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ORIGINAL RESEARCH

Wealth and Life Satisfaction Across Europe: Cross-Sectional Evidence on Satiation and Cross-Country Heterogeneity

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Abstract
The relationship between wealth and well-being is less studied compared to income due to limited high-quality data on assets and debts. Wealth, rather than income, better captures an individual's economic position. This paper uses data from the Household Finance and Consumption Survey across 19 European countries and 87,335 observations to analyze the link between household wealth and life satisfaction. The findings show significant heterogeneity across countries regarding wealth satiation, where additional wealth no longer increases life satisfaction. Most countries show no increased life satisfaction for individuals with net wealth over 1 million euros. However, in Spain, Italy, and Malta, wealth satiation occurs at higher thresholds, between 2 and 3 million euros. This indicates that the impact of high wealth on well-being is complex and varies significantly across different cultural and economic contexts.

Keywords Life satisfaction · Subjective well-being · Wealth · Satiation

JEL Codes I31 · D31 · O52

1 Introduction

Can money improve subjective well-being? Research on this question is deeply rooted in a rich scholarly work that examines the relationship between income and subjective well-being metrics (Diener et al., 1993; Diener & Biswas-Diener, 2002; Easterlin, 2001; Clark et al., 2008). A significant segment of this literature has been dedicated to exploring the concept of well-being satiation, positing that beyond a certain income threshold, further increases in income do not contribute to greater well-being (Kahneman & Deaton, 2010; Jebb et al., 2018; Killingsworth, 2021; Killingsworth et al., 2023). Conversely, the investigation into the relationship between personal wealth— total assets minus liabilities—and

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happiness and life satisfaction has been less extensive, mainly due to the scarcity of comprehensive and reliable wealth data (Diener et al., 1985; Brown & Gray, 2016; D'Ambrosio et al., 2020). An even narrower body of work has examined the potential for wealth satiation, akin to the income satiation hypothesis (Diener et al., 1985; Donnelly et al., 2018; Easterlin, 2001). Nonetheless, this strand of research was often limited by methodological constraints, including small sample sizes, reliance on non-representative wealth data, or confined to single-country analyses. This is unfortunate as wealth could matter for subjective well-being even more than income (Buttrick & Oishi, 2023). In addition to providing consumption opportunities, wealth has several attributes that predispose it towards a favourable impact on life satisfaction or happiness. These attributes include its role in smoothing consumption throughout an individual's lifecycle, providing a financial buffer against adverse life events, acting as collateral for borrowing, generating capital income, and conferring high status, social prestige and political power (see, for example, Headey et al., 2008; Brown & Gray, 2016; D'Ambrosio et al., 2020; Jantsch et al., 2024).

This paper provides the most comprehensive examination so far of the relationship between wealth and life satisfaction, utilizing data from the 3rd (2017) and 4th (2021) waves of the Household Finance and Consumption Survey (HFCS), coordinated by the European Central Bank (Household Finance and Consumption Network, 2023b). Since we rely on cross-sectional data, our analysis can only describe average relationships in the population, not individual trajectories over time. We therefore test, at the country level, the hypothesis that (i) there is a wealth-satiation point beyond which additional wealth is no longer associated with higher life satisfaction, and (ii) this point varies systematically across national contexts. Our results show clear evidence of cross-country heterogeneity. On average across Europe, the wealth–life-satisfaction gradient flattens at roughly 1 million euro in household net wealth. In Spain, Italy and Malta, however, the slope remains positive up to about 2–3 million euro, suggesting either a much higher satiation threshold or none at all within the observed range. These findings underscore that the impact of very high wealth on well-being is context-dependent, cautioning against treating satiation thresholds as universal.

