Examining sociodemographic factors of life satisfaction and happiness perception based on ESS 2016 data

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Resumen

El presente trabajo pretende analizar aspectos sociodemográficos tales como: género, edad, nivel educativo, recursos económicos, o diferencias entre países, realativos al uso de Internet, así como su impacto en la percepción del Bienestar, tomando los datos de la European Social Survey – anualidad 2016. Se ha analizado la percepción del Bienestar, a través de autoevaluaciones de nivel de felicidad y satisfacción con la vida de las personas incluidas en la encuesta. Se han aplicado distintos análisis estadísticos como el ANOVA test de un factor, (P-value 0.000), test post-hoc de Bonferroni-Tukey, o el test de comparación de proporciones entre columnas cuando ha sido necesario. La originalidad de este estudio recae en el tamaño de la muestra y datos recientes. Existen múltiples estudios que analizan este concepto, aunque generalmente presentan menor tamaño de muestra. Así pues, este estudio pretende contrastar investigaciones previasy ofrecer resultados interesantes en relación con las desigualdades entre países o fuente de ingresos. Se presentan resultados y conclusiones para su discusión.

Palabras clave

Bienestar, satisfacción con la vida, felicidad, medidas, sociodemográfico, ESS.

Abstract

The present study aims to analyze sociodemographic aspects such as gender, age, education, income source or country impacts on Wellbeing perception, based on records from the European Social Survey - 2016. The WB perception has been examined through life satisfaction and happiness self-report evaluation of individuals involved in the survey. Several statistical studies as the ANOVA test of one factor (P-value 0.000), post-hoc Bonferroni-Tukey' tests, or comparison tests for column proportions, when it is required, have been considered to each analysis. The originality of this study relies on the size of the sample, and the recently of data. There are lots of studies examining the concept, although they present smaller sizes and data. Present study pretends to corroborate previous research and furthermore, provide interesting findings of the country or income souce disparities. Results and conclusions are presented for discussion.

Keywords

Wellbeing, life satisfaction, happiness, measurement, sociodemographic, ESS.

Introduction

Wellbeing (WB) is a multidimensional concept that involves lots of perspectives, sense, and affections (Vittersø et al. 2010; Huppert & So 2009). Also commonly agreed, it could be considered as an active and dynamic process that gives individuals a sense of how their lives are going through the interaction between their circumstances, environments, activities, and psychological resources or 'mental capital[1].' WB is a meaningful outcome to the public because it is related to positive health and positive social results, including pro-social behavior (Diener et al. 2002; Diener et al. 1999; Lyubomirsky et al. 2005; Judge & Bono 2001). High levels of WB bring people more capacity to respond to adverse circumstances, to innovate and fruitfully engage with other people and the world around.

However, measurement of WB is not an easy or standardized question. Closed terms as life satisfaction or happiness should be considered because some researchers prefer to use the term "satisfaction" and, especially, "happiness" to denote WB in general (Veenhoven 1991), and there are studies analyzing meaning and definition of both terms (Seligman 2011, 2002; Veenhoven 2013; Pavot & Diener 2009; Argyle 2001). Indeed, life satisfaction is so close as happiness, and happiness a widely presumed component of life satisfaction, that often is used as a synonym for it and vice-versa (Abdallah & Mahony 2012). For this study, *Life satisfaction* can be understood as the informed and cognitive judgment of one's life in which the criteria of evaluation are up to the person, with experiencing good feelings and making favorable judgments about how life is going (Pavot & Diener 1993). And *Happiness* has been considered as a mental or emotional state of WB which can be defined by, among others, positive or pleasant emotions ranging from contentment to intense joy (Seligman 2004).

