a dedicated website for the respondents was developed, including, among other things, information on issues that the interviewers felt could be of interest to the respondents or could raise concerns. The response rate in the ESS 6 main study was 74.9%, while the response rate in ESS 7 was 65.8%.

Mixed Mode Experiments

Experiment I

The aim of the first type of experiment was to check to what extent a mixed mode design using face-to-face in the initial phase and self-administered modes in the follow-up phase would boost the response rate and improve the composition of the achieved sample. Mail and EMS were used as self-administered modes in the concurrent design.[6] Next to face-to-face interviewing, mail seems to be the most universal mode of data collection. Research has shown that regardless of their preferred survey mode, respondents are more likely to participate in mail surveys than in web and telephone surveys (Olson, Smyth, & Wood, 2012; Dillman, Smyth, & Christian, 2014). On the other hand, the need to create the possibility to participate in surveys with the use of an electronic questionnaire was suggested by the results of the aforementioned ESS experiments where the largest percentage of cases was completed with the use of the web mode. In the experiments discussed in this part of the article, EMS was used due to the higher costs of using the web mode. The use of EMS was also prompted by the high response rate achieved with this mode in a mixed mode survey among physicians, co-conducted by the CSR.[7]

The experiment was carried out in connection with ESS main study in rounds 6 and 7 (face-to-face). An identical design was used in both cases. If the respondent refused to take part during the ESS fieldwork, the interviewer asked the respondent to agree to participate in the survey using the mail or EMS mode. The same procedure was followed when the respondent was inaccessible, but the interviewer managed to contact a proxy. If the respondent (proxy) chose the EMS, the interviewer asked for an e-mail address to which the questionnaire would be sent.

[6] The Electronic Mail Survey method (EMS) consists in sending a questionnaire attached to an e-mail message distributed among the respondents.

[7] That survey was conducted by the Polish Chamber of Physicians and Dentists with the Centre for Sociological Research at the Institute of Philosophy and Sociology in 2012. The respondents who agreed to take part in the survey were first offered a choice of mail, telephone and EMS modes and then asked about their preferred mode. The largest number of the respondents opted for the EMS (58.3%), whereas the traditional mail questionnaire was selected considerably less frequently (36.5%). While the highest percentage of returned questionnaires was obtained from the mail mode (84.1%), the rate achieved from the EMS mode was also satisfactory, reaching 70.9% (Sztabiński, 2013).

The questionnaires were sent to (non)respondents successively, as information about refusals and non-contacts was received, which was intended to prevent a decline in motivation to participate in the survey. After two weeks, a reminder/thank you letter was sent to the (non)respondents.

The questionnaire used in the experiment was identical to the one used in ESS 7, except for some necessary modifications resulting from the mode of data collection.

Experiment II

The second experiment was intended to check the effects of the mixed mode design using the face-to-face mode in the follow-up phase (self-administered modes first). In the initial phase, the concurrent design was applied, i.e. the respondents were offered the option of participation in the survey via regular mail, web or e-mail (EMS). After the face-to-face follow-up phase, a persuasion letter was mailed to selected nonrespondents, along with a re-attached questionnaire (the second follow-up).

The experiment was a stand-alone survey, conducted in parallel to the ESS 7 main study, between 7 April and 30 September 2015. A sample of 800 individuals aged 15+ was drawn using the same sampling frame as in ESS 7, and in exactly the same way. In order to reduce the cost of the experiment, the individuals were drawn from the same locations as the ESS 7 sample.

There were a few reasons for using the concurrent design in the first phase instead of a sequential design (facilitating a higher response rate) with the web mode in the initial phase. First, much as in the ESS 7, we had access only to the sampled persons' names and home addresses during the experiment. As a result, the first contact with them had to be made by regular mail. According to the results of methodological research, this is not conducive to achieving a high response rate using the web mode (Shish & Fan, 2007; Millar & Dillman, 2011). The second reason for the use of the concurrent design in this phase was related to the use of the general sample, without setting the upper age limit. According to Eurostat data, access to the Internet was reported by 79% of households in Poland in 2015 (Eurostat. Statistics Explained, 2016) but, much as in other countries, the elderly and less educated are less likely to use the World Wide Web. If such persons received an invitation to participate in a web survey, some of them could decide that the survey sponsor (the Polish Academy of Sciences) and the surveying agency had completely no idea about their Internet use, and they might have even considered such an invitation as inappropriate.[8] Of course, this could translate into refusals during the application of the other modes, including the face-to-face interview in the follow-up phase. And finally, some research results (e.g. Millar & Dillman, 2011; Villar & Fitzgerald, 2015, 2017) indicate that a sequential design does not significantly boost the response rate when compared with the concurrent design.

The experiment followed a rigorous research design. The first mailing contained a cover letter, the mail questionnaire, a stamped return envelope and, as in the ESS 7 main study, an insert presenting an interesting result from the previous ESS round. The cover letter invited the sampled person to participate in the survey and, apart from filling in the questionnaire, offered an

[8] The experience of the Centre for Sociological Research (CSR) shows that such reactions also occur in the case of face-to-face interviews. Elderly people or their family members contact the CSR and explain that such elderly sampled persons are unable to take part in the survey because of their physical or mental condition and that it is generally not appropriate to send a survey invitation to such people. In the case of a web survey invitation such reactions would have presumably been more common, and probably also more firm.

opportunity to complete a web questionnaire (URL address, login and password were provided) and the opportunity to submit an electronic survey questionnaire by e-mail (EMS). However, people opting for this last mode, had to contact the research institute to provide their e-mail address. The mailing also included an incentive: a notepad with a magnet (to be placed, e.g., on a refrigerator). The results of many studies indicate that the use of incentives is particularly effective in boosting the response rate in the mail mode (for review, see Fox, Crask, & Kim, 1988; Church, 1993; Jobber, Saunders, & Mitchell, 2004; Mercer et al., 2015) as well as in the web mode (Parsons & Manierre, 2014; for review, see Göritz, 2006). A special website was developed for the respondents participating in the experiment, partly different from the website designed for the ESS 7 main survey respondents.

After one week, a reminder/thank you letter was sent to all the respondents. After another week, interviewers attempted to conduct a face-to-face interview with nonrespondents from the first phase of the experiment (follow-up 1). These were the same interviewers who carried out the ESS 7 main survey.

Once the fieldwork was completed by the interviewers, selected nonrespondents were sent a persuasion letter by mail, along with the questionnaire again and a stamped return envelope (follow-up 2). A total of 312 letters were sent altogether.

The questionnaire used in the experiment was identical to the one used in ESS 7.

Results

Experiment I

In the ESS 6 main study, there were a total of 371 refusals (301 by respondents and 70 by proxy) and 133 non-contacts with the respondent (504 cases in total). The interviewers had the opportunity to offer participation in the survey using self-administered modes to 340 people (67.5%). No participation was offered in the case of aggressive refusals, if the respondent simply slammed the door when asked to participate in the ESS, etc., and also if no member of the respondent's household could be contacted. In total, 46 respondents/ proxies declared their willingness to participate in the survey via self-administered modes, i.e. 13.5% of those approached.

In the ESS 7 main study, the interview was not completed due to refusal in 460 cases (381 by respondent and 79 by proxy). The interview was not completed in 221 cases due to non-contacts. The interviewers offered participation in the follow-up phase to 339 people (49.8%). A total of 49 persons agreed (14.4%).

The results obtained in these experiments are shown below (Table 1)

Table 1: The percentage of completed cases in experiments, by data collection mode

Mode of data collection	ESS 6			ESS 7		
	No. of completed cases	Share in total completed cases	Response rate for the total sample	No. of completed cases	Share in total completed cases	Response rate for the total sample
Initial phase: Face-to-face interview (ESS main study)	1898	99.2	74.9	1615	99.5	65.8
Follow up: Self-administered questionnaires						
• Mail	13	0.7	0.5	2	0.1	0.1
• EMS	3	0.1	0.1	6	0.4	0.2
Total	1914	100.0	75.5	1623	100.0	66.1

In ESS 6 as a result of applying follow-up 16 completed questionnaires were obtained in all: 13 by use of mail and 3 by using EMS. In comparison with the ESS 6 main study the response rate went up by 0.6 percentage points, to 75.5%.
In ESS 7 the effectiveness of follow-up was very close: 8 questionnaires were obtained. Of these 6 were gained by use of EMS and 2 by using mail. The response rate increased by 0.3 of a percentage point, to 66.1%.

The results obtained in both mixed mode experiments suggest that when the face-to-face mode is used in the initial phase, the use of self-administered modes in the follow-up is completely ineffective. Although between 10 and 20 percent of nonrespondents agree to complete the questionnaire in fact only some of them send it in. As a result, the response rate increases only by a fraction of a percentage point compared to a unimode face-to-face design. Therefore, it is pointless to analyse the impact of such design on sample composition.
The aforementioned conclusion concerning the effectiveness of using additional modes after the face-to-face in the initial phase is confirmed by the results of the POLPAN Polish Panel Survey, carried out in 2013. The response rate in the face-to-face survey was 66.2%. In the follow-up, telephone interviews were used alongside self-administered modes (mail and EMS). Attempts were made to contact not only refusers and non-contacted persons, but also people who had gone abroad for a long time or who had changed their place of residence in Poland, and the interviewer had not managed to ascertain the new address.[9] Out of 203 people to whom the questionnaire was sent (by traditional or electronic mail) or who were contacted by telephone to conduct an interview, only 18 cases (8.9%) were completed. The response rate rose to 66.7%, i.e. by 0.5 of a percentage point.

[9] When the sampled persons had changed their residence in Poland but the interviewer failed to ascertain their new address, an attempt was made to contact them via social media, mostly Facebook. The e-mail address was established in the case of 80 out of 118 such respondents. However, an invitation to the survey was sent only to 20 because a larger number of identical messages is treated by Facebook as advertising/spam and the account is blocked.

Experiment II

Response rate

Of the sample of 800 people in the mixed mode experiment, a total of 419 cases were successfully completed. The response rate, calculated according to the rules adopted in the ESS, was therefore 55.9%. Thus, it was nearly 10 percentage points lower than the response rate achieved in ESS 7, which was 65.8%. This result suggests that using a mixed mode design with face-to-face in the follow-up and self-administered modes first, does not only fail to improve the response rate compared to a unimode face-to-face design but, in fact, leads to a significant deterioration.

The table below (Table 2) shows the percentages of completed cases, depending on the mode used.

Table 2: The percentage of completed cases in the mixed mode experiment depending on the mode of data collection

Mode of data collection	No. of completed cases	Share in total completed cases	Response rate for the total sample
Initial phase: Self-administered questionnaires			
• Mail	153	36.5	20.4
• Web	24	5.7	3.2
• EMS	0	0	0
Follow up 1: Face-to-face interview	231	55.2	30.8
Follow up 2: Mail questionnaire attached to the persuasion letter	11	2.6	1.5
Total	419	100.0	55.9

It turned out that the face-to-face interview, used in the follow-up, was the most effective mode. The response rate for this mode was 30.8%, with a share of 55.2% of the total number of cases. Even taking into account that the interviewers attempted to conduct interviews with nonrespondents from the self-administered phase, this result is far from satisfactory. The response rate achieved using the self-administered modes in the initial phase was lower by merely 5.7 percentage points and stood at 23.6%, or at 25.1%, if we include the questionnaires returned after the persuasion letter was sent.

Sample composition

The lower response rate in the above experiment compared with ESS 7 does not determine whether the composition of the sample achieved using a mixed mode design is "worse" or "better" than that obtained in the main study, i.e. whether the resulting distribution of key socio-demographics differs more or less from the distribution of these variables in the total population. As Robert Groves (2006) shows, there is no direct relationship between the response rate and the non-response bias in estimates. Non-response bias occurs when there is a covariance between a survey variable and response propensity (the likelihood of responding). While a higher response

rate usually reduces the risk of non-response bias (cf. also Biemer & Lyberg, 2003: 213), it may even elevate this risk in some cases.
In this part of the analysis I address the following issues:

(i) Does the use of a mixed mode design with the face-to face mode in the follow-up phase (self-administered modes first) improve the sample composition in comparison with the ESS 7 main study?
(ii) Does the use of the face-to-face mode in the follow-up phase improve the composition of the achieved sample versus the initial phase based on self-administered modes?

In order to assess whether the mixed mode design used in the experiment improves the sample composition compared to a unimode face-to-face survey (ESS 7), I first check whether the samples differ. Using the Chi-square test, I test a hypothesis (H_0) that the total mixed mode sample (with self-administered and face-to-face modes) is similar to the sample achieved in the ESS 7 main study (face-to-face unimode). Then I compare both samples with the total population statistics using dissimilarity indices. [10]

The effects of using the face-to-face mode in the follow-up phase for sample composition could be formulated as the following null hypothesis: the differences between the sample composition obtained in the initial phase of the experiment (using only self-administered modes) and that obtained in the ESS 7 main study are similar to the differences between the total mixed mode sample (also using the face-to-face mode) and ESS 7. In order to check if the face-to-face mode has improved the sample composition, I compare the initial phase sample and the total mixed mode sample (in terms of key socio-demographics) with ESS 7 using dissimilarity indices. Additionally, I use the Chi-square test to check whether the distributions of these variables differ in a statistically significant way in the samples achieved in two parts of the mixed-mode experiment: in the initial phase sample (using self-administered modes) and in the part of the sample that was completed on the face-to-face basis. A result indicating no significant differences between these samples will suggest that the use of the face-to-face mode in the follow-up phase has not improved (and has not worsened) the sample composition.

In the analyses, the persuasion letter with an attached mail questionnaire (follow-up 2 – see Table 2) sent to nonrespondents was treated as another reminder. The questionnaires returned as a result of this reminder were thus included in the sample achieved with the use of self-administered modes.
In data analysis, 'don't know' answers and missing responses were omitted.
Since the sample in the ESS 7 in Poland and in the experiment was drawn with unequal probability in terms of size of domicile, the data were weighted by this variable.

The sample composition was analysed in terms of six socio-demographics: respondents' sex, age, size of domicile (no. of inhabitants), level of education, number of people in the household and the main activity. The results of the Chi-square test for the comparison of the sample achieved in the mixed mode experiment and the ESS 7 sample, and a comparison of the sample obtained in the initial phase of the experiment (using self-administered questionnaires) with the sample achieved in the follow-up phase (face-to-face) are given in Table 3. On the other hand, the tables

[10] The dissimilarity index shows the percentage of people in the contingency table that should be classified into another cell to achieve an identical distribution in groups under comparison.

contained in the Annex show, for each of the analysed variables, distributions in the mixed mode experiment (in the initial phase and in the total sample, i.e. taking into account the face-to-face mode in the follow-up phase), in the ESS 7 main study and in the total population aged 15 or more.

Table 3: Chi-square values for the comparison of the sample composition obtained in the mixed mode experiment with the ESS 7 main study sample, and the comparison of the sample achieved in the initial phase of the experiment (using self-administered modes) with the sample achieved in the follow-up based on the face-to-face mode.

Socio-demographics	Comparison of the total mixed mode sample with the ESS 7 main study sample	Comparison of the sample achieved in the initial phase of the experiment (self-administered modes) with the sample achieved in the face-to-face-based follow-up phase
Sex	0.069 p=0.972 df=1	2.178 p=0.140 df=1
Age	6.192 p=0.402 df=6	11.158 p=0.084 df=6
Size of domicile (No. of inhabitants)	2.922 p=0.939 df=6	37.230 p=0.000 df=6
Level of education	2.048 p=0.842 df=5	30.729 p=0.000 df=5
Number of people in the household	2.270 p=0.893 df=6	2.345 p=0.885 df=6
Main activity	18.843 p=0.004 df=6	9.996 p=0.125 df=6

The respondent distribution by sex in the total mixed mode sample is very close to that obtained in ESS 7 (see Table 3 above, first column), and both samples differ very little from the statistics for the total population (see Table 1 in the Annex). The dissimilarity indices are 1.4 and 2.1, respectively.
In the sample achieved in the initial phase of the experiment, carried out with the use of self-administered modes, there was a small predominance of women and an underrepresentation of men in comparison with the ESS 7 main study. The value of the dissimilarity index was 3.2. As a result of using the face-to-face mode in the follow-up, the value of this index decreased to 0.7. However, the Chi-square test indicates that the discrepancies between the gender structure in the self-administered modes and in the follow-up sample are not statistically significant (see second column in Table 3 above). This suggests that using the face-to-face mode in the follow-up phase did not improve the sample composition significantly.

A comparison of the age structure in the entire sample achieved in the experiment against the ESS 7 sample using the Chi-square test shows that they are similar. A statistically significant difference occurs in the 75+ age group, although only at a significance level of 0.10[11] (the Z test result is indicated in Table 2 in the Annex in the column entitled 'Total sample'). Both these samples are also not very different from the total population. The values of dissimilarity indices are close: 6.9 and 5.0. Therefore, the use of the mixed mode design did not improve the sample composition in terms of age in comparison to the ESS 7 main study, although it did not worsen it either.

[11] Given the small sample size in the experiment, particularly the sample obtained using different modes, the analyses show also the results at the significance level of 0.10.

The age structure obtained using self-administered modes in the initial phase of the experiment is quite different from the structure in ESS 7 (Table 2 in the Annex). The value of the dissimilarity index, which was 10.6, was halved to 5.3 as a result of using the face-to-face mode. The results of the Z test indicate that in the self-administered sample, compared to the total mixed mode sample, there were significantly fewer elderly people, aged over 75, and slightly fewer young people, although the latter result is only significant at the level of 0.10 (see 'Initial phase' column in Table 2 in the Annex). The Chi-square test indicates that the differences in age distribution between the self-administered modes and the face-to-face mode are not, however, significant at the level 0.05. In contrast, they are statistically significant at 0.10. This suggests that using the face-to-face mode in the follow-up phase has, to some extent, improved the age composition compared to the initial phase.

The sample composition obtained in the experiment is close to that of ESS 7, also in terms of the size of domicile (number of inhabitants). The distributions in both these samples are close to the distribution in the general population, as indicated by the relatively low and close dissimilarity indices (see Table 3 in the Annex). Therefore, also in the case of this characteristic, the use of the mixed mode design with face-to-face interviewing in the follow-up phase did not improve the sample composition.

However, the sample achieved in the initial phase (using self-administered modes) is significantly different from that obtained in the ESS 7 in terms of the size of domicile: the dissimilarity index value is 17.2. The use of face-to-face interviewing in the follow-up phase clearly improved the composition of the whole sample in the experiment, reducing this value to 3.8. As one would have expected, the sample achieved in the self-administered phase has an underrepresentation of rural dwellers (the difference exceeds 16 percentage points), while the urban population is overrepresented, especially people from the largest cities, those with over 500,000 inhabitants. Therefore, it is not surprising that the Chi-square test result indicates that the size of domicile distributions obtained in the self-administered modes and the face-to-face mode differ at a significance level of 0.000. This suggests that the assumed mixed mode selection effects occurred in terms of this characteristic, and that the aforementioned similarity between the total mixed mode sample and the sample achieved in the ESS 7 results from the use of the face-to-face mode in the follow-up phase.

A comparison between the level of education distribution in the total mixed mode sample and in the ESS 7 sample shows that they are similar. They are also fairly close to the total population. The values of dissimilarity indices are, respectively, 6.2 and 5.3 (see Table 4 in the Annex). Thus, the level of education is another characteristic where the use of mixed mode design did not improve the sample composition in comparison with the ESS main study. [12]

The distribution of the level of education obtained in the initial phase of the experiment differs significantly from ESS 7. The value of the dissimilarity index is 14.9. As a result of using the face-to-face mode, this value decreased to 1.8 in the total mixed mode sample. The sample achieved using self-administered modes differs in a statistically significant way from the total mixed mode sample in nearly all categories of education, with the exception of incomplete

[12] The data for the general population date back to 2011 (no more recent data are available), which may partly affect the outcome of these comparisons.

primary education. The greatest differences are found in the category of primary or the first stage of basic education, although there are also significant differences in other categories: post-secondary, not tertiary, and tertiary education. In all these cases, the total mixed mode sample is closer to the ESS 7 sample than to the sample achieved in the initial, self-administered phase.

The result of the Chi-square test suggests that the differences in the distribution of the level of education in the initial self-administered phase and in the follow-up phase are significant at the level of 0.000. Therefore, the selection effect occurred also in the case of level of education, and the use of the face-to-face mode in the follow-up phase significantly changed the distribution of the total sample in the experiment, bringing it closer to the ESS 7 sample.

Another variable analysed is the number of people in the household. The compositions of the sample achieved in the experiment and in ESS 7 in terms of this variable are very close. However, these compositions differ significantly and to a similar extent from the general population. The dissimilarity indices are 11.2 and 13.4 respectively (Table 5 in the Annex). [13] Therefore, using a mixed mode design with face-to-face interviewing did not improve the sample composition compared to ESS 7 also in terms of this characteristic. The sample achieved through self-administered modes in the initial phase does not differ much from the ESS 7 sample (the dissimilarity index value is 5.5). Although after the application of the face-to-face mode the total mixed mode sample became even closer, yet the Chi-square test indicates that the discrepancies between the two samples from the experiment (the self-administered phase and the face-to-face phase) are statistically insignificant even at the level of 0.10. Thus, the use of the face-to-face mode did not affect the sample composition in terms of the number of people in the household.

The last variable included in the analysis is the respondent's main activity. The Chi-square test indicates that the differences between the total mixed mode sample and the ESS 7 sample are statistically significant. This may be due to a much larger share of 'permanently sick or disabled' respondents in the former sample, which is confirmed by the result of the Z test (see Table 6 in the Annex).

Unfortunately, no data are available on the main activity for the Polish population aged 15 years and over. It is therefore difficult to determine which of the samples (the experiment sample or the ESS 7 sample) is closer to the country's total population.