The HFCS offers cross-country comparable, harmonized data on household finances across Europe, including detailed information on assets and liabilities. Our analysis spans 19 European countries, encompassing 87,335 observations. A notable aspect of the HFCS is its strategic oversampling of wealthier households, partially mitigating the common issue of underrepresentation of high-wealth households in surveys (see Sect. 2.1). This enhancement allows our dataset to include a significant number of high-net-worth individuals (7,374 millionaires with a net worth af at least one million euro), providing improved insight into wealth distributions. We are also able to study wealth satiation at very high thresholds, up to 3 million euros. In contrast to previous studies (Diener et al., 1985; Donnelly et al., 2018; Schröder et al., 2020), our data is drawn from a multi-country, nationally representative household survey with improved measures of wealth and coverage of the richest. While the most comprehensive previous study relied on rough wealth data reported in a few brackets (Donnelly et al., 2018), we use the continuous HFCS net wealth variable carefully constructed as a sum of a variety of real and financial assets. To measure life satisfaction, the HFCS uses a standard question with answers on a continuous response scale from 0 to 10, where 0 indicates 'total dissatisfaction' and 10 indicates 'complete satisfaction'.

2 Data and Methods

2.1 Household Finance and Consumption Survey (HFCS) Data

The HFCS is a household survey coordinated by the European Central Bank (ECB).[1] It provides harmonized and cross-country comparable micro-data on household finances and consumption for 19 euro area European countries, including Czechia, Croatia, Hungary, and Poland. The survey collects detailed information on household balance sheets (real and financial assets, liabilities), income, consumption, socio-economic, and demographic characteristics. Four waves of data have been collected so far: 2010, 2015, 2017, and 2021. For a detailed description of the study and its methodology, see HFCN (2023a). Nationally representative samples are selected using stratified multistage probability designs. Sample sizes in the 2021 wave ranged from 1,332 households in Cyprus to 10,253 in France. Given that the life satisfaction variable appears only in the 2017 and 2021 waves of the survey, we use combined data from those two waves. The total size of the sample used is 87,335. Item non-response in the HFCS is accounted for using a multiple imputation strategy. The HFCS provides five imputed values (replicates) for each missing observation corresponding to one or other variable that makes up household wealth, consumption or income. All calculations in this paper are performed on each replicate data set separately, and the results are then combined using Rubin's rules (Rubin, 1987). All standard errors and confidence intervals were calculated using the bootstrap method with 1,000 replicate weights supplied with the HFCS.

A well-known fact is that the wealthiest households or individuals are badly underrepresented in household survey data (Vermeulen, 2016). Moreover, the rich can underreport their assets even when they appear in surveys. The HFCS uses an oversampling strategy to address this "missing rich" problem by drawing more observations from the top of the wealth distribution. Out of 22 HFCS countries participating in the 2021 HFCS wave, 17 use various oversampling strategies to reduce the bias resulting from the underrepresentation of the rich– see Household Finance and Consumption Network (2023a) for detailed information. Spain and France oversampled the rich using personal wealth data, and Lithuania used data on real assets. Estonia, Finland, Latvia, Luxembourg and Slovakia exploited personal income data. Other countries used proxies for wealth, such as household-level electricity consumption (Cyprus), the size of the dwelling (Portugal, Croatia), and the estimated value of the dwelling (Hungary).[2] Yet other countries used oversampling based on regional-level information (such as regional income and/or property prices). Czechia, Malta, Netherlands, Austria and Slovenia did not oversample the wealthy. These strategies allowed, in general, the presence of affluent households in the HFCS sample to improve considerably. The effective oversampling rate of the rich, the extent to which the share of wealthy households in

[1] Data from the HFCS can be accessed by researchers for scholarly purposes through the European Central Bank. Information required to request the data is available here: https://www.ecb.europa.eu/stats/ecb_surveys/hfcs/html/index.en.html. Furthermore, the code used for replication of our analysis is openly available in the OSF repository at the following URL: https://osf.io/ye96u/.

[2] While different countries used various proxies (such as dwelling size or electricity consumption) to implement oversampling strategies to increase representation of wealthy households during data collection, the final household net wealth variable used in this paper is consistently defined and harmonized across all HFCS countries. Therefore, the measure of net wealth is directly comparable across countries, enabling robust cross-country analyses.

the sample is higher than their share in the population, is sizeable. For instance, in the 2021 wave, it reached 136% for Germany, 157% for France, and 193% for Spain. For the present paper, the relative success of the HFCS oversampling strategy is particularly relevant as we focus on the subjective well-being of the wealthiest individuals.

