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THE MENTAL HEALTH OF THE YOUNG IN EX-SOVIET STATES

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ABSTRACT

We report on the wellbeing of the young in 31 Ex-Soviet Republics located in Eastern Europe and Central Asia. We find no evidence of the decline in the mental health of the young relative to older people which characterizes Western Europe and English-speaking advanced economies. The mental health of the young in ex-Soviet republics is stable relative to older people across various surveys including the Gallup World Poll, the Eurobarometers, the World Values Surveys and the European Social Survey, as well as in surveys from the European Bank of Reconstruction and Development and UNICEF. However, there are two exceptions. A 2023 Flash Eurobarometer Mental Health survey conducted by the European Commission shows unhappiness declines in age in every EU member country including 11 in Eastern Europe. A similar finding emerges in our analysis of the web-based Global Minds surveys of 2020-2024 in 9 former Soviet republics. Youngster ages 18-24 in these surveys are especially unhappy. Furthermore, in keeping with research on children aged 15-16 in the PISA surveys in other countries, we find life satisfaction of these school children in ex-Soviet Republics declined over the period 2015-2022 and that, among this group, time spent on digital devices was associated with lower happiness.

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1. Introduction

In a series of recent papers examining well-being trends by age we find the well-being of the young has declined relative to older people. This is the case in the USA (Blanchflower, Bryson and Xu, 2024), the UK (Blanchflower, Bryson and Bell, 2024) Western Europe (Blanchflower, Bryson, Lepinteur and Piper, 2024), and Latin America (Blanchflower and Bryson, 2024a). It is not true in Africa (Blanchflower and Bryson, 2024b). In this paper we extend that work to examine the well-being of youngsters over time and in comparison, to their older peers under the age of 70, in 31, ex-Soviet Republics. These are:

a) 11 EU member countries – Bulgaria; Croatia; Czechia; Estonia; Hungary; Latvia; Lithuania; Poland; Romania; Slovakia and Slovenia.
b) 9 non-EU European countries – Albania (2014); Armenia; Bosnia and Herzegovina (2022); Kosovo; Macedonia; Montenegro (2010); North Macedonia (2005), Serbia (2010) and Russia
c) 11 ex-Soviet Republics in Central Asia – Armenia, Azerbaijan; Belarus, Georgia (2023), Kazakhstan, Kyrgyzstan, Moldova (2022); Tajikistan, Turkmenistan, Ukraine (2022) and Uzbekistan.

Eight of the EU member countries – Czechia; Estonia; Hungary; Latvia; Lithuania; Poland, Slovakia and Slovenia, the so-called A8, joined the EU as accession countries in May 2004, while two more Bulgaria and Romania (the so-called A2) joined in January 2007. Croatia joined in 2013. Living standards in the countries that joined the EU have improved.

Eight countries in groups b) and c) have candidate country status with the EU. The dates that they started being candidates are in parentheses above.[1] Kosovo applied in 2022.

We show that, across a number of different surveys, the wellbeing of the young in these countries has not deteriorated relative to older people. The absence of a decline in the relative wellbeing of the young means these countries differ from those in Western Europe, North America and Latin America. Instead, the stability in the relative wellbeing of the young is akin to what we find in Africa.

However, there are two exceptions to this finding. A 2023 Flash Eurobarometer Mental Health survey conducted by the European Commission shows *unhappiness* declines in age in every EU member country including 11 in Eastern Europe. A similar finding emerges in our analysis of the web-based Global Minds surveys of 2020-2024 in 9 former Soviet republics. Youngster ages 18-24 in these surveys are especially unhappy. Furthermore, in keeping with research on children aged 15-16 in the PISA surveys in other countries, we find life satisfaction of these school children in ex-Soviet Republics declined over the period 2015-2022 and that, among this group, time spent on digital devices was associated with lower happiness.

2. Previous Literature on the Relative Wellbeing of the Young

Hundreds of studies spanning many countries and time periods found unhappiness was hump shaped (and wellbeing U-shaped) in age, reaching a peak at around age fifty (Blanchflower, 2021; Blanchflower, Graham and Piper, 2023). Usually well-being U-shapes are estimated by including an age term and an age squared in a wellbeing equation generally with a sample between the age

[1] https://www.reuters.com/world/europe/candidates-join-european-union-2024-10-30/

of 16 and 70 due to issues of mortality selection bias shown by Hudomiet, Hurd and Rohwedder (2021).[2] Another way is to simply plot well-being by single year of age and fit a line. Alternatively, this can be done in a regression framework with or without controls along with a full set of age dummies and then plot. The expectation is that the age term will be significantly negative, and age squared term significant and positive giving a U-shape. Differentiating with respect age, setting to zero and solving obtains the age at which the function minimizes, and in the case of unhappiness, maximizes.