Furthermore, there are factors that also influence WB as could be age, gender, education level, income or country among others. For instance, regarding age, some authors claim the existence of a phenomenon termed "*U Curve on happiness*" that refers youth individuals present high-level happiness, that usually descends on adulthood, and latterly rebound on elderly (Graham & Pozuelo 2017, Twenge et al. 2016). Referring gender or education, worldwide women are happier than men (Fortin et al. 2015), and the higher level education individuals have, the higher WB they report (OECD – Education at Glance 2016, 2018). And, concerning income or country, Easterlin Paradox concludes that there is no link between a society's economic development and its average level of WB (Easterlin 1974, Easterlin et al. 2010).

Thus, present study pretends to analyze the influence of sociodemographic variables such as gender, age, education level, income or country influence on WB perception, on a large and recent sample of individuals, and validate, if the case, previous research.

Results could provide a better understanding of WB components and their influence, compulsory for manage adequately the society we are involved on.

1. Method

a. **Participants**

For this study, it has been considered data provided by the European Social Survey (ESS) that is a cross-national survey carried on every two years among European countries. That survey provides information on WB – that has been monitored since 2002.

All countries and available data of ESS Round 8 – 2016-2.0 version – have been accepted to afford the wider and more complete analysis possible. Data includes information of 34.720 individuals of 18 countries distributed by: Austria (5,8%); Belgium (5,1%); Switzerland (4,4%); Czech Republic (6,6%); Germany (8,2%); Estonia (5,8%); Finland (5,5%); France (5,9%); United Kingdom (5,6%); Ireland (7,9%); Israel (7,3%); Iceland (7,9%); Netherlands (4,8%); Norway (4,4%); Poland (4,9%); Russian Federation (7,0%); Sweden (4,5%) and Slovenia (3,8%).

The presented sample is valid for making the proposed analysis, and no corrections or adjustments are required. No gender disparities, neither relevant significances between age groups have been found on the sample distribution.

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[1] **Mental capital** means the degree of mastery of life skills at the time an individual faces the choices of life (Weehuizen, 2008). It is not only positive attitudes (comprise, hope, self-efficacy, optimism, or resiliency among others) it also includes certain key skills that allow one to produce such mental goods as self-esteem and sense of achievement, as well as self-reflective skills."(Ho, 2012)

Participation is balanced with 51% of female respondents and 47,9% male respondents at overall. And individuals from 15 to 30 years old represent 20,2% of the sample, those from 31 to 50 the 32% of the sample, those from 51 to 65 the 25,7% of the sample and those from more than 65 years old 21,8%. So, the group of individuals from 31 to 50 years represents more share because it involves 20 years- 5 more than other groups.

b. Instruments

From ESS, there have been selected variables and questions related to WB –that refer to general aspects of one´s perception of life satisfaction or happiness – and sociodemographic aspects respondents have. Those variables will help to measure and understand our analysis and results, and refer to:

- General aspects WB: *All things considered, how satisfied are you with your life as a whole nowadays?* – measured with a scale from 0 to 10 being 0. Extremely bad and 10 Extremely good. And *Taking all things together, how happy would you say you are?* – measured with a scale from 0 to 10 being 0. Extremely unhappy and 10 Extremely happy.

- General aspects of education*: Generated variable: Highest level of education, ES - ISCED* – measured with a scale from 0 to 7, being 0.Not possible to harmonize into ES-ISCED; 1.ES-ISCED I, less than lower secondary; 2. ES-ISCED II, lower secondary; 3.ES-ISCED IIIb, lower tier upper secondary; 4. ES-ISCED IIIa, upper tier upper secondary; 5.ES-ISCED IV, advanced vocational, sub-degree; 6. ES-ISCED V1, lower tertiary education, BA level and 7. ES-ISCED V2, higher tertiary education, >= MA level.

- General aspects of income: *Please consider the income of all household members and any income which may be received by the household as a whole. What is the main source of income in your household?* – measured with a scale from 1 to 8, being 1.Wages or salaries; 2.Income from self-employment (excluding farming); 3.Income from farming; 4.Pensions; 5.Unemployment/redundancy benefit; 6.Any other social benefits or grants; 7.Income from investment, savings, insurance or property and 8.Income from other sources.