However, even a successful oversampling does not entirely mitigate the "missing rich" problem in survey data. When accurate coverage of the very right tail of wealth distribution is of crucial importance, as in the case of this paper, researchers replace the most extreme wealth observations in surveys with data from fiscal sources, values implied by fitting theoretical models (e.g. Pareto model) or using data from the rich lists such as Forbes World's Billionaires. There is no consensus on the optimal threshold separating reliable wealth observations in survey data from unreliable ones. In the case of HFCS data, Vermeulen (2016) experimented with three thresholds: 500,000 euros, 1 million euros, and 2 million euros, while Eckerstorfer et al. (2016) set it to 4 million euros. In the regression analysis in this paper, we set the threshold to 3 million euros, which is slightly more than the 99th percentile of the net wealth distribution (2.6 million euros) in the sample covering all countries. Accordingly, we consider several possible wealth satiation thresholds starting from 100,000 euros (close to the median net wealth in our sample) to 3 million euros.

2.2 HFCS Life Satisfaction Variable

The HFCS includes a life satisfaction variable in its third (2017) and fourth (2021) waves. This information was collected solely from the individual identified as the household's highest income earner. The pertinent survey question was phrased as follows: "On a scale from 0 to 10, how satisfied are you overall with your life, where 'zero' means totally dissatisfied and '10' means completely satisfied?". In the third wave of the HFCS life satisfaction information was collected in Austria, Belgium, Cyprus, Germany, Estonia, Spain, Greece, Croatia, Ireland, Italy, Lithuania, Luxembourg, Latvia, Malta, Netherlands, Poland, Portugal, Slovenia, and Slovakia, while in the fourth wave in Germany, Estonia, Greece, Italy, Luxembourg, Latvia, Malta, Portugal, and Slovakia. Across two waves of HFCS data, 87,335 life satisfaction observations were collected from 19 countries.

2.3 HFCS Net Wealth Measure and Covariates

We measure household wealth using the HFCS net worth measure, which is defined as total household assets excluding public and occupational pension wealth minus total outstanding household liabilities. The combined data from the 2017 and 2021 waves are expressed in euros and converted to 2021 prices using inflation adjustment factors from HFCN (2013b).

In our regression analyses, we control for age in years, gender, marital status, number of children, and educational and labour market statuses.[3] Marital status is a categorical variable with five levels (single/never married, married, consensual union on a legal basis, widowed, divorced), educational attainment has four levels (primary education or less, lower

[3] A limitation of this study is that we do not account for individuals' health, a potentially crucial factor in the relationship between income/wealth and life satisfaction (see Becchetti & Pisani, 2021). Because self-assessed health is only available for Luxembourg in the HFCS (waves 3–4), we cannot generally include it as a covariate in our analysis. Future work with richer health data should help clarify whether health conditions shape the effects of wealth on well-being.

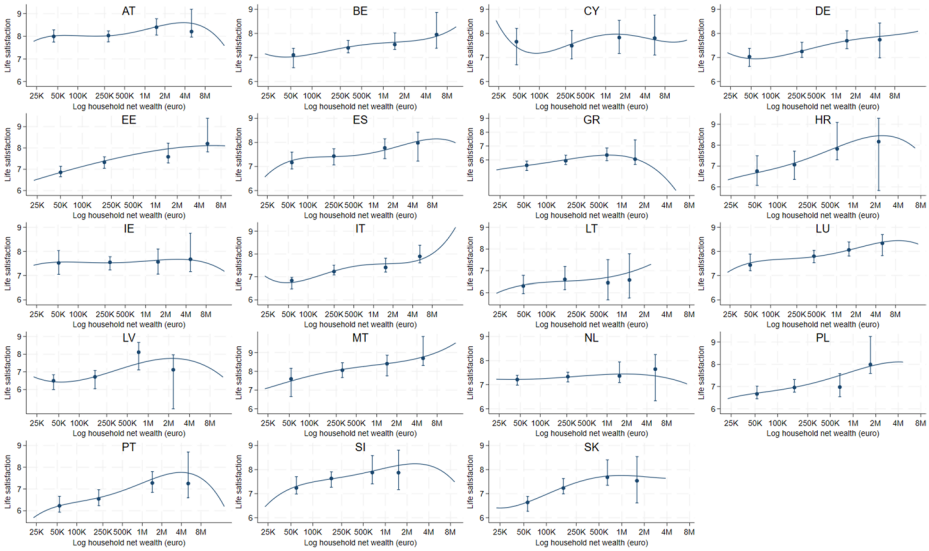

Fig. 1 Binned scatter plot of the relationship between life satisfaction (scale 0–10) and log household net wealth (euro in 2021 prices) for each country in the HFCS sample. *Note*: The binning knots are at 100 K, 1MK, and 3 M euros. Solid lines show global polynomial regression of order 5. Vertical bars show 95% confidence intervals for mean life satisfaction level in each bin conditional on covariates (age, gender, marital status, number of children, number of household members, educational attainment, employment status, country and survey wave dummies). HFCS data are averaged across five multiple imputations