The pattern seemed to apply in the developing and developed world, applied to men and women, minorities, migrants and non-migrants. The phenomenon also had physical manifestations, including psychiatric admissions, the taking of anti-depressants and even deaths from drug overdoses, suicide and alcohol poisonings: the so-called deaths of despair, all of which peaked in midlife.

Blanchflower (2021) identified wellbeing U-shapes in age in 145 countries including 27 ex-Soviet republics.[3] The functions minimize around age 50. Blanchflower, Graham and Piper (2023) reported 625 papers that reported U-shapes in age across many countries.[4] Blanchflower and Graham (2020) found U-shapes in age in life satisfaction in Europe using Eurobarometers and the UK using the Annual Population Surveys. Blanchflower and Graham (2021) found inverted U-shapes in age in stress around the world using the Gallup World Poll for the period 2005-2019 including in Eastern Europe with the minima in parentheses - Albania (53); Armenia (68); Azerbaijan (53); Bosnia and Herzegovina (49); Bulgaria (46); Belarus (38); Croatia (45); Czechia (34); Hungary (40); Kazakhstan (44); Kosovo (47); Kyrgyzstan (58); Latvia (43); Lithuania (46); Macedonia (51); Moldova (50); Montenegro (50); Romania (45); Russia (39); Serbia (48); Slovakia (38); Turkmenistan (51) and Ukraine (45).

Other studies have found evidence of U-shapes in Eastern Europe. Massin and Kopp (2014) examined the Russia Longitudinal Monitoring Survey and found U-shapes for Russia. Sekulova and van den Bergh (2016) examined data on life satisfaction in Bulgaria and reported that "*We find the typical U-shape for age, implying that subjective well-being gradually declines with time until it reaches a critical minimum. This seems to be at the age of 65*". Želinsky (2022) reports U-shapes in age in life satisfaction for Slovakia. Tavares (2022) examined well-being in Portugal and found that '*there is a general trend for life satisfaction to decrease as people age, but after controlling for determinants, the relationship tends to have a U-shape'*.

Venetoklis (2019) examined life satisfaction and happiness data for 16 countries from seven rounds of the European Social Survey from 2002 to 2014 and concluded that '*age and its quadratic*

[2] Hudomiet, Hurd and Rohwedder (2021) find for the US using the Health and Retirement Surveys that happy people live longer. The authors find that once account is taken of this mortality selection bias happiness slopes down in age from around age 70, driven by two main factors a) death of a spouse and health in the last three years of life. We know little about these sort sorts of selection in other countries. Hence it is appropriate to restrict the analysis to those of working age 15-69. This seems more appropriate than trying to fit higher order polynomials, including S-shapes and other patterns to the data as some authors (e.g. Laaksonen, 2018), have done.

[3] Albania; Armenia; Azerbaijan; Belarus; Bosnia; Bulgaria; Croatia; Czech Republic; Estonia; Georgia; Hungary; Kazakhstan; Kosovo; Kyrgyzstan; Latvia; Lithuania; Macedonia; Moldova; Montenegro; Poland; Romania; Russia; Serbia; Slovakia; Slovenia; Tajikistan and Uzbekistan.

[4] https://sites.dartmouth.edu/blanchflower/files/2023/04/supp-materials_resolving-the-debate.pdf

term (age-squared) retained their statistical significance and signs in all three models. Since the coefficient was negative for age but positive for age-squared, happiness declines as one ages up to a certain point, after which it starts increasing again. Thus, the relationship was U-shaped'. Glatz and Ede (2020) analyzed the ESS from 2002–2016 and concluded as follows: '*age on the other hand is negatively related to Social Well Being (SWB) whereas age square is positively related, indicating a U-shaped relation*'.

Amini and Douarin (2020) and Habibov and Afandi (2015) reported U-shapes in transition economies. Nguyen et al (2024) found U-shapes for Hungary, as did Andrén and Martinsson (2006) for Romania. Hayo and Siefert (2003) in an analysis for1991-1995 of ten countries in Eastern Europe - Bulgaria, the Czech and Slovak Republics Hungary, Poland, Romania, Slovenia, Croatia, Belarus and the Ukraine- found that "*age has a U-shaped effect, with a minimum at 37 years*" (p. 346).

Bauer *et al.* (2017) examined life satisfaction using Life In Transition Surveys (LITS) (2006-2010) and reported U-shapes in 27 East European countries – with the minima in parentheses - Albania (37); Armenia (38); Azerbaijan (40); Belarus (44); Bosnia and Herzegovina (42); Bulgaria (48); Croatia (45); Czech Republic (40); Estonia (40); Georgia (51); Hungary (39); Kazakhstan (46); Kyrgyzstan (33); Latvia (42); Lithuania (44); Macedonia (38); Moldova (41); Montenegro (37); Poland (40); Romania (40); Russian (50); Serbia (42); Slovakia (40); Slovenia (49); Tajikistan (40); Ukraine (44) and Uzbekistan (45).

