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Article — Published Version

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Social Indicators Research

Provided in Cooperation with:

Springer Nature

Suggested Citation: Delhey, Jan; Gercke, Marcus (2025) : Europeans' Happiness from an Egalitarian Perspective: More Equal Overall, but Often More Polarized Between Rich and Poor, Social Indicators Research, ISSN 1573-0921, Springer Netherlands, Dordrecht, Vol. 179, Iss. 1, pp. 441-462, <https://doi.org/10.1007/s11205-025-03619-5>

This Version is available at:

<https://hdl.handle.net/10419/330772>

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Europeans' Happiness from an Egalitarian Perspective: More Equal Overall, but Often More Polarized Between Rich and Poor

Jan Delhey¹ · Marcus Gercke¹

Accepted: 29 April 2025 / Published online: 17 May 2025
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Abstract

European countries have become more prosperous since 2000, but social and economic development has also become more crisis-prone and, in particular, characterized by growing economic inequality. From an egalitarian perspective, the question arises as to how this ambivalent situation has affected the distribution of subjective well-being and, in particular, the gap between rich and poor. Based on life satisfaction data for 27 countries from 10 waves of the European Social Survey (2002–2024), this paper examines whether well-being within nations has become more unequal, both in the populations as a whole (overall dispersion) and between income groups specifically (group polarization). For the total population, our results suggest that there is growing equality in life satisfaction almost everywhere, which is mainly driven by falling unemployment and increases in national prosperity. In about half of the countries, however, we find an increasing polarization of life satisfaction between rich and poor, fueled by rising national prosperity and increasing social protection expenditures. From an egalitarian point of view, the last two decades have thus brought both progress and regression.

Keywords Life satisfaction · Well-being · Happiness inequality · Polarization · Income groups · Trend analysis

1 Introduction

Economic inequality has increased in many Western and European countries since the 1990s (Alderson et al., 2005; Makhoul, 2023). Prominent social scientists have long warned of the far-reaching consequences of a wide—and widening—gap between rich and poor, such as declining social mobility, greater health and social problems, and dwindling support for democracy (Grusky & Maclean, 2016; Stiglitz, 2012; Wilkinson &

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Pickett, 2010). But is people's subjective well-being also affected? Has well-being inequality increased along with economic inequality?

Previous studies based on data up to early 2000 have suggested that this fear did not materialize in Western Europe (Clark et al., 2016; Veenhoven, 2005), mainly as a result of income growth. But has this progressive trend continued, and, if so, has it continued throughout Europe? Economic inequality has continued to rise in many countries and socioeconomic development has become more crisis-prone overall, which has led to economic insecurity, especially among low-income and other vulnerable groups (Hacker, 2006; Ranci et al., 2021). A study that extended the Eurobarometer time series to the mid-2010s reports rising inequality in life satisfaction in the countries most affected by the euro zone crisis (Jorda et al., 2019). Against this background, the present article examines changes in the well-being distribution over more than two decades (2002–2024) with population-representative data from the European Social Survey (ESS) for a large number of European countries.

Our paper makes three contributions. First, we update the above-mentioned research on the evolution of well-being inequality in the total population, using the most recent data. Second, we examine changes in the extent of well-being polarization between the top and bottom income groups. When it comes to the effects of widening economic disparities, we believe it is essential to compare the happiness with life of richer and poorer people directly. To our knowledge, evidence of changing between-group happiness inequality only exists so far for individual countries, such as the USA (Stevenson & Wolfers, 2008), Germany, and Switzerland (Lipps & Oesch, 2018), and—surprisingly—not for income groups. Finally, we provide evidence of which changes in fundamental socioeconomic conditions have driven changes in well-being inequality. There are mainly cross-sectional studies on this topic (e.g., Berg & Veenhoven, 2010; Delhey & Kohler, 2011; Kalmijn & Veenhoven, 2005), and longitudinal studies (Graafland & Lous, 2019) are rare exceptions. Longitudinal studies have so far mainly focused on the macro determinants of happiness *levels* rather than disparities (Bartolini et al., 2017; Evans et al., 2019; Schröder, 2018).

The remainder of this paper is organized as follows. First, we clarify our main concepts and outline what expectations are plausible for trends in well-being inequality, based on the sequence model of life evaluation (Veenhoven, 2012) and existing research. We then introduce our data set and the measures we used to quantify well-being inequality within nations. We move on to the results of our analysis, place them in the context of the current state of research, and, finally, discuss their broader implications.

2 Conceptual Clarifications, Expectations, and State of Research

2.1 Life Satisfaction and its Inequality

Recent decades have seen a growing interest in subjective life outcomes—that is, how people perceive and evaluate their quality of life, also known as happiness or (subjective) well-being. Individuals' life satisfaction has been suggested as a means to capture well-being as comprehensively as possible; this can be defined as the “*degree to which an individual judges the overall quality of his/her own life-as-a-whole favorably*” (Veenhoven, 1984, p. 22, italics in the original). This key expression of evaluative well-being is considered to be less volatile and more cognitively based than measures of emotional well-being (Diener et al., 2003; Nettle, 2005).

According to Veenhoven's (2012) sequence model, happiness with life in the sense of life satisfaction is the outcome of a stepwise assessment process. The model's starting point is a person's life chances, which result from individual life skills (e.g., intelligence), personal resources (e.g., economic capital), and larger societal conditions (e.g., national wealth and income distribution). These—differentially favorable—life chances generate a stream of positive or negative events that a person encounters in daily life, which in turn is reflected in a corresponding stream of pleasant or unpleasant experiences of both a cognitive and emotional nature that form the basis for the individual's general assessment of life, which ultimately also factors in social and other comparisons (Michalos, 1985).

Looking at life satisfaction from an egalitarian perspective means taking a primary interest in its distribution (Veenhoven & Kalmijn, 2005). Because the central input variables of the sequence model are unequally distributed between individuals (e.g., some have better life abilities, others worse; some have more personal resources, others fewer), there is also a certain inequality in life satisfaction: nowhere is everyone equally happy (or unhappy). Even though it is obvious that happiness cannot simply be "redistributed" like other goods, political bodies have adopted the idea of aiming for the highest possible well-being for all citizens, which implies a low level of inequality. The Council of Europe (2008, p. 14) has explicitly committed itself to the goal of cohesive well-being and defined cohesion as "the capacity of a society to ensure the well-being of all its members, minimising disparities and avoiding marginalisation."