secondary education, upper secondary or post-secondary non-tertiary education, short-cycle tertiary/bachelor/master/doctoral education), and labour market status is measured with five levels (employee, self-employed, unemployed, retired, and other).

2.4 Statistical Analysis

We present the relationship between wealth and life satisfaction using a binned scatter plot (binscatter). Specifically, we use the estimation and inference methods proposed in Cattaneo et al. (2024).[4] Figs. 1 and 2 below show the conditional relationship between (log) household wealth (in bins) and the mean of life satisfaction with confidence intervals and adjusting for the covariates (age, gender, marital status, number of children, and educational and labour market statuses). We use four bins defined by the following cut-off wealth values: 100,000, 500,000, and 1 million euros. For details on constructing confidence intervals for conditional means, see Cattaneo et al. (2024). Covariates are incorporated into the binscatter via semiparametric partially linear regression.

In addition to visual analysis of the wealth-life satisfaction relationship, we also employ a regression model to estimate the association's slope across various satiation thresholds ranging from 100,000 to 3,000,000 euros:

[4] See Supplementary appendix B for an extended description of this approach.

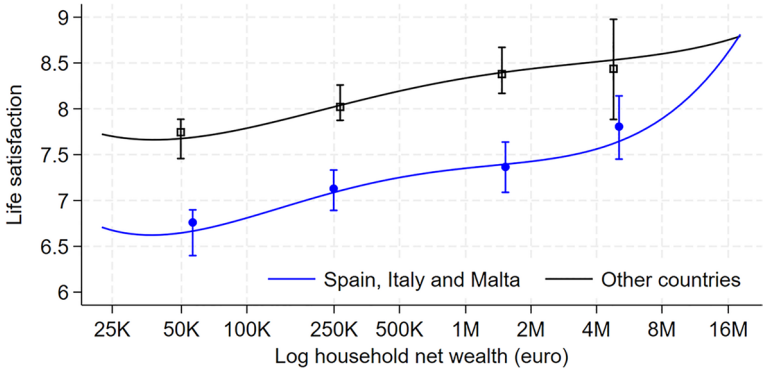

Fig. 2 Binned scatter plot of the relationship between life satisfaction (scale 0–10) and log household net wealth (euro in 2021 prices) for Spain, Italy and Malta, as well as for other countries (Austria, Belgium, Cyprus, Germany, Greece, Croatia, Ireland, Lithuania, Luxembourg, Latvia, Poland, Portugal, Slovenia, Slovakia). *Note*: The binning knots are at 100 K, 1 M, and 3 M euros. Solid lines show global polynomial regression of order 5. Vertical bars show 95% confidence intervals for mean life satisfaction level in each bin conditional on covariates (age, gender, marital status, number of children, number of household members, educational attainment, employment status, country and survey wave dummies). HFCS data are averaged across five multiple imputations

$$LS_{ijt} = \beta_1 W_{ijt} + \beta_2 d_{iij} + \beta_3 W_{ijt} d_{ijt} + \beta_4 X_{ijt} + \beta_5 \phi_{2021} + \epsilon_{ijt}, \tag{1}$$