However, a new wave of studies emerged during COVID which pointed to a different pattern characterized by a decline in the well-being of the young which was so steep that it shifted the age-pattern in wellbeing. Much of the early work was conducted in the United States by Jean Twenge and co-authors - in for example, Twenge (2020), Twenge and Farley (2021) and Udupa Twenge, McAllister and Joiner (2023). In addition, the work of Jonathan Haidt (2024a) was influential in identifying the *great rewiring* as a proximate cause arising from the spread of the internet and smart phones. Haidt's thesis is that the digital revolution has been particularly detrimental to the young, with smart phones as the culprit through mechanisms such as cyberbullying and body shaming. Rausch and Haidt (2023) started to document that the phenomenon was international, and especially so in English speaking and Nordic countries. It seemed to apply particularly to young women.

This rise in wellbeing in age in the United States was confirmed by Chen et al (2022) using data on 8,618 individuals from the NORC Amerispeak panel from January 10-28, 2022. They found that wellbeing improved in age along seven dimensions including happiness and life satisfaction, mental and physical health, meaning and purpose, character and virtue, close social relationships and financial and material stability. They argued that

> "*This study found that mean well-being scores across multiple domains increased cross-sectionally with age, with a substantial age gradient. This finding contrasts with evidence from the early 2000s that showed U-shaped curves for some well-being domains (eg, happiness, life satisfaction), with well-being scores being higher in earlier adulthood and older age than in midlife. Our findings support evidence of a mental health crisis and increase in loneliness in the US that has*

disproportionally affected young adults and extend evidence of age gradients to multiple additional facets of well-being beyond mental health. Younger adults reported lower well-being even on the self-rated physical health item." (p.1046).

Debate continues over the true causes of the relative decline in the mental health of the young. For example, Odgers (2023) challenges Haidt's (2024) assertions that the causal link between social media and youth mental health is established. There is a clear association, as indicated by both the timing of the decline in young people's mental health – which occurs around the time that smartphone technology was rolled out – and survey associations between time on social media and self-reported mental health. Others point to alternative theories, such as the proposition that there has been a decline in the stigma in reporting poor mental health. In any event, the consequences of a decline in youth mental health, and the possibility that social media plays a role, seem sufficient to prompt precautionary action.[5]

During COVID governments around the world started collecting data to track well-being. An example is the US Census Household Pulse Survey we used in Blanchflower and Bryson (2022). Other examples include the Global Minds internet survey. This meant that there were not long time series on happiness and unhappiness to look at, but we could try and see if U-shapes still existed after COVID. In many instances we found they did not. Other researchers confirmed that, see for example, Botha et al (2023) for Australia, Sorian et al (2024) for Spain, Garriguet (2021) for Canada, Krokstad et al (2022) and Potrebny et al (2024) for Norway and Thorisdottir et al (2021 for Iceland.

There was also consistent evidence on deteriorating mental health of the young around the world. For example, the OECD (2022) reported a significant rise in the percentage of young people with depression pre pandemic (2019 or nearest year) versus after the pandemic (April 2020-August 2021), in France (10.0 20.1); Denmark (16.2, 21.1) Belgium (9.3, 28.5). Estonia (6.6, 30.7), Iceland (8.7, 38.5) and Norway (9.5, 42.5) with the numbers in parentheses relating to the two dates. The OECD also noted that in Belgium, in June 2022 the prevalence of symptoms of depression were double those in 2018 at 20% and 9% respectively. In France, data from September 2022 show that the share of those age 18-24 years, with symptoms of depression was also double that of pre-pandemic levels (19.7% compared to 10.0% for ages 15-24 in 2019).

Perhaps the strongest evidence we have seen is from the Global Minds surveys which are publicly available and started in 2020. This is an internet-based survey across multiple countries, with over 1.7 million observations and growing (see Newson and Thiagarajan (2020) and Bala and Thiagarajan (2024). Around the world these data show that the young are the *least happy* age group. There is also evidence that the younger the age a cell phone was acquired the worse is

[5] A useful analogy perhaps can be drawn to the response to the problem of rising levels of youth unemployment in the 1980s, especially in Europe, where unemployment durations rose sharply. The question was what would the consequences of that be? Several distinguished economists including Richard Freeman (Dartmouth class of '64), Larry Summers, Martin Feldstein and others worked on the problem and determined that a long spell of unemployment while young caused 'permanent scars' rather than temporary blemishes and action was taken. The NBER produced several conference volumes see - Richard Freeman and David Wise (eds), *The Youth Labor Market Problem*, NBER and University of Chicago Press, 1984; Richard Freeman and Harry Holzer, *The Black Youth Employment Crisis*, University of Chicago Press and NBER, 1986 and David Blanchflower and Richard Freeman (eds), *Youth Employment and Joblessness in Advanced Countries*, University of Chicago Press and NBER, 2000.

mental health between 18 and 30. The internet connected everywhere seem unhappy. These data are not contradicted by other surveys especially in advanced countries, such as the UK, USA, Australia, New Zealand etc. But they are in poorer countries, including in the former Soviet republics we examine here.