Two main approaches can be distinguished in how happiness inequality is conceptualized (Quick, 2015). The first and most widespread approach considers the subjective well-being of all members of society and expresses the resulting distribution in one number, be it the standard deviation (e.g., Berg & Veenhoven, 2010), the percent-maximum standard deviation (e.g., Delhey & Kohler, 2011), the Gini index (e.g., Gandelman & Porzecanski, 2013), or various ordinal inequality measures (e.g., Bérenger & Silver, 2022; Grimes et al., 2023); no gold standard has yet been established. Comparatively equal distributions of well-being are typically found in Europe and English-speaking New World countries, more unequal ones in the Middle East and North Africa, in Latin America, and, especially, sub-Saharan Africa (Berg & Veenhoven, 2010; Delhey & Kohler, 2011; Helliwell et al., 2022). Country characteristics that are associated with low happiness inequality cross-nationally include economic prosperity, egalitarian income distribution, low levels of corruption, and a climate of social trust (Delhey & Kohler, 2011; Ovaska & Takashima, 2010; Salahodjaev, 2021; Veenhoven & Kalmijn, 2005), conditions that are also conducive to high levels of happiness (Ott, 2005; Veenhoven, 2012).

The second approach focuses on the inequality in well-being between predefined groups. This can involve the comparison of demographic groups such as urbanites and country-dwellers (Burger et al., 2020), or of socioeconomic groups differentiated by income, education, or social class. Typically, higher-status people enjoy a higher level of subjective well-being, which gives rise, for example, to a gap between the rich and the poor (Caporale et al., 2009; Delhey & Steckermeier, 2016; Schyns, 2002). However, these gaps are not the same size everywhere. In Europe in the early 2000 s, differences in life satisfaction between top and bottom groups according to income, education, or class were small in Nordic countries and much greater in post-socialist countries (Delhey, 2004).

2.2 Expectations for the Development of Life Satisfaction Inequality

In this article, we seek to determine whether well-being inequality *has changed* during the past two decades. The fact that European countries have become even wealthier in the new

millennium could certainly mean a continuation of the positive trend toward a more equal well-being that was identified for the three decades up to the early 2000s (Clark et al., 2016; Veenhoven, 2005). Yet other developments could suggest a break in the trend, first and foremost the widening economic gaps between rich and poor in many countries. These distributive shifts themselves are fueled by precarious working conditions (Standing, 2011), a growing low-wage sector, and the transition to an activating welfare state. According to Nachtwey (2018), we are living in a new era of regressive modernization, which works like the escalators in a department store: for some it is still going up, but for others it is going down. Empirically, economic capital is associated with happiness and life satisfaction (see above); so, if economic resources are more unequally distributed today, this should—all other things being equal—lead to more unequal flows of life events, experiences, and therefore emotions and cognitions, thus making greater satisfaction inequality likely. Widening income disparities also mean that those with low incomes fare even worse in social comparisons (Layard et al., 2010), which could further increase happiness inequality.

The succession of social and economic crises could also suggest a break in the positive trend toward more even distribution of happiness. The global financial crisis in 2008/9 plunged the majority of European countries into a recession, while the eurozone debt crisis in the period 2010–2014 primarily affected countries in Southern Europe, plus Ireland. For several years, unemployment rose across Europe, but most dramatically in southern Europe (Boeri & Jimeno, 2016; Heidenreich, 2016). There, and in Europe's liberal welfare states, the rate of people with severe material deprivation increased (Heidenreich, 2016). Cuts in welfare state benefits disproportionately affected the vulnerable and especially low-income groups (Matos, 2022). The strong influx of migrants in 2015/16, and again in 2022 as a result of Russia's war of aggression against Ukraine also had the strongest impact on the lives of the lower classes, as many migrants compete with them for similar jobs (Jetten, 2019) and social benefits (Cordero et al., 2023). Due to the war, the supply of energy has become more difficult and therefore more expensive, and in combination with the supply shortages caused by the coronavirus pandemic, consumer prices rose sharply in 2022 and 2023. Typically, low-income earners are the ones who feel inflation the most. The general argument we want to put forward is that periods of economic malaise and social turbulence hit the already disadvantaged groups hardest—which could have resulted in widening gaps in subjective well-being overall and between richer and poorer people in particular.

What is known from the existing studies? Two studies, roughly covering the period 1970–2000, concluded that inequality in life satisfaction has narrowed in most Western European countries (Clark et al., 2016; Veenhoven, 2005). For the period 2006–2021, the World Happiness Report (Helliwell et al., 2022) echoes this conclusion for European countries on average; however, averaging could conceal diverging trends in individual countries. Notably, a recent research paper points to a growing disparity in life satisfaction in countries severely affected by the eurozone debt crisis (Jorda et al., 2019). For post-communist countries, first an increase, then a decrease in life satisfaction inequality has been reported since the 1990s (Arslan, 2023), largely parallel to the initially difficult and then consolidating transformation process. Looking beyond Europe, there is evidence of declining happiness inequality for single countries like the USA (Dutta & Foster, 2013; Stevenson & Wolfers, 2008), Japan (Araki, 2023), and South Africa (Kollamparambil, 2020), as well as globally (Veenhoven, 2005). Interestingly, and confusingly, the World Happiness Report identifies widening disparities in well-being as a global trend, except for Europe (as mentioned above).

There is only scarce evidence on how between-group well-being inequality has evolved. In the USA, differences in life satisfaction according to gender, race, marital

status, and age have narrowed, while differences by education have widened (Stevenson & Wolfers, 2008). The happiness gap between rich and poor has also widened in the USA (Okulicz-Kozaryn & Mazelis, 2017). For Germany, a recent study points to widening gaps between social classes (Lipps & Oesch, 2018).

For the most part, these trend studies tend to be descriptive, so the question of what drives happiness inequality can be considered to be under-researched. A comparative study on Western Europe pointed to the crucial role of changes in national prosperity (Clark et al., 2016), while a comparison of OECD countries highlighted changes in income inequality (Graafland & Lous, 2019). Another research paper focusing on one country case, Germany, confirmed the positive role of increases in average income in reducing happiness inequality, whereas growing unemployment has the opposite effect (Becchetti et al., 2014).

The present study aims to expand knowledge on the following research questions:

RQ1: Has the trend toward greater well-being equality in European countries continued over the past two decades, or has this trend reversed?

RQ2: What changes in socioeconomic conditions influence well-being inequality over time, either increasing or decreasing it?

We use life satisfaction as an indicator of well-being and analyze its distribution from two distinct perspectives on polarization. The first perspective examines the distribution of satisfaction within the population as a whole and uses a measure designed for ordinal variables. In light of the ongoing debate regarding the cardinal (Kalmijn & Arends, 2010; Kalmijn & Veenhoven, 2005) versus ordinal measurement of life satisfaction inequality (Cowell & Flachaire, 2017; Jenkins, 2020), we have adopted an approach that accounts for the ordinal nature of the data. The second perspective compares the overlap between distributions of life satisfaction in two pre-defined subpopulations, richer and poorer people. To clearly distinguish these two perspectives, we refer to general polarization as *overall dispersion* and to the polarization between income groups as *(income) group polarization*.