where *i* denotes individuals, *j* denotes countries, *t* denotes time, LS is life satisfaction, W is the logarithm of household net wealth, d is a dummy variable indicating if $W_{ijt} \geq t$(for t= 100,000 euros,…, 3 M euros), X is a vector of control variables (age, gender, marital status, number of children, educational attainment, and labour market status), ϕ_{2021} is an indicator variable equal to 1 if an observation belongs to the 2021 HFCS wave (and 0 otherwise), and ϵ denotes the error term. Equation (1) is estimated using the OLS for the full sample and separately for individual countries with each of the following potential satiation thresholds: 100,000, 600,000, 1 million, 2 million, 2.6 million, 2.8 million, and 3 million euros. The first of these thresholds is close to the net wealth median for the entire sample (104,000 euros), the second one approximates the 90th percentile of the wealth distribution (570,000 euros), while the remaining ones are spreading towards and around the 99th percentile (2.6 M euros). The model for the full sample contains, in addition, country dummies. Our main estimates are the marginal effects of W on LS for individuals with household wealth higher than a satiation threshold *t*. They are given by $\widehat{\beta}_1 + \widehat{\beta}_3$. In other words, the displayed coefficients measure the slope of the wealth-life satisfaction relationship for persons with wealth exceeding a given satiation threshold *t*.

Our primary hypothesis regarding wealth satiation can be clearly formulated in terms of the regression coefficients estimated from Eq. (1). Specifically, if a wealth satiation threshold exists, the sum of coefficients $\widehat{\beta}_1 + \widehat{\beta}_3$, which represents the marginal effect of additional log-wealth on life satisfaction for individuals above the threshold, should be close to zero and statistically insignificant. Such a result indicates that further increases in wealth beyond this threshold no longer meaningfully enhance life satisfaction. Conversely, if the estimated sum $\widehat{\beta}_1 + \widehat{\beta}_3$ remains positive and statistically significant, it implies that wealth satiation has not yet been reached at the given threshold, suggesting continued improvements in life satisfaction as wealth increases.

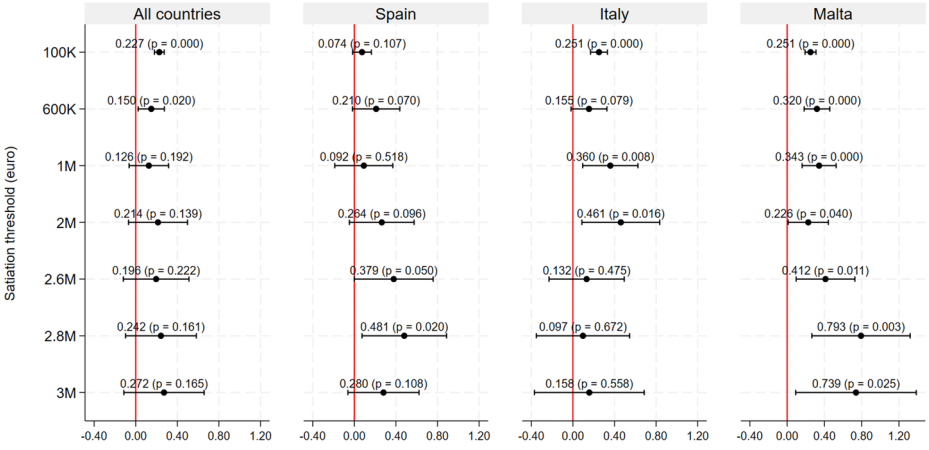

Fig. 3 Tests for wealth satiation of life satisfaction. *Note*: Reported coefficients are the estimated slopes of the life satisfaction-wealth relationship for people with household net wealth exceeding a given threshold. They are marginal effects of W on LS for individuals with household wealth higher than a satiation threshold t and calculated as $\widehat{\beta}_1 + \widehat{\beta}_3($ see Eq. 1). Control variables include age, gender, marital status, number of children, number of household members, educational attainment, labour market status, a wave dummy and country-specific dummies in the all-countries model. Horizontal bars show 95% confidence intervals calculated using 1,000 bootstrap replicate weights supplied with the HFCS. Accounting for the multiple imputation nature of the HFCS data, all coefficients and standard errors obtained are combined using Rubin's rules (Rubin, 1987)

To check whether social comparisons mitigate the relationship between wealth and life satisfaction, we estimated a version of the model (1) that includes among the control variables the average wealth of the reference group and its interaction with the d indicator identifying the wealthy:

$$LS_{ijt} = \beta_1 W_{ijt} + \beta_2 d_{iij} + \beta_3 W_{ijt} d_{ijt} + \beta_4 W^{rg}_{ijt} + \beta_5 W^{rg}_{ijt} d_{ijt} + \beta_6 X_{ijt} + \beta_7 \phi_{2021} + \epsilon_{ijt}, \quad (2)$$

where W^{rg}_{ijt} is the logarithm of the average household net wealth of the reference group. The reference groups are defined using all combinations of within-country age (less than 35, 35–53, 54–63, and more than 64 years old) and education categories (primary or less, lower secondary, upper secondary, tertiary or higher). In this case, our estimates are the marginal effects of W on LS based on Eq. (2).