Next we provide some background on the ex-Soviet republics we focus on before introducing our data and estimation in Section Four, providing results in Section Five, then concluding in Section Six.

3. Income and Wellbeing Rankings of Ex-Soviet Republics

Table 1 provides information on the ranking of 29 ex-Soviet republics plus the United States in terms of development and happiness (columns 1-3). But it also provides information on income per capita, population and the percentage of young people in the country (columns 4-6). These countries are considerably poorer than the United States. The Gross National Income (GNI) per capita of $65,565 in 2022 for the United States is around one-third greater than any of the ex-Soviet republics, with the next richest nation in the table being Slovenia ($41,587 per capita). Russia's per capita income is only two-fifths of that of the USA. But perhaps most striking is the variance in GNI per capita across these ex-Soviet republics with the Central Asian republics being particularly poor. They are also countries that vary markedly in population from over 140 million Russians to 20 countries with fewer than 10 million people.

The first column presents rankings for the United Nations' Human Development Index (HDI) reported in the Human Development Report of the United Nations. They show where a country ranks among those in the United Nations based on a composite indicator on data relating to Health and Longevity, Knowledge and Standard of Living. In 2024, Switzerland was ranked number 1 and, at number 193, Somalia ranked bottom. The ex-Soviet republics are somewhere in the middle-range but vary quite a bit – from Slovenia at 22 down to Kyrgyzstan at 117. But even Kyrgyzstan (just) ranks in the countries the UN defines as "High Human Development".

Column 2 of Table 1 ranks 143 countries based on Cantril's life satisfaction score from 0-10 averaged across the years 2020-2022 taken from the Gallup World Poll. The data are taken from Helliwell et al (2024) and reported in the World Happiness Report, 2024. The ex-Soviet republics appear in the middle of the rankings, but again are spread, with Lithuania 19th in the world on this measure of wellbeing – above the United States – whilst Ukraine is 105 and Azerbaijan is 101. Column 3 reruns these Cantril Ladder rankings but exclusively for those aged under-30 years. On the whole, we see that the ex-Soviet republic rankings rise when comparing the young to all citizens (column 3 with column 1). Most notably, Lithuania is ranked number 1 in the world for the Cantril Ladder score for under-30s.

The final column reports the size of the youth cohort ages 15-29 as a proportion of the population. In the US it is 20%.[6] In the EU member countries it is mostly around 15% but it is 20% or above in Albania, Azerbaijan, Kosovo, Kyrgyzstan, Tajikistan and Uzbekistan. Chand (2024) notes these countries have some of the world's fastest aging and shrinking populations.

[6] It is 17.9% in France; 15.0% in Germany; 14.9% in Italy; 15.4% in Spain and18.4% in the UK.

As further background to the analysis of various measures of wellbeing to follow Table 2 reports suicide rates for those ages 15-19, 20-24 and 25-29 by country. Of note is the high suicide rate in Lithuania (17.7/100000 for those ages 20-24) which surprising given its number 1 status for wellbeing for those aged under-30.

4. Data and Estimation

Throughout we present descriptive information on wellbeing metrics - mostly but not exclusively for life satisfaction – in tables and charts, together with linear estimation of these wellbeing metrics to examine age patterns in the data.

We have data from ten surveys some of which are more supportive (Global Minds) of declining wellbeing of the young and some less so (Gallup World Poll) and the Flash Eurobarometer. We then examine evidence from IPSOS cross-country surveys as reported in the IPSOS World Happiness Report of 2024 which finds a very different ranking for the World Happiness Report of 2024 that uses the Gallup World Poll.

1) Eurobarometers, 2004-2023
(https://www.gesis.org/en/eurobarometer-data-service/overview**)**

The Eurobarometer surveys include data on EU member countries and a number of other candidate countries. We have data on 1,074,229 respondents from EB surveys from 2004-2023 and 119,500 under the age of 25 in East European countries.[7] Sample sizes per country are around 12000 in the most recent period and 50,000 in the earlier period.