As for the potential drivers, we closely follow our storyline (see above) and focus on socio-economic factors. First, we consider economic inequality, which we measure using various indicators. We also take into account macroeconomic factors, including national prosperity, unemployment, inflation, and social spending. Changes in these parameters critical to well-being reflect the increased volatility—if not the susceptibility to crises—of European societies over the past two decades. Finally, we consider social trust as a key indicator of social cohesion (Larsen, 2013) about which many people are deeply concerned today. The chosen explanatory variables are repeatedly used in comparative quality-of-life research to explain happiness levels (e.g., Bjørnskov, 2003; Welsch & Bonn, 2008), happiness inequality (e.g., Delhey & Kohler, 2011; Veenhoven & Kalmijn, 2005), and inequality-adjusted happiness levels (Veenhoven & Kalmijn, 2005).

3 Data and Methods

To describe and explain trends in well-being inequality, this study employs individual-level survey data that are aggregated at the country level and supplemented by country-level social indicators.

Table 1 Descriptive information for the country sample, period 2002–2024

Variable	Countries	ESS Rounds	Mean (*Median)	Overall SD	Within SD	Min	Max
LIFESAT	27	10	7*	0.95	0.41	5	9
Trust	27	10	5*	1.10	0.36	3	7
LIFESAT-OD	27	10	24.54	6.51	2.23	13.20	38.70
LIFESAT-GP	27	10	26.64	7.50	4.53	7.60	46.40
GDPpc _{t-1}	27	10	36,275.12	16,593.05	12,052.38	6961.08	127,873.20
log. GDPpc _{t-1}	27	10	10.40	0.46	0.31	8.85	11.76
Gini _{t-1}	27	10	29.03	3.34	1.11	22.30	38.10
Unemployment _{t-1}	27	10	8.25	4.45	3.15	1.87	27.69
Social protection _{t-1}	27	10	16.62	4.28	1.62	7.50	26.40
Inflation _{t-1}	27	10	2.61	2.60	2.36	-4.45	17.13
Age structure _{t-1}	27	10	25.43	4.91	3.09	14.70	38.35

LIFESAT-OD = Overall dispersion of life satisfaction; LIFESAT-GP = Income group polarization of life satisfaction. Explanatory variables are lagged by one year ($t - 1$) except for trust. Country data are inter- and extrapolated across ESS rounds; see Appendix 1

Life Satisfaction Data on life satisfaction were taken from 10 rounds of the European Social Survey Cumulative File (ESS 1–11, 2024). The ESS has been conducted biannually since 2002 (Round 1), with the 2024 survey (Round 11) being the most recent one. Round 10 from 2020 was excluded due to an interim change in survey mode during the coronavirus pandemic. The subsequent analyses cover 27 countries; we excluded countries that had participated in fewer than three ESS rounds (seven countries)¹ or had missing data on key explanatory variables, including variables used for robustness checks (three countries).² The ESS contains the following established item to measure life satisfaction: “All things considered, how satisfied are you with your life as a whole nowadays? Please answer using this card, where 0 means extremely dissatisfied and 10 means extremely satisfied” (European Social Survey European Research Infrastructure Consortium [ESS ERIC], 2024).

Table 1 presents the descriptive statistics for the inter- and extrapolated sample. The median life satisfaction for the entire sample is 7. The lowest country median is 5, and the highest is 9. The overall standard deviation (SD) of the sample is just under one scale point (0.95); the within-country SD is considerably lower at 0.41 (see Table 1). The overall SD represents the standard deviation for the entire sample across all countries and years, whereas the within-country standard deviation (within-country SD) represents the standard deviation within each country over the time period covered. Missing values of aggregated data between available data points were linearly interpolated, while missing information beyond the available data was replaced with the last observed data point. Detailed information on the availability of country-year data is provided in the appendix (Table 1).

¹ These countries are Albania, Kosovo, Montenegro, North Macedonia, Romania, Serbia, and Turkey.

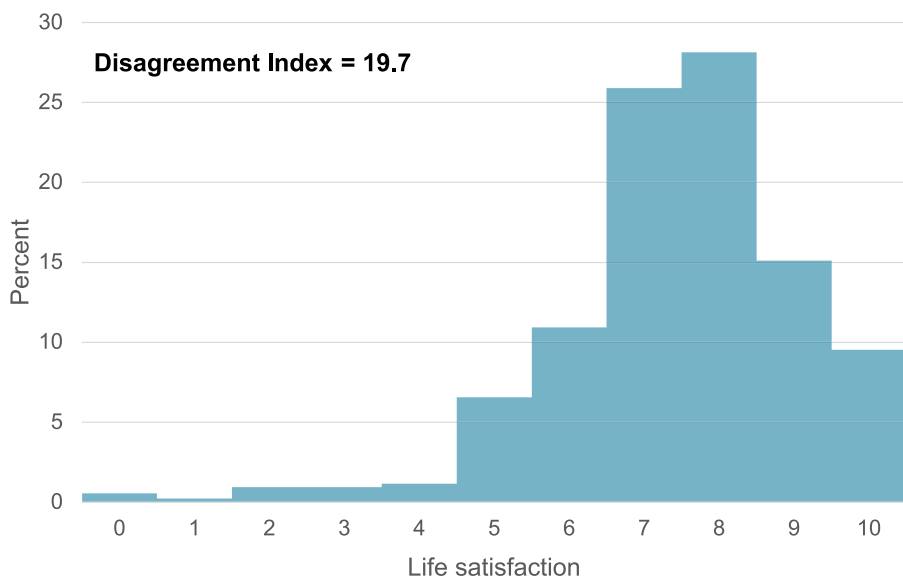
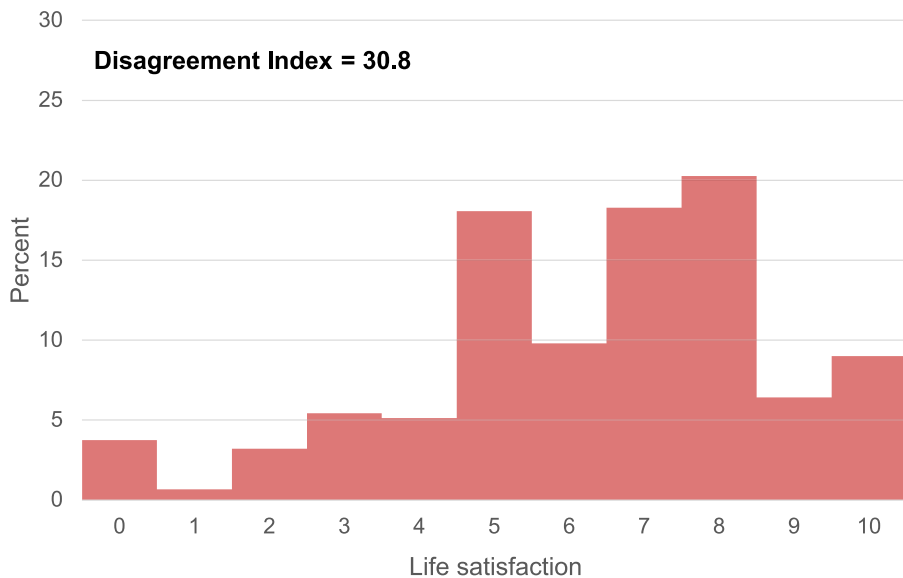
² These countries are Israel, Russia, and Ukraine.