- Sociodemographic aspects: *Gender* – measured with a scale from 1 to 2, being 1. Male and 2. Female. *Age* – measured with the number given by individuals. And *Country* provided by interviewers of National Coordinator agents (Austria; Belgium; Switzerland, Czech Republic, Germany, Estonia, Finland, France, United Kingdom, Ireland, Israel, Iceland, Netherlands, Norway, Poland, Russian Federation, Sweden, and Slovenia); and GPD 2017 as an economic variable of the nation of each country.

The statistical methodology utilized for evaluating the sample relies on:

- *Test χ^2 de Pearson*: It has been used as a test of association or dependency between two categorical variables.
- *Student t-test for independent samples*: it has been used to contrast the average equality in continuous-type independent samples and normal distribution.
- *ANOVA test for independent samples*: it has been used to contrast the average equality in different groups (normal distribution).
- *Correlation of ranges of Spearman:* It has been used to contrast if there is a relationship between two variables with categories lists (not manuals to a normal distribution).
- *Multiple linear regression*: In the case of a linear relationship between a dependent variable and another or other independent, regression techniques allow estimating the equation that explains the relationship and use it to make predictions. The estimations of the different carobs of the regression line were clubhead, as well as the standard error and confidence intervals at 95% for the same. The level of significance used in the analyses has been 5% (α = 0.05)[2].
- *Comparison tests for column proportions*: A Z test that performs pairs of columns to reduce equality in tables, and estimated at least one category variable in rows and columns

2. Results
a. Gender and WB perception

In our study, as Table I displays, it has been found life satisfaction perception is the same among female and male, 7,31 (to 10), while happiness is 0,02 points higher in female than male.

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[2]The P-value is, assuming that there are no differences between groups, the probability that the results obtained can be due to random. The lower the P-value, the lower the probability that the results obtained are due at random and more evidence will be against the null hypothesis (non-existence of differences). Any P-value less than 0.05 is indicative of a statistically significant relationship. By cons, a P-value greater than or equal to 0.05 indicates absence of relationship.

Table I: Life Satisfaction and Happiness perception by gender

	LIFE SATISFACTION			HAPPINESS		
	Obs	**Female**	**Male**	**Obs**	**Female**	**Male**
OBS	34701	51.97%	48.02%	34639	52.01%	47.98%
MEAN	7,31	7,31	7,31	7,55	7,58	7,53
STD. DEV	2,03	2,05	2,01	1,81	1,82	1,80
MEDIAN	8,00	8,00	8,00	8,00	8,00	8,00

Source: Own elaboration

Comparing means through T-student test, and their p-values 0.979 y 0.011 respectively, we could conclude men and women have the same Life Satisfaction, although women are a bit happier than men.

This fact could be explained because although worldwide women are happier than men (Fortin et al. 2015) at the country level the happiness gap favor females in some cases and males in others (Arrosa & Gandelman 2016). It would be interesting to examine gender differences among countries, to contrast this gap; however, we were limited to check it.

Nevertheless, we should remark the distinction individuals have between life satisfaction and happiness. Although at overall, they tend to display similar results, and often used as synonyms (Abdallah & Mahony 2012) for accurate perceptions they could offer distinct nuances.

b. Age and WB perception

In our study, as Table II presents, the youngest individuals are the happiest and the most life satisfied, although perceptions diminish until elderly that increase once again. Thus, it has been validated the existence of the U-Curve age on happiness (Graham & Pozuelo 2017, Twenge et al. 2016) that remarks about the lowest happiness perception by adulthood age. Specifically, individuals younger than 30 years present valuation of 7,55 points in happiness while those group aged from 51 to 65 have worse perceptions (7,12 points).

