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.europeansocialsurvey.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,
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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 explore 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
abundance 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 mutual 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.
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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    | .342** | .355** | .168** | 1   |     |     |     |     |
| status               |     |     |     |     |     |     |     |     |
| 5. Serious health    | .246** | .244** | .096** | .591** | 1   |     |     |     |
| problems             |     |     |     |     |     |     |     |     |
| 6. Belonging to a    | .095** | .109** | -.007 | .064** | .079** | 1   |     |     |
| discriminated group  |     |     |     |     |     |     |     |     |
| 7. Belong to a       | .022** | .050** | .023** | .026** | .016* | .246** | 1   |     |
| minority ethnic group|     |     |     |     |     |     |     |     |
| 8. Living standard   | -.192** | -.255** | -.176** | -.178** | -.069** | -.008 | -.404** | 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).
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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   | .212** | 1   |     |     |     |     |     |     |     |     |     |     |
| can be trusted   |     |     |     |     |     |     |     |     |     |     |     |     |
| 3. Most people   | .242** | .568** | 1   |     |     |     |     |     |     |     |     |     |
| try to be fair   |     |     |     |     |     |     |     |     |     |     |     |     |
| 4. Most of the   | .193** | .473** | .486** | 1   |     |     |     |     |     |     |     |     |
| time people are  |     |     |     |     |     |     |     |     |     |     |     |     |
| helpful          |     |     |     |     |     |     |     |     |     |     |     |     |
| 5. Trust in the  | .214** | .362** | .332** | .319** | 1   |     |     |     |     |     |     |     |
| National         |     |     |     |     |     |     |     |     |     |     |     |     |
| Parliament       |     |     |     |     |     |     |     |     |     |     |     |     |
| 6. Trust in the  | .205** | .356** | .313** | .327** | .661** | 1   |     |     |     |     |     |     |
| legal system     |     |     |     |     |     |     |     |     |     |     |     |     |
| 7. Trust in the  | .234** | .281** | .282** | .265** | .468** | .608** | 1   |     |     |     |     |     |
| police           |     |     |     |     |     |     |     |     |     |     |     |     |
| 8. Trust in      | .180** | .359** | .323** | .344** | .737** | .617** | .444** | 1   |     |     |     |     |
| politicians      |     |     |     |     |     |     |     |     |     |     |     |     |
| 9. Trust in      | .179** | .353** | .315** | .332** | .709** | .589** | .414** | .869** | 1   |     |     |     |
| political parties|     |     |     |     |     |     |     |     |     |     |     |     |
| 10. Trust in the | .156** | .269** | .244** | .231** | .546** | .491** | .407** | .583** | .592** | 1   |     |     |
| European         |     |     |     |     |     |     |     |     |     |     |     |     |
| Parliament       |     |     |     |     |     |     |     |     |     |     |     |     |
| 11. Trust in the | .167** | .274** | .268** | .238** | .507** | .475** | .406** | .498** | .511** | .681** | 1   |     |
| United Nations   |     |     |     |     |     |     |     |     |     |     |     |     |
| 12. Life         | .690** | .249** | .273** | .230** | .265** | .260** | .255** | .237** | .227** | .181** | .188** | 1   |
| satisfaction     |     |     |     |     |     |     |     |     |     |     |     |     |

**. 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)

![Image of trust in national institutions](image)

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.
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 findings once again from a different viewpoint – here the happiness index is correlated with the official statistical data (Picture 7).
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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 explaining 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
- Income
- Sex
- Religion
- Education
- Main activities
- Domicile
- Having children
- General health
- 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 (%)**

![Variable importance comparison](image)

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).
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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).

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
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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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