The use of the face-to-face mode in the follow-up phase slightly improved the composition of the total mixed mode sample in comparison with the initial phase, if we take the ESS 7 main study as a reference point. The value of the dissimilarity index decreased from 8.1 to 4.4. As a result of adopting the face-to-face mode, the share of persons in paid work and of the permanently sick or disabled decreased (although the latter difference is significant only at the level of 0.10), while the share of the retired population went up (the difference is close to 4 points, not significant). However, the Chi-square test indicates that the differences between the two samples from the experiment (achieved in the initial phase and in the follow-up phase) are statistically insignificant. Thus, it can be concluded that the improvement of the sample composition achieved by using the face-to-face mode was not significant.

Although, as mentioned earlier, no data are available on the main activity for the Polish population, we nevertheless have some data from the Labour Force Survey (LFS) in Poland for

[13] The data on the household size in the population also come from the 2011 census, which may have some impact on the outcome of these comparisons.

the category described as 'In paid work'. According to these data, the share of people working during the ESS 7 fieldwork period was 51.1% (Labour Force Survey in Poland, Q1 of 2015). If we use these data as a point of reference, then the category 'In paid work' is close to the results obtained by using self-administered modes in the initial phase, while its share in the total mixed mode sample is somewhat underrepresented. The difference is 3.7 percentage points. This may suggest that the use of face-to-face interviewing in the follow-up phase led to slight deterioration of the sample composition when it comes to the participation of working people.

Summary and discussion

Although the face-to-face mode has been losing its appeal due to the declining response rate and rising costs, it nevertheless remains the most universal and effective survey mode. Therefore, it could be expected that its use in a mixed mode survey would increase the effectiveness of this design by boosting the response rate and improving the sample composition, not only in comparison with the standard mix of self-administered modes, but also in comparison with unimode face-to-face surveys. As readers may remember, the mixed mode design assumes that if the preferred mode is offered, this should encourage additional categories of respondents to participate. The inclusion of the face-to-face mode, which is not only effective but also completely different from self-administered modes, addresses these objectives well and, as such, should be conducive to the achievement of the intended objectives of mixed mode design.

The experiments carried out in connection with ESS rounds 6 and 7 were aimed at verifying whether the face-to-face interview used in the mixed mode design did indeed produce the aforementioned benefits, i.e. a higher response rate and an improved sample composition as well as reduced survey costs, compared to the use of face-to-face interviewing in unimode surveys. In the experiments, the face-to-face mode was combined with self-administered modes, including the most effective of them, i.e. the mail mode. The experiments were based on the sequential design with elements of the concurrent design.

In the experiments aimed at verifying the effectiveness of mixed mode design with face-to-face first, the ESS main study rounds 6 and 7 were treated as an initial phase. In the case of refusals and non-contacts, the interviewers asked for agreement to participate in the survey and offered a choice between the mail and the EMS mode (follow-up). The face-to-face phase achieved a high response rate of 74.9% in ESS 6 and 65.8% in ESS 7. The use of self-administered modes in the follow-up increased the response rate by only a fraction of a percentage point in both experiments. Relatively few nonrespondents/proxies agreed to participate in the follow-up, and the completed questionnaires were finally sent back by relatively few of them. Some nonrespondents also provided non-existent e-mail addresses, which suggests that they simply wanted to get rid of an intrusive interviewer. This result may undermine the sense of using mixed mode design where, after face-to-face in the initial phase, the follow-up is based on self-administered modes. Application of this design generates only additional costs (related to the implementation of the self-administered phase), which are high anyway due to the use of the face-to-face mode in the initial phase, with no clear outcome such as an increase in the response rate.

However, it should be borne in mind that the face-to-face phase of the experiment was based on a rigorous research design in both experiments. The ESS main study (the initial phase in this experiment) was carried out by experienced, highly motivated interviewers; two advance letters were sent to the respondents; each sampled person received an unconditional gift, and the fieldwork lasted several months. In ESS 6, the average number of contact attempts needed to complete one interview was 2.13, and the share of interviews conducted during the 5th and following contact attempts was 7.6%. In ESS 7, the respective values were 2.28 and 9.6%. In both surveys, up to even three refusal conversions were also attempted. In ESS 6, at least one attempt was undertaken in the case of 43% refusals, and with 48% of refusals for ESS 7. It can therefore be assumed that the interviewers managed to persuade almost all reluctant respondents—except hard refusers—to participate in the survey, as well as to complete interviews with hard-to-reach respondents, except for inaccessibles. Therefore, it is not surprising that the follow-up phase was unsuccessful.

It is hard to speculate whether the use of a standard design instead of rigorous design in the face-to-face phase would translate into better follow-up effects and what kind of response rate would be achieved in the total mixed mode sample. The problem is important, however, because the response rate in standard academic face-to-face surveys is not very high. In Poland, this rate currently stands at below 50%. Assuming that the aforementioned mixed mode assumptions are correct, one should expect an increase in the response rate. Roger Tourangeau (2017) points out that if the sampled person declines to respond using one mode, it is less likely that the same person will agree to participate using another survey mode. Therefore, in order to maximise the response rate, this author suggests using the most effective mode in the initial phase. In this case, it would be the face-to-face first design. However, as the aforementioned results of experiments in the Netherlands and the United States show, this approach entails significantly higher costs for such surveys compared to the reversed sequence (face-to-face as follow-up). However, such costs would probably be lower versus the costs of a unimode face-to-face survey carried out in accordance with rigorous design.

The result of our second experiment, with the use of the self-administered mode followed by face-to-face interviewing, seems to confirm Tourangeau's claim. The response rate obtained was lower by nearly 10 percentage points in comparison with that achieved in the ESS 7 main study carried out in parallel. Although face-to-face proved to be the most effective mode in the experiment, the response rate achieved when using it was rather low, and exceeded that achieved in the initial self-administered phase only by a few percentage points. One could argue that it was unreasonable to expect a satisfactory result in the follow-up since the interviewers attempted to conduct interviews with nonrespondents from the initial phase. Co-operative survey respondents presumably returned a completed questionnaire in the initial phase of the experiment. On the other hand, however, the face-to-face follow-up was carried out according to a rigorous research design, and the interviews were carried out by the same experienced and highly motivated interviewers who participated in the ESS 7. As such, one could expect that they would be more effective.

Two mutually non-exclusive explanations of the low response rate obtained in the face-to-face follow-up in our experiment come to mind. The first one refers to the singularities of the ESS project. The ESS questionnaire is long and burdensome. In the experiment, the questionnaire was sent by mail in the initial, self-administered phase. As a result, when the respondents were

deciding about their participation in the face-to-face phase, they were aware that participation would take considerable time. They were also aware of the topics covered in the survey, which might have discouraged some of them. In the ESS 7 main study, the sampled persons did not have this information when making their decision. As a result, they could have been more optimistic about participation. Therefore, it cannot be excluded that the respondents would have been more willing to take part in the face-to-face follow-up if the questionnaire had been shorter, easier and more interesting.[14]

The second explanation refers to the self-administered – face-to-face sequence used in the experiment. According to Groves, Singer, and Corning's Leverage-Saliency Theory of Survey Participation (2000), the respondents decide to participate in a survey at the time when the survey request is presented to them. If the survey mode is of secondary importance to them, offering a different mode is unlikely to change their decision about participation.[15] Since in direct, face-to-face encounters interviewers may be most flexible and immediately respond to the respondent's doubts, this mode is most effective when it comes to obtaining respondents' consent to participate in a survey. In the case of self-administered modes, however, a single, identical cover letter is usually used for all sampled persons and, in addition, the respondents tend not to read this cover letter carefully. As a result, the likelihood of a positive decision to participate in such a survey is much lower, and the interviewers' subsequent efforts to change the negative decision are less likely to be successful. Therefore, using a mixed mode design with self-administered modes in the initial phase may reduce the likelihood of the respondent participating in a face-to-face interview in the follow-up phase. As a result, the self-administered – face-to-face sequence produces a lower response rate in comparison with the reverse sequence and with unimode face-to-face surveys.

The analysis of the sample composition obtained in the mixed mode design using face-to-face in the initial phase and self-administered modes in the follow-up (Experiment I) seemed pointless. A negligible increase in response rate (a fraction of a percentage point) versus the initial phase cannot significantly affect the total mixed mode sample distributions. However, when using the reverse sequence (Experiment II, i.e. self-administered modes first), the total mixed mode sample did not differ from the ESS 7 main study sample in terms of five out of six characteristics included in the analysis.[16] This means that using a mix of these modes (self-administered and

[14] A detailed discussion of other possible causes of a low response rate, related to the design of this experiment, can be found in Sztabiński (2018).

[15] Research results have shown that respondents' preferences concerning the survey mode cannot be regarded as relatively stable attitudes. The preferred mode is significantly influenced by the survey mode in which the question about the preference was asked: as a rule, the mode through which the respondents are asked about their preferences is mentioned as the preferred mode (Groves & Khan, 1979; Gesell, Drain, & Sullivan, 2007; Millar, O'Neill, & Dillman, 2009; Dillman, Smyth, & Christian, 2014). The results of some studies also suggest that mode preferences are not a relatively constant disposition (Wardle & Robinson, 2007). Moreover, certain modes are "preference resistant", i.e. the obtained response rate does not depend on respondents' preferences (Olson, Smyth & Wood, 2012; Dillman, Smyth, & Christian, 2014). This seems to suggest that the issue of the mode used does not matter for some respondents when it comes to their survey participation decisions.

[16] One exception is the main activity, where a statistically significant difference occurred between the total mixed mode sample and the sample achieved in ESS 7. This difference is related to the much higher participation of permanently sick or disabled individuals in the mixed mode sample in comparison with ESS 7. This is linked with their higher participation in the self-administered phase. As regards the remaining categories, the percentages are very close to one another.

face-to-face, in this sequence) does not improve the sample composition in terms of socio-demographics. In the case of sex and size of domicile (no. of inhabitants), it is not reasonable to expect an improvement, as the distributions of these characteristics obtained in the ESS 7 are very close to those for the total population. However, the distributions of age and level of education are more different from the population, while the distribution of the number of people in the household differs very significantly. Therefore, the application of self-administered modes first and face-to-face in the follow-up does not bring the effects expected from the mixed mode design, both in terms of response rate, and also in terms of sample composition. Both samples differ from the total population in a similar way. On the other hand, the use of such a design, despite a lower response rate, did not lead to deterioration of the sample composition.

The similarity of the total mixed mode sample to the sample achieved in the ESS 7 main study is the result of using the face-to-face mode in the follow-up. For all six characteristics analysed, the sample composition obtained in the initial self-administered phase differs more from the sample achieved in the ESS 7 main study than the total mixed mode sample from the ESS 7 sample. The greatest, statistically significant differences, were found in the size of domicile (no. of inhabitants) and level of education, whereas smaller differences were found in the sample composition in terms of age. This suggests that if self-administered modes are used in the initial phase, then the use of the face-to-face mode in the follow-up is conducive to selection effects and improvements in the sample composition. However, it should be noted that the face-to-face phase in the experiment was based on a rigorous research design. This had a significant impact on the final high cost of the entire mixed mode survey. The cost of a single case was nearly identical to that in the ESS 7, completed entirely face-to-face. It was equivalent to approx. EUR 40. Since the response rate was lower than in the unimode face-to-face ESS, and the sample composition did not improve, the point of using a mixed mode survey based on the design used in our experiment seems doubtful.

However, another result of this experiment is worth noting. In the sample achieved with self-administered modes there was an overrepresentation of respondents from cities with 500,000 and more inhabitants, as well as of people with upper secondary and higher education, especially those with post-secondary, not tertiary and tertiary education. These categories are usually underrepresented in standard face-to-face surveys. On the other hand, the sample achieved using self-administered modes had an underrepresentation of categories that are usually overrepresented in standard face-to-face surveys. These include inhabitants of villages, people with primary or the first stage of basic and lower secondary education, as well as people from the oldest age group (75 years and more). This seems to suggest that using the face-to-face mode in the follow-up (after self-administered modes) may be conducive to improvements in sample composition, not only when using a rigorous design in the face-to-face phase (as in our experiment), but also when using the standard design. If this is the case, such a mixed mode design could provide an alternative to the standard unimode face-to-face surveys. The response rate obtained by using such a mixed mode may be lower than that of standard surveys while an improved sample composition could be a benefit. However, this is only a hypothesis that needs to be verified. It is certain, however, that if such a mixed mode is used, the survey costs will be reduced. And, as has been mentioned earlier, reduction of surveying costs is one of the essential goals behind mixed mode data collection.

Appendix

A comparison of the total mixed mode sample with the ESS 7 main study sample and the general population, as well as the sample obtained in the initial phase of the experiment (self-administered modes) with the total mixed mode sample and the ESS 7 main study sample.

Table 1: Distribution of respondents' sex in the mixed mode experiment, ESS 7 main study and in the total population 15+ (%)

Sex	Mixed mode		ESS 7 main study (F2F)	Population 15+[x]
	Initial phase (self-admin.)	Total sample		
Female	57.4	53.5	54.2	52.1
Male	42.6	46.5	45.8	47.9

[x] Demographic Yearbook of Poland 2015

Dissimilarity indices:
Total mixed mode sample vs. general population: 1.4
ESS 7 vs. general population: 2.1
Initial phase (self-administered) vs. ESS 7: 3.2
Total mixed mode sample vs. ESS 7: 0.7

Table 2: Distribution of age categories in the mixed mode experiment, ESS 7 main study and the total population 15+ (%)

Age	Mixed mode		ESS 7 main study (F2F)	Population 15+[x]
	Initial phase (self-admin.)	Total sample		
15 – 24	9.0[†]	11.9	14.3	14.5
25 – 34	18.1	16.7	15.8	19.2
35 – 44	17.6	16.8	17.2	17.0
45 – 54	18.1	15.0	13.7	15.0
55 – 64	21.8	19.3	18.5	17.0
65 – 74	11.7	13.8	11.6	9.3
75+	3.7*	6.4[†]	9.0	8.0

[x] Demographic Yearbook of Poland 2015

Dissimilarity indices:
Total mixed mode sample vs. general population: 6.9
ESS 7 vs. general population: 5.0
Initial phase (self-admin.) vs. ESS 7: 10.6
Total mixed mode sample vs. ESS 7: 5.3

Z test (comparisons of percentages for various categories):
Total mixed mode sample vs. ESS 7 (result in the Total Sample column): [†]$p<0.10$
Initial phase (self-administered modes) vs. Total mixed mode sample (result in the Initial Phase column): [†]$p<0.10$ *$p<0.05$

Table 3: Distribution of the size of domicile in the mixed mode experiment, ESS 7 main study and in the total population 15+ (%)

Size of domicile (No. of inhabitants)	Mixed mode		ESS 7 main study (F2F)	Population 15+[x]
	Initial phase (self-admin.)	Total sample		
Village	25.0***	39.1	41.4	38.8
Town – under 10,000	5.3	5.5	6.1	5.9
Town 10,000 – 19,999	9.0[†]	6.7	7.1	7.1
Town 20,000 – 49,999	10.6	10.5	10.7	11.0
Town 50,000 – 99,999	9.0	7.2	7.1	8.5
Town 100,000 – 199,999	9.0	7.6	7.9	8.4
City 200,000 – 499,999	11.2	10.0	8.3	8.7
City 500,000 – 999,999	12.8**	8.1	6.9	7.1
City 1,000,000 and over (Warsaw)	8.0*	5.3	4.6	4.5

[x] Size and Structure of Population and Vital Statistics in Poland by Territorial Division in 2013

Dissimilarity indices:
Total mixed mode sample vs. general population: 3.4
ESS 7 vs. general population: 2.9
Initial phase (self-admin.) vs. ESS 7: 17.2
Total mixed mode sample vs. ESS 7: 3.8

Z test (comparisons of percentages for various categories):
Total mixed mode sample vs. ESS 7 (result in the Total Sample column): n.s.
Initial phase (self-administered modes) vs. Total mixed mode sample (result in the Initial Phase column): [†]p<0.10 *p<0.05 **p<0.01 ***p<0.001

Table 4: Distribution of the level of education in the mixed mode experiment, ESS 7 main study and the total population 15+ (%)

Level of education	Mixed mode		ESS 7 main study (F2F)	Population 15+[x]
	Initial phase (self-admin.)	Total sample		
Incomplete primary	0.5	0.7	0.9	1.1
Primary or first stage of basic	11.2***	19.7	20.3	22.9
Lower secondary	20.3*	25.4	25.7	23.5
Upper secondary	33.2[†]	28.8	28.9	31.3
Post-secondary, not tertiary	10.7**	7.0	5.2	2.8
First & second stage of tertiary	24.1**	18.5	19.1	18.4

[x] Demographic Yearbook of Poland 2014

Dissimilarity indices:
Total mixed mode sample vs. general population: 6.2
ESS 7 vs. general population: 5.3
Initial phase (self-admin.) vs. ESS 7: 14.9
Total mixed mode sample vs. ESS 7: 1.8

Z test (comparisons of percentages for various categories):
Total mixed mode sample vs. ESS 7 (result in the Total Sample column): n.s.
Initial phase (self-administered modes) vs. Total mixed mode sample (result in the Initial Phase column): $^{\dagger}p<0.10$ $*p<0.05$ $**p<0.01$ $***p<0.001$

Table 5: Distribution of the number of people in the household in the mixed mode experiment, ESS 7 main study and the total population 15+ (%)

Number of people in the household	Mixed mode		ESS 7 main study (F2F)	Population 15+[x]
	Initial phase (self-admin.)	Total sample		
1	8.5	9.5	10.8	8.8
2	23.4	24.3	25.4	16.5
3	22.9	23.9	23.7	21.2
4	22.9	21.7	21.7	25.6
5	12.8	11.5	9.3	14.4
6	4.8	5.3	5.2	7.4
7+	4.8	3.8	4.0	6.1

[x] Demographic Yearbook of Poland 2014

Dissimilarity indices:
Total mixed mode sample vs. general population: 11.2
ESS 7 vs. general population: 13.4
Initial phase (self-admin.) vs. ESS 7: 5.5
Total mixed mode sample vs. ESS 7: 2.6

Z test (comparisons of percentages for various categories):
Total mixed mode sample vs. ESS 7: n. s.
Initial phase (self-administered modes) vs. Total mixed mode sample (result in the Initial Phase column): n.s.

Table 6: Distribution of respondents' main activity in the mixed mode experiment and in the ESS 7 main study (%)

Main activity	Mixed mode		ESS 7 main study (F2F)
	Initial phase (self-admin.)	Total sample	
In paid work (employee, self-employed, working for family business)	52.7*	47.4	48.8
In education	7.0	8.4	9.0
Unemployed and actively looking for a job	3.8	5.0	3.8
Unemployed, wanting a job but not actively looking for a job	2.2	2.9	1.7
Permanently sick or disabled	4.3†	2.6***	0.6
Retired	22.6	26.4	28.6
Doing housework, looking after children or other persons	7.5	7.2	7.4

Dissimilarity indices:
Initial phase (self-admin.) vs. ESS 7: 8.1
Total mixed mode sample vs. ESS 7: 4.4

Z test (comparisons of percentages for various categories):
Total mixed mode sample vs. ESS 7 (result in the Total Sample column): ***p<0.001
Initial phase (self-administered modes) vs. Total mixed mode sample (result in the Initial Phase column): †p<0.10 *p<0.05

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Is satisfaction with healthcare indeed satisfaction with healthcare?

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Abstract:
Background: There is a growing need for healthcare services and system performance assessment due to the population ageing and limited resources in Europe. Therefore, it is not surprising that the measurement of the healthcare system performance with public or user satisfaction (Bleich et al., 2009) is considered important. Public satisfaction with a healthcare system is an important dimension of healthcare legitimacy; referring to the citizens' evaluations of how their government has actually implemented healthcare services in regards to what it had promised (Rothstein 2001). It is proposed that in contrast to expert opinion and other objective performance measures, subjective evaluations directly echo the experiences and perceptions of the public (Blendon & Benson, 2001) and provide an assessment of healthcare systems that is often described as more accurate, legitimate, and sensitive (Aharony & Strasser, 1993; Fitzpatrik, 1991; Park, Park, Kwon, Kang, & Noh, 2016). However, previous studies (Bleich et al., 2009; Footman et al., 2013) argue that public satisfaction with the healthcare system might depend more on external factors outside the health system. For example, Footman et al. (2013) have found that trust in political institutions was the strongest determinant of healthcare system satisfaction in former Soviet Union countries. One such factor outside the healthcare system might be general satisfaction with a government's actions and general life satisfaction of people which frame the overall satisfaction level.
Aim: The aim of the paper is to compare public satisfaction with healthcare systems in four types of European healthcare systems and test the hypothesis that healthcare satisfaction is partially a product of the factors outside the healthcare system.
Method: Four countries in our analyses represent four different healthcare systems in Europe. Slovakia presents a low-supply and low-performance mixed system, Germany a supply-and-choice oriented public system, The United Kingdom a regulation-oriented public system and Sweden a performance- and primary care-oriented public system. We used data from the European Social Survey round 6 for analyses of healthcare satisfaction, and link healthcare satisfaction with other institutions in the country and individual level life satisfaction. The European Social Survey meets the high standards of quality of comparative social surveys. The survey is representative of 15+ non-institutionalised populations in the country, and guarantees the best solutions for multi-ethnic data collection. Face to face interviews were used in data collection. In addition to correlation and linear regression analyses, we use structural equation model to distinguish the structure of the satisfaction formation. We investigate mainly the link between satisfaction with healthcare, satisfaction with government, satisfaction with democracy, trust in institutions, overall satisfaction with the individual life, health status and household income situation.
Findings: Among different countries and healthcare systems, public satisfaction with healthcare was lowest in the low-supply, low-performance mixed system represented by Slovakia. The structural equation modelling analysis suggested that in all countries satisfaction with the healthcare system belongs to the same set with other institutional satisfaction and trust indicators, rather than being an independent healthcare indicator. Healthcare satisfaction was strongly influenced by the overall satisfaction with other different institutions in society. A comparison of two alternative models proved that the model fit was much better in the model including the latent

institutional satisfaction variable (Latent Satisfaction) compared to the model with the independent healthcare satisfaction variable. Latent Satisfaction is also associated with individual life satisfaction. In all countries people who were more pleased with the government and democracy in their country and trusted more national institutions were also more satisfied with the healthcare system. Regression analysis revealed that institutional satisfaction with government, democracy and institutional trust influenced the satisfaction with healthcare more than the individual background situation of people, including the economic situation and subjective health in all healthcare systems.
Summary and implications: The structural equation model showed that the overall latent institutional satisfaction component was linked universally with healthcare satisfaction in all countries, regardless of the healthcare system. Moreover, the results demonstrated that latent components of satisfaction with different national institutions was one of the most powerful factors related to formation of satisfaction with the healthcare system. This can be taken into account in the healthcare system assessments in the future.