Overall Dispersion of Life Satisfaction To quantify the well-being inequality in the total population, we calculated Van der Eijk's (2001) Agreement A, inverted it, and scaled it from 0 to 100, with higher values indicating greater inequality and polarization. Agreement A, designed specifically for ordinal rating scales, is based on the principle that consensus is highest when responses cluster in a single category (a homogenous, unimodal distribution) and lowest when they are evenly split between two categories (a polarized, bimodal distribution). Mathematically, Van der Eijk's method decomposes the response distribution into semi-uniform layers, where each layer consists of contiguous non-empty categories. The original range of Agreement A is from -1 (perfect bimodality) to $+1$ (perfect unimodality). To derive a measure of disagreement, we first rescaled Agreement A to a range of 0 to 1, then inverted it and multiplied by 100. The resulting Disagreement Index is defined as: $(1 - A_{\text{rescaled}}) \times 100$. A value of 0 occurs when all respondents select the same category (greatest possible homogeneity); a value of 100 occurs when respondents are evenly split between just two categories—that is, half of respondents are very dissatisfied, the other half very satisfied (greatest possible polarization). A value of 50 indicates a uniform distribution of respondents across all categories. Please note that the index does not indicate the level of satisfaction at which the (dis)agreement occurs. According to the Disagreement Index, the mean overall dispersion of life satisfaction in the sample is 24.54, with an overall SD of 6.51 and a within-country SD of 2.23. The empirical values range from 13.2 to 38.7 (see Table 1).

Figure 1 illustrates this approach with ESS data for Cyprus. In 2002, responses were concentrated in categories 7, 8, and 9, resulting in a low score of the Disagreement Index (19.7). In 2024, categories 7, 8, and 9 are less strongly filled, while categories 0, 2, 3, 4, and 5 are somewhat more strongly filled. Respondents are more spread out across the satisfaction scale, which is reflected in the higher Disagreement Index (30.8).

Polarization of Life Satisfaction Between Income Groups (Group Polarization) As a preparatory step, we first harmonized the ESS income data, as income categories changed from Round 3 onward. To obtain a continuous income variable, we assigned each respondent the mean value of their reported monthly income category (e.g., €75 for the category "0 to €150"). To account for differences in household size, we applied the square root equivalence scale, a method commonly used in the Luxembourg Income Study (Buhmann et al., 1988) and by researchers working with OECD data (Thewissen et al., 2018). Specifically, we adjusted disposable household income by dividing it by the square root of the number of household members before forming income quintiles.

To assess the polarization of life satisfaction between income groups, we compared how (dis)similar the distributions of life satisfaction of the poorest and richest quintiles are. Our starting point was the extent to which the two distributions overlap, using the overlapping coefficient (OVL; see Lelkes, 2016). The simple idea is that the similarity between two distributions increases as their area of overlap grows. Mathematically, the overlapping area is determined by the integral of their probability density functions and can be approximated using their standard normal cumulative distribution functions (for details, see Goldstein, 1995; Inman & Bradley, 1989). The overlapping coefficient ranges from 0 (no overlap, complete dissimilarity) to 1 (complete overlap, complete similarity). To obtain a measure of dissimilarity, we simply invert the overlap coefficient and rescale it from 0 to 100. This Dissimilarity Index is thus defined as: $(1 - \text{OVL}) \times 100$. Higher index values

Distribution of life satisfaction in Cyprus 2002**Distribution of life satisfaction in Cyprus 2024****Fig. 1** Overall dispersion of life satisfaction in Cyprus, 2002 versus 2024

indicate less overlap between distributions and, consequently, greater polarization between groups. The mean group polarization in the sample is 26.64, with an overall SD of 7.50 and a within-country SD of 4.53. The empirical values range from 7.60 to 46.40 (see Table 1).

Figure 2 illustrates how this measure works in practice, taking Finland as a real-life example. The dark blue color indicates the area where the life satisfaction distributions of the poor and the rich overlap. As can easily be seen, this overlap is greater in 2002 than in 2024. Consequently, the Dissimilarity Index was smaller in 2002 (a score of 16.5) than in 2024 (with 35.9). In other words, the polarization of life satisfaction has increased between rich and poor.

National Prosperity The level of prosperity, our first explanatory variable, is measured as gross domestic product (GDP) per capita in current international dollars, adjusted for purchasing power parity (PPP) (World Bank, 2024a).

Income Inequality We retrieved income distribution data (the Gini coefficient) from the Standardized World Income Inequality Database (SWIID; Solt, 2020). The Gini index ranges from 0 to 100, with higher values indicating greater income inequality. In robustness checks, we alternatively used the S80/S20 ratio (Eurostat, 2024a), which compares the income share of the top and bottom quintiles, based on total equivalized disposable income. In another robustness check, we used the at-risk-of-poverty rate as a measure of inequality, sourced from Eurostat (2024b). This rate indicates the proportion of individuals in a country whose monthly income is below 60% of the national median equivalized disposable income (after social transfers).

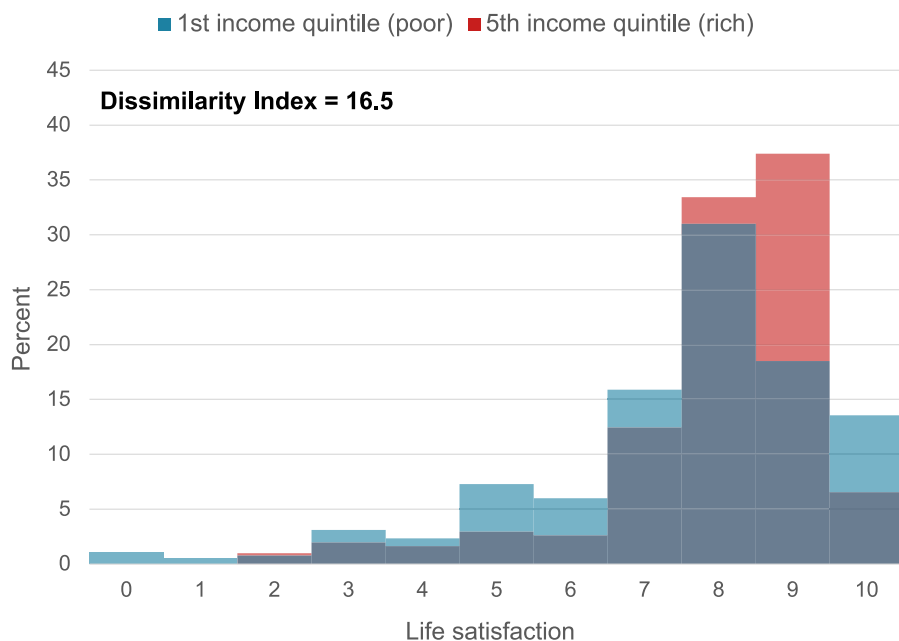
Unemployment Data on unemployment (% of total labor force) were drawn from the World Bank (2024b). The unemployment rate represents the percentage of the labor force that is unemployed but available for work.