Table II: Life Satisfaction and Happiness perception by interval age

	LIFE SATISFACTION					HAPPINESS				
	Obs	**<=30**	**31-50**	**51-65**	**>65**	**Obs**	**<=30**	**31-50**	**51-65**	**>65**
OBS	34590	20.26%	32.12%	25.77%	21.84%	34530	20.28%	32.15%	25.77%	21.80%
MEAN	7,31	7,55	7,28	7,12	7,35	7,55	7,72	7,58	7,42	7,52
STD. DEV	2,03	1,82	1,99	2,18	2,08	1,81	1,67	1,78	1,87	1,89
MEDIAN	8,00	8,00	8,00	8,00	8,00	8,00	8,00	8,00	8,00	8,00

Source: Own elaboration

Pearson correlation between Life Satisfaction/Happiness and age are negative; thus the older individuals are, the lower Life Satisfaction/Happiness they report. Although attending their small result (- 0.046 with p-value 0.000 y -0.052 with p-value 0.000) existing correlation is moderately low.

ANOVA test of a factor with its P-values 0.000 indicate that there are differences in satisfaction and happiness according to age section. The post-hoc analyses suggest that the youngest group is the most satisfied/happy and the most unhappy/unsatisfied are those from 51-65 years, increasing valuations once again on older than 65, as the Fig. I presents, and as precedent researches have demonstrated (Graham & Pozuelo 2017, Twenge et al. 2016).

Fig. I. Life satisfaction and Happiness perception by interval age. *Source: Own elaboration*

c. Income source and WB perception

Income source also influences WB. Our study found there exist significative differences in WB perception depending on the main income household, and differences could be until 1 point depending on the circumstances. For instance, families that primary income source is unemployment or redundancy benefit display lower life satisfaction and happiness (6,07/ 6,57 respectively) than those whose income source comes from investment or savings (7,8/ 7,92 respectively).

ANOVA test of a factor (p-values 0.000) and their respective posthoc tests shows individuals that obtain income from unemployment or redundancy benefit are the most unsatisfied and unhappiest. Seconds less happy are those who receive income from social benefits and other sources followed pensions. The most satisfied and happiest individuals are those who get benefits from investment and savings, followed by farming, self-employed and salaried workers with that order as Fig. II shows.
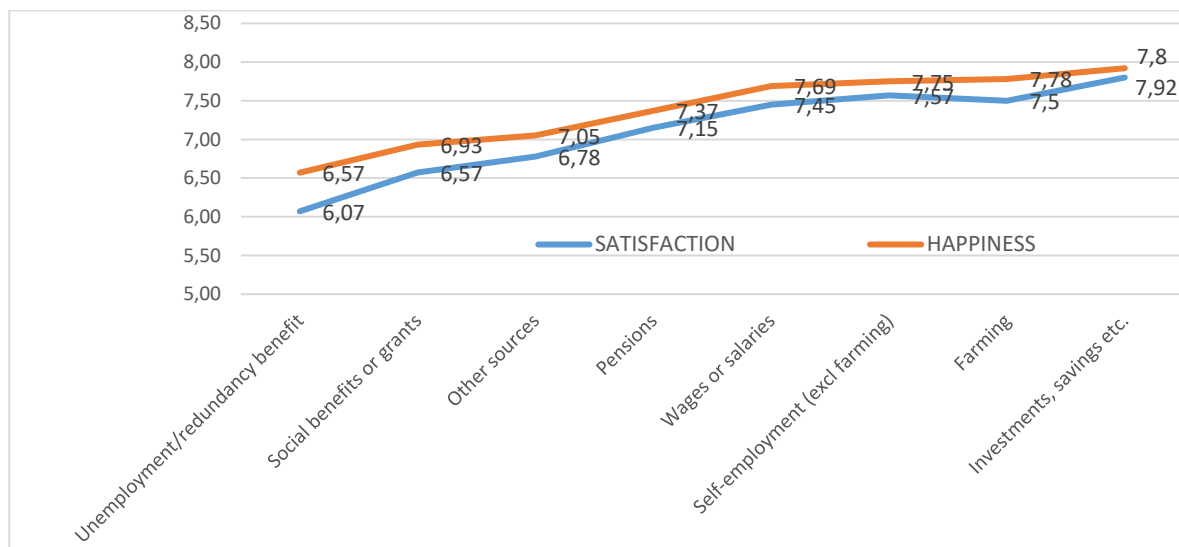