Key words: Healthcare. Satisfaction. Institutions. Methods.

Introduction

There is a growing need for healthcare services and system performance assessment due to the population ageing and limited resources in Europe. Therefore it is not surprising that measurement of the healthcare system performance with public or user satisfaction (Bleich et al., 2009) is considered important. Public satisfaction with a healthcare system is an important dimension of healthcare legitimacy; referring to citizens evaluations of how their government has actually implemented healthcare services in regards to what it had promised (Rothstein 2001). We expect that satisfaction refers to people's evaluation of the performance of an existing healthcare system (Wendt et al., 2009). It is proposed that in contrast to expert opinion and other objective performance measures, subjective evaluations directly echo the experiences and perceptions of the public (Blendon & Benson 2001) and provide an assessment of healthcare systems that is often described as more accurate, legitimate, and sensitive (Aharony & Strasser 1993; Fitzpatrik, 1991; Park et al., 2016).

However, public satisfaction with healthcare studies include users as well as non-users of healthcare. Previous studies (Bleich et al., 2009; Footman et al., 2013) argue that people's satisfaction with the healthcare system might depend more on external factors outside the health system. Bleich et al. (2009) found that patient experience was an important factor influencing satisfaction with the healthcare system; explaining about 10% of its variance. For example, Footman et al. (2013) have found that trust in political institutions was the strongest determinant of healthcare system satisfaction in former Soviet Union countries. One such factor outside the health system might be general satisfaction with a government`s actions and general life satisfaction of people which frame the overall satisfaction level. Thus, most of the variation is explained by factors that are unrelated to patient experience. The most frequently reported are socio-demographic factors, supposedly influencing satisfaction by shaping people's expectations (Munro & Duckett, 2016; Bleich et al., 2009; Footman et al., 2013; Missinne et al., 2013). There is some evidence that men (Missinne, Meuleman, & Bracke, 2013), older people (Bleich, Özaltin, & Murray, 2009; Munro & Duckett, 2016), people with lower education (Bleich, Özaltin, & Murray, 2009; Footman et al., 2013; Missinne, Meuleman, & Bracke, 2013) and people living in rural areas (Footman et al., 2013) are, in some countries, more satisfied with healthcare systems, because they might have lower expectations of healthcare. People's health status and economic factors are also commonly reported factors influencing public satisfaction with healthcare. In several studies (Ainsaar & Nahkur, 2017; Bleich et al., 2009; Missinne et al., 2013; Wendt et al., 2010) it has been found that people with poor self-reported health status tend to be less satisfied than those who report good health. Evidence by Ainsaar and Nahkur (2017) suggests that in Estonia and Belgium people with

worse health conditions are less satisfied with the healthcare system mainly because they have less economic resources, and in Austria, Sweden and Slovenia because they are less satisfied with their country's government. Several studies have found that economic factors are related to public satisfaction with healthcare systems. People who are less satisfied with their household economic situation (Footman et al., 2013) or for whom it is difficult to live from their household income (Wendt et al., 2010), those who have below average income (Blendon et al., 2002), and those who do not have health insurance (Munro & Duckett, 2016) tend to be less satisfied with healthcare systems.

But also the media can influence people's satisfaction with healthcare, as in the case of China, where Munro and Duckett (2016) found that social media use was negatively related to the satisfaction. It confirms the claim that the tone of the media can play an important role in people's evaluations about their healthcare system, and probably the role of media is more important in the case of people who have not had direct or indirect experience with healthcare system. There is some more evidence suggesting that public satisfaction with healthcare may not always directly mean satisfaction with the 'healthcare system'. According to Bleich et al. (2009), people's personalities can influence their evaluation regarding healthcare satisfaction. Thus, more pessimistic people can be more negative toward a healthcare system. In 14 European countries, Ainsaar and Nahkur (2017) have found that the most powerful factor related to satisfaction with the healthcare system is general satisfaction with the government. Similarly, Footman et al. (2013) wrote that in former Soviet Union countries trust in political institutions was the strongest determinant of healthcare system satisfaction. Popic and Schneider (2018) explain regional differences in healthcare evaluations with different level of financial resources for healthcare, higher out-of-pocket payments, and the supply of primary healthcare services in Eastern compared to Western European countries.

The aim of the paper is to compare public satisfaction with healthcare systems in European countries and analyse the sources of healthcare satisfaction formation. We test the hypothesis that healthcare satisfaction is linked to the factors outside the health system, such as general level satisfaction with institutions in the country and individual life satisfaction.

What is satisfaction?

According to Jagodzinski (2010), an individual's life satisfaction is primarily a cognitive, enduring, and encompassing state of mind directly related to the goals, wishes, or desires of a person, and the expectation of a person to reach or fulfil them. In the theory of relative deprivation (Gurr, 1970, 1980), the former are called aspirations and the latter expectations. If aspirations are our wishes and desires for today and for the future, then expectations are the perceived chances to realize these wishes. Therefore, Jagodzinski (2010) proposes that an individual's life satisfaction is a function of his/her aspirations and expectations. Expectations are influenced by resources (e.g. money, social support, education) and opportunities, but also restrictions (e.g. formal and informal norms). Also, personal traits can affect the expectations of a person, e.g. optimists have higher expectations than pessimists. Following a more empirical approach, Frey and Stutzer (2002) differentiate five types of determinants of an individual's life satisfaction/happiness: personality, socio-demographic, economic, contextual and situational (e.g. working conditions and interpersonal relations with important others), and institutional factors.

According to Bjørnskov et al. (2008), there is a fairly broad consensus on the main determinants of life satisfaction at the individual level. Moreover, they are remarkably similar across

countries (see e.g. Oswald, 1997; Diener & Seligman, 2004; Hayo, 2004). More specifically, higher socio-economic status or relative income, levels of education and being married increase an individual's life satisfaction; while being unemployed has a strongly negative influence on an individual's life satisfaction (Bjørnskov et al., 2008). Life satisfaction has a relationship with age, social capital (Helliwell, 2003; Bjørnskov, 2003) and religiosity or spirituality (e.g. Clark & Lelkes, 2005).

Previous research has found that people's satisfaction with welfare institutions depends in part on their perceptions of how well these institutions protect them from course-of-life risks, such as disability or unemployment (Cammett et al., 2015). Moreover, there is some evidence that public satisfaction with different welfare institutions have similar influencing factors. For example, according to Bratton (2009) across both health and education services, what matters most is whether public services are considered as being open to all types of clients and are uncomplicated to operate. It has also been established that people's personal experience with the public service of the welfare state is associated with their trust in politicians and their satisfaction with how democracy works (Kumlin, 2002, 155–162).

Trust is therefore considered to be an important component of institutional satisfaction. According to Grönlund and Setälä (2007), institutional trust refers to the fulfilment of an individual's normative expectations towards institutions; satisfaction with institutions also pertain to the satisfaction with policy outputs. For example, satisfaction with democracy can be interpreted as a perception that the political process actually works according to generally accepted democratic norms and principles, but it also may reflect the level of satisfaction with regime performance, that is to say, policy outputs (Grönlund & Setälä, 2007). However, satisfaction with the government may more reflect attitudes towards policy outputs and not necessarily normative expectations (Grönlund & Setälä, 2007).

Also, a link between institutional and life satisfaction has been found. There is some evidence that institutions and good governance can increase an individual's life satisfaction or happiness (Frey & Stutzer 2012; Kim & Kim, 2012; Ott, 2011). According to the neoclassical economics theory, the failure on the part of the government to discharge its duty will adversely affect the quality of life of the citizens. The government's role is to solve the market failures such as externalities through the provision of public goods in order to improve welfare and people's quality of life and enhance their life satisfaction (Besley & Coate, 1997).

Method

For analysis, we select countries from different European health systems according to a new classification published by Reibling, Ariaans, and Wendt (2019) recently. We take one country to represent the situation from every country group.

Slovakia presents the low-supply and low-performance mixed systems. This system type stands out with its low level of resources (both expenditures and doctors) and is the leader in out-of-pocket payments for healthcare. This system has the lowest performance in terms of both prevention and quality-of-care indicators.
Germany presents the groups of countries with a medium to high level of financial resources in healthcare and a high level of human resources, which come primarily from public financing. Access to these resources is not strongly regulated. Despite generous supply, this type has a low performance in terms of both prevention and care quality.

Sweden is a representative of the group of countries characterised as the performance and primary-care-oriented public systems. It is mostly financed by public sources and spends less money and uses stronger gatekeeping elements. It focuses on primary care, with relatively high spending in the outpatient sector.

The last group of countries in our analyses is presented by Great Britain. It is called by Reibling, Ariaans, and Wendt (2019) the regulation-oriented public systems. It has a medium level of resources that come primarily through public funding, but this type has the highest level of access regulation and also it limits choice to providers. The system is also characterized by the lowest level of out-of-pocket expenditures, and a lower level of primary care orientation.

We used data from the European Social Survey (ESS) round 6 (2012). This is the last ESS round covering all countries in our study sample. The survey provides data on 15+ non-institutionalised populations, and it is representative of the country's relevant population. Face to face interviews were used in data collection. We introduce three institutional level variables (institutional trust, satisfaction with government, satisfaction with democracy in a country) and three individual level variables (satisfaction with life, evaluation of income, evaluation of health) into the analyses. For the measurement of institutional trust we form an index from trust in parliament, the police, and the legal system in the country. Post-stratification and design weights are used in analyses.
We use the structural equation model to distinguish the structure of the satisfaction formation, and analyse the independence of the evaluation of the healthcare system satisfaction from the rest of societal satisfaction.

The Structural equation models allows us to investigate the complicated interaction structures of factors influencing satisfaction with healthcare. During the working process, two models according to theoretical assumptions were tested – a model of independent satisfaction with healthcare and a model with overall satisfaction. The best model was selected according to the traditional structural equation model parameters – Chi-square, NFI, RMSEA, AIC (Moss 2016; Hooper, Coughlan, Mullen 2008). The model with the best indicators reflects the most relevant structure for empirical data. Amos from the SPSS programme is used to implement the analyses. Hooper, Coughlan and Mullen (2008) suggest using instead the Chi-Square relative/normed chi-square ($\chi 2/df$). Although there is no consensus regarding an acceptable ratio for this statistic, recommendations range from as 2.0 to 5.0. NFI takes into account also the sample size, and performs well even when the sample size is small. RMSEA is an old and traditional indicator in evaluation of goodness of structural equation models. The range of 0.05 to 0.10 was considered an indication of fair fit and values above 0.10 indicated a poor fit, but many authors support the cut-off value close to 0.07 as a good ceiling. AIC statistics is generally used when comparing non-nested or non-hierarchical models estimated with the same data, and indicates to the researcher which of the models is the most parsimonious. There is no norm for a good fit, but smaller values suggest a better fitting.

Structural equation modelling does not allow missing values. Therefore we took respondents with missing values out of the analyses and use a reduced sample of the original data (Table 1). Table 1 also presents the means of variables in the analyses in four countries.

Table 1: Number of respondents and means of variables used in the analyses in four countries

	Germany	Sweden	United Kingdom	Slovakia
Number of respondents in the analyses	2,781	1,685	2,009	1,731
Satisfaction with healthcare (0 extremely dissatisfied, 10 extremely satisfied)	5.7	6.2	6.3	3.9
Satisfaction with government (0 extremely dissatisfied, 10 extremely satisfied)	4.8	4.1	5.6	3.9
Satisfaction with democracy (0 extremely dissatisfied, 10 extremely satisfied)	6.1	5.6	7.0	4.9
Trust in institutions (0 = no trust, 10 highest trust)	5.9	5.5	6.3	3.5
Satisfaction with life (0 extremely dissatisfied, 10 extremely satisfied)	7.5	7.3	7.9	6.6
Health (1 very good, 5 very bad)	2.4	2.0	1.9	2.2
Income (1 living comfortably, 5 very difficult coping with present income)	1.8	1.8	1.6	2.5

Sweden is the country with the highest life satisfaction and the best health self-evaluation. Health self-evaluation is the most critical in Germany, but this can partially explained by the older population structure. Although Slovakia has the lowest life satisfaction, household income level, institutional trust and other satisfaction indicators, self-evaluated health is only a bit worse than in Sweden and the United Kingdom.

Four worlds of the healthcare satisfaction

A comparison of satisfaction with the healthcare system (Figure 1) shows, that people in Sweden and the United Kingdom have a similar satisfaction level with healthcare, despite the fact that countries represent different healthcare systems. In Germany, people are considerably less satisfied with healthcare and Slovakia has the lowest satisfaction level. In Slovakia the satisfaction with healthcare remains below the average scale point (on a scale of 1-10). Thus, we can conclude that people in Slovakia were generally more dissatisfied than satisfied with the healthcare system.

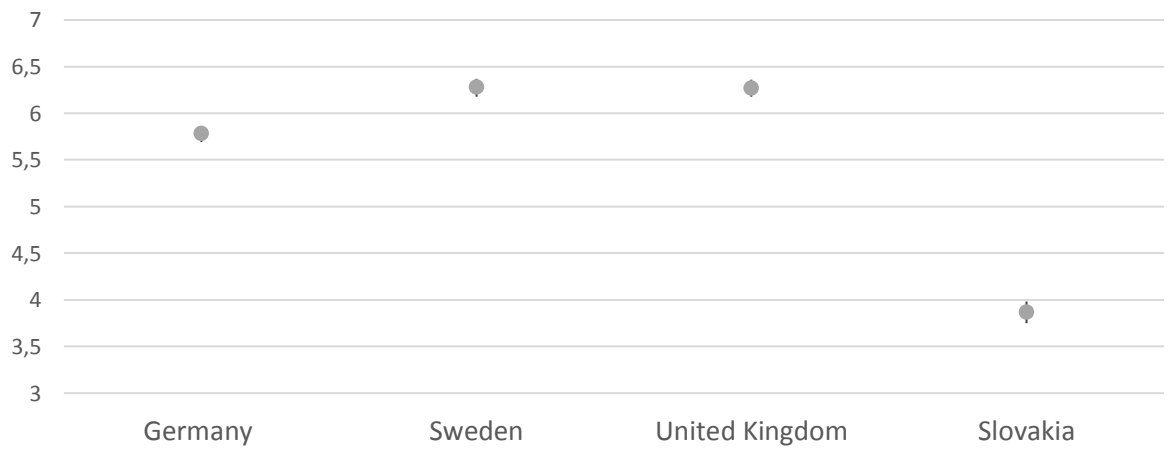

Figure 1: Average satisfaction with healthcare and 95% confidence intervals in four countries (Data: ESS round 6, 1 = not at all, 10 = very satisfied)

A correlation analysis (Table 2) with healthcare satisfaction characteristics shows a strong correlation between the trust of the institutions and other satisfaction indicators. The link is strong, but not strong enough to be collinearity. In all countries people who are more pleased with the government and democracy in their country and trust national institutions more are also more satisfied with their healthcare system. We also checked the relationship of healthcare satisfaction with areas less connected to healthcare, like education, and saw also a strong link between satisfaction levels. This implies that satisfaction with healthcare may have, at least partially, the same roots as the satisfaction with other public institutions.
Additionally, as expected, people living in poorer economic circumstances were also more dissatisfied with the healthcare system. This link was somewhat stronger in Germany and Sweden, and weaker, but still important, in Slovakia and United Kingdom. Poor assessment of a healthcare system was associated with poor subjective health in three countries out of the four. The healthcare system evaluation did not depend on the health status of people only in Sweden. This shows that health does not differentiate access to healthcare and treatment in Sweden. In Slovakia, the relationship between health and the healthcare system was weaker than in Germany and England.

Tables 2: Correlations of satisfaction with healthcare with some variables

	Germany	Sweden	United Kingdom	Slovakia
How satisfied with the national government	.391**	.307**	.358**	.387**
How satisfied with the way democracy works in country	.415**	.309**	.391**	.345**
How satisfied with the education system in general	.457**	.427*	.541**	.598**
Trust in institutions	.374**	.337**	.392**	.370**
How satisfied with life as a whole	.186**	.246**	.213**	.217**
Feeling about household's current income	-.155**	-.124**	-.063**	-.062*
Subjective general health	-.121**	-0.026	-.202**	-.058*

Next, we examine the links of variables with linear regression (Table 3), before the final analyses with the structural equation model. Regression models are able to take into account the interaction between the variables. We add also the age of people to the model to control for the population age effect, but leave satisfaction with the educational system out of the model.

In total, the regression models accounted for 16–22% of the variability of healthcare satisfaction in different countries, which is a relatively good result (Table 3). The link of healthcare satisfaction variable with other indicators was surprisingly similar in all four countries, regardless of different healthcare systems. Standardised coefficients show that the satisfaction with healthcare had a strong link with trust of institutions, but also satisfaction with democracy and government. The only deviation from the quite similar pattern was the prevailing impact of satisfaction with democracy to the healthcare satisfaction in Germany. However, the three variables with institutional satisfaction and trust seems to influence the satisfaction with healthcare even more than the individual background situation of people, including health, in all healthcare systems.

Table 3: Determinants of satisfaction with healthcare in four countries (linear regression, standardised coefficients)

	Germany	Sweden	United Kingdom	Slovakia
How satisfied with the way democracy works in country	0.216**	0.076**	0.176**	0.148**
How satisfied with the national government	0.175**	0.122**	0.133**	0.205**
Institutional trust	0.148**	0.193**	0.207**	0.198**
How satisfied with life as a whole	0.025	0.143**	0.072**	0.075**
Subjective general health	-0.019	0.072**	-0.079**	-0.037
Feeling about household's current income	-0.01	-0.005	0.051**	0.009
Age of respondent	-0.041**	0.012	0.049**	0.02
R^2	0.224	0.16	0.225	0,223

Next, we investigate the links between different satisfaction indicators using structural equation models. We want to know whether the satisfaction with the healthcare system is either an independent indicator (people assess only healthcare) or belongs to the general latent set of societal satisfaction, and is it influenced by attitudes towards all state institutions (the latent satisfaction model). To do this, we run different models and choose the best model according to the accuracy of fit indices described in the methods part.

Table 4: Quality of fit for different models with pooled data and countries separately (the structural equation model) with following variables in the model: latent satisfaction (LS), satisfaction with healthcare, with government, with democracy, trust of institutions, satisfaction with life, income, health

	Chi-square/ degrees of freedom	NFI	RMSEA	AIC
Independent healthcare (all countries pooled)	175.6	.870	.146	1965.3
Latent satisfaction (all countries pooled)	45.6	.969	.070	493.4
Only for Germany	9.9	.977	.057	142.9
Only for Sweden	15.1	.935	.091	199.7
Only for Great Britain	7.0	.976	.055	111.4
Only for Slovakia	5.2	.976	.049	91.1

A comparison of the models shows (Table 4) that the latent satisfaction model has much better quality than the independent healthcare model. The Latent satisfaction model had an even better fit at country level, compared to the pooled sample. The quality of fit of the model is best for Slovakia, and the model fit criteria is a bit weak only for Sweden.

Table 5: Standardised coefficients for links between variables in the latent satisfaction model, pooled data and separate models for countries (Latent satisfaction = Latent St)

Interaction			Pooled	Germany	Sweden	United Kingdom	Slovakia
Income	<---	Health	0,24	0,26	0,121	0,21	0,279
St with life	<---	Health	-0,22	-0,208	-0,33	-0,196	-0,205
St with life	<---	Income	-0,378	-0,388	-0,308	-0,353	-0,292
Latent St	<---	St with life	0,469	0,421	0,382	0,456	0,422
Trust	<---	Latent St	0,766	0,706	0,669	0,734	0,658
St democracy	<---	Latent St	0,761	0,773	0,696	0,769	0,8
St government	<---	Latent St	0,681	0,73	0,708	0,717	0,754
St healthcare	<---	Latent St	0,578	0,535	0,538	0,445	0,519

Figure 2 presents the patterns of the best model. The result refers to the fact that healthcare satisfaction is significantly influenced by external factors of healthcare. The factor, which we call "Latent Satisfaction" (LS), is an important common component of evaluation of the various national institutions, including healthcare. Although the satisfaction with healthcare is associated somewhat weaker with LS than satisfaction with government, democracy and trust, the healthcare satisfaction model including this latent variable performs significantly better than without the latent LS variable. The relationship between the elements is logical in all countries, is statistically valid, and is presented in Table 5.