Inflation Data on inflation (consumer prices, annual %) were sourced from the World Bank (2024c). The indicator measures the annual percentage change in the cost of a fixed or periodically adjusted basket of goods and services for the average consumer, based on the consumer price index (CPI).

Social Protection To operationalize state-provided social protection, we sourced data from Eurostat (2024c) on general government expenditure on social protection (% of GDP). Data for the United Kingdom were sourced from the OECD's (2024) Social Expenditure Database (SOCX).

Trust Social trust was measured using the following ESS item: "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can't be too careful and 10 means that most people can be trusted" (ESS ERIC, 2024). The median response category was aggregated at the country level, and missing data points were interpolated (with the same approach as for life satisfaction, see above).

Polarization of life satisfaction between rich and poor in Finland 2002



Polarization of life satisfaction between rich and poor in Finland 2024

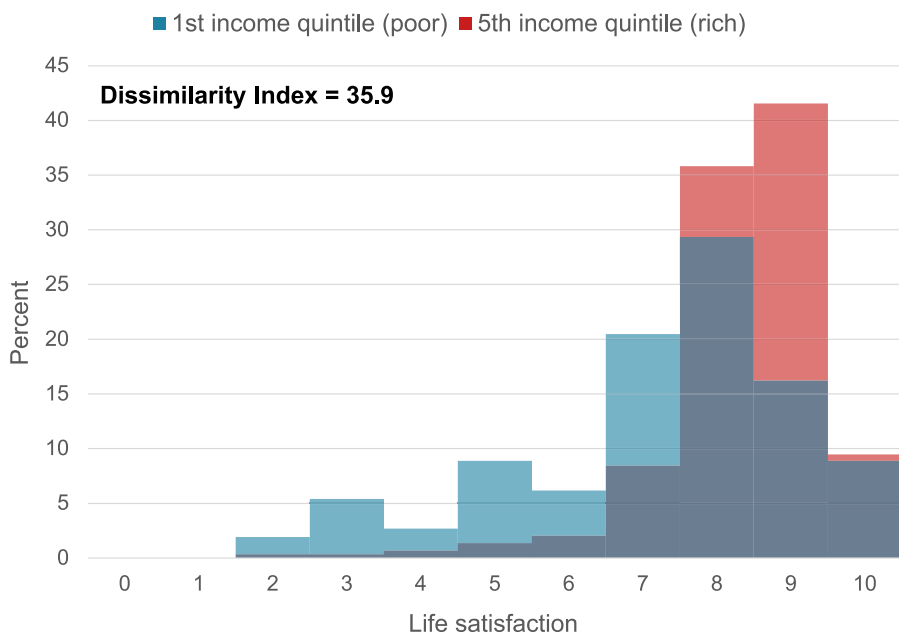


Fig. 2 Life satisfaction group polarization in Finland, 2002 versus 2024

Age structure The age structure, which we used as a control variable, was operationalized using the old-age dependency ratio (% of the working-age population), sourced from the World Bank (2024 d). This ratio represents the number of individuals aged 65 and older per 100 people of working age (15–64 years).

Civil liberties and Political Rights For further robustness checks, we examined the influence of political conditions, using data from Freedom House. The *civil liberties rating* (Freedom House, 2024a) measures the extent of freedom of expression and association, the rule of law, and personal autonomy. The *political rights rating* (Freedom House, 2024b) assesses the extent of free and fair elections, political pluralism and participation, and the functioning of government. Both ratings range from 1 to 7, with lower scores indicating greater liberties and rights.

4 Analytic Strategy

For the two dependent variables of our study, overall dispersion and group polarization in life satisfaction, we first present descriptive information on their development from 2002 to 2024. We then estimate stepwise two-way fixed-effects (TWFE) regression models to examine which changes in our explanatory variables determine changes in our two measures of life satisfaction inequality. Accordingly, we focus on the estimated within-country effects. TWFE modeling makes it possible to control for unobserved heterogeneity and time-invariant factors, known as country fixed effects (Allison, 2005), such as political regime type or religious tradition. Robust standard errors are clustered at the country level to account for within-country correlation over time, thus ensuring robust inference despite potential serial dependence or heteroskedasticity. Additionally, year fixed effects are included to control for time-specific shocks and global trends that may influence all countries simultaneously, thereby isolating within-country variation over time (Kezdi, 2003).

In the first sequence, we regress the log GDP, the Gini coefficient, the unemployment rate, the social protection expenditure share, the inflation rate, and the age structure on the inequality in life satisfaction, overall (M1) and between income groups (M3). In the second sequence (M2, M4), we extend the analysis by including generalized trust. We “separate” trust because, like life satisfaction, it is a subjective variable, so reverse causality could be an issue (Graafland & Lous, 2019). Because changes in societal conditions probably only affect satisfaction after a certain delay, the explanatory variables were lagged by one year ($t - 1$). The only exception is the social trust data (sourced from ESS 1–11), as lagging this variable would have resulted in the exclusion of ESS Round 1 from the analysis.

Following Bartram (2022, p. 189), who argues that significance levels can be disregarded when interpreting country-level effects, we focus exclusively on relative effect sizes in our analysis. Because significance levels are only relevant in inferential statistics—where samples are used to generalize effects to a larger population—they hold no meaningful role here. Our data from 27 countries do not constitute a sample of a larger population (e.g., all European or global countries), nor do we aim to generalize beyond them. Thus, country-level effects are self-contained and can be considered a full census. For information, we nevertheless report unstandardized coefficients with significance levels but do not discuss them in detail. To standardize the raw within-country regression coefficients (b_x) we apply the following equation (Bartram, 2022, p. 192):

$$\beta_x = b_x \times \frac{\text{within } SD_x}{\text{within } SD_y}$$

where x represents the independent variable (e.g., log. GDP) and y represents the dependent variable (e.g., overall dispersion of life satisfaction). Following Bartram (2022, p. 192), we evaluate the standardized beta coefficients (β) against Cohen's d cut-off values, categorizing effect sizes as small ($\beta > 0.2$), medium ($\beta > 0.5$), or large ($\beta > 0.8$).