2) Flash Eurobarometer, 2023 #530
(https://www.rte.ie/documents/news/2023/10/mental-health-fl-530-report-en.pdf

We have data on a 4-step life satisfaction variable for 27 EU countries from a 2023 Flash Eurobarometer conducted by the European Commission where the dependent variable is a Yes/No response to the question: *Have you had emotional or psychological problems (such as feeling depressed or feeling anxious?*

3) Gallup World Poll, 2005-2023
(https://www.gallup.com/178667/gallup-world-poll-work.aspx)

We have data from around the world on the 11-step Cantril Ladder. Recent work by Helliwell et al (2024) in the World Happiness Report uses data from the GWP to examine the relation between Cantril and various age groups. They used the 2020-2023 data and identified which of four groups – young (<30), lower middle (30-44), upper middle (45-59) and old (60+). Overall, Helliwell et al (2024) only report *seven* countries where the young were 'the least happy' age – Finland, Denmark, Sweden, Netherlands, Norway, Canada and Germany. None in Eastern Europe. We run estimates for the ex-Soviet republics. We restrict some of our analyses to the period 2018-2023 for ages 15-69 where average sample sizes are 5515 per country. But we also run equations for the whole period 2005-2023.

4) World Values Survey wave #7, 2017-2022

[7] Surveys used are #62.0, #63.4; #64.2; #65.2; #66.1; #67.2; #68.1; #69.2; #70.1; #71.1; #71.3; #73.4; #74.2; #75.3; #76.3; #77.3; #78.1; #79.3; #81.4; #82.3; #83.3; #84.3; #85.2; #86.2; #87.3; #88.3; #89.1; #90.3; #91.5; #92.3; #93.1; #93.2; #94.3; #95.1; #95.3; #96.1; #96.3; #97.3; #97.5; #98.2; #99.4 and #100.2.

(https://www.worldvaluessurvey.org)

The World Values Survey (WVS) is a global network of social scientists studying changing values and their impact on social and political life, led by an international team of scholars, with the WVS association and secretariat headquartered in Stockholm, Sweden. Here we examine wave #7 taken between 2017 and 2022. Respondents are asked to evaluate their life satisfaction on a 10-step scale. The question is: *All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are "completely dissatisfied" and 10 means you are "completely satisfied" where would you put your satisfaction with your life as a whole? (Code one number): Completely dissatisfied=0 Completely satisfied=10*.

5) European Social Survey wave #11, 2023
(https://www.europeansocialsurvey.org/about-ess)

The European Social Survey (ESS) is an academically driven cross-national survey that has been conducted across Europe since its establishment in 2001. Every two years, face-to-face interviews are conducted with newly selected, cross-sectional samples. As with the WVS we estimate life satisfaction equations by country, with a broadly similar question.

All things considered, how satisfied are you with your life as a whole nowadays? Please answer this card where 1 means "extremely dissatisfied" and 10 means "extremely satisfied"

6) International Social Survey Programme 2018 and 2021.
(www.issp.org**)**

In both the 2018 and 2021 sweep of the ISSP survey respondents were asked a 7-step happiness question. We have data for 10 ex-Soviet republics for one or other survey and, in five countries, for both years.

7) EBRD's Life in Transition Surveys #3 (2016) and #4 (2022 and 2023).
(https://www.ebrd.com/what-we-do/economic-research-and-data/data/lits.html)

Every few years the European Bank for Reconstruction and Development (EBRD) conducts the Life in Transition Survey (LITS) – a major survey of households and individuals in the economies where it invests – in collaboration with the World Bank, to inform its operations. Four such surveys have been carried out so far: in 2006 (#1), 2010 (#2), 2016 (#3) and 2022-23 (#4). The data contain a 5-step life satisfaction measure. ***All things considered, I am satisfied with my life now*** with the following Likert scale:

1. strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Strongly agree

8) UNICEF's Multiple Indicator Cluster Surveys 2018-2019.
(https://mics.unicef.org**)**

UNICEF MCIS conducts Multiple Indicator Cluster Surveys (MICS) surveys in less developed countries and reports 10-step life satisfaction.

9) Global Minds, 2020-2024
(https://sapienlabs.org)

Global Minds (GM) is an internet-based survey that has been running across multiple countries since 2020, and it takes around 15 minutes to complete. We obtained data from the Global Minds Surveys of 2020-2024 available on application from Sapien Labs. We examine Global Minds data, pooled over the years 2020-2024 on 17 countries on samples of those age under age 65. Sample sizes vary in size.

A unique feature of the Global Minds data is their construction of a Mental Health Quotient (MHQ) assessment of people's cognitive and emotional capabilities, calculated on a 300-point scale running from -100 to +200 where more positive scores indicate better mental health. The MHQ contains an aggregate metric of mental wellbeing or mind health (the MHQ) and scores across six domains (Mood & Outlook, Social Self, Adaptability & Resilience, Drive & Motivation, Cognition and Mind-Body Connection) derived from answers to 47 questions. Scores in the normal healthy range spanned from 0 to 200. A negative score suggests poor mental health and is a cause for concern and potentially indicates a need for intervention. In addition, the survey contains various demographic information, activities and habits of daily living; work and family relationships and a life-satisfaction question. Across our seventeen East European countries 34% of those ages 18-24 had negative scores compared with 53% in Western Europe.