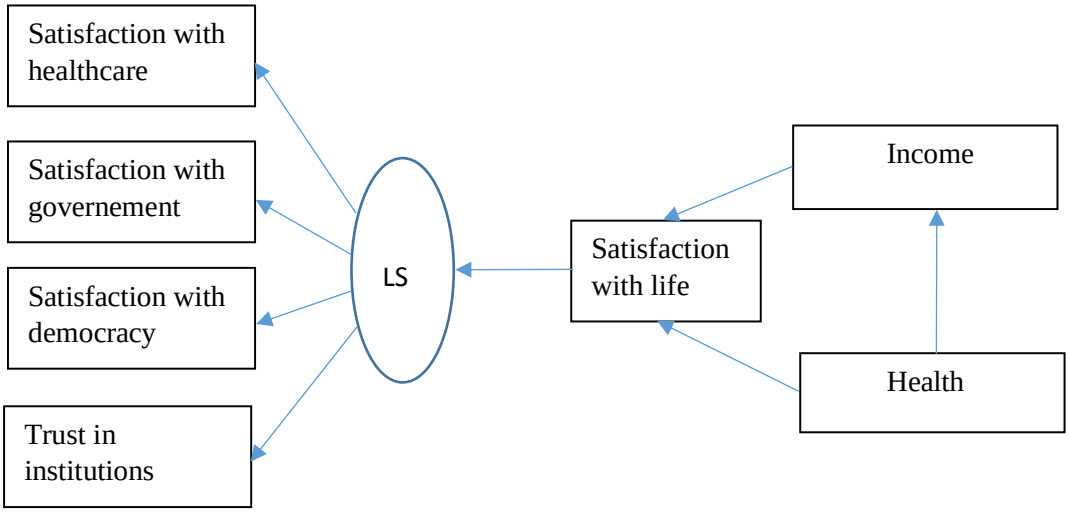

Figure 2: The best model to describe the interaction of individual and institutional level satisfaction with healthcare system assessment. Variables in the model: latent satisfaction (LS), satisfaction with healthcare, with governement, with democracy, trust of institutions, satisfaction with life, income and health

Conclusions

Studies about the satisfaction of healthcare systems demonstrate both - the functioning of the system and the subjective perception of people towards it. The investigation of sources of

(dis)satisfaction can provide grounds in shaping policy processes. It is therefore important to know more about the formation of public attitudes and factors affecting satisfaction.

In this paper we tested the hypothesis that healthcare satisfaction is strongly linked to the general satisfaction with the various institutions in society. The data of the European Social Survey provide a good opportunity for this kind of analyses; because of the rich choice of countries and broad data. As an addition to the substantive value of the healthcare system assessment, this article makes also a methodological contribution to the research of satisfaction. A new model gives a better idea of how healthcare satisfaction should be measured and what should be taken into account in analyses.

In order to include countries with different healthcare systems in the analysis we used a new typology of healthcare systems published by Reibling, Ariaans and Wendt (2019). We selected countries representing four different healthcare systems for analysis. Slovakia was selected from the group of low-supply and low-performance systems, Germany as a medium to high resource level country in healthcare, Sweden as a representative of the primary-care-oriented public systems with strong gatekeeping elements and Great Britain as the regulation-oriented public system.

The analysis showed that healthcare satisfaction is strongly influenced by the overall satisfaction with the different institutions in society. We call this central latent feature Latent Satisfaction. At an individual level Latent Satisfaction is also influenced by individual life satisfaction. Life satisfaction, in turn, depends on the economic situation and health of the person. The last result is not novel and has been confirmed by many previous studies. However, the strong link of evaluation of healthcare systems with Latent Satisfaction is surprising. The structural equation model showed that the overall national institutional satisfaction component was linked universally with healthcare satisfaction in all countries, regardless of the healthcare system. It can be taken into account in healthcare system assessments in the future.

It is difficult to explain why such a link prevails, and it needs more investigation. Possible explanations are the effects of the overall national environment, including optimism or pessimism in the evaluation of national level institutions. For example, the impact of the overall optimism in society has been found to play a role in the transition of Slovakia and Estonia to the Euro (Ainsaar et al., 2017). Another possible explanation is technical and related to measurement issues. The effect might be explained with the so-called careless response behaviour; where similar questions following each other and measured on the same scale, tend to produce similar answers from respondents. In this case it is not the similarity of the merits of the assessments, but the technical error.
Nevertheless, the national models were very similar, and with good fit indicators, which somewhat confirms the validity and reliability of the final model.

The analyses have some limitations. The European Social Survey is a cross-sectional study and allows investigating the relationship and structure of attitudes, but does not tell the direction of attitude formation. Interpreting the directions of relationships should therefore be undertaken with caution. We used a limited number of healthcare indicators due to data limitations in this paper, but this probably does not influence the results of the main model.

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Is Europe happy? An innovative attempt to evaluate it

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Abstract:
We have developed our analyses based on the assumption that happiness indicates the positive emotional harmony with oneself, in particular with: a) personal status; b) living conditions and c) life perspectives. We consider the feeling of happiness registered in 2016/17 by the Eighth wave of the European Social Survey (ESS) (www.europeansocialosurvey.org) – ESS Round 8. Our main research questions here are why people in different European countries feel or do not feel happy; what the main factors influencing this feeling are, what their strongest impact is, and what the main set of differences and similarities across different parts of Europe are.
To answer these questions we have constructed a happiness index on the basis of three sub-indexes – a) sub-index of happiness as positive satisfaction of personal status; b) sub-index of happiness as positive satisfaction from living environment, and c) sub-index of happiness as positive satisfaction with life perspectives – as an innovative attempt to measure quantitatively the proportion of happy people in selected number of countries, focusing on their individual profiles and the national and cultural effect.
We have selected eleven ESS European countries for the analyses: Spain, Portugal, The UK, Germany, The Netherlands, Hungary, Estonia, Norway, Sweden, Poland and The Czech Republic. The main criteria for choosing them were the following: a) geographical location (i.e. North, Central, South Europe); b) socio-political background (East and West, post-socialist vs. others); c) economic development (Mature vs. Emerging economies)
In order to ascertain those people, who were happy we have implemented a machine learning algorithm to discover the importance weight of ten key socio-demographics. Our general conclusion is that happiness is a matter of subjective satisfaction with one's life, and that perspective differs among people and different time periods. In a cross-national context we have discovered that levels of happiness are the highest in Northern Europe, higher in Western countries as compared to Eastern ones, and higher in mature rather than in newer democracies. The most important socio-demographic factors influencing happiness are health, age, income, religion and education. They rank differently in different societies, but have a much higher demanding effect when compared to factors like sex, domicile or family composition.
In this analysis we have used the sociological interpretations of happiness. (See Tilkidgiev, 2006; Veenhoven, 2008; Durand & Exton, 2019; Dimova & Dimov, 2010; OECD, 2017; Peasgood, Foster, & Dolan, 2019). Happiness is perceived not as a transient euphoric and elated state of mind, nor a momentary flash of joy and positive mood provoked by circumstances; instead it reveals how much people are positively satisfied with what they have overall achieved in their life as a whole, to what extend they feel comfortable in their living environment, and whether they see a future in front of them with the possibilities and perspectives to realise their life goals. The stress is on positive emotions ; so that *positiveness* is a key point in analysing happiness.
The closest to our view is the position of Ruut Veenhoven (2008) who points out that the universally-shared

understanding of happiness comes down to judging how much people like their life overall, and how they assess the quality of their lifestyle. Our analyses has discovered a definite cleavage of Europe's on a North-Central-South axis in combination with the East-West and post-socialist – old democracies and economies discrepancies.
We have registered several important correlations. The first one is the North vs. the South division, i.e. more people in the Northern countries (Norway, Sweden, The Netherlands) feel happy and satisfied with their life as a whole compared to Southern Europeans, particularly in Portugal. (The Second chapter of the World happiness report 2019 comes to the same conclusion.) Furthermore, data provides empirical evidence that income is a less important factor for happiness in wealthy Northern countries than for less well-off societies in the South. In Central Europe, age appears a little more important than health. The case of the Czech Republic, as well as Germany, has a comparatively typical distribution of variables' which are importance towards happiness.
Empirical evidences from the ESS suggest that happiness is not equal to life satisfaction – neither in daily nor from more general perspectives. In all countries, people that feel happy are more than those who are satisfied with their lives. In other words, people can feel happy even if not totally satisfied with their life as a whole.
The happiness index demonstrates that in order for a person to be happy, they must first of all be emotionally satisfied with what they are, what they have achieved, and what they strives for – i.e. to be in harmony with themselves.
Data also suggests that the state of the economy, the state of democratization in society, and the impact of migrants on society's life have the highest effect on happiness within the second sub index of happiness, which relates to the satisfaction of living conditions. For life satisfaction, the same factors appear to be even stronger. In general, the living environment plays a stronger role in one's life satisfaction than in the feeling of happiness. In both aspects, the state of economy leads the ranking with the highest correlations (respectably r=0.291 and r=0.400).
Trust in people and institutions influences both happiness and life satisfaction within the third sub index focusing on life perspectives. The highest correlations were found in relation to people's fairness, trust in the National Parliament, trust in the Legal system and the level of the GDP. The lowest correlation was established with trust in the European Parliament. Furthermore, we found that trust in people increases individual's personal comfort. Trust in institutions is a way to feel secure that those institutions could guarantee opportunities for improving the standard of life and life satisfaction, respectively.
The correlations between the happiness index and the GDP underpins our thesis that happiness, as a sociological category, is formed by more long-lasting factors, not by momentary rises or falls in the economy. The registered high correlation between the happiness index and the GDP placed the post-socialist countries behind the other EU members for both happiness and the GDP.
In the European context, the strongest determinants of happiness are age, health, income, religion and education. They have different relative weight in the different countries, but invariably are the leading factors. Young, educated Europeans are happier than older ones and without any doubt those in good general health are much more receptive to happiness and dominate as numbers within the quota of happy people.
We have proven that being content with life doesn't always mean being happy, and vice-versa. The data clearly shows that happy people in all selected countries are more than those who are satisfied with their lives. Happiness is much more than just liking life in general. It is apparent that one can be happy even when her or his life is not ideal. To be happy usually means to feel confident in what you are, to feel free to express yourself in your social surroundings, to be supported and respected by people important to you, and many other things. One feels happy, when is what s/he wants to be, where likes to be and with whom is pleased to be. However, happiness means different things to different people and also means different things for the same people at different times. And this is not a paradox of happiness – it is happiness itself.

Key words: European Social Survey (ESS). Happiness. Life satisfaction. Well-being. Happiness index. Happiness measurement. Trust in people and institutions. Machine learning. Data science. Survey research. Random forest analyses.

Conceptual background

Since the first opinion poll of happiness (conducted in The Philippines in 1945), and the popularization of Positive Psychology in 2002, the interest of how many people feel happy has greatly increased. Not only psychologists and social scientists, but also researchers and experts from almost all socio-political, cultural and economic areas, as well as even policy and opinion makers have contributed to a better understanding and a more reliable measurement of the topic of happiness. (See: Seligman, 2002; Bin, 2019; Coupe & Obrizan, 2016; Durand & Exton, 2019; Goff,

Helliwell, & Mayra, 2018; OECD, 2017; Peasgood, Foster, & Dolan, 2019; Dimova & Dimov, 2010; Tilkidgiev, 2006 and many others)

However, the scientific community still seems to be far away from a commonly adopted, unified definition for happiness and its measurement. Some researchers claim that the measurement of happiness "is in a hot mess – it's inaccurate, incomplete, and often inappropriately interpreted" (The 6 Simplifications of Positive Psychology, 2019).

In spite of this, today we have considerable data sets and numerous in-depth analyses. Countries have been ranked according to their Gross National Happiness (GNH) together with their Gross Domestic Product (GDP). World Happiness Reports are published annually, World Happiness Summits take place regularly, the OECD publishes its *'How is Life'* reports, (standardizing to a large extent the ways in which the statistical data on happiness could be reliably collected), there is also the Bhutan Happiness Scale, the Subjective Happiness scale and many other research and analytical approaches, as well as constant studies that expolore happiness. Ultimately, however, none of these really measures personal happiness adequately enough.

As some OECD reports point out, happiness is not only an attractive area for scientific investigation, it is also an important indicator of the state of the national and regional economy, of the level of democracy, and the living standard in different parts of the globe, and of many other components of people's lives. Regardless of certain significant theoretical and research achievements in the last century, there are many 'white spots' and paradoxes related to happiness still waiting for a scientific explanation.

The paradoxes of happiness come mainly from the different definitions and different measurement approaches that often lead to contradictory data or to incorrect interpretations. For example, money is often used as a barometer of happiness and well-being. However, many people who report strong feelings of happiness and high life satisfaction, who state that they live well, are poor, in bad health, or feel lost (See: World Happiness Report 2019). The OECD in their annual "How is life" reports also warn that in general when we ask, "how satisfied are you with your life?" or "how happy are you?" we capture only a part of the story.

There are at least two problematic issues related to the scientific research of happiness: *definition* and *measurement*. More than 2,000 definitions of happiness exist, and it is really a challenge to use the one that is closest to the preliminarily defined purpose. The formulation we have utilized here was that *happiness is a subjective positive feeling of satisfaction now and here and indicates whether one lives well according to his/her own values or priorities and within his/her comfort zone.* Happiness is a positive emotional result of complex factors influencing one's life, making it happy or not – and from this perspective we could speak of a global judgment of life satisfaction. We keep in mind what positive psychologists like Seligman often warning; that *happiness means different things to different people and also means different things for the same people at different times.*

A significant issue in defining and measuring happiness, is how to distinguish the three categories which are very close to each other in meaning: *happiness, wellbeing* and *life satisfaction.* Some researchers suggest that the terms are synonymous, whereas others note that there are major differences, based on which dimensions are independent and contribute most to well-being (Veenhoven, 2008).

We support the view that these categories are close in meaning but are not synonymous. While we accept the lack of consensus around a single definition of happiness regarding well-being and life satisfaction, we think that as a minimum *well-being* includes the presence of positive moods, the

absence of negative emotions, and a satisfaction with life. Well-being could be described in simple terms as judging life positively and feeling good, while life satisfaction indicates how much one lives in his or her comfort zone (Diener's et al., 2009). For Davis (2016) well-being is the experience of health, happiness, and prosperity. In more general terms, well-being is accepted as *just feeling well.*

Happiness itself is more than simply a positive mood, it is a state of well-being that encompasses living a good life, and a deep contentment. Many surveys discover (Decancq, Fleurbaey, & Schokkaert, 2015) that people rate happiness higher than other desirable personal outcomes; such as becoming rich and having a meaningful life. Researchers find that achieving happiness typically involves a period of considerable discomfort – for example, poverty, loss of a close person, social isolation, career downs... Money is important to happiness, but only to a certain aspect – it buys freedom from worry about the basics in life, but happiness is much more and much broader.

The closest to our view is the position of Ruut Veenhoven (2008) who points out that the universally shared understanding of happiness comes down to judging how much people like their life overall, and how they assess the quality of their lifestyle.

In this analysis we work with the *sociological interpretations of happiness*. Happiness is perceived not as momentary joy but how much people are positively satisfied with what they have overall achieved in their life as a whole, to what extend they feel comfortable in their living environment, and whether they view the future with the possibilities and perspectives to realise their life goals. The stress is on positive emotions; *positiveness is a key point in analysing happiness*. The graduation of positive feelings in one's personal life could be ranked, as follows: contentment – satisfaction – happiness. With other words, we distinguish well-being, life satisfaction and happiness; so to us they cannot be synonyms.

The issue of **happiness measurement** is also extremely complicated and closely related to the definition used. Many approaches are widely used to measure happiness levels in a national and cross-national context. Among the most reliable could be mentioned the Panas Scale (Watson, Clark and Tellegen), the Oxford Happiness Inventory (Argyle & Hill, 2002), the Subjective Happiness Scale (Lyubomirsky & Lepper, 2002), the Satisfaction with Life Scale (Deiner, Emmons, Larsen, and Griffin). The World Value Survey (WVS), the European Value Survey (EWS). The European Social Survey (ESS) also measure happiness, implementing different research scales.

Our analysis is based on ESS R8 data, collected in 2016/2017 in 11 purposely selected European ESS countries.

The analysis construct: ESS indicators for happiness measurement

The list of theoretical and research measurement approaches is endless, but what we have accepted is the understanding that happiness indicates the positive emotional harmony with oneself, i.e. with a) personal status; b) living conditions and c) life perspectives. Our main research questions are: how many people in different European countries feel or do not feel happy and why; what the main factors influencing their sentiments are, what the strongest impact on them is, and how different parts of Europe compare to each other. To answer these questions, we have constructed a happiness index in an attempt to measure quantitatively the proportion of happy people in different countries, focusing on their individual profiles and taking into account the national and cultural effect.

There are two underlying conditions and restrictions to our analysis: a) countries' selection and b)

variable indicators for designing the happiness index.

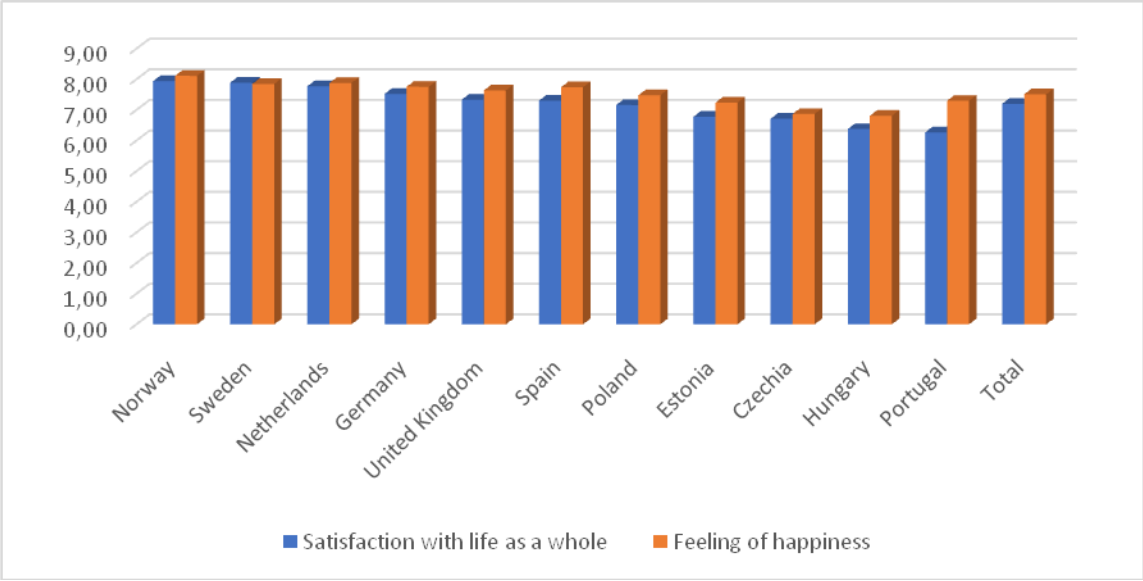
At the beginning we selected 11 European countries. The main criteria for choosing them were: a) geographical location (i.e. North, Central, South); b) socio-political background (East v/s West, post-socialist v/s others); c) economic development. On the basis of all those factors we have selected: Spain, Portugal, The UK, Germany, The Netherlands, Hungary, Estonia, Norway, Sweden, Poland and The Czech Republic.

As for the indicators, we have used those in the core module of the ESS and implemented three main approaches for measuring happiness – a) direct; b) indirect; c) combined.

Two direct items are included in the core ESS questionnaire to measure global cognitive judgments of one's feeling of happiness and of life satisfaction. (See: European Social Survey). The first one is related to *life satisfaction*. An 11-point scale is designed ranking from 0 = extremely dissatisfied to 10 = extremely satisfied with current life as a whole. The second direct question has a similar 11-point scale from 0 = extremely unhappy to 10 = extremely happy. We have used them for a constant basis and went deeper measuring the happiness; keeping in mind that happiness and life satisfaction do not coincide – either theoretically, or empirically.

Several things stand out in cross-national comparisons with the ESS data of those two direct items (Picture 1).

Picture 1: Happiness and Life satisfaction by countries (Mean where: 0=negative and 10=positive values)



Similar to the World Happiness report 2019 we found a North - South cleavage of Europe, i.e. more people in the Northern countries (Norway, Sweden, The Netherlands) feel happy and satisfied with their life as a whole compared to Southern Europeans.

Furthermore, data provides empirical evidence that happiness is not equal to life satisfaction – neither in daily life, nor in more general perspectives. In all countries, people who feel happy are

more than those satisfied with their lives. In other words, one could feel happy even if not totally satisfied with his or her life as a whole. Is it one of the happiness paradoxes or is it just its element? For us it is an essential part of the happiness phenomenon – yes, one's life could not be as desired, nor completely what it is expected to be, but in general there are many other things like love, children, friends, etc. that produce happiness and make people feel emotionally comfortable.

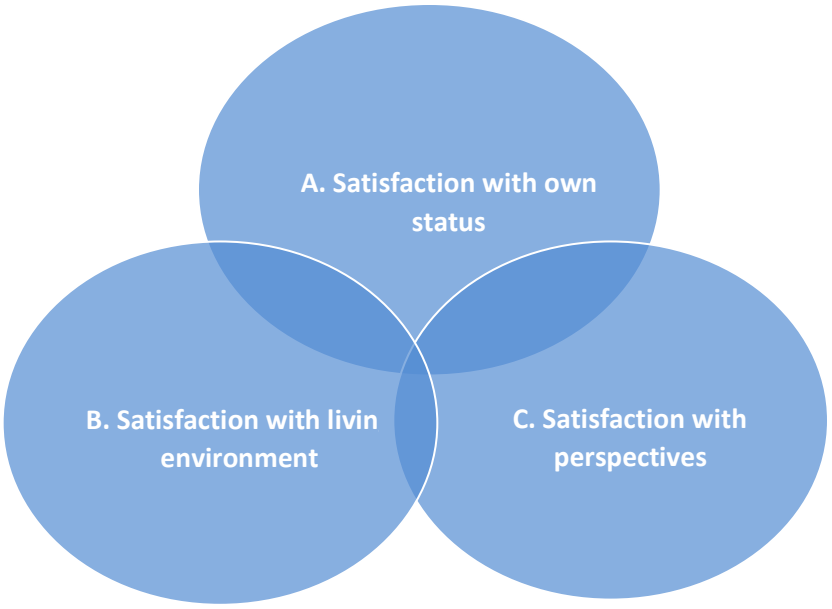
What makes and keeps people happy?