5 Results

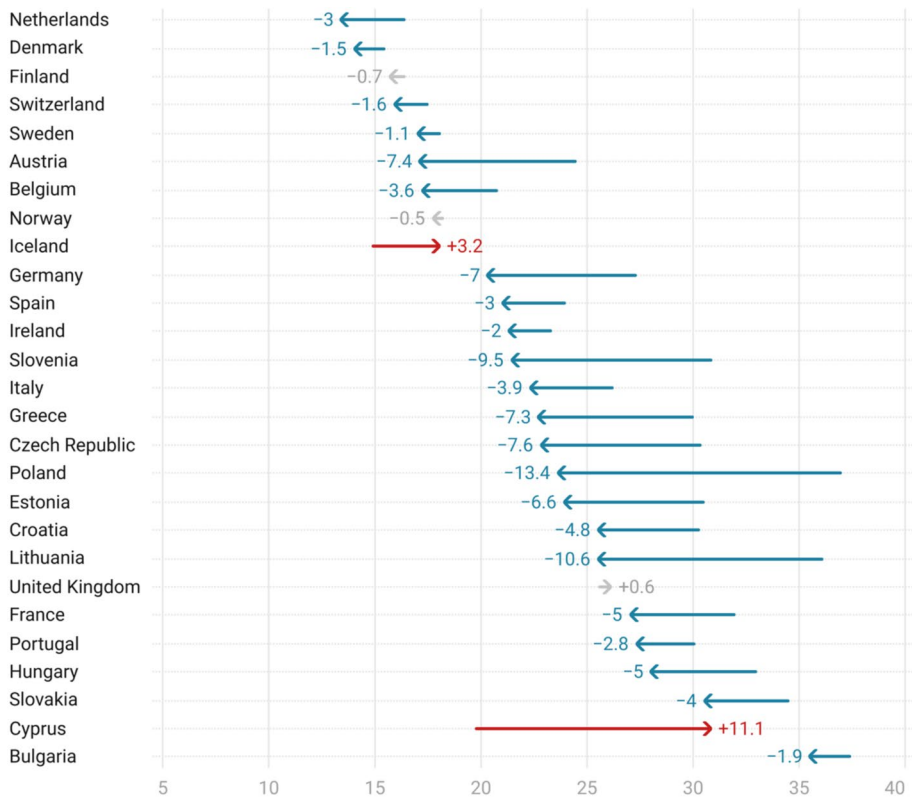
5.1 Dispersion of Life Satisfaction in the Total Population

Figure 3 displays how unequal life satisfaction is in the total population in 2024, which is indicated by the position of the arrowhead. Satisfaction is most homogeneous in the Netherlands, with a Disagreement Index score of 13 (all index scores mentioned in the main text are rounded), and most polarized in Bulgaria, with a score of 36. Generally, satisfaction tends to be more equally distributed in Northern and Western Europe and more unequally distributed in Southern and Eastern Europe. The top 10 most satisfaction-egalitarian countries include all five Nordic countries.

Figure 3 also displays how the overall dispersion has changed from 2002 to 2024. These trends are indicated by the colored arrows: blue for a decreasing (that is, homogenizing) dispersion, red for increasing (that is, polarizing), gray for minor changes of less than one point on the index from 0 to 100. The color blue dominates, which suggests that the life satisfaction distribution has become more homogeneous in most countries ($n = 22$). The largest drops—and hence the greatest egalitarian progress—were recorded in three former socialist countries: Poland (−13 index points), Lithuania (−11), and Slovenia (−10). In Finland, Norway, and the United Kingdom, the overall dispersion has remained unchanged, while in just two countries it has become more polarized: in Iceland (+ 3 index points) and in Cyprus (+ 11). A correlation of the pooled time series data indicates a slight downward trend over time ($r(270) = -0.148$, $p < 0.015$).

What is causing these changes within countries? Table 2 presents the results of two multiple TWFE models: one without the climate of social trust (M1) and one with it (M2). The non-standardized coefficients in the upper part of the table report the number of index points by which the mean within-country dispersion of life satisfaction has changed over time if the respective explanatory variable increased by one unit (units vary depending on the variable). The lower part of the table provides the standardized β -coefficients, and thus relative effect sizes, and we exclusively focused on this information.

According to the R-squared values, the two models estimated explain slightly below 40% of the within-country variance in life satisfaction dispersion. Based on standardized effect sizes, three main drivers emerge: changes in national prosperity (negative small effect), changes in unemployment rates (positive small effect), and changes in the age structure (negative small effect). Rising national prosperity is associated with life satisfaction becoming more homogenous in the total population (M1: $\beta = -0.279$). This effect persists when social trust is included in M2 ($\beta = -0.247$). Rising unemployment is associated with life satisfaction becoming more polarized overall (M1: $\beta = 0.282$). This effect remains robust in M2 ($\beta = 0.283$). Third, an increasing old-age dependency



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Fig. 3 Changes in the overall dispersion of life satisfaction, 2002–2024, *Note:* Dispersion measure: Disagreement Index [0;100]; 0 = complete agreement (perfect unimodality); 50 = uniform distribution; 100 = complete disagreement (perfect bimodality). Correlation over time: $r(270) = -0.148$, $p < 0.015$

ratio is associated with life satisfaction becoming more homogenous in the total population (M1: $\beta = -0.388$), and this effect also remains robust in M2 ($\beta = -0.326$). The other explanatory variables—income inequality Gini, social protection expenditure, inflation, and trust—each exhibit effects below the threshold for a small effect in both models. Robustness checks (see Appendix A2 to A5) confirm that the results remain unchanged when income inequality is measured using the S80/S20 ratio or the at-risk-of-poverty rate instead of the Gini coefficient. Furthermore, the results are robust to the influence of changes in civil liberties and political rights as additional control variables.

5.2 Polarization in Life Satisfaction Between Income Groups

Figure 4 shows, country by country, how dissimilar the distributions of life satisfaction are between the richest and poorest income quintiles; the extent of polarization in 2024 is