Accounting for the multiple imputation nature of the HFCS, all estimates are obtained by combining results calculated for each of the five implicate HFCS data sets using the rule of Rubin (1987).[5] Standard errors and confidence intervals are computed by bootstrap using 1,000 replicate weights provided in the HFCS.

[5] See Supplementary appendix B for an extended description of the Rubin's rules.

3 Results and Discussion

Figure 1 presents the relationship between log-transformed household wealth and life satisfaction for each individual country in the HFCS sample. The results suggest significant heterogeneity in the slope of the association across countries. In particular, for some countries such as Austria, Cyprus, Ireland, and the Netherlands, the relationship appears flat throughout most of the wealth distribution. In other cases, the figure does not clearly indicate whether the slope is generally positive or if it flattens in the upper part of the wealth distribution. On the other hand, a few countries—notably Spain, Italy, and Malta—exhibit a rather positive slope in the wealth-life satisfaction association that may be significantly higher for higher wealth values compared to lower ones. Based on this result, we group the HFCS countries into two clusters: (1) Spain, Italy, and Malta, and (2) the remaining countries, including Austria, Belgium, Cyprus, Germany, Estonia, Greece, Croatia, Ireland, Lithuania, Luxembourg, Latvia, the Netherlands, Poland, Portugal, Slovenia, and Slovakia. Figure 2 shows a positive correlation between wealth and life satisfaction for both groups.[6] However, this association appears more pronounced in Spain, Italy, and Malta, particularly at higher wealth levels. Conversely, for the second group, the increase in life satisfaction with greater wealth is less marked, suggesting a plateau effect. In Spain, Italy, and Malta, there seems to be no clear 'wealth satiation' point where additional wealth ceases to contribute to further increases in life satisfaction. However, this visual analysis is only preliminary, and we cannot treat the observed changes as statistically significant.

We now turn to a more formal test of the wealth satation hypothesis. Figure 3 presents the estimated slopes of the wealth-life satisfaction association above a range of satiation thresholds spanning from 100,000 to 3,000,000 euros obtained using model (1).[7] Coefficients not significantly different from zero are consistent with the wealth satiation hypothesis. In our comprehensive analysis across all countries, we found no evidence of wealth satiation at the median wealth level (100,000 euros) or at the 90th percentile (600,000 euros) within the net wealth distribution. Yet, beyond a threshold of 1 million euros in household net wealth (about the 96th percentile of the distribution), we observed no additional increases in life satisfaction. This trend likely reflects a general leveling off in the wealth-life satisfaction relationship across the population, rather than a lack of statistical power, given the substantial size of our sample.

In contrast, wealth satiation in Spain, Italy, and Malta, does not occur at significantly higher thresholds—2.8 million euros in Spain, 2 million euros in Italy, and 3 million euros in Malta. While the estimated slopes beyond these points in Spain and Italy are not statistically significant, they surpass the 99th percentile of net wealth distribution in these countries. The HFCS's feature to oversample wealthy individuals notwithstanding, data at the extreme upper end of wealth distribution is typically less reliable, potentially explaining the statistical insignificance at these very high wealth levels. Therefore, we interpret our findings to suggest that, in Spain, Italy, and Malta, wealth satiation– if it occurs– does so at much higher levels of wealth compared to other European nations, or it might not occur at all. Moreover, beyond the clear cases of absent or very high wealth satiation thresholds identified in Malta, Italy, and Spain, several countries such as Austria, Greece, Portugal, and

[6] As suggested by an anonymous reviewer, I also estimated the relationship using spline regression models (see Jebb et al., 2018). The findings remained robust to this change (results available upon request).

[7] The detailed regression results are available in Supplementary Appendix Tables S1-S4.

the Netherlands show slightly declining slopes at very high wealth levels.[8] While this could potentially suggest "oversatiation" (decreasing marginal utility of wealth beyond a certain threshold), caution is necessary due to limited observations in the highest wealth categories. Future studies with larger samples of extremely wealthy individuals could help to validate these patterns.