The core research question is what makes and keeps people happy. Trying to answer this question, we have constructed *three basic groups of indicators united in three basic groups.* In our construct, when summarized, they lead to the self-assessment of a *"happy life",* which is a concentrated expression of *emotional satisfaction with life as a whole*, but not only that. We have applied a broad approach in our model and included a total of 25 indicators for measuring the feeling of happiness. All of them are part of the ESS core module and are repeated in every single wave of the survey. It gives a good chance not only to measure concrete level of happiness in a specific part of Europe, but also to follow the time dynamics, to analyse the happiness situation in different countries in different years, and in different socio-demographic groups.

Each of these three groups were generalized as sub-indexes of satisfaction for the three separate spheres, which formed the generalized happiness index.

The aggregated model of happiness based on the above-mentioned indicators and groups of factors can be visually presented, as shown in Picture 2.

Picture 2: Sub-index groups of happiness and live satisfaction



Our hypothesis was that people who feel more or less happy in a sociological context, who are satisfied with their lives as a whole, are satisfied (though not to the same degree) with: a) their personal status; b) with their external surroundings (their socio-economic and political environment and living conditions); c) with the horizon they see in front of them. The different aspects of life, however, have different weight and power of influence on the overall emotional satisfaction and on the self-assessment as to how happy people feel.

Satisfaction with own personal status

We hypothesised that for a person to feel happy, he/she should strive to assess what they have achieved in life according to their own values and preferences. Foremost, this means being in good health, not feeling discriminated against, having friends on whom to rely, and not having financial difficulties. In essence, all the things that make a person a unique individual and that distinguish them from the others, while rendering them part of a community or the whole society. In the three sub-index groups we have included the variables of direct measurement of happiness and of today life satisfaction.

The factor indicators we have used in this first sub-index group were the following:

A. Generalized satisfaction with personal status

- Happiness
- Life satisfaction
- Close friends
- General health status
- Serious health problems
- Belonging to a discriminated group
- Belonging to a minority ethnic group
- Living standard

For each of the indicators listed above we have separately calculated the correlation coefficients. The main idea here was to trace the level of mutial dependency between variables i.e. the degree to which one factor is *"explained"* by another in order to control it. In this way we have obtained some indications as to whether the total (aggregated) index contains artificially elevated levels of correlation, which would mislead us when analysing the data. The obtained correlation dependencies between happiness and satisfaction with personal status are presented in Table 1.

Table 1. Correlation matrix for generalized satisfaction with personal status

	1	2	3	4	5	6	7	8
1. Happiness	1							
2. Life satisfaction	.690**	1						
3. Close friends	.229**	.218**	1					
4. General health status	.342**	.355**	.168**	1				
5. Serious health problems	.246**	.244**	.096**	.591**	1			
6. Belonging to a discriminated group	.095**	.109**	-.007	.064**	.079**	1		
7. Belong to a minority ethnic group	.022**	.050**	.023**	.026**	.016*	.246**	1	
8. Living standard	-.192**	-.255**	-.176**	-.178**	-.069**	-.008	-.040**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

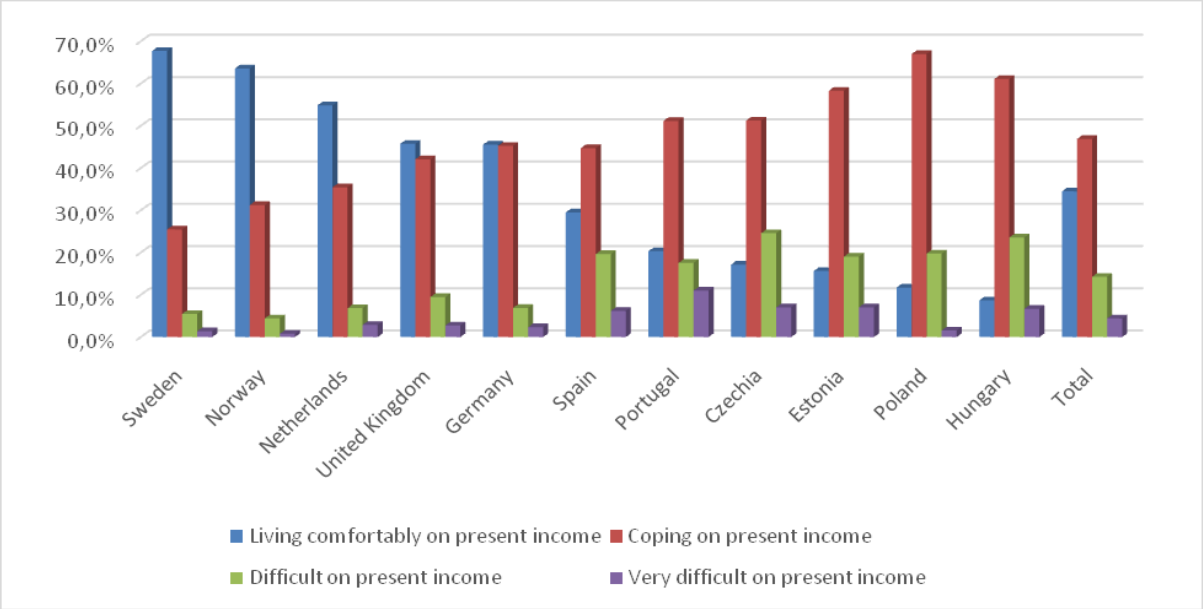
(Sample size n= 20412, Spearman correlation coefficients)

The figures above suggest that people tend to feel "happier" with their lives than more "satisfied". People introduce some *positive emotional* contentment in their understanding of happiness, and this is more than satisfaction with life, even with life in general. There seems to be other factors, which are important for them and for how comfortably they feel. Therefore, it is not possible to put a stress of equality between the two, they are not the same – if for no other reason, than merely because two different components are involved: the positive emotional one (for happiness) and the cognitive one (for satisfaction). Despite the strong correlation between them (r=0.690), the two indicators are not interchangeable.

The correlation matrix indicates different strength of factor's influence on happiness and on life satisfaction. The same factors are correlated differently with the feeling of happiness and of satisfaction. The correlation ranking of happiness starts with the health status, followed by health problems and close friends (i.e. people, close enough to discuss intimate and personal matters – r=0.229). The correlation ranking of life satisfaction also starts with the health status, but here living standard (r=0.255) comes second. The standard of living is more important for life satisfaction than for happiness. Data indicates a higher correlation between standard of living and life satisfaction (r=0.255) than between standard of living and happiness (r=0.192). However, neither happiness, nor life satisfaction go together with poverty (Dimova, 2009).

Looking at ESS data on well-being, i.e. how people live with their incomes in the international comparative aspect, one of the reasons why less people from South-East countries feel happy compared to North-West countries stands out clearly (Picture 3).

Picture 3: How Europeans live on the income they receive (%)



Over a half of the Northern old democracies live comfortably on the income they receive, and less than 5% face financial difficulties. Unlike them, about one fifth of Southern Europeans, including Portugal, and post-socialist countries have material problems – mostly in The Czech Republic and Hungary, but also in Estonia and Poland. One explanation of this would be to look in more details at actual frequencies. In Portugal one in ten people reports that they 'hardly makes ends meet', which could explain to a large extent why the Portuguese are at the bottom of cross-national comparisons regarding life satisfaction as compared to other countries (Picture 1).

The role of the socio-political living environment

The living environment, in its broadest sense, has an impact also on the feeling of happiness. Personal status itself is the result of both efforts one makes *and* of the opportunities that the living environment allows for development and improving one's quality of life. That is why we examine them separately. In this second sub-index group of factors influencing happiness, we have included the following indicators:

B. Generalized satisfaction with the living environment

- Happiness
- Life satisfaction
- Satisfaction with the economy
- Satisfaction with the government
- Satisfaction with democracy
- Satisfaction with the education system
- Personal safety in the living place
- Immigrants' effect on the country
- Satisfaction with the healthcare system

Table 2: Correlation matrix for satisfaction with living conditions and happiness

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1. Happiness	*1*								
2. Life satisfaction	*.690***	*1*							
3. Satisfaction with economy	*.291***	*.400***	*1*						
4. Satisfaction with the national government	*.194***	*.254***	*.588***	*1*					
5. Satisfaction with the way democracy works	*.241***	*.311***	*.552***	*.631***	*1*				
6. Satisfaction with education	*.183***	*.219***	*.366***	*.350***	*.405***	*1*			
7. Satisfaction with health services	*.208***	*.259***	*.393***	*.354***	*.403***	*.456***	*1*		
8. Immigrants make country worse/better place to live	*.221***	*.217***	*.206***	*.173***	*.266***	*.102***	*.174***	*1*	
9. Security in the living place	*.176***	*.182***	*.152***	*.097***	*.171***	*.101***	*.125***	*.198***	*1*

* Spearman correlation coefficients have been used
** Correlation is significant at the 0.01 level (2-tailed)

(Sample size n= 20412, Spearman correlation coefficients)

The highest effect on happiness is the state of the economy, the state of democratization of the society and the impact of migration on a country's life. For the life satisfaction, the same factors appear to be even stronger. In general, the living environment plays a stronger role for one's life satisfaction than for the feeling of happiness. In both aspects, the state of the economy leads the ranking with the highest correlations (respectably r=0.291 and r=0.400). Political elements like satisfaction with the national government and with democracy have a higher correlation with life satisfaction than with happiness. Happiness seems to be a very personal, very inner, very sensitive and fragile feeling. On the other hand life satisfaction could be demonstrated and freely shared with others.

Satisfaction with life perspectives – a matter of trust

When defining the third factor group (*generalized satisfaction with life perspectives)* we were referring to factors and conditions that in one way or another influence and define the future. Trust, in this context, is present to a considerable degree, in order to see an open horizon in front of themselves, not a barrier, people should be surrounded by trust and should themselves emit trust. A prerequisite for feeling happy is not to be encapsulated in a certain social environment but to be *open* to wider social circles, not to perceive people with suspicion, but to look upon institutions trustingly, expecting that they can guarantee one's security. Optimism for the future, for a secure tomorrow, is a necessary condition for feeling happy today. That is why in this factor group we included the following indicators:

C. Generalized satisfaction with life perspectives

- Happiness
- Life satisfaction
- Trust in people
- Trust in people's fairness
- Trust in people's helpfulness
- Trust in the National Parliament
- Trust in the legal system
- Trust in police
- Trust in politicians
- Trust in political parties
- Trust in the European Parliament
- Trust in the United Nations

The correlation coefficients between happiness and each of the listed factor indicators in the life perspectives group are given in Table 3. Optimism about the future has the highest value, and, respectively, the greatest weight in the happiness "formula". The grounds for optimism, i.e. for a positive view of what is to come, emerges as an exceptionally important prerequisite for a happy life. The horizon ahead is a matter of trust – in people, in national institutions, in international bodies.

Table 3: Correlation matrix for satisfaction with life perspectives and happiness

	1	2	3	4	5	6	7	8	9	10	11	12
1. Happiness	1											
2. Most people can be trusted	.212**	1										
3. Most people try to be fair	.242**	.568**	1									
4. Most of the time people are helpful	.193**	.473**	.486**	1								
5. Trust in the National Parliament	.214**	.362**	.332**	.319**	1							
6. Trust in the legal system	.205**	.356**	.313**	.327**	.661**	1						
7. Trust in the police	.234**	.281**	.282**	.265**	.468**	.608**	1					
8. Trust in politicians	.180**	.359**	.323**	.344**	.737**	.617**	.444**	1				
9. Trust in political parties	.179**	.353**	.315**	.332**	.709**	.589**	.414**	.869**	1			
10. Trust in the European Parliament	.156**	.269**	.244**	.231**	.546**	.491**	.407**	.583**	.592**	1		
11. Trust in the United Nations	.167**	.274**	.268**	.238**	.507**	.475**	.406**	.498**	.511**	.681**	1	
12. Life satisfaction	.690**	.249**	.273**	.230**	.265**	.260**	.255**	.237**	.227**	.181**	.188**	1
**. Correlation is significant at the 0.01 level (2-tailed).												

(Sample size n= 20412, Spearman correlation coefficients)

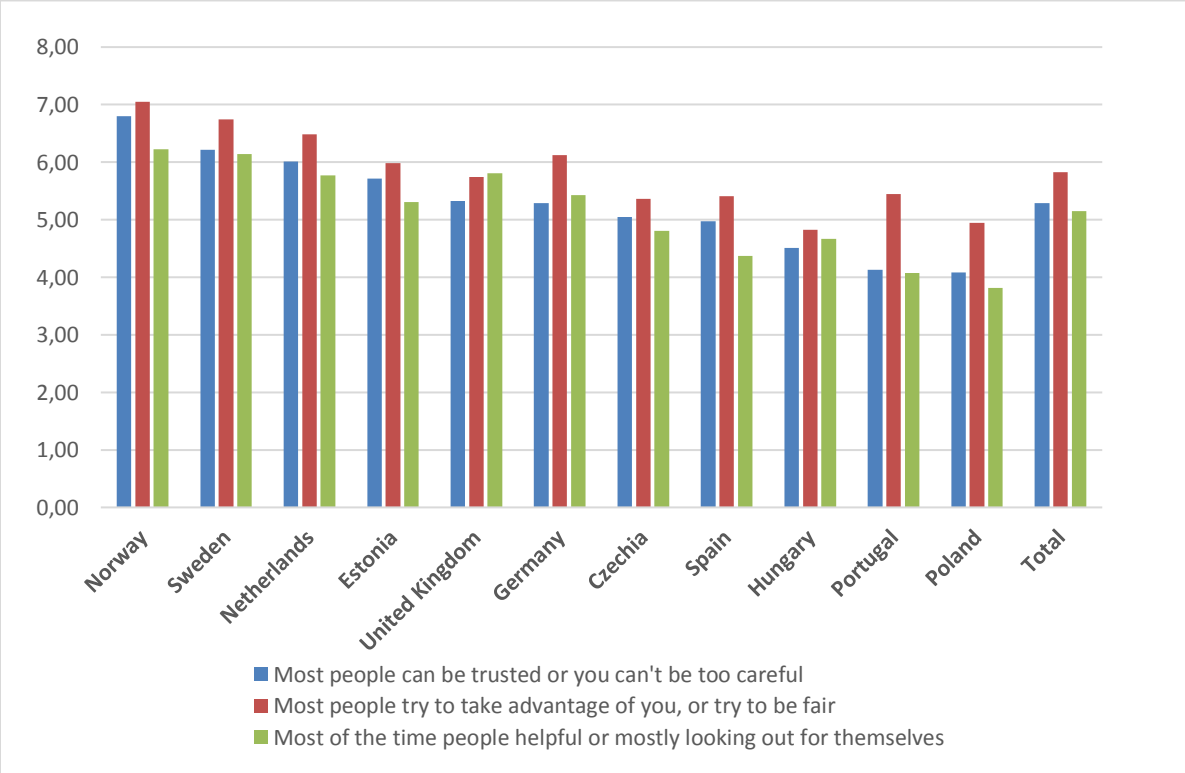
Trust in people and institutions influences both happiness and life satisfaction but not equally. We have found the highest correlation of life perspectives in relation to people fairness, to the trust in the National Parliament, and in the legal system. In a comparative sense the lowest correlation was established between happiness and the trust in the European Parliament. Trust in people increases an individual's personal comfort. Trust in institutions is a way to feel secure that those institutions could guarantee opportunities for improving the quality of life and life satisfaction, respectively. The correlation is bidirectional – "good people" support the feeling of happiness, providing social comfort and a friendly atmosphere around individuals. Happy people, on their part, tend to see good things, good in people and positive aspects of institutions, in their surroundings.

The European parliament and especially the United Nations are perceived further from one's life and could have only an indirect effect on personal perspectives for improvement.

Cross-national comparisons repeated the previously indicated outputs of a strong North – South cleavage among the European countries. That is valid both for trust in people and for trust in institutions.

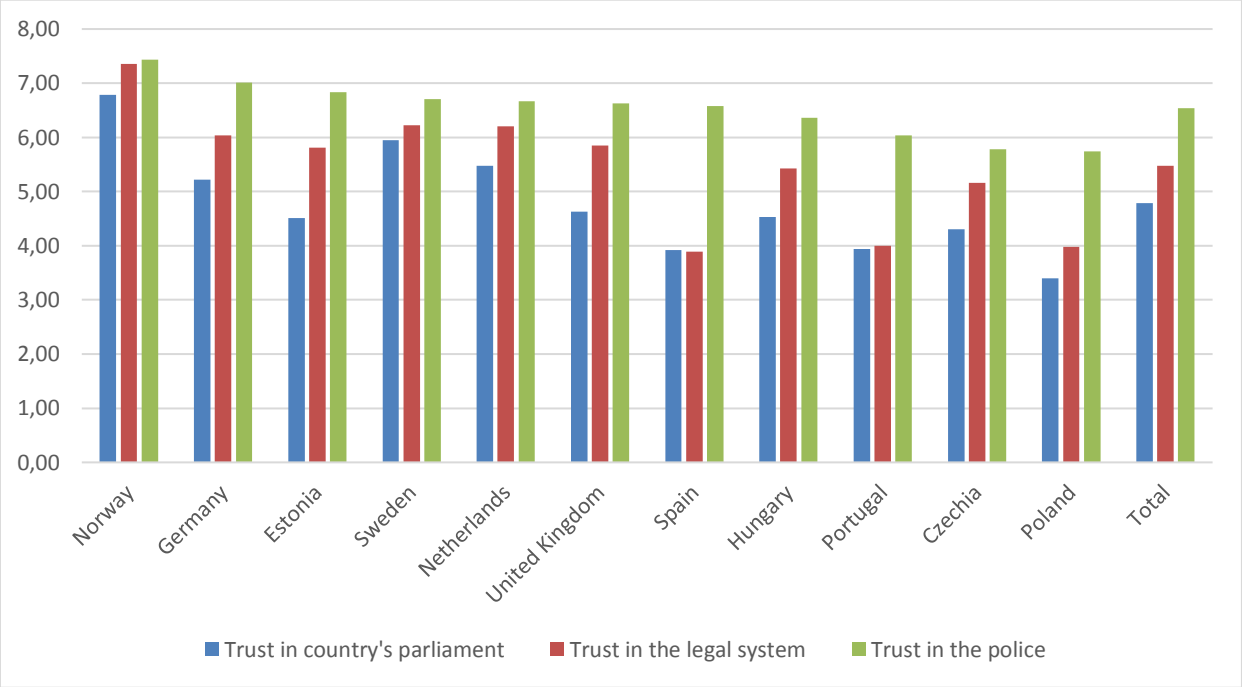
International comparisons put Norway, Sweden and The Netherlands on the top of ranking concerning trust in people. In Picture 4 are the *means* of answers based on the 11-point scale where the higher the values are the higher the trust is. In other words, more North Europeans feel surrounded by people that can be trusted, that try to be fair and that are helpful compared to those on the other pole where people tend to be more suspicious about others.

Picture 4: Trust in people (Mean where: 0=negative and 10=positive values)



Trust in national institutions lead to similar conclusions (Picture 5). Countries that respect their national institutions, mainly the Parliament, police, legal system, could be found more often in Northern Europe than in the South or in the post-socialist regions.

Picture 5: Trust in National institutions (Mean where: 0=negative and 10=positive values)



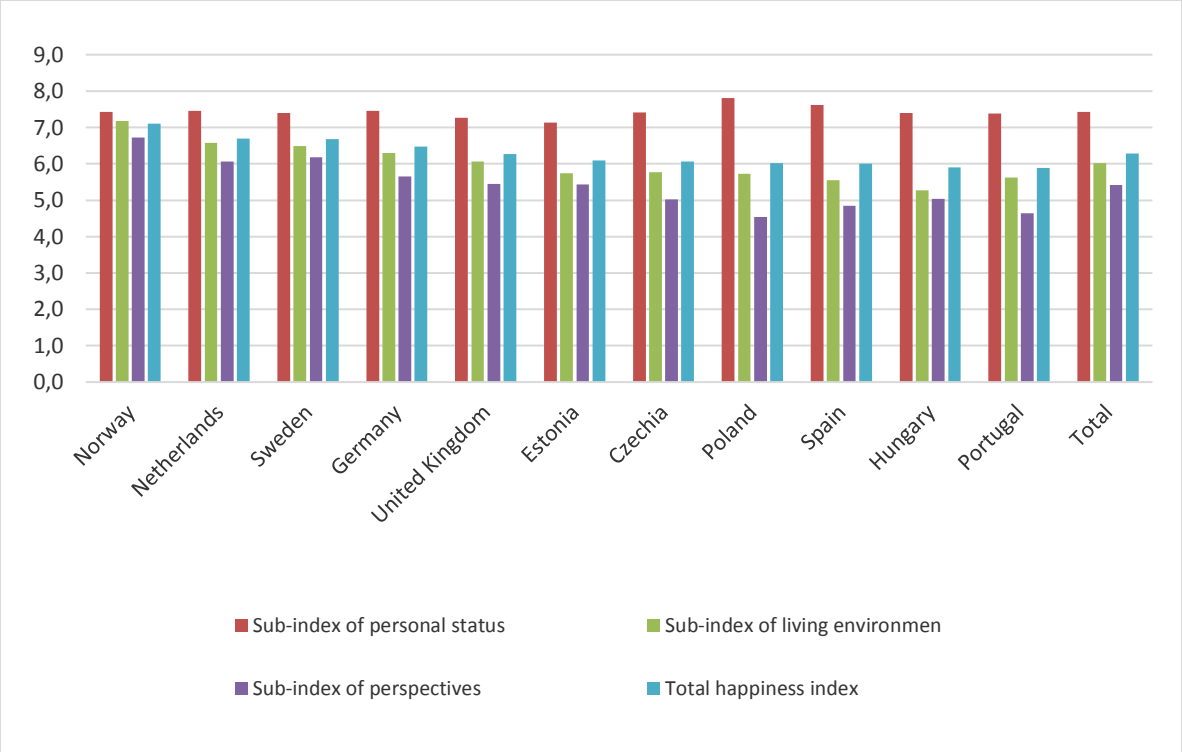
The most trusted institution all over Europe is the police. By ensuring their safeness and security people see opportunities to have a decent life and good life perspectives. Trust in the police has the highest correlation with both happiness and life satisfaction compared to other factors, even to the trust in people.