Fig. II. Life satisfaction and happiness perception by income source. *Source: Own elaboration*

No previous research about comparably income source has been found to link provided results.

d. The country and WB perception

The country also influences WB. As Table III reports, there are significative differences (more than 1,5 point in some cases) among nations. For instance, Russian Federation reports lower rates of happiness with 6,24 points while Switzerland reports 8,18 points (5,67 and 8,15 respectively on life satisfaction).

Table III: Life Satisfaction and happiness perception by country

	HAPPINESS				LIFE SATISFACTION			
	Obs	**Mean**	**Std. Dev**	**Median**	**Obs**	**Mean**	**Std. Dev**	**Median**
Austria	2001	7,55	1,80	8,00	2008	7,66	1,85	8,00
Belgium	1765	7,75	1,47	8,00	1763	7,48	1,62	8,00
Czech Republic	2263	6,87	1,83	7,00	2265	6,71	1,89	7,00
Estonia	2014	7,24	1,89	8,00	2019	6,78	2,05	7,00
Finland	1922	8,14	1,44	8,00	1923	7,98	1,60	8,00
France	2068	7,21	1,79	8,00	2068	6,54	2,27	7,00
Germany	2849	7,76	1,73	8,00	2846	7,52	2,01	8,00
Great Britain	1958	7,64	1,81	8,00	1957	7,34	2,02	8,00
Iceland	878	8,13	1,49	8,00	878	8,03	1,67	8,00
Ireland	2756	7,51	1,78	8,00	2752	7,26	1,89	7,00
Israel	2537	7,88	1,75	8,00	2544	7,79	1,91	8,00
Netherlands	1678	7,88	1,32	8,00	1679	7,77	1,51	8,00
Norway	1544	8,11	1,52	8,00	1543	7,94	1,68	8,00
Poland	1653	7,48	1,91	8,00	1680	7,16	2,11	8,00
Russian Federation	2395	6,24	2,16	6,00	2413	5,67	2,34	6,00
Slovenia	1302	7,47	1,92	8,00	1306	7,06	2,18	8,00
Switzerland	1523	8,18	1,48	8,00	1524	8,15	1,69	8,00
Sweden	1542	7,85	1,63	8,00	1543	7,89	1,77	8,00

Source: Own elaboration

Graphically, Fig. III distributes countries attending their Happiness, and Life satisfaction reported. Russian and the Czech Republic are the unhappiest countries, while Norway, Iceland, Finland, and Switzerland the ones that higher scores report.
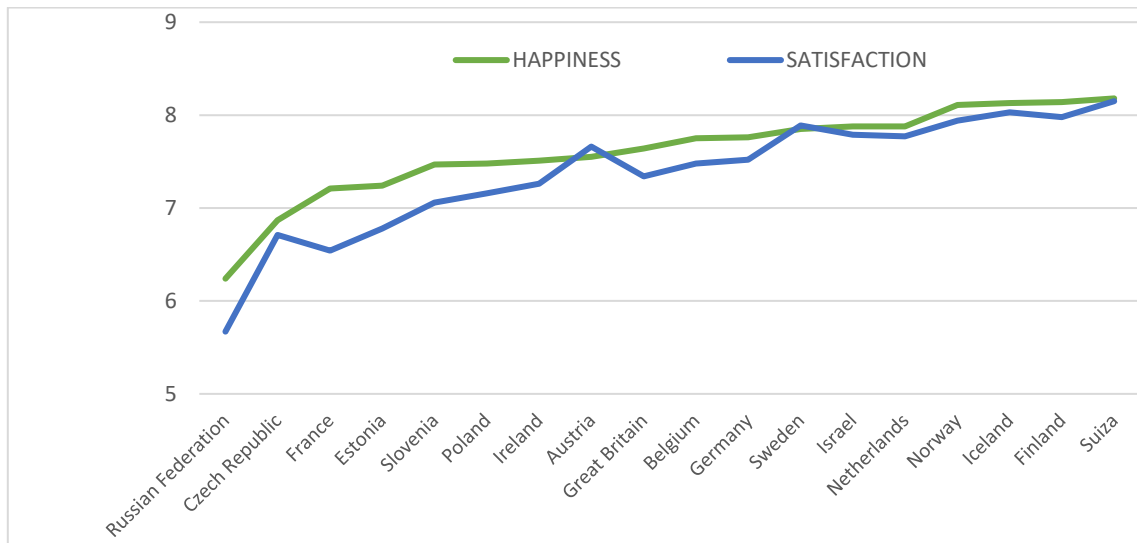