It is noteworthy that the correlation between wealth and life satisfaction identified in our study appears more pronounced than the link between income and life satisfaction highlighted in previous research (Kahneman & Deaton, 2010; Killingsworth, 2021). Specifically, our findings suggest that for Europeans with a household net wealth exceeding 100,000 euros, the doubling of net wealth is associated with a 0.16 point increase in life satisfaction on a scale of 0 to 10. This relationship between log-transformed wealth and life satisfaction ($r = 0.22$) is somewhat stronger than the correlation previously reported between log-transformed income and life satisfaction ($r = 0.17$) (Killingsworth, 2021). Furthermore, our data show that the average life satisfaction score for individuals with household wealth below 1 million euros is 7.11, compared to 8.02 for those whose wealth exceeds 1 million euros.

Our findings complement recent literature explicitly focused on the relationship between wealth and subjective well-being. Donnelly et al. (2018), using two international samples of millionaires, found that greater wealth predicted only moderately higher happiness among millionaires, and only at very high levels (above approximately $8–10 million). They did not, however, explicitly test for diminishing returns or identify satiation points. Similarly, Schröder et al. (2020), utilizing detailed data on German millionaires, documented higher average life satisfaction among millionaires compared to the general population but did not examine whether or how additional increments in wealth affected subjective well-being at the upper end of the distribution. In contrast, our analysis directly addresses the hypothesis of wealth satiation by explicitly estimating thresholds at which further wealth accumulation ceases to significantly contribute to life satisfaction. We find robust evidence of wealth satiation points in most European countries, although notable exceptions emerge, particularly Spain, Italy, and Malta, where wealth continues to positively predict life satisfaction even at exceptionally high levels. This cross-country heterogeneity represents an important extension beyond previous work, which did not empirically address or identify specific wealth thresholds. Lastly, our findings are consistent with recent evidence highlighting wealth's stronger correlation with subjective well-being relative to income (D'Ambrosio et al., 2020; Jantsch et al., 2024).

We have found substantial heterogeneity concerning wealth satiation in European countries. In most countries, life satisfaction flattens at moderately high levels of household wealth. However, in Spain, Italy and Malta, this flattening effect occurs at much higher wealth levels, if at all, indicating a lack of a uniform pattern of wealth satiation among the wealthy in different nations. This variation suggests that wealth satiation may be influenced by factors unique to each country, such as the cultural attitudes of the rich towards wealth and its social functions. Unfortunately, the HFCS data set does not include variables on individual values and attitudes, precluding an analysis of these potential mediators or moderators. In addition, all available cross-country micro-data sets that study individual value attitudes, such as the European Social Survey or the European/World Value Survey, do not contain explicit information on household wealth. Hence, at this point, this plausible

[8] I am grateful to an anonymous referee for drawing my attention to this point.

explanation of our finding remains speculative. Future cross-country surveys incorporating robust measures of these dimensions would greatly aid in testing and clarifying the role of cultural and attitudinal factors in shaping the wealth–life satisfaction relationship.

Previous research has highlighted the role of social comparisons in shaping subjective well-being (Clark et al., 2008; Brown & Gray, 2016). According to the social comparison hypothesis, individuals derive subjective well-being not solely from their absolute level of wealth or income but also from their relative position compared to a relevant reference group. Theoretically, if social comparisons significantly influence subjective well-being, individuals with higher wealth might only experience increased life satisfaction if their wealth exceeds that of their peers. Consequently, beyond a certain threshold, additional absolute increases in wealth may not enhance subjective well-being if these increments do not meaningfully improve one's relative standing. In our context, this would mean that the satiation point (if present) might shift when controlling for reference-group wealth, as relative comparisons could moderate or mediate the relationship between wealth and life satisfaction. We extended our baseline specification to empirically investigate this possibility by incorporating the average wealth of relevant reference groups (see Eq. 2). Specifically, we defined reference groups by combining individuals of similar age and educational attainment within each country. We then included the logarithm of the average reference-group wealth and its interaction with a dummy indicating whether the individual is above the respective wealth satiation threshold.