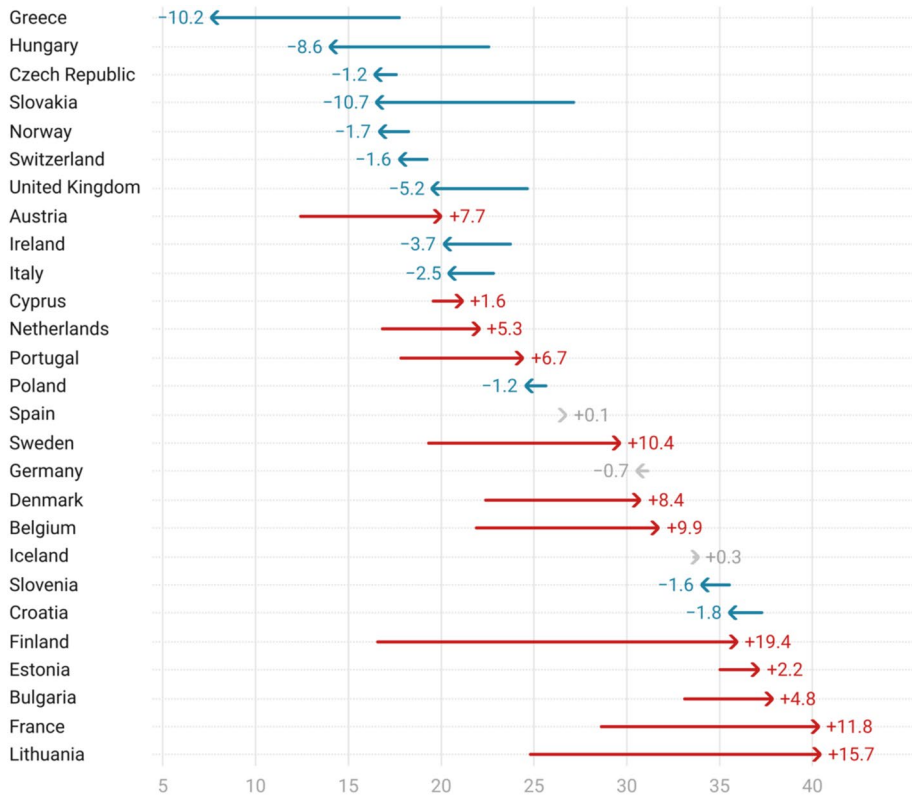
Table 2 Within models for overall dispersion of life satisfaction, 2002–2024

	(M1)	(M2)
VARIABLES	LIFESAT-OD	LIFESAT-OD
log. GDPpc _{t-1}	-2.007	-1.782
Gini _{t-1}	-0.023	-0.036
Unemployment _{t-1}	0.199 [†]	0.200 [*]
Social protection _{t-1}	0.161	0.149
Inflation _{t-1}	0.083	0.076
Age structure _{t-1}	-0.280	-0.235
Trust		-0.675 [†]
Round	0.058	0.042
Standardized effect sizes β		
log. GDPpc _{t-1}	-0.279	-0.247
Gini _{t-1}	-0.011	-0.018
Unemployment _{t-1}	0.282	0.283
Social protection _{t-1}	0.117	0.108
Inflation _{t-1}	0.088	0.080
Age structure _{t-1}	-0.388	-0.326
Trust		-0.110
Observations	270	270
Countries	27	27
ESS Rounds	10	10
F-Stat	10.78	10.76
R-squared within	0.386	0.396

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, [†] $p < 0.1$. Standardized effect (β) size of b: small ($0.2 < \beta < 0.5$); medium ($0.5 < \beta < 0.8$); large ($\beta > 0.8$). $\beta = b_X \times \text{within } SD_X / \text{within } SD_Y$

indicated by the position of the arrowhead. Greece scores by far lowest on the Dissimilarity Index (a value of 8), which means that polarization is lowest here. Put differently, the life satisfaction distributions of Greek's rich and poor overlap by no less than 92%. Polarization is also quite low in Hungary, the Czech Republic, Slovakia, Norway, Switzerland, and the United Kingdom, all with Dissimilarity Index scores below 20. At the other end of the league table, we find Finland, Estonia, and Bulgaria with scores exceeding 35, and France and Lithuania with scores exceeding 40, which indicates stronger group polarization. In France and Lithuania, the life satisfaction distributions of rich and poor currently overlap by slightly less than 60%.

Figure 4 provides a further illustration of how polarization between rich and poor developed from 2002 to 2024. Blue arrows represent decreasing polarization, red arrows increasing, and gray arrows minor changes below a scale point in either direction. The many red arrows immediately catch the eye: Polarization between rich and poor has increased in almost half of the countries ($n = 12$), most notably in Finland, with a jump of +19 points on the Dissimilarity Index. In 2002, Finland was one of the least polarized countries, now it is one of the most polarized. We further find a strong trend toward polarization between rich and poor in Lithuania, France, Sweden, and Belgium (+10 index points or more). In contrast, in the 12 countries marked by blue arrows, group polarization has decreased, most notably in Slovakia (-11 index points), Greece (-10), and Hungary (-9). In Germany



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Fig. 4 Changes in group polarization in relation to life satisfaction (highest vs. lowest income quintile), 2002–2024. *Note:* Polarization measure: Dissimilarity Index [0;100]; 0 = no polarization (complete overlap of the two distributions); 100 = absolute polarization (no overlap of the two distributions). Correlation over time: $r(270) = 0.123$, $p < 0.05$

and Spain, there was no change. Correlation of the pooled time series data confirms an upward trend of group polarization over time ($r(270) = 0.123$, $p < 0.05$). For some countries, the trend between rich and poor contrasts with the trend for overall dispersion shown above; this is also reflected in the relatively weak, yet still positive, association between the two measures ($r(270) = 0.225$, $p < 0.001$).

According to the multiple TWFE models (Table 3), within-country changes in life satisfaction polarization between income groups are less well explained by our set of predictors than changes in overall dispersion ($R^2 = 13.5$ max.). Standardized effect sizes suggest that national prosperity and social protection expenditure—both with small positive effects—exceed the threshold for a small effect and thus qualify as the main drivers. As national prosperity rises, life satisfaction becomes somewhat more polarized between rich and poor (M3: $\beta = 0.349$, M4: $\beta = 0.322$). The same applies when governments increase their expenditures on social protection (M3: $\beta = 0.207$, M4: $\beta = 0.214$), which may sound counter-intuitive. However, increasing social protection expenditure may indicate an increase in the number of people who depend on it – a dependence that might widen rather than narrow the well-being gap between

Table 3 Within models for group polarization in life satisfaction (highest vs. lowest income quintile), 2002–2024

	(M3)	(M4)
VARIABLES	LIFESAT-GP	LIFESAT-GP
log. GDPpc _{t-1}	5.108	4.710
Gini _{t-1}	0.575 [†]	0.598 [†]
Unemployment _{t-1}	0.098	0.096
Social protection _{t-1}	0.579 [*]	0.599 [*]
Inflation _{t-1}	-0.258 [†]	-0.246 [†]
Age structure _{t-1}	0.130	0.051
Trust		1.191
Round	-0.183	-0.154
Standardized effect sizes β		
log. GDPpc _{t-1}	0.349	0.322
Gini _{t-1}	0.141	0.147
Unemployment _{t-1}	0.068	0.067
Social protection _{t-1}	0.207	0.214
Inflation _{t-1}	-0.134	-0.128
Age structure _{t-1}	0.089	0.035
Trust		0.095
Observations	270	270
Countries	27	27
ESS Rounds	10	10
F-Stat	4.584	3.706
R-squared within	0.128	0.135

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, [†] $p < 0.1$. Standardized effect (β) size of b: small ($0.2 < \beta < 0.5$); medium ($0.5 < \beta < 0.8$); large ($\beta > 0.8$). $\beta = b_X \times \text{within } SD_X / \text{within } SD_Y$

rich and poor. Changes in the other socioeconomic conditions have standardized effects below the threshold for a weak effect and are therefore substantively negligible.