Overall, there are 31,334 observations, mostly in 2022 (n=10,922) and 2023(n=18,226). Sample sizes are Albania=1,350; Armenia=2,406; Azerbaijan=1,408; Belarus=2,666; Bosnia and Herzegovina=100; Bulgaria=145; Croatia=95; Czech Republic=161; Georgia=2,043; Hungary=217; Kazakhstan=842; Kosovo=25; Kyrgyzstan=3,249; Latvia=109; Lithuania=98; Moldova=711; Montenegro=54; N Macedonia=49; Poland=412; Romania=347; Russia=2,932; Serbia=101; Slovakia=77; Slovenia=73; Tajikistan=496; Turkmenistan=52; Ukraine=8,099 and Uzbekistan=3,017.

10) PISA data from the OECD, 2015, 2018 and 2022.
(https://www.oecd.org/en/about/programmes/pisa.html)

Micro data on 10-step life satisfaction is available from the OECD including 14 former Soviet Republics on the life satisfaction of school children ages 15 and 16 years in the three most recent PISA surveys conducted by the OECD in 2015, 2018 and 2022. These surveys were used by Marquez et al (2024) who documented declines in many countries over these years.[8]

5. Results

5.1. Eurobarometer

In Table 3a we report results of estimating 4-step life satisfaction equations for the period 2004-2023 for 18 countries including EU members and many others as well as Turkey. We restrict the sample to ages 16-69 and simply regress life satisfaction on an age dummy where 1 denotes aged 18-24, together with controls for year and gender. We split the sample into an early (2004-2019) and late (2020-2023) period. In both periods, the youth variable is significantly positive.

[8] https://www.oecd.org/en/data/datasets/pisa-2022-database.html

In Chart 1 we plot life satisfaction by age based on a regression analysis of the 4-step life satisfaction variable by adding the coefficients from each age to the constant and plotting it. The regressions also control for year, country and gender dummies. The function slopes down with a slight uptick at the end.

Appendix Table 1 Part A examines whether there is a u-shape in Cantril by age using individual country regressions. The table shows the coefficients for age and age squared. Of the 18 countries only four – Kosovo, Latvia, Lithuania and Serbia - have U-shapes with a minimum between 30 and 69. That pattern is repeated below with the Gallup World Poll.

5.2. Flash Eurobarometer

In contrast to the findings on life satisfaction in the regular Eurobarometer, Table 3b presents evidence from a special Flash Eurobarometer #530, taken in June 2023 on whether the respondent had emotional or psychological problems (such as feeling depressed or feeling anxious) with a Yes/No answer.

The table reports country level equations where we regressed this emotional problem variable on age and gender. We report the coefficient on the age variable itself for simplicity, along with t-value and sample size with gender. Chart 2 reports a scatter plot of the variable from the regression similar to Chart 1 above with controls for gender and country. The function declines in age.

In contrast to the life satisfaction finding, age is significantly negative, showing that *mental health improves with age in Eastern Europe.* Why is there such a difference? This is a puzzle.

5.3. Gallup World Poll (GWP), 2018-2024

In Table 4 we report the results by country of estimating individual level equations with the 11-step Cantril life satisfaction ladder as the dependent variable, with controls for an age 18-24 dummy variable and gender. In all the countries except Poland and Turkmenistan the coefficient is significantly **positive**.

To further examine what is going on here Table 5 report, to ensure adequate sample sizess on trends for the period 2013-2023 for those ages 15-24 and then for ages 35-54. We estimate single country equations include a year variable to pick up any time trend and report the coefficient of the year variable, a t-value and sample size. In Table 5 there are significant trend declines in life satisfaction for the 18-24 age group in only Czechia and Ukraine. For the older age group 35-54 we see a similar picture, but also a negative trend for Azerbaijan.

Chart 3 recovers the age profile of Cantril life satisfaction in the GWP data for the whole period 2005-2023. The striking finding is that life satisfaction is rising over time at all points in the age distribution. Throughout the youngest tend to be happiest.

Part B of Appendix Table 1 examines whether there is any sign of a u-shape in age for Cantril using GWP for the period 2018-2023. The answer, as was the case with the Eurobarometers, is no. Of the 28 countries only 8 had U-shapes – Albania, Armenia, Georgia, Kazakhstan, Kosovo, Kyrgyzstan, Tajikistan and Uzbekistan - with a minimum between 30 and 69. Notably none of these are EU members.