Fig. III. Life satisfaction and Happiness perception by country. *Source: Own elaboration*

Those results confirm precedent studies (Djankov et al. 2016; Frey 2018) that have demonstrated Nordic region leads happiest countries (Frey 2018, OECD 2016), while citizens from Eastern Europe are unhappier and less satisfied with life than their peers in other countries (Djankov et al. 2016). Furthermore, they confirm the situation of France with similar results as obtained by OECD Better Index Life 2017. France, with any public argument we could contrast occupies a low position on the rank, in the middle of eastern countries.

Moreover, in order to deepen in this analysis, dummy variables for each country have been created and applied linear regression. We wonder to know how life satisfaction (dependent variable) relate to independent variables (dummies created) and observe if some countries present better or worse life satisfaction compared to others.

Table IV demonstrates 15 of 18 countries are related to life satisfaction, by the way:

- Switzerland, Iceland, Finland, Norway, Sweden, Israel, Netherlands, Austria have positive coefficient B. Thus, life satisfaction in those countries increase as the other states do, at this order from higher to lower increase.
- Russia, France, Czech Republic, Estonia, Slovenia, Poland, Ireland, Great Britain have negative coefficient B. Thus, life satisfaction in those countries decrease when other countries increase, at this order from higher to lower decrease.
- Slovenia, Germany, and Belgium are not related to the fluctuation of life satisfaction of other countries.

Table IV: Regression Life Satisfaction by country

		B	SE B	β	
2	**(Constant)**	7,507	,028		*
	SUI	,642	,057	,065	*
	ICE	,525	,071	,041	*
	FIN	,470	,052	,053	*
	NOR	,431	,057	,044	*
	SWE	,382	,057	,039	*
	ISR	,287	,048	,037	*
	NET	,268	,055	,028	*
	AUS	,153	,052	,018	**
	GRB	-,171	,052	-,019	**
	IRE	-,252	,046	-,034	*
	POL	-,348	,055	-,037	*
	SLO	-,445	,060	-,042	*
	EST	-,732	,051	-,084	*
	CZE	-,796	,049	-,097	*
	FRA	-,967	,051	-,113	*
	RUS	-1,837	,048	-,230	*

* P < 0,00

 ** P<0,05

Source: Own elaboration

We could not check the reason for those relationships, neither we found similar researchers or results to compare. Nevertheless, the GPD values of each country also have been considered and related to evaluations of each state to check this influence. Specifically, 2017 GPD data of each country has been correlated with their life satisfaction perception. Results display a *negative* significant small correlation (-0,037). Thus, instead of a correlation, it could refer to a tendency that indicates that the higher GPD a country has, the lower life satisfaction individuals report.

However, those results contrast to previous research that defends there is a *positive* relationship between economic growth and self-reported WB although it is small or insignificant beyond a modest level of affluence (Layard 2011; Bartolini & Bilancini 2010; Easterlin 2013). Thus, we deepen on GPD analysis to contrast them.