Alternatively, trust in the national parliaments varied significantly between countries and geopolitical location. Northern countries (Norway, Sweden and The Netherlands) respect their Parliaments and their legal systems much more than Spain, Portugal and, especially, Poland. The situation in Estonia and Hungary is closer to the average among the selected countries than to the other post-socialist nations. A possible explanation could be the national policy against immigrants.

The General happiness index

On the basis of the three sub-index groups discussed above, we have calculated the general happiness index across different countries (Picture 6) which indicates how happy people feel according to their status, living conditions and life perspectives.

Picture 6: Happiness index by sub-indexes and countries



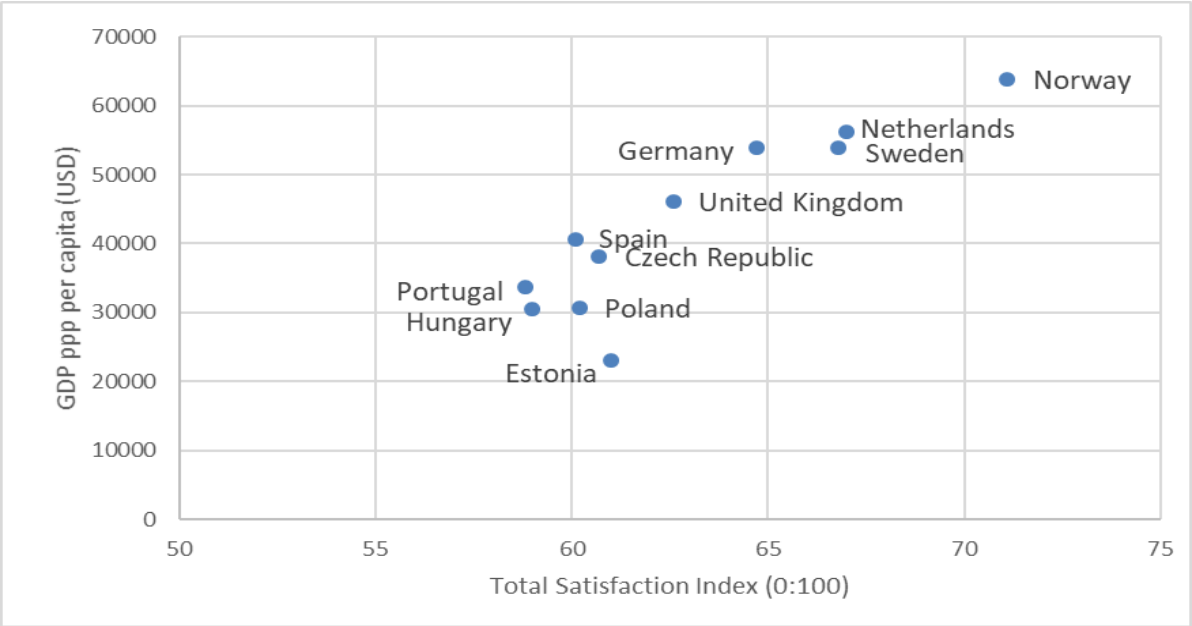
Both the separate sub-indexes and the total one assume values ranging from 0 to 10, where those closer to 0 correspond to the lowest degree of happiness and those near or at 10 to the highest. One of the basic conclusions is that the general satisfaction with personal status is the strongest driver to a generalized happiness index. The levels of this sub-index group do not vary significantly across countries, which indicates that the index is not dependent on the momentary states of the economy or democracy. We plan to analyse that output in a deeper way in our forthcoming work.

The other two sub-indexes, however (general satisfaction with living conditions and general satisfaction with life perspectives), draw the total value of the whole index upwards or downwards according to the socio-economic environment and the perspectives for improvement. Overall, the strongest impact on happiness is that of the first sub-index groups (generalized satisfaction with personal status). The second strongest impact is that of the factor group of life perspectives, and the living conditions rank third.

Different levels of the happiness index demonstrate that for a person to be happy one must first of all be emotionally satisfied with what s/he is, what have achieved, and what is striving for. More specifically, the leading position in the formula for happiness is that of the generalized satisfaction with well-being and with the perspectives of improvement, or at least that it will not be deteriorated.

The correlations between the happiness index and the GDP confirm our finndings once again from a different viewpoint – here the happiness index is correlated with the official statistical data (Picture 7).

Picture 7: Dependency of happiness index on Gross Domestic Product (2018)



Source: IMF, 2019

The two indicators (happiness index and GDP) are linearly correlated: the higher the GDP, the higher the happiness index. This once again confirms our thesis that happiness, as a sociological category, is formed by more long-lasting factors, not by momentary rises or falls, including those of the economy. Also, what is interesting in this case are the positions of post-socialist countries in the middle of the graph; they are located around the middle levels of both GDP and happiness. In other words, they still must "catch up with" the other EU members for both happiness and the GDP.

The importance of socio-demographics for the happiness

To understand what drives happy people to feel this way, we have used a machine learning algorithm for ranking the most important factors. Random Forest was our preferred choice. This data science technique helps to weed out certain predictors which are contributing less in explainign the dependent variable. The final predictions of the random forest were made by assembling the predictions of around 1000 individual regression trees.

Here, we have used the constructed general happiness index as the dependent variable. The independent variables we have selected were the key socio-demographic characteristics which could influence the feeling of happiness:

- Age
- Sex
- Education
- Domicile
- General health
- Income
- Religion
- Main activities
- Having children
- Members of household

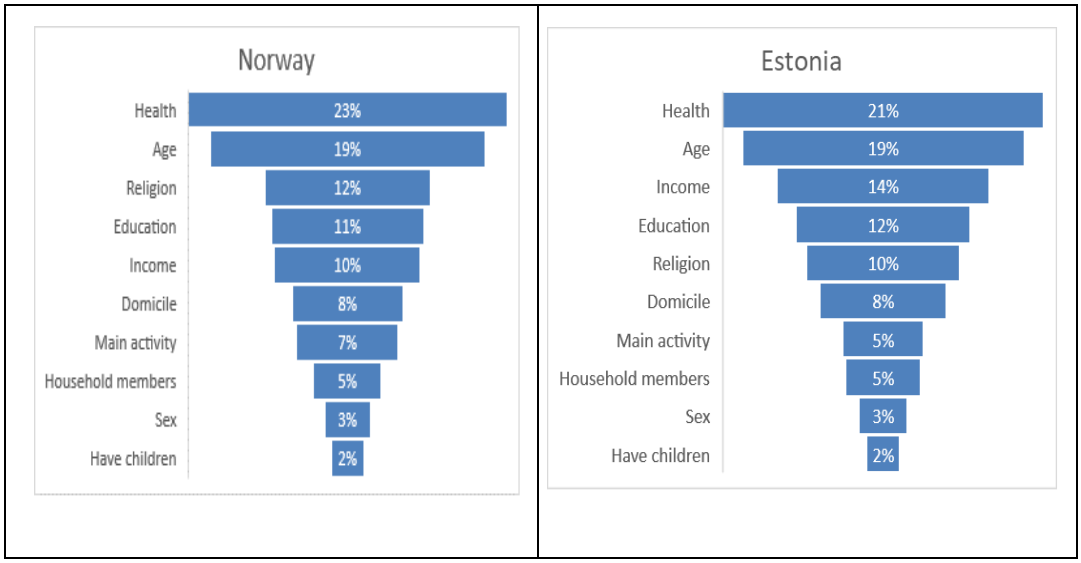
We have implemented one model for each selected country and compared the ranking of variables' importance for the happiness index. Our goal was to discover the differences and similarities between European countries located in different parts of the continent. The key research question here was which of the socio-demographics plays the most important role for happiness.

Drivers' rankings were calculated for each selected country and were rescaled to unified measurements to enable cross-country comparison.

Previously identified differences along the North-Central-South axis in combination with the East-West and post-socialist - old democracies and economies discrepancies, have been confirmed once again. For example, in the "happiest country", Norway, the greatest emphasis for people to feel happy falls on health. Health is also at the top of the ranking in Sweden, the UK, and the Netherlands – all located in Northern Europe.

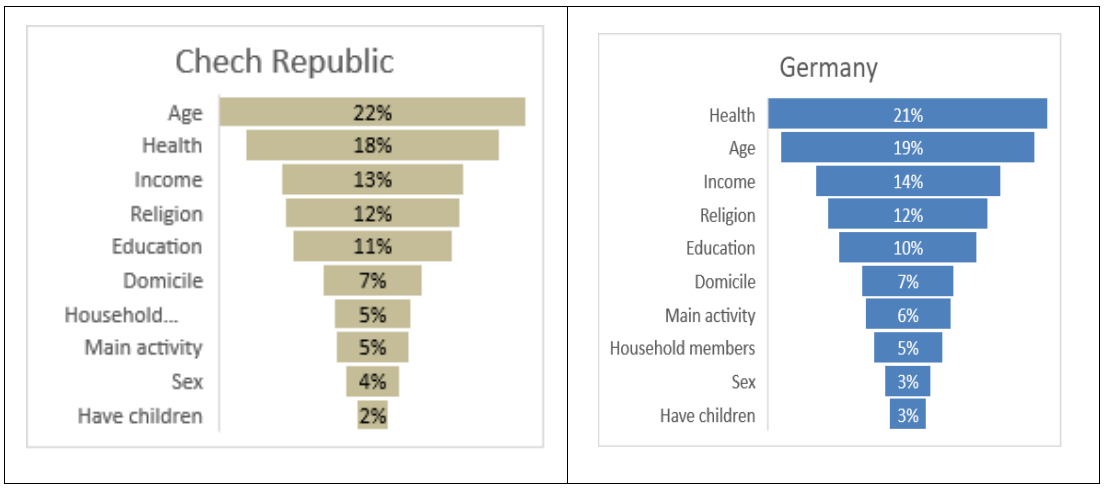
The most significant differences between two Northern countries – Norway and Estonia are related to income (Picture 8). Norwegians are sufficiently rich and for them income is not that important as for the Estonians to feel happy. The good general health is the key to happiness in both countries, but the positions of religion and income are swapped. In these comparisons the post-socialist effect seems to be more important than the North's.

Picture 8: Variable importance towards the happiness index in Norway and Estonia (%)



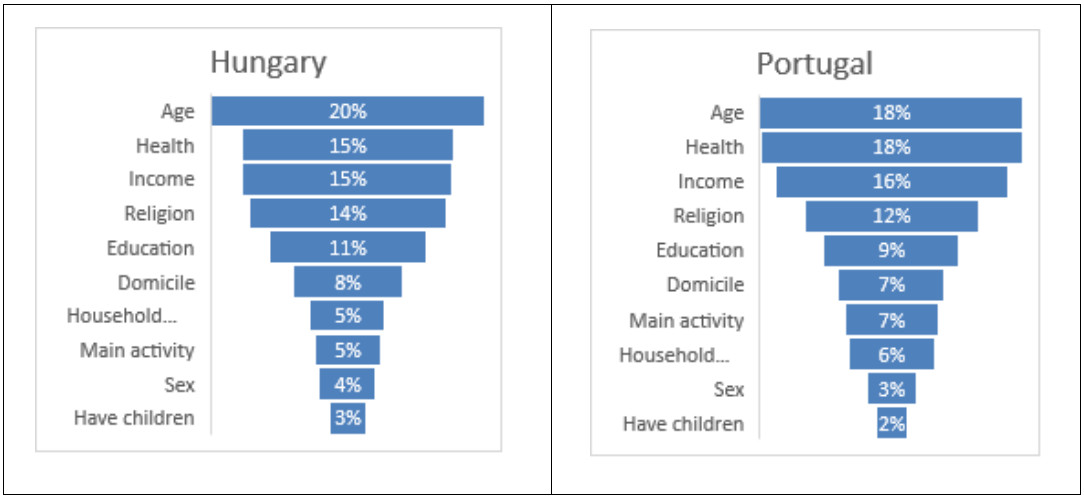
In Central Europe, differences are observed mostly along the East – West axis. Age and health lead the ranking in Germany and in the Czech Republic, despite being swapped, while income, religion and education occupy the same positions from 3 to 5, but with small differences in the percentage distributions (Picture 9).

Picture 9: Variable importance towards happiness index in The Czech Republic and Germany (%)



In Central, Eastern and Southern Europe the picture is slightly different. Here, countries are relatively not so wealthy, with less happy people than those in the North. In Hungary and in Portugal, income, despite ranking 3rd in both countries, has the highest percentage compared to all other selected countries (Picture 10).

Picture 10: Variable importance towards happiness index in Portugal and Hungary (%)



In general, in all selected European countries, the list of the top importance ranking is lead by five socio-demographics – *age, health, income, religion and education*. Their relative weight differs across individual countries, but invariably lead the overall rankings. Much less important for happiness are the other chosen socio-demographics – living place, sex, family composition, main activities, and having children.

Conclusion and further discussion

The proposed methodology provides the initial step towards the general overview of a conceptual theory of happiness and satisfaction. It sets the measuring parameters and provided operationalized indexes. Our approach underpinned the dynamics across multiple different societies, holding accountable the specific conditions and different environment of people's perceptions. Although we have managed to establish a set of numeric measuring tools, we are still missing the statistical depth and the thorough mathematical support of the results. Although the modelling was not part of the initial idea, we've still provided some results based on machine learning techniques. Thus, established the bulding ground for future scientific attempts in this area. The next important steps would be to look a bit deeper into main factors driving happiness and satisfaction, penalizing some the most influential ones, determining the effect sizes and looking into more specific cases using the latest ML and AI techniques.

Another parallel line of research would be to increase the size of the dataset and incorporate more varied samples to ensure that the suggested model is more adaptable to new environments.

We have proved that being content with life doesn't always mean being happy, and vice-versa. The group of respondents who are happy is larger that the group of respondents who are satisfied with their life. Furthermore, happiness appears to be much more than just liking life in general. It appears that one can be happy even when her or his life is seriously beyond the ideal model of what it should be. And this is not the paradox of happiness – it is the happiness itself.

The happiness index demonstrates that, for a person to be happy, one must first of all be emotionally satisfied with what s/he is, what have achieved, and what is striving for. More specifically, the leading position in the formula for happiness is that of the generalized satisfaction with well-being, and with a hope of improvement, or at least that it will not deteriorate.

Happiness, as a sociological category, is formed by more long-lasting factors, not by momentary rises or falls, including those of the economy. The registered high correlation between the happiness index and the GDP placed the post-socialist countries in the middle of the middle levels of both GDP and happiness. Young, educated Europeans are happier than older ones, religious people see more reasons to be happy compared to those for whom God either does not exist or is not so important to their lives, and without any doubt people enjoying good general health has a good basis for happiness. The top importance ranking for happiness consists of five socio-demographics – age, health, income, religion and education. They have different relative influence in different countries, but invariably lead the rankings.

In general, our analyses empirically proved the split of Europe on the North-Central-South axis in combination with the East-West and post-socialist – old democracies and economies discrepancies. We found a strong North - South division, i.e. more people in the Northern countries (Norway, Sweden, The Netherlands) feel happy and satisfied with their life as a whole compared to Southern Europeans, particularly to Portugal. Furthermore, data provides empirical evidence that income is a less important factor for happiness in wealthy Northern countries than for less well-off societies in the South. In Central Europe, age appears a little more important than health. The case of the Czech Republic, as well of Germany has a comparatively typical distribution of variables' importance towards happiness.

All of the above leads to an important question: Is feeling happy, but not quite satisfied with life

could be one of the happiness paradoxes or it is just one of its elements? For us it is an essential part of the happiness phenomenon – yes, one's life may not be as desired, not completely what it is expected to be, nor ideal and with lots of ups and downs, but in general there are many other things like love, children, friends, etc. that induce happiness and make people feel emotionally comfortable. One feels happy, when is what s/he wants to be, where likes to be and with whom is pleased to be. However, happiness means different things to different people and also means different things for the same people at different times. And this is not a paradox of happiness – it is happiness itself.

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i Abraham Maslow in the 1950's coined the term "Positive Psychology". He used it to draw attention to human potentialities as well as psychological afflictions. In 2002, Martin Seligman popularized Positive Psychology through his work Authentic Happiness, defining it as the study of positive emotions and the "strengths that enable individuals and communities to thrive." In his book Seligman, the father of the positive psychology, proposed three 'orientations' of being happy, or three kinds of happiness: 1) Pleasure; 2) Engagement; 3) Meaning.

ii For instance, the Happiness Measure (HM), also known as the Fordyce Emotion Questionnaire, uses two items to assess the intensity and frequency of happiness. This is done by measuring emotional well-being (or emotional health) as an indication of an individual's perceived happiness and as a component of social well-being (SWB).

Unlike HM, the Satisfaction with Life Scale (SwLS) has five items alongside seven-point Likert agree – disagree scales that assess the respondent's global judgment of life satisfaction.

The Temporal Satisfaction with Life Scale (TSWLS) assesses past, present, and future satisfaction in life to offer an accurate view of how a person's life is going regardless of time. It is the only scale which looks at predicting future life satisfaction.

The Subjective Happiness Scale (SHS) implements a four-item measure that assesses global individual happiness. In comparison to the HM, which evaluates the frequency and intensity of individual happiness and SwLS that measures the cognitive components of life satisfaction, the SHS scale measures subjective well-being on a global overall scale.

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ESS fieldwork in Slovenia: nine rounds of building a successful interviewer network

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BRODER, Živa – FALLE ZORMAN, Rebeka. ESS fieldwork in Slovenia: nine rounds of building a successful interviewer network. In *Človek a spoločnosť [Individual and Society]*, 2019, roč. 22, č. 4, s. 63-66. doi: http://doi.org/10.31577/cas.2019.04.563

Abstract:
Slovenia has been a member of the European Social Survey (ESS) from the first wave (2002). All nine waves so far were conducted by the same survey organisation (Public opinion research centre at University of Ljubljana). This stability may be a key in explaining the success in building a reliable interviewer network. Since the first few waves we have almost completely changed the interviewers' management and switched from students to professional interviewers. The difference is clear; mostly reflected in higher response rates and in the quality of obtained data. An 'ideal' interviewer in Slovenia is a woman (although we do have some very good male colleagues), middle aged, with family and other working obligations. Students in recent years, unfortunately, proved to be unreliable in terms of seeing interviewing as "easy money", while the professionals are well aware that their livelihood depends on the quality of their work.

Key words: Slovenia. Social survey. Fieldwork. Interviewer network. Response rate. Quality data.

Interviewers: characteristics and selection

When choosing interviewers for the ESS our survey organisation gives priority to our permanent verified collaborators. Due to specific ESS requirements we needed to expand our regular interviewers' network, so we recruited some new interviewers. We had a personal informal meeting with all new interviewers who were going to work for us for the first time, a few months before the final briefing. Since we were looking for people with experience our new interviewers were mainly acquired through the help of some other research institutions or agencies (such as National Statistics or marketing agencies). 55 interviewers were involved in ESS 2018, 17 were new, but all of them had some previous experience.

Our four top interviewers received a higher workload as they proved with their work in the past that they are crucial for gaining a quality response in more demanding areas. The minimum number of acquired units (seven people in one PSU) was one and the maximum

number was 12. The average number of received PSU per interviewer was five. We do not hire new interviewers during the fieldwork (unless absolutely necessary), but allocate the possible additional workload to the active interviewers in the field.

Most of the interviewers in ESS 2018 were women, the ratio was 20 % male - 80 % female. Nine interviewers were under the age of 30 (17 %), five were older than 61 (9 %). We had 20 interviewers between 31 and 45 years old (36 %) and 21 were from 46 to 60 (38%). Only two interviewers have completed a vocational school, while 54 % of them have higher education.

Experience, as mentioned before, is crucial for persuading respondents to participate. Almost two thirds of our interviewers (64 %) had 5, or more, years of experience, while only 19% had less than 2 years of face-to-face interviewing. 21 % of interviewers were working with us for the first time and 62 % had already participated in several surveys with our survey organisation.

More than half (54 %) of our interviewers had experience with similar surveys over the past three years, where they had participated in five or more similar surveys, a further 31 % had participated in at least one similar study. Most interviewers (59 %) did not combine ESS work with other similar surveys, while many interviewers combined interviewing with their regular work (27 %) and other part- time jobs (31 %).

The success of every interviewer primarily depends on the ability of his or her ability to persuade the respondent to participate, and secondly on the environment where this particular interviewer operates (urban or rural). Those interviewers who achieve higher response rates are assigned multiple PSUs for being the most efficient ones.

Fieldwork

An individual sample from the Central Slovenian Register with a respondent's full name, address and year of birth is a great advantage. We send letters in advance to respondents in accordance with our interviewers' work plans and progress in the field.

During the fieldwork, interviewers are regularly (at least once a week) informed about their progress. We encourage and motivate them, if necessary helping them with advice and trying to find the best solutions for any problems which may occur during the fieldwork. We are available for their inquiries practically every day of the week via telephone or e-mail. When monitoring their work, we try to give them positive feedback, including from the respondents (if we get one), and we regularly communicate to them their value to our institution. We also encourage interviewers to solve all problems on a regular basis, even if that means taking away some of their workload. Fortunately, in recent years, this has happened very seldom, which is good reason to continue with this established practice.

We engage our best interviewers in each region for reissues and conversions at the end of the fieldwork, i.e. those who have high response rates and have extensive experience with unreachable respondents or (light) rejections. We also assist them with reminder / motivation letters to respondents, where their name and phone number is written, so the respondents can contact them directly.