The primary expectation was that if social comparison mechanisms play a key role, the inclusion of reference-group wealth should significantly alter the estimated satiation thresholds or reduce the slope of the wealth–life satisfaction relationship for the wealthy. In other words, once relative wealth position is accounted for, the marginal impact of absolute wealth might become smaller or even insignificant if subjective well-being primarily depends on relative rather than absolute wealth. Empirical findings from this additional analysis (Fig. 4) reveal that adjusting for reference-group wealth did not substantially alter our initial conclusions regarding wealth satiation. Even after controlling for these social comparisons, the observed differences in satiation thresholds between Spain, Italy, Malta, and the other European countries remained robust. This result suggests that relative wealth positions do not explain the heterogeneity in wealth satiation points observed across Europe.

Future studies should explore the limitations of the present study. Research should try to include the ultra-wealthy, such as billionaires, and broaden the scope to encompass other subjective well-being indicators like happiness and emotional states (joy, sadness, etc.). While this paper focused on Europe, studying the links between high wealth and subjective well-being in other parts of the world would also be interesting. Furthermore, enriching the wealth surveys with qualitative data on personal values, preferences, and attitudes could elucidate the complex relationships between wealth and subjective well-being, thereby contributing to a deeper understanding of these dynamics. Finally, this paper is based on cross-sectional HFCS data, which does not allow to capture individual-level adaptation processes or within-individual changes in life satisfaction in response to changes in wealth. Nonetheless, this limitation is shared by virtually all previous studies on high income or wealth and subjective well-being, which similarly rely exclusively on cross-sectional data. Future research utilizing longitudinal datasets tracking individuals' wealth and subjective well-being over time would be highly beneficial for exploring adaptation and further validating our results.

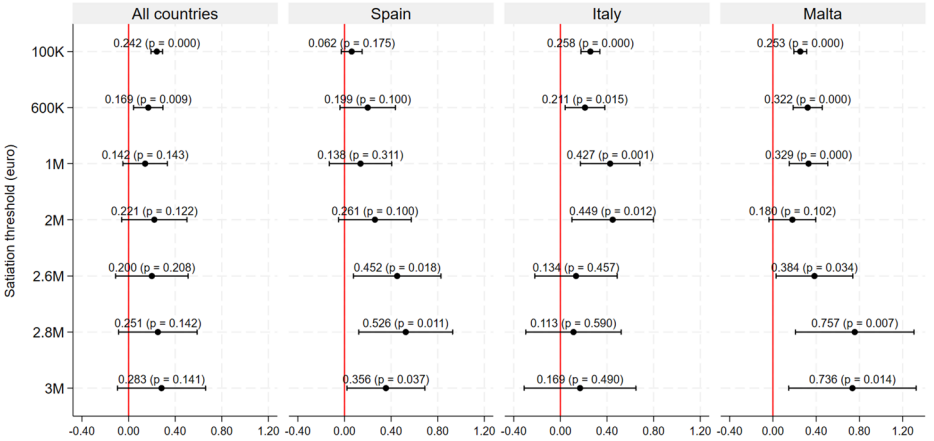

Fig. 4 Tests for wealth satiation of life satisfaction with reference group wealth as an additional control. *Note*: Reported coefficients are the estimated slopes of the life satisfaction-wealth relationship for people with household net wealth exceeding a given threshold. They are marginal effects of W on LS for individuals with household wealth higher than a satiation threshold t (see Eq. 2). Control variables include age, gender, marital status, number of children, number of household members, educational attainment, labour market status, a wave dummy and country-specific dummies in the all-countries model. Horizontal bars show 95% confidence intervals calculated using 1,000 bootstrap replicate weights supplied with the HFCS. Accounting for the multiple imputation nature of the HFCS data, all coefficients and standard errors obtained are combined using Rubin's rules (Rubin, 1987)

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s11205-025-03638-2.

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Data Availability Researchers can access data from the HFCS for scholarly purposes through the European Central Bank. Information required to request the data is available here: https://www.ecb.europa.eu/stats/ecb_surveys/hfcs/html/index.en.html. Furthermore, the code used for replication of our analysis is openly available in the OSF repository at the following URL: https://osf.io/ye96u/.

Declarations

Conflict of Interest The authors declare that they have no conflict of interest.

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