5.4. World Values Survey wave #7, 2017-2022
We estimate life satisfaction equations by country. Table 6a presents the coefficients for a dummy variable for those aged under-25 where those aged 25-69 score zero. We find significant positive effects for the youth variable in seven of nine countries.

5.5. European Social Survey wave #11, 2023
We have data for seven East European countries and as above regress life satisfaction on a dummy variable for those aged under-25 and female dummy variables on sample of age 15-69. In Table 6b there are significant positives in four Croatia, Hungary, Lithuania and Serbia and a significant negative in Poland.

5.6. International Social Survey Programme (ISSP), 2018 and 2021
We ran happiness regressions for a 7-step happiness outcome, controlling for gender and restricting the sample to those aged under-70. Table 7 reports the continuous age coefficients and t-statistics for separate country equations in each survey. Happiness declines in age in every case.

5.7. EBRD's Life in Transition Surveys 3 (2016) and 4 (2022 and 2023)
We update Bauer et al.'s (2017) study reporting on the relationship between 5-step life satisfaction and age in 27 ex-Soviet bloc countries, including Russia in waves #3 and #4 i.e. Albania; Armenia; Azerbaijan; Belarus; Bosnia; Bulgaria; Croatia; Czechia; Estonia; Georgia; Germany; Greece; Hungary; Kazakhstan; Kosovo; Kyrgyzstan; Latvia; Lithuania; Moldova; Mongolia; Montenegro; Poland; Romania; Russia; Serbia; Slovakia; Slovenia; Tajikistan; Turkey and Uzbekistan.

Table 8 reports coefficients for an age 18-24 dummy variable in a 5-step life satisfaction equation that also includes a female dummy, with samples restricted to ages 18-69. Again, the coefficients are mostly significantly positive – 10/27 in the most recent period versus 19/27 in the earlier period. There are significant negatives in Lithuania, Montenegro and Uzbekistan in the recent period.

5.8. UNICEF MCIS surveys, 2017-2023
Table 9 presents age coefficients and T-statistics for a 10-step life satisfaction equation in four countries conducted in 2018 and 2019 in Belarus, Montenegro, North Macedonia and Serbia, with the latter two countries for females only. In all four cases life satisfaction declines in age.

5.9. Global Minds, 2020-2024
These data do not allow us to track long run changes in age structure but do allow us to examine the resultant age structure of wellbeing and illbeing since 2020.

The overall distribution of MHQ by age is as follows in Eastern Europe with the percent with negative scores in parentheses 18-24=58 (34); 25-34=51 (30); 35-44=59 (26); 45-54=71 (18); 55-64=81 (12); 65-74=89 (9); 75-84=94 (8); 85+=78 (7). Table 10 reports the mean MHQ scores by country as well as those for the youngest age group, which are low, apart from in Albania.

Table 11 reports the results of estimating MHQ equations for the 9 countries with at least 1,000 observations. We also report an overall equation with a full set of country dummies. Apart from

Albania, and in contrast to our findings with other surveys, MHQ *rises* with age. Appendix Table 2 updates the full list of 77 countries in the pooled 2020-2024 Global Minds surveys that have a significant negative coefficient on the age 18-24 variable in an equation that includes gender and year. We also report sample sizes. In these countries from all around the world, happiness rises with age for the internet savvy.

5.10. OECD Programme for International Student Assessment (PISA), 2015-2022

The strongest evidence that the young in the former Soviet Republics are seeing deteriorating well-being comes from school children. Table 12 shows a decline in life satisfaction, in thirteen of the fourteen countries, with the exception being Hungary, which saw a small increase. The well-being of school children is on the decline in these republics.

Of note also is that over this time-period there was an unprecedented decline in PISA math and reading scores in many countries. The PISA math and reading scores by country in 2015, 2018 and 2022 are reported in Table 13.[9] There are substantial declines in math scores over the period 2015-2022. There were broadly similar declines in reading scores. So, the declines in life satisfaction seem to have been accompanied by declines in test scores.

In addition, OECD's 2022 PISA survey of school children aged 15 and 16 also asks respondents about how many hours a day they use digital resources 'for leisure, before and after school'. In Table 14 we report separate results with life satisfaction as the dependent variable for the former Soviet Republics which was also analyzed for Latin America in Blanchflower and Bryson (2024a). We include gender as an additional control. The excluded category is zero hours spent digitally. Overall, 13% say they uses devices for zero hours while 7% say they use them for 7 hours or more and a quarter say for four hours or more a day *outside school*.

In the first part of the table, we report the full set of responses in a life satisfaction equation with a full set of country dummies. Those who use devices for 1-2 hours are more satisfied than those who do none. But those who use them 4 hours or more daily are less satisfied than those who did none. And the decline is linear after four hours.