Robustness checks (see Appendix A6 to A9) indicate that the effect of social protection expenditure falls below the threshold for a small effect when income inequality is measured using the S80/S20 ratio or the at-risk-of-poverty rate. In contrast, the effect of national prosperity remains robust. Changes in income inequality remain negligible regardless of its concrete measurement. The results from M3 and M4 are also robust to changes in civil liberties and political rights.

6 Discussion and Conclusions

The starting point of our investigation was the coincidence of a (further) rise in income inequality in many European countries and a succession of economic crises since 2000. This, and the inconclusiveness of previous research, motivated two research questions: (a) Has there been a trend toward growing inequality of subjective life outcomes—measured as life satisfaction—in European countries over the past two decades? (b) What changes in socioeconomic conditions have worked to increase or decrease it? For 27 ESS countries, we examined the well-being distribution in a longitudinal design through two lenses of

polarization—across all members of society (overall dispersion) and between the upper- and lower-income groups specifically (group polarization).

A first important result is that the overall dispersion and group polarization are only weakly related, evolved in different directions in quite a number of countries, and have different socioeconomic drivers. This may sound contradictory, but it is not. The measures used are, first, based on different sets of people—here the population as a whole, there the rich and the poor as specific subgroups—and are therefore not derived from the same distribution. Second, the population as a whole is a composite of many groups, and the development of polarization between rich and poor can be “representative” for the total population, but it does not have to be. In some countries the rich and poor have become more dissimilar in terms of life satisfaction, but at the same time the overall dispersion has narrowed, so it stands to reason that other groups must have converged. To gain a more complete picture, it is therefore necessary to examine group polarization in addition to the overall dispersion.

For the total population, we can renew Veenhoven's (2005) well-known verdict: there has been no return of inequality in well-being. This general progressive trend puts popular portrayals of contemporary Western societies as social failures that are racked by inequality (Wilkinson & Pickett, 2010) in perspective. The evolution of the overall dispersion of satisfaction over time has primarily been influenced by changes in national prosperity (a homogenizing effect), unemployment (a polarizing effect), and the aging of societies (again a homogenizing effect). If policymakers want to enable as many people as possible to achieve the same level of happiness, then securing economic prosperity and combating unemployment are promising starting points. Seen in conjunction with results from previous research, increasing prosperity thus seems to improve both the *level* of well-being (Hagerty & Veenhoven, 2003; Veenhoven & Hagerty, 2006), and its overall *distribution*, by making it more homogenous. Our finding regarding the role of unemployment rates is consistent with studies on well-being inequality in Germany (Becchetti et al., 2014) and on various public health outcomes across the European Union (Stuckler et al., 2009).

The polarization of life satisfaction between rich and poor presents a mixed picture. Seen through this lens, there *has been* a return of inequality in well-being in quite a number of countries. This at least qualifies Veenhoven's (2005) verdict—and it also indicates policy failure, as the Council of Europe (2008, p. 14) has set the goal of minimizing inequalities in the well-being of the rich and the poor specifically. Not only southern European countries fail to meet this target (Jorda et al., 2019); countries from all parts of Europe, including the Nordic countries of Denmark, Sweden, and Finland, fail to do so. As a result, the evidenced lead of the “old” European member states in terms of well-being equality (Delhey, 2004) has become smaller. The strongest driver of polarization between income groups is, somewhat surprisingly, rising national prosperity. The reason could be that, as nations get richer, people in the upper income groups in particular become more and more homogenous in their—quite high—subjective well-being, so there are hardly any dissatisfied or unhappy people among the wealthy. Such a pattern along the income distribution characterizes the USA (Klein Teeselink & Zauberman, 2023), and it could also characterize Europe. The second driver is when states are spending a growing share of their GDP on social protection. The stigma attached to welfare recipients, or their self-stigmatization, could be the critical factor here (Baumberg, 2016); increased social spending would then alleviate material deprivation, while nevertheless leaving recipients with a satisfaction deficit. Furthermore, higher social protection expenditure may indicate an increase in the number of people who depend on it. If we assume that this dependence—especially among poorer individuals—reduces

well-being, this could further explain the rise in life satisfaction inequality between rich and poor that we observed with ESS data.

What about the “usual suspect”—income inequality—which is central to the famous “spirit level theory” (Wilkinson & Pickett, 2010) and the motivation for this article? In our study, economic inequality is less important than we thought: Widening income inequality leads, at most, to only a very small rise in life satisfaction inequality. Our conclusion of a very small longitudinally impact contrasts with the findings of Graafland and Lous (2019) for OECD countries but aligns with trend analyses on health and social problems (Delhey et al., 2023). Why does rising income inequality matter so little? One explanation could be that the scale of “objective” income inequality is not accurately represented in people’s subjective perceptions (Faggian et al., 2023). Another explanation could be that people today tend to rank their own position in the social hierarchy higher than people did in the past decades (Oesch & Vigna, 2022). Inequality could therefore be seen as a social problem rather than an individual one, with limited impact on life satisfaction inequality.

Because our study is necessarily limited in scope, a number of follow-up questions arise for further research. We only considered subjective well-being from an egalitarian perspective; an additional examination of how levels of life satisfaction have developed would complete the picture and allow a conclusive assessment of welfare development from the perspective of social progress. It also remains to be explored whether the contrasting trends—overall a more homogeneous distribution, but quite often rising polarization between rich and poor—also apply to non-European countries. After all, it is well known that economic disparities have widened more sharply in other regions of the world (UNDP, 2019). Next, it would be worthwhile to systematically examine trends in group polarization between *various* sub-populations, such as those differentiated by age, gender, education, place of residence (rural–urban), ethnic background, relationship status, or political values—a research agenda that would have gone far beyond the scope of this paper. Another research desideratum is a systematic analysis of which population groups have become more homogeneous *internally* in terms of life satisfaction (for income groups in the USA, see Klein Teeselink & Zauberman, 2023). Within-group homogenization may have contributed to a more even distribution of life satisfaction in the population as a whole. Whatever issues are taken up, continuing this type of research will provide valuable insights into where and why contemporary societies are moving closer to—or further away from—the goal of cohesive well-being.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11205-025-03619-5>.

Authors’ Contributions Both authors have equally contributed according to the four criteria mentioned here: <https://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>

Funding Open Access funding enabled and organized by Projekt DEAL. The authors declare that they have no financial interests.

Code Availability Stata Code is available on request, custom code.

Declarations

Ethical Approval The authors declare that the study complies with human research ethics. The authors declare that respondents gave informed consent to the survey.

Conflict of interest The authors declare no conflict of interest.

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