By this way, the population has been distributed within four categories depending on the GPD of their country. Thus, 19.4% of population fits on low GPD group, 35,3% low-medium; 18,5% medium-high and 26,7% high GPD group.

Calculated ANOVA of a factor of GPD intervals offers new conclusions. As Table V presents ANOVA P-Value (p-value 0.000) and contrast post hoc demonstrate there is a positive relationship between GPD and life satisfaction at medium-high levels of GPD countries. However, the life satisfaction of higher GPD individuals is lower than other intervals.

Table V: Analysis GPD and Life Satisfaction

	LOW	LOW-MEDIUM	MEDIUM-HIGH	HIGH
OBSERVATIONS	6747	12254	6426	9284
MEAN	7,38	7,45	7,73	6,78
ST. DEVIATION	2,04	1,83	1,82	2,29
MEDIAN	8,00	8,00	8,00	7,00

Source: Own elaboration

Those conclusions contrast with previous studies that affirm richer countries are in general happier than developing countries (Diener et al. 2013), although GPD influence on life satisfaction is at a modest level of affluence (Layard 2011; Bartolini & Bilancini 2010; Easterlin 2013). Nevertheless, this is a controversial issue. It cannot be overlooked other authors (Stevenson & Wolfers 2008; Sacks et al. 2012) defend happiness and income are not related. Thus, further research should be carried on this way.

3. Conclusions

At overall, as Abdallah & Mahony defend, life satisfaction and happiness evaluation tend to display similar results, and often are used as synonyms (Abdallah & Mahony 2012), in our sample, reported evaluations of happiness have been in all cases slightly higher than life satisfaction, thus for accurate perceptions it should be chosen the term correctly because they could offer distinct nuances.

For instance, no gender distinctions have been found on life satisfaction evaluation in our sample, slight differences were found on happiness perception; being 0,02 points higher in women than men. Those results corroborate previous researches (Fortin et al. 2015).

It also has been validated the existence of the U-Curve age on happiness (Graham & Pozuelo 2017, Twenge et al. 2016) that refers the youngest individuals are the happiest and the most life satisfied; the lowest rates are on adulthood age, and on elderly that increase once again.

A new finding our research presents is income source influences WB, and no previous research has been found to link provided results. Our study found there exist significative differences in WB perception depending on the main income household. Families who obtain income from unemployment or redundancy benefit are the most unsatisfied and unhappiest. Seconds less happy are those who receive income from social benefits and other sources followed pensions. The most satisfied and happiest individuals are those who get benefits from investment and savings, followed by farming, self-employed and salaried workers.

The country also influences WB. Our sample confirm precedent studies (Djankov et al. 2016; Frey 2018) that have demonstrated Nordic region lead happiest countries (Frey 2018, OECD 2016)), while citizens from Eastern Europe are unhappier and less satisfied with life than their peers in other countries (Djankov et al. 2016). And furthermore, they confirm the case of France with similar results as obtained by OECD Better Index Life 2017.

A new finding of our study on this way is life satisfaction of some countries are related to them. For instance, Nordic countries increase their life satisfaction as others states do, while Eastern countries decrease their life satisfaction as other states increase it.

Regarding the influence of GPD values of each country, we could refer to a tendency that indicates that the higher GPD a country has, the lower life satisfaction individuals report. And although previous researches defend that relationship is positive small or insignificant (Layard 2011; Bartolini & Bilancini 2010; Easterlin 2013), results of all researches could agree on insignificant influence.

4. Further research

It could be interesting examine gender differences among countries, to contrast Arrosa & Gandelman theory, that argue at the country level the happiness gap favor females in some cases and males in others (Arrosa & Gandelman 2016).

It could be interesting on examine which factors are behind income source that influences WB perception. We think the psychological ones could influence more than the economic ones, although it should be correctly analyzed.

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