At the end of the fieldwork we thank all interviewers for their cooperation and invite them to join us in our future projects. We send them Christmas cards every year and at the end of each survey we invite them to an informal debriefing, where they can share experience from the

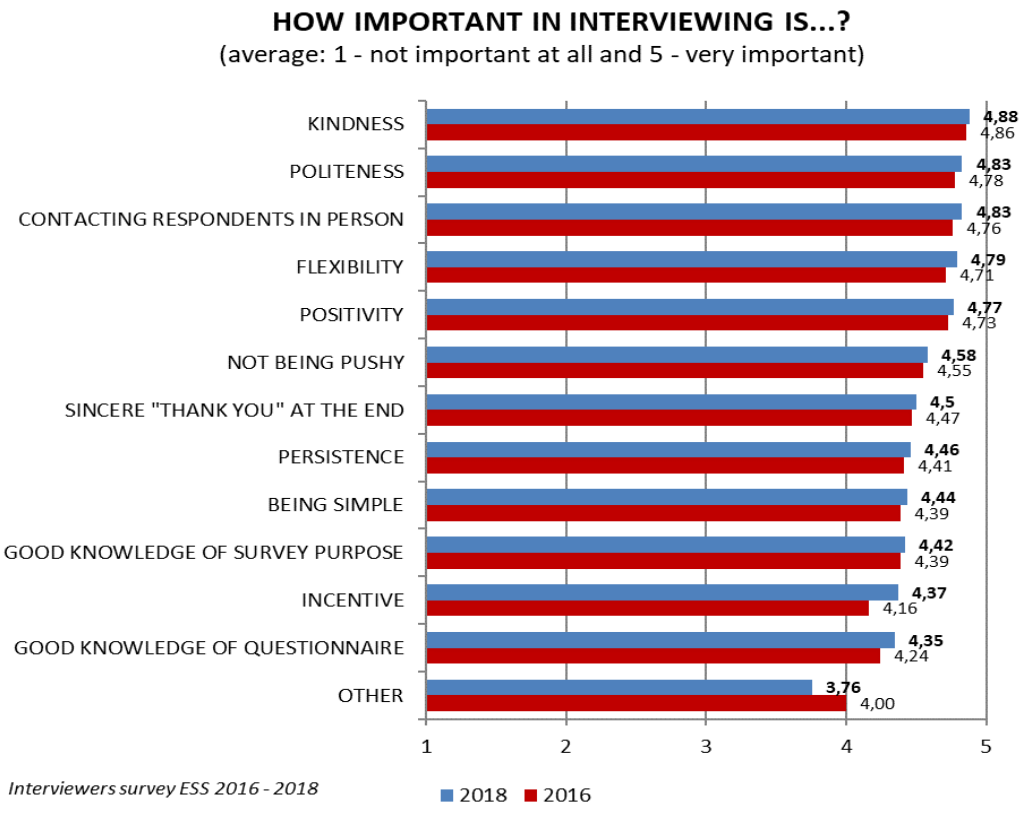
field and enjoy drinks and snacks. We also recommend our interviewers to other organisations and agencies or write letters of recommendation.

Interviewers' survey

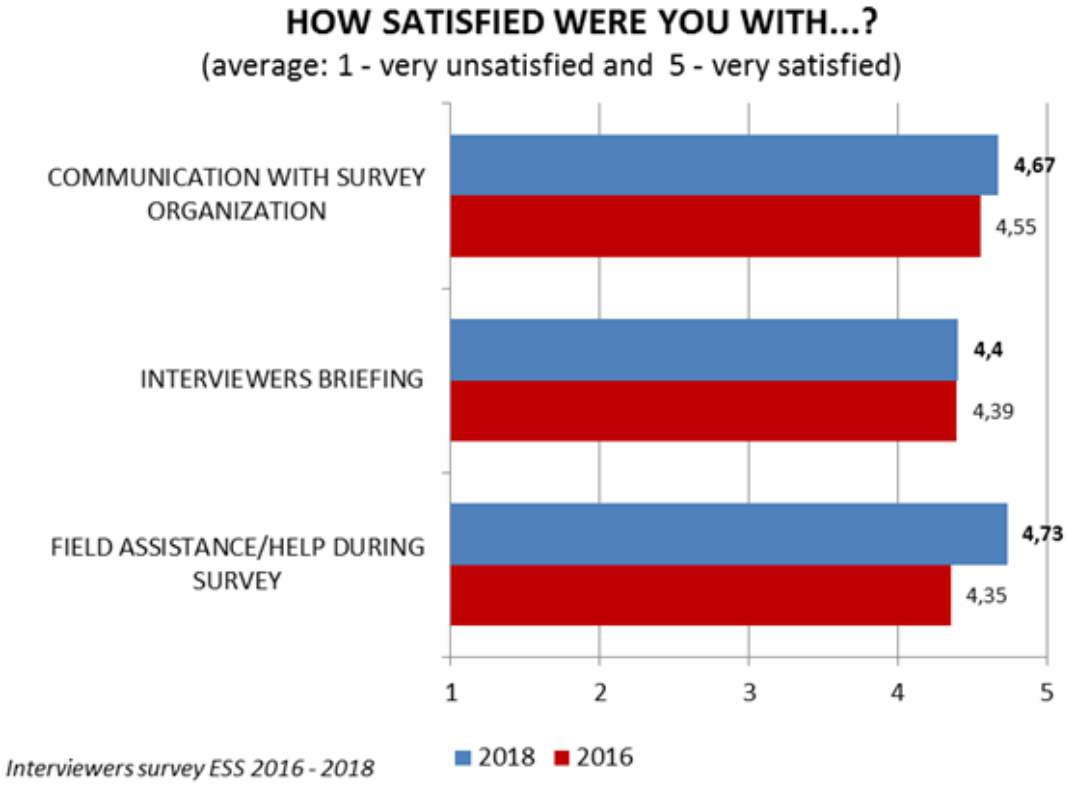
To obtain feedback on the perceptions of our survey practices and the interviewing process, we invited all our interviewers to do an on-line survey at the end of the last two ESS waves. The survey provides helpful insights into the situation in the field and enables us to learn what actually works and what does not work in real survey situations. Such first-hand information is of outstanding value and helps us to prepare the next interviewer briefings and provide interviewers with some hints and tips on how to optimize their fieldwork.

We are also eager to obtain constructive criticism and new ideas to improve our work. The questionnaire therefore includes satisfaction with interviewers' briefing, communication with our research team and assistance provided during the fieldwork. We are also interested in which tactics of persuasion are most successful with the respondents. For ESS 2018 for example, we added a question about the influence of the monetary gift card on the willingness to participate in the survey, and the vast majority of interviewers believe that the card at least in some (56 %), if not in the majority (35 %), affects the respondent's responsiveness. On the other hand, it seems rather surprising that incentives are still rated very low, although they were described as a very welcome change by both interviewers and participants.

The most important approaches stressed by interviewers are: kindness, politeness, personal contact with respondents, flexibility and positivity. They also believe that the key elements in convincing the respondent to participate are: not being pushy, but persistent, and offering sincere words of appreciation.



Graph 1: How important in interviewing is… ?



Graph 2: How satisfied were you with ... ?

Graph 2 shows that the high level of satisfaction with the work of the research team further increased in 2018, reasserting the strength of our fieldwork practices outlined in this paper. While the briefing rates remain at the same level, the rates of satisfaction with assistance and communication with the survey organisation has increased significantly.
Satisfied interviewers, clearly, lead to good fieldwork results.

Conclusions

Researchers, who have been dealing with the implementation of the various surveys over a long period of time, are more and more aware of the importance of the interviewers' role. Notwithstanding the importance of the research, the strict methodological rules, the high quality sample, good incentives, carefully drawn up and standardized sent-in-advance letters, extensive briefings, and continuous research team assistance, ultimately, the interviewer is the one who will eventually go to the field, make personal contact with respondents and convince (or not) respondents to participate in the survey. Maintaining a trustworthy team of interviewers is the key to achieving satisfactory response rates and obtaining high quality data.

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Fieldwork experiences and monitoring techniques based on round 9 of the European social survey (ESS)

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VOVK, Tina – KURDIJA, Slavko. Fieldwork experiences and monitoring techniques based on round 9 of the European social survey (ESS). In *Človek a spoločnosť [Individual and Society]*, 2019, roč. 22, č. 4, s. 67-73. doi: http://doi.org/10.31577/cas.2019.04.564

Abstract:
The paper outlines fieldwork monitoring techniques that have been used in the fieldwork phase of the European Social Survey (ESS) in Slovenia in round 9 (2018), previous rounds and other national surveys in Slovenia. The transition to computer-assisted personal interviewing which we adopted a decade ago at the Public Opinion and Mass Communication Research Centre (POMCRC), University of Ljubljana, has been consistently used throughout the national research program. The ESS was one of the first surveys through which we established higher standards by using digitized survey tools. Over the years, these tools have been continuously developed and digitalization of contact data has been introduced, which has opened up additional possibilities for monitoring and maintaining survey data quality. Because of our awareness of unwanted interviewer behaviour and the human factor in recording people's opinion, we anticipate various anomalies that might occur and could be observed and dealt with during the fieldwork and later on, such as: response rate, interviewers' week-by-week work dynamics, the result of the last visit, logical and consistency checking, duration of an interview and other factors. In the report we would like to show some of these indicators in a comparative context.

Keywords: European Social Survey (ESS), Computer-Assisted Personal Interviewing (CAPI), fieldwork quality control, response rate, survey dynamic, logical and consistency checking.

Methodological requirements and quality of the survey

Before we illustrate some of the most significant characteristics of the ESS fieldwork dynamics in Slovenia, let us outline some of the initial goals of the project. Firstly, it involves survey data collection with the most sophisticated and verified methodology, comparative analysis of attitudes, values and life practices at the cross-national and longitudinal level, and survey data dissemination. Secondly, the ESS provides open access to its comparative cross-national data for academic and non-academic users. Thirdly, it develops and refines quantitative research methods in a comparative framework (Jowell, Roberts, Fitzgerald, & Gillian, 2007, Malnar & Kurdija 2010). These starting points provide the basis for the implementation of specific methodological rules and guidelines which aim at maximizing the equivalence of the survey conditions to avoid potential national implementation disparities

that may affect data differences. This applies to procedures during the preparation phase as well as the procedures and approaches in the fieldwork phase itself. Interviewer preparation and training is becoming increasingly important as the quality of the data is strongly linked to the quality of the interviewer's work. More and more effort is being devoted to a harmonized training approach; a clearly defined set of procedures must be respected by all participating countries.

From the very beginning of the project, one of the key methodological requirements was the 70% response rate. While ESS specifications still suggest this response rate, it is becoming increasingly obvious that this goal is extremely difficult to achieve in today's general opinion surveys. Many national teams, even in countries with a strong tradition of empirical social research, find such an expectation to be too high. For many participating countries the goal has therefore shifted from strictly meeting this requirement towards an attempt to improve the response rate as much as possible in each subsequent wave. This, under the present conditions and survey climate, may still seem an extremely challenging task, and further consideration should be given to the overall decline in the level of willingness to participate in such surveys (Hafner, Kurdija, & Uhan, 2017). In this respect, the performance of the Slovenian NC team in the last two rounds (R8 and R9) seems more than satisfactory. Given the circumstances we have just outlined, it was not realistic to expect a significant increase in the responsiveness in round 9, yet the activities and efforts of the Slovenian team continue to go in this direction, regardless of the complexity of the task.

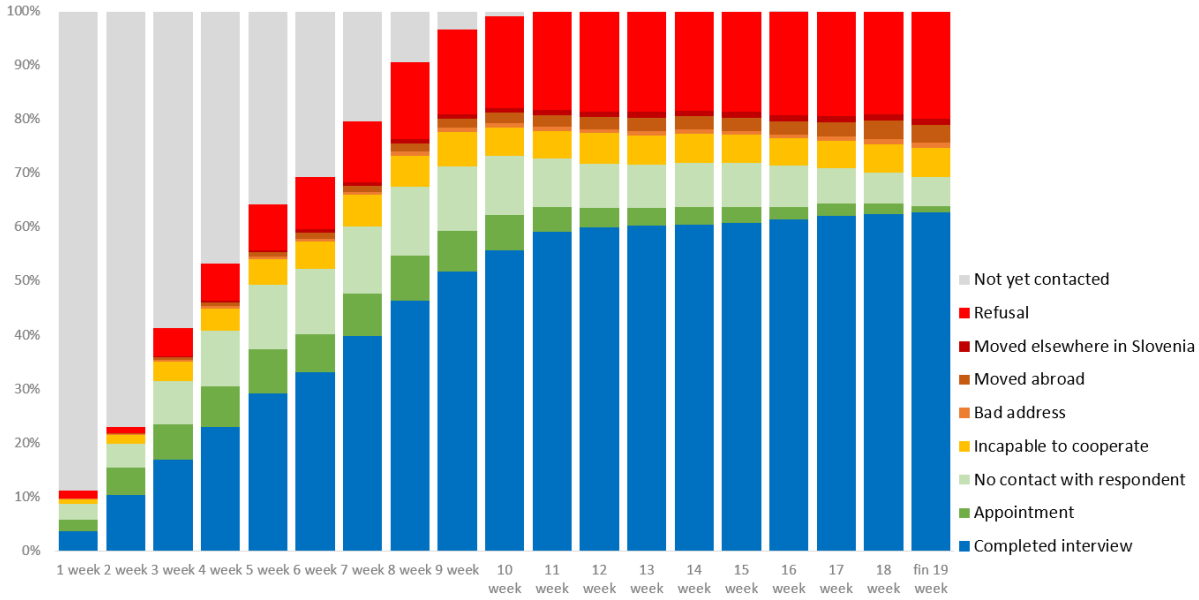
The Slovenian NC team began the round 9 preparations with the now habitual enthusiasm. Guided by National coordinators' meetings, dedicated workshops and supporting materials, our aim was to improve or at least achieve the same result as in the previous round. Given that the response rate does not depend solely on interviewers' work, we also focused on increasing control over the quality of the collected survey and contact data. Through our **awareness of unwanted interviewer behaviour** and consideration of the human factor in recording people's opinion, we anticipated some anomalies that might occur and could be observed and dealt with during the fieldwork and later on.

In spite of the high level of confidence in our interviewers, we nevertheless ran the obligatory checks on any unwanted behaviour, e.g. attempting to 'simplify' their work, interviewing easily accessible individuals, skipping difficult questions or not accurately entering the data into the main survey interview interface or the contact form interface tab. We performed a number of quality control procedures, most of them during the fieldwork, while some of them were carried out at the end of the fieldwork. This is reflected in our years of experience in many national and cross-national surveys conducted within the Centre's research program.

After the beginning of the fieldwork, we promptly begin with quality control, i.e. checking the implementation of the rules regarding survey requirements. Prompt quality control is essential when clarifying various issues when interviewers can still recall specific respondent situations. The fieldwork monitoring consists of the following tasks: following the dynamics of collecting data, back-check control, logical and consistency checking, comparing of databases, weekly verification of all collected data, and searching for outliers.

Through **fieldwork monitoring** we can observe the dynamic of visiting the respondents and conducting interviews, as well as detect whether an interviewer with a high percentage of refusals may be inclined to interview only easily accessible respondents. During the entire fieldwork we monitor the number of completed interviews (also per interviewer) at least weekly. In addition, we compare the entries of completed interviews in the main ESS data entry program with the contact form data entry. Besides the daily monitoring of fieldwork

progress (comparing it to the projection) we also monitor the dynamics of the sample (also by PSU) and provide its graphic presentation to the whole Slovenian team (i.e. the fieldwork department and national coordination team).



Graph 1: Fieldwork monitoring ESS R9 – 2018 (final 1st of February 2019; N=1318)

The **back-check control** is performed regularly every second week with at least 10 % verification by phone (the numbers are obtained independently via the phone book not by the telephone number given by the interviewer). An additional 25 % of the conducted interviews are verified by paper mail. The respondents are sent a paper questionnaire with a few additional question regarding the length and difficulty of the survey questionnaire (e.g. which question in the survey they found the most difficult and whether the incentives had any impact on their participation). Respondents send us feedback using a pre-paid, stamped envelope. On average 50 % of the letters are returned. This kind of back checking is also used in other surveys conducted at the Centre, and has been a 'house rule' for many years.

Due to the considerable duration of the ESS questionnaire, we also anticipate the possibility of data entry errors or typos. In order to deliver clean and credible data, the data are thoroughly checked before depositing – **logical and consistency checking**. We inspect the average length of the whole interview and the duration of the 'Core module B' per interviewer, we look for outliers and analyse them. By the same principle we analyse missing values (per interview and interviewer). We check interview length and time duration between timestamps as well as the number of missing values per interview on one spread-sheet for a clearer overview. Contextualization is very important, we take into account added interviewer's comments are to help us interpret any of the potential outliers. As we do not want to draw any wrong conclusions in evaluating an interviewer's work, we take great care in every such situation.

The following consistency checks are also applied during the fieldwork:

- Checking the years and age entries in module D and F (timing of life and demography)– wild-codes (interviewer exhaustion can sometimes lead to wrong entries)
- Logical inconsistencies of the relationship for each member of the household to the respondent
- Logical inconsistencies about education and years of full-time education completed
- Checking minimum and maximum values where applicable
- Checking the range of the discrepancies (with each interviewer) between B27 and C1 – life satisfaction and happiness or other values variables.
- Straight-lining (B module, Schwartz)

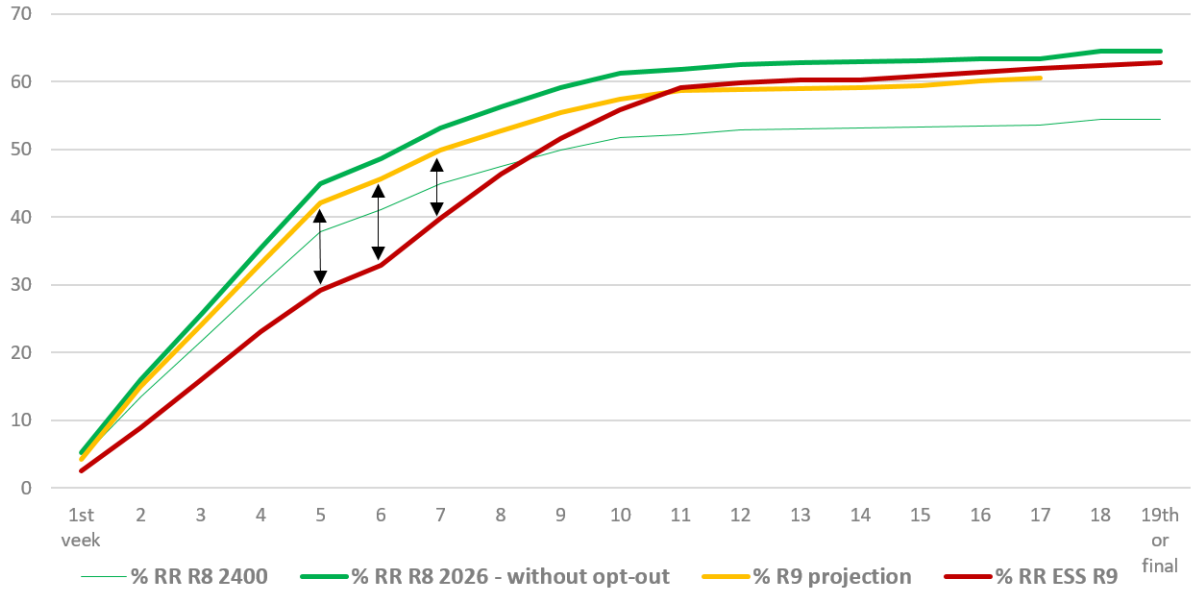
Finally, in order to verify that the right respondents were selected for interviewing, we **compare all databases** (main survey data, contact form data, initial sample list and even paper notes from interviewers) on a daily basis. We compare entries for gender, age, year of birth, date of conducted interview, ID of the interviewer, and the final outcome – which is the results of the last visit to each respondent. It should be mentioned that when we print out the PSU, the sample list (for interviewer's purpose only) with the individual names, address and year of birth, we omit the last digit in the year of birth. While this is in compliance with the GDPR regulations, it is also another point of control over interviewers' accuracy and veracity.

During the fieldwork period each record was checked, and if any errors or anomalies occurred we strived to correct them as promptly as possible. The verification and correction procedure was based on the following priority scheme; the most reliable information is written in the sample, any illogical or inconsistent data with the interviewer is checked and finally then with the respondent.

R8 and R9 fieldwork dynamic

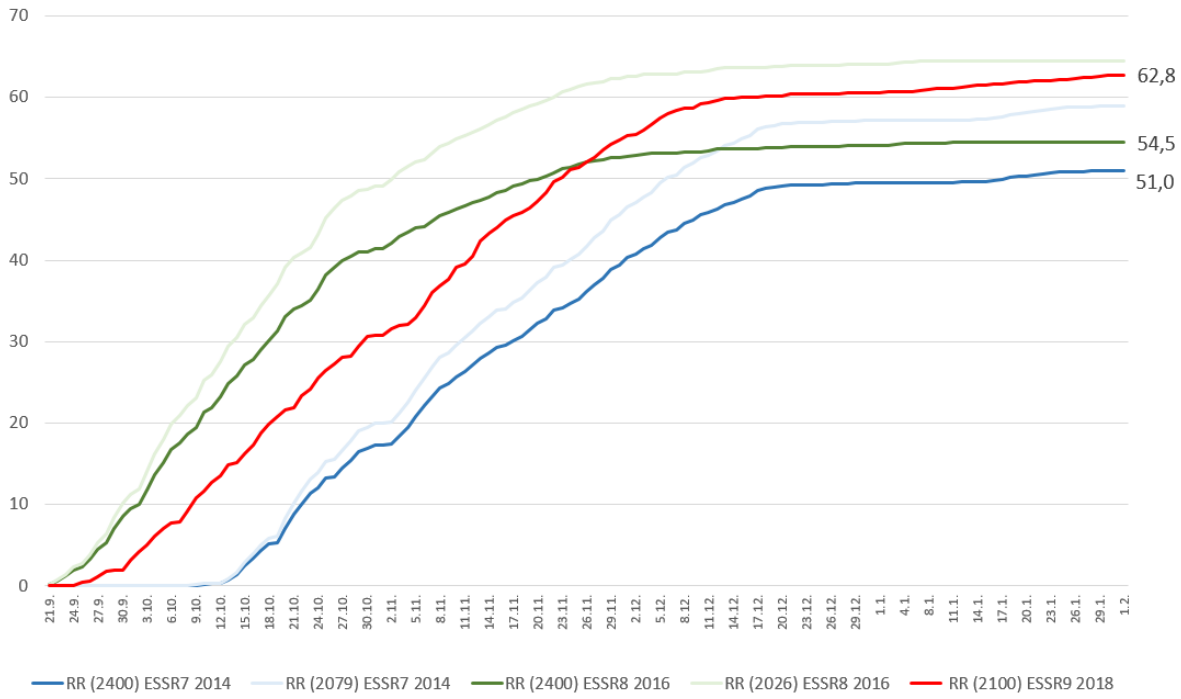
As said, we carefully monitor the dynamics of the fieldwork in each round and in the final section we present a chart indicating the amount of the completed interviews, along with the response rate line, for the last 3 rounds. The experience from previous rounds help us make the projection for the next round as accurate as possible.

The sign-off procedure for the projection of the fieldwork dynamics was introduced in round 9. Following the ESS rules, the projection was planned based on R8 with a completion date set for mid-January 2019. In round 8, however, we had recruitment for the CRONOS web panel and, accordingly, sped up the entire fieldwork period in order to recruit panellists as fast as possible to conduct the Welcome survey. Therefore the fieldwork period set at the beginning was shorter than in R9. The gap between the projection and the actual response rate can be seen in the next chart.



Graph 2: Fieldwork response rate R8 and R9 (projection and actual)

If we are aware of the specifics of R8 and compare the fieldwork dynamics from R9 (red line) with R7 (blue line), the response rate in R9 was comparable and was a little bit higher each round from round seven to eight and nine. This could be due to the incentives introduced in Slovenia in round 8. In round 8 the incentive for respondents was a 7 € gift card from one of the major retail chains in Slovenia. The interviewers got a 5€ extra payment per respondent for each recruit – 60 % of ESS main survey respondents were recruited. In round 9 the incentives were even higher – an 8 € gift card. A major change in round 9 was that we had access to the complete sample and had no longer the need to deal with the opt-out list in the sample.



Graph 3: Response rate R7, R8 (sample with and without opt-out list) and R9

To sum up, we are trying to assure data quality as much as possible by engaging all quality control resources before, during and after the fieldwork phase. Based on our experience the key points for conducting fieldwork as efficiently as possible (with high RR and data quality) are:

External factors:

1. Proper and stable funding of the ESS survey, including the NC team and fieldwork.
2. The individual sample from the national central population register.
3. Funding which enables the implementation of incentives.
4. The fact that the survey is carried out by a known and acclaimed institution in the national context.

Internal factors:

5. Regular and detailed fieldwork monitoring.
6. Close cooperation between the NC team and FW part of the team.
7. Years of experience in conducting national and cross-national surveys.
8. Loyal and satisfied professional interviewers.
9. Knowledge and understanding of interviewing work (also based on own experience).

In addition, it must be pointed out that the quality of contemporary survey data collection depends largely on the use of the new technological solutions. In the last decade the conduct of the social science research has been strongly linked to the computerization of all stages of the survey process. The method and tools used in the Centre's research program follow this trend in its entirety. This provides the conditions for conducting national and cross-national surveys at the appropriate level. However, we are aware that every country has their own specific conditions. In Slovenia, for example, we have to a certain extent a friendly environment for conducting social surveys –as least as far the ESS is concerned. In that regard we keep our fingers crossed for such favourable conditions for future rounds in Slovenia. Nevertheless, we aware that all our procedures and approaches may not be applicable everywhere.

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ESS dissemination conferences in Poland

Poland has participated in the European Social Survey since the first round in 2002. At the end of each round, the Polish national team organises launch conferences. As stated in the project guidelines, those conferences are designed to disseminate the ESS results both in the academic world and in other communities that may be interested in cross-national comparisons and the analysis of trends in areas of importance for European societies. Therefore, invitations for the conferences are directed not only at academics and doctoral/graduate students but also politicians, parliamentarians, public officials and NGOs. Moreover, journalists are also invited in order to disseminate the ESS results among the general public.

The first launch conferences organised by the Polish national team were focused primarily on the promotion of the ESS project as such. On the one hand, the aim was to show the broad range of substantive issues undertaken in the project and to promote cross-national comparative analyses in Europe. On the other hand, the Polish team sought to promote the ESS methodological standards which enable legitimate cross-national comparisons. In this context, it is important to remember that the project seeks, among other things, to develop, improve and disseminate methodological standards for survey studies.

Starting from Round 4 of the ESS, the conference papers focused primarily on analysis of trends in selected areas across European countries, while methodological sessions were devoted mainly to nonresponse. This choice was related to the dramatically declining response rates in most European countries.

Beginning with Round 6, sessions devoted to current affairs were also included. It should be recalled that each ESS questionnaire consists of a core section, containing questions repeated in each round, and a rotating section, which covers issues that are currently important for the lives of European societies. During our conferences, papers based on data from the rotating modules dealt with social and personal well-being, understanding and evaluation of democracy, perceptions and attitudes towards immigration, and perceptions and attitudes towards climate change and energy sources. This change drove increased media interest in our conferences.

Speakers during our conferences have included eminent Polish sociologists, including Prof. Andrzej Rychard, Prof. Henryk Domański, Prof. Kazimierz M. Słomczyński, Prof. Lena Kolarska-Bobińska, as well as invited foreign speakers, primarily those involved in the ESS project. The first conference was attended by Prof. Roger Jowell, then the ESS Director, while speakers during subsequent conferences included scholars from KU Leuven in Belgium (Prof. Jaak Billiet, Prof. Bart Meuleman, Dr. Hideko Matsuo), University of Zurich (Prof. Eldad Davidov), University Pompeu Fabra (Prof. Willem Saris), The Netherlands Institute for Social Research (Dr. Ineke Stoop), GESIS – Leibniz Institute for the Social Sciences (Prof. Michael Braun, Prof. Dorothée Behr, Dr. Michael Blohm, Dr. Achim Koch), University of Giessen (Prof. Peter Schmidt), the Slovak Academy of Sciences (Prof. Jozef Výrost, Dr. Denisa Fedáková and Dr. Michal Kentoš) as well as Michigan State University (Prof. Sandra T. Marquart-Pyatt). The conferences were attended by 130 to 150+ participants.

The next conference, focused on presenting the results of Round 9 of the ESS, will take place on 5 February 2020 in Warsaw. A total of three sessions have been planned. During the first session, entitled "Social justice: fair incomes, access to education and occupational positions", papers will be delivered by Prof. Peter Schmidt, Prof. Eldad Davidov and Dr. Lucyna Darowska (a joint paper), Prof. Henryk Domański and Prof. Kazimierz M. Słomczyński. The second session will be entitled "The timing of key life events: time of marriage, birth of children and retirement", and the speakers will include Dr. Denisa Fedáková and Dr. Michal Kentoš (a joint paper) and Prof. Piotr Błędowski (Warsaw School of Economics). Papers during the third session, "Immigration: changing perceptions and attitudes", will be presented by Prof. Bart Meuleman and Prof. Paweł Kaczmarczyk (University of Warsaw).

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Research Topic in Frontiers Migration and Society: Migration and European Societies

Editors: Alice Ramos and Oshrat Hochman

For many years, European societies have been engaged with the issue of international migration from various aspects associated with the reception and integration of migrants and the reactions of the autochthon societies to them. The composition of European migration is highly diverse. Many migrants arrived in Europe from former colonies; some arrived as labour migrants in the aftermath of the Second World War. The end of the Soviet Union and the emergence of the European Union and its expansion have also served as important triggers for migration into Europe. More recently, conflicts in Africa and the Middle East have also led to large numbers of migrants into Europe from these regions. In this Research topic of Frontiers: Migration and Society, we aim to provide a platform for researchers to present a new insight into migration and immigrants in Europe that has a sound theoretical foundation and is based on empirical evidence. This special issue of Frontiers Migration and Society was inspired by papers presented at the 4th International European Social Survey Conference, held in Mannheim in 2019 and aims to provide ESS data-based contributions related to cultural, attitudinal or value-related differences between individuals with and without an immigrant background, or between different migrant minorities in Europe. With this special issue we encouraged potential authors to bring new insights and address issues, such as: the impact of societal diversity in the European cultures; the effect of cultural shifts on the construction of more inclusive societies or, conversely, on the promotion of exclusionary processes by boosting previously latent cleavages; and identifying the nature and diversity of mechanisms underlying observed trends across different migrant minorities in different countries.

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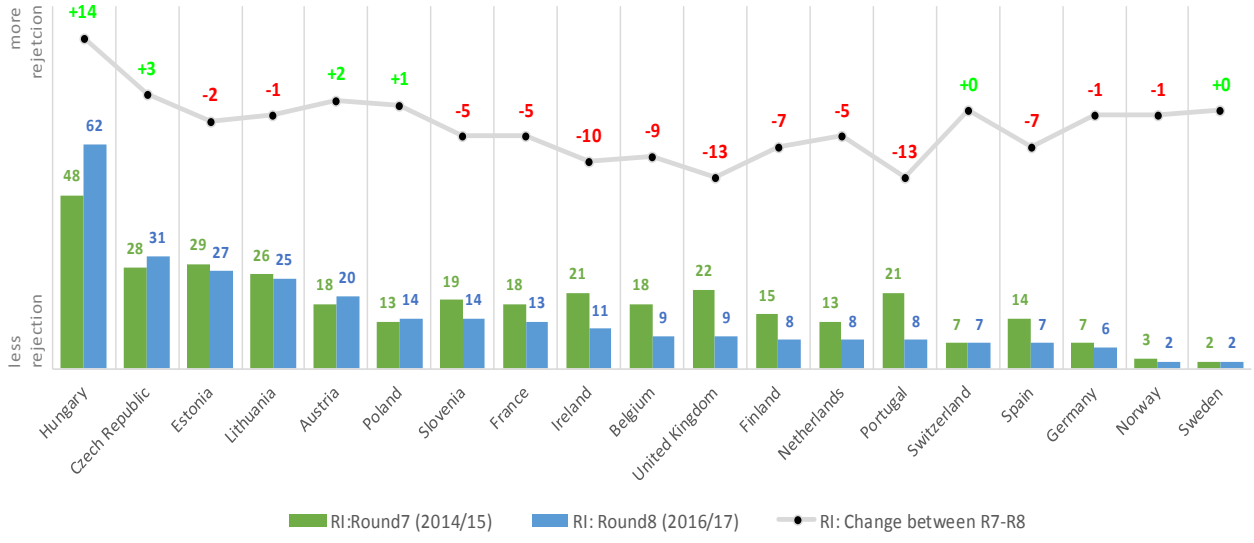
„Still divided but more open. Mapping European attitudes towards migration before and after the migration crisis"

Vera Messing and Bence Ságvári

The study by Vera Messing and Bence Ságvári entitled „Still divided but more open. Mapping European attitudes towards migration before and after the migration crisis" investigated cross-national differences in attitudes towards migration and immigrants across European space and time. Using European Social Survey data it aimed to discover how attitudes towards immigrants have changed in the past over one and a half decade and find factors that may lie behind the immense differences in the acceptance or rejection of immigrants across European countries.

The analysis found that interestingly, attitudes towards migration in Europe – both its cognitive element, assessing how people perceive the consequences of migration (Perception Index) and its behavioural element, assessing how people would act if they were in charge (Rejection Index) - have generally become more positive in most countries after the 2015 refugee-crisis. The overall level of rejection has decreased from 15% in 2014/15 (before the flow of mass migration to Europe occurred) to 10% in 2016/17 (after the migration shock). Thus, in general, popular attitudes do not support the flourishing anti-migrant populist political discourse, and by the same token, increasingly loud anti-migrant populist narratives have not boosted the rejection of migrants. Outliers include Portugal, Belgium, the UK and Ireland, where people have become significantly more open and positive about migrants compared to the pre-migration crisis period, and Hungary, where general attitudes towards migrants have significantly deteriorated.

FIGURE 1 CHANGE OF REJECTION INDEX (RI)
BETWEEN ESS R7 (2014/15) AND ESS R8 (2016/17)



Looking at longer term trends the authors found a notable stability of attitudes: over a period of 16 years, based on data from 15 European countries, the overall perception of migration, as well as the share of those supporting the explicit rejection of migrants coming from poorer countries outside Europe, have not changed radically. Attitudes may have changed within shorter periods of time in certain countries, but in the longer run they have remained stable across the continent. Short-term changes in attitudes were brought about by the uncertainties of large-scale political changes, such as the enlargement of the EU in 2004, economic or labour market crises (2008), or traumatic events such as terrorist attacks or an overwhelming governmental anti-migrant campaign (in Hungary).

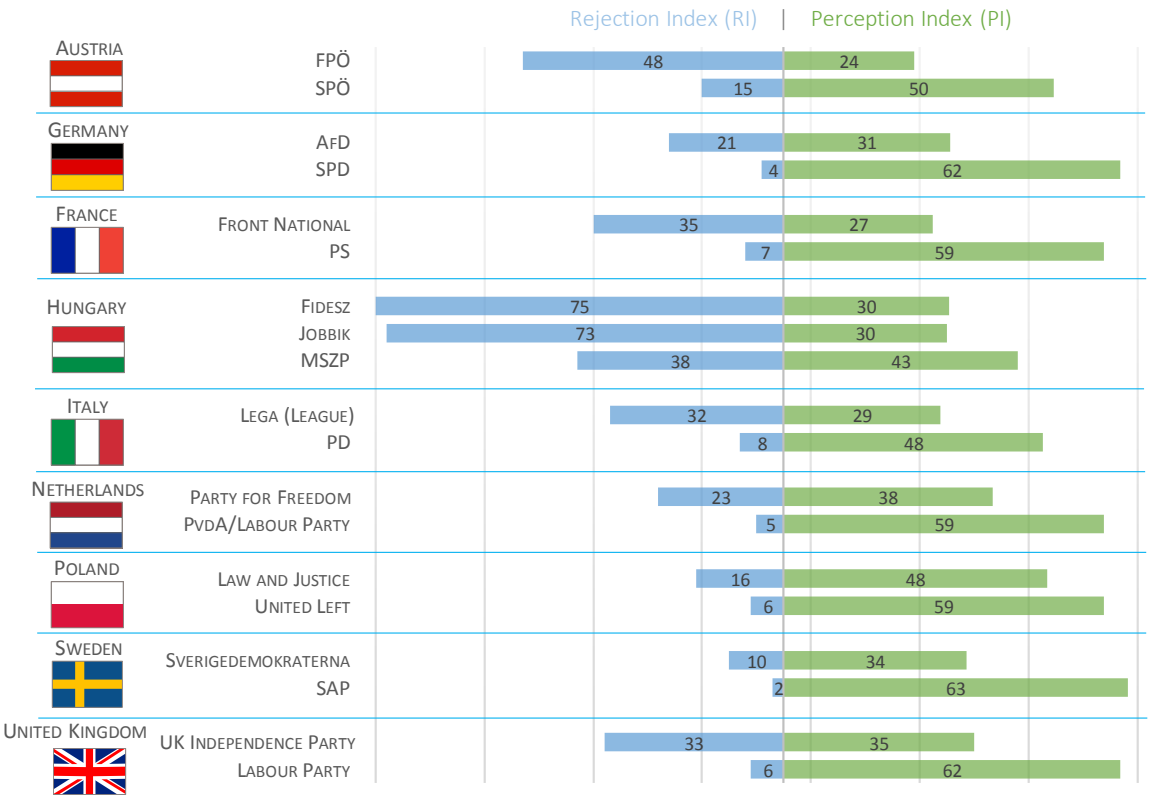
Referring to the most popular theories the analysis found that contact and control theories apply best to Europe's attitudinal map and its changes. Widespread and homogenizing anti-migrant attitudes in some countries have little to do with migrants; anti-migrant attitudes are strongest and are likely to increase further in countries where migrants are hardly present, where people don't have personal experiences with migrants but where they lack the feeling of safety and control, in general. By control the study refers to two levels of control: the feeling people have of being in control of their own lives, and the feeling that the government is in control of migration. The importance of the latter is shown by the case of Germany, where anti-migrant attitudes increased significantly between 2002 and 2004, probably due to the combination of the uncertainties brought about by the 2004 enlargement of the EU and the feared mass inflow from new EU member-states. However, as soon as the government introduced a set of legislation ensuring the controlled management of migration within the enlarged EU, anti-migrant attitudes abated.

One chapter of the study zooms to individuals whose attitudes are extremely hostile. It found that people who extremely and homogeneously reject migrants do not differ in their demographic characteristics from the rest of the population but in their subjective perceptions of control: to a much greater extent they feel that they have financial difficulties, are alienated from politics, lack trust, and hold security-focused, individualistic values. All in all, people who feel politically disempowered, financially insecure and without social support are the most likely to become extremely negative towards migrants**.** Projecting the map of political preferences and attitudes towards migrants tells us that right wing populist parties gather that part of the population which is very negative towards migrants and migration in general.

FIGURE 3

REJECTION AND PERCEPTION INDEXES AMONG SUPPORTERS OF RIGHT-WING POPULIST AND SELECTED CENTRE-LEFT POLITICAL PARTIES

PARTY PREFERENCES BASED ON THE ITEM "WHICH PARTY DO YOU FEEL CLOSER TO"
ESS R8 (2016/17)

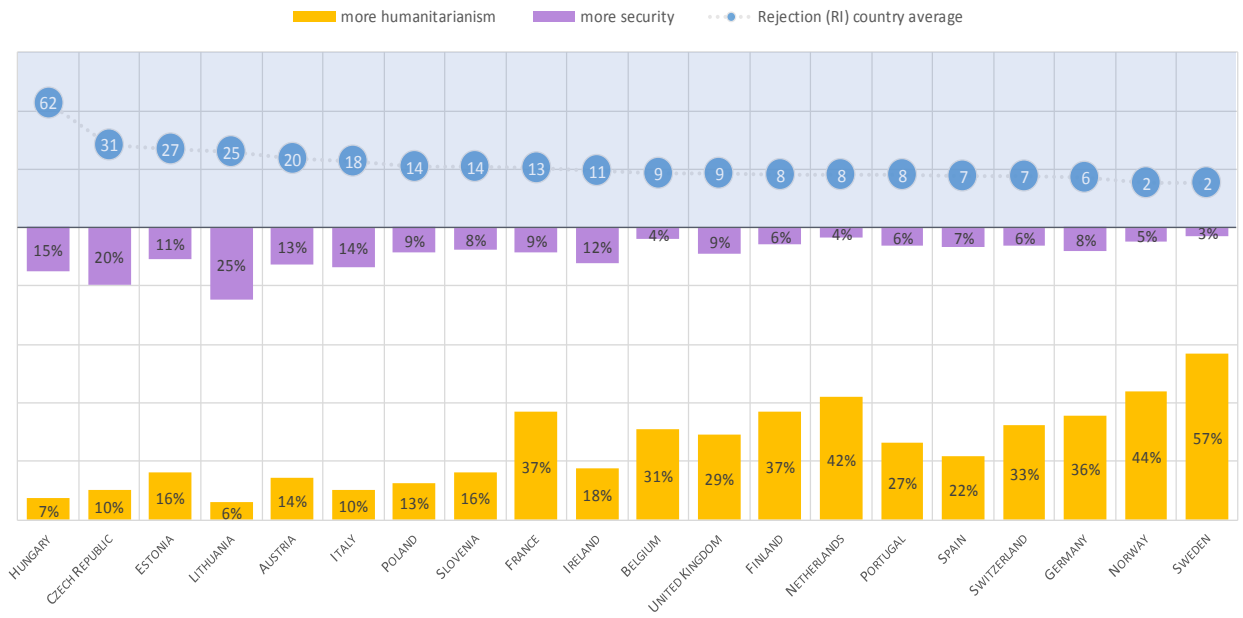


In almost all countries one or two such parties exist, the difference lies rather in how powerful they are. The perception of the consequences of migration (PI) are quite similar (very negative) among voters of right wing populist countries across Europe. Still, the rejection of migrants is very alike: Rejecting any kind of migration is most explicit in Hungary, while in other countries, even the more negative perception of migration by supporters of right wing populist parties (FPÖ, FN, LN) results in a smaller share of those unconditionally rejecting migrants. This data again shows the degree to which dominant norms, set by mainstream politics, matter in terms of transforming aversion into an extreme rejection of migrants.

The final chapter analyses how basic human values (Schwartz model) influence attitudes. It shows that attitudes towards migration correlate very strongly with a complex set of questions mapping various aspect of basic human values, but there are two sets of values that crystalize very explicitly: security and humanitarianism. The more people yearn for security, the more negative their perception of the consequences of migration is, and hence the more they reject the

idea of any migrant settling in their country. The more people find respect for others and equality between people important, the more positive their attitudes are. Basic human values are also closely related to political preferences, so it is no surprise that attitudes towards migrants and political preferences correlate strongly.

FIGURE 3 HUMANITARIAN AND SECURITY VALUES IN EUROPEAN COUNTRIES IN COMPARISON TO REJECTION OF MIGRANTS
ESS R8, 2016/17



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