In the second part of the table, we repeated the exercise and grouped the responses into four for simplicity – none; 1 but under 4; 4 but under 7 and 7 hours and over per day. The same broad pattern exists across countries, with Albania being the exception. Those with at least 7 hours usage a day are especially dissatisfied. The >7 hours a day variable is significantly negative in 12 countries.

Suárez Álvarez and Vicente (2024) found similarly – noting they also find U-shapes in age in life satisfaction. Using data from the European Social Survey (ESS) spanning from 2016 to 2020–2022 in 21 European countries – including Czechia, Hungary, Lithuania, Poland and Slovenia - they found a negative and significant relationship between internet usage intensity and life satisfaction, especially for the most intensive internet users. They conclude:

.

[9] See '*PISA 2022 results. The state of learning and Equity in Education*', OECD, December 2023 https://www.oecd.org/en/publications/pisa-2022-results-volume-i_53f23881-en.html

> *"Firstly, results show that Internet usage time is statistically significant and hold a negative relationship with individuals' levels of life satisfaction. Hence, increasing Internet usage would imply on average a significant reduction on individuals' levels of SWB. Secondly, when people with an excessive use of the Internet (more than 300 min per day, in other words) are compared to the rest of Internet users, the size of the estimate is much larger, which indicates that top 25% Internet users exhibit, on average significantly lower levels of SWB" (p.2260).*

This is consistent with the findings of McNamee, Mendolia and Yerokhin (2021) for the UK who reported that:

> "*prolonged use of social media (more than 4 hours per day) is significantly associated with poor emotional health and increased behavioural difficulties, and in particular decreased perception of self-value and increased incidence of hyperactivity, inattention and conduct problems. However, limited use of social media (less than 3 h per day) compared to no use has some moderate association with positive peer relationships.*"

6. Conclusions

A large body of literature exists suggesting that there were U-shapes in happiness around the world in the quarter century up to around 2020. At the same time there was evidence of hump shapes in unhappiness. This was matched by evidence that deaths of despair peaked in mid-life, as did psychiatric admissions and the taking of anti-depressants. In the last few years there has been growing evidence globally that these U-shapes are gradually disappearing. In addition, hump shapes in illbeing also seem to be on the wane at least in advanced countries, less so in developing countries.

Blanchflower, Bryson and Xu (2024) documented this first in the UK and the USA. The driving force here has been evidence that the mental health and happiness of the young has worsened, pulling down the left-hand side of the happiness U-shape or pulling up the left-side of the unhappiness hump shape. The search has been on, as a result, to determine whether happiness rises in age and unhappiness declines with age, country by country. Subsequent evidence has been found in a number of other countries including Australia, Germany, France, Greece, Italy, Norway Sweden, Netherlands, New Zealand and Iceland, that happiness now rises in age.

These patterns have been harder to find in the developing world. (Blanchflower and Bryson (2024a) for Latin America and (Blanchflower and Bryson (2024b) for Africa. In this paper we also found little evidence of declining well-being of the young in the regular well-being surveys used by researchers. The young in these surveys were especially happy, and the evidence of that was remarkably consistent in the Gallup World Poll, the Eurobarometers, EBRD's Life in Transition Surveys, UNICEF's Multiple Indicator Cluster Surveys, the World Values Surveys, the European Social Surveys and the ISSP.

We did find evidence though from the Eurobarometer and Gallup World Poll surveys that U-shapes in age appear to be on the wane. The majority of countries we examined did not have a significant U-shape. In the former case only 4/18 did and in the latter 8/28.

And we did find some counterevidence suggesting the young had low well-being. We reported findings from the EU's Flash Eurobarometer survey in 2023 that the young were especially unhappy. We also found consistent evidence from PISA surveys of school children in from Eastern Europe and Central Asia, that those children ages 15 and 16 saw a significant decline in their life satisfaction since 2015. Over the same period PISA math and reading scores deteriorated also. Both test scores and life satisfaction had started to decline prior to COVID. Life satisfaction is lowest among those who spend long spans of time each day, before and after school, on their digital devices.

We did find strong evidence from the internet based Global Minds surveys, that the young, internet connected had relatively poor levels of mental health. In these surveys happiness *rises* with age and unhappiness declines with it. In the Global Minds surveys, we see youngsters ages 18-24, are the least happy group, in MHQ score terms, in 77 countries with at least 1000 observations. Of these 9 were from Eastern Europe and Central Asia – Albania; Armenia; Azerbaijan; Belarus; Georgia; Kyrgyzstan; Russia; Ukraine and Uzbekistan.

The decline in life satisfaction among school children and among the internet connected seems to track the rise in the use of the internet and smartphones. The percent of the population in 28 East European and Central Asian countries that have internet usage as a share of the population is reported in Appendix Table 3. In 2016 the US had 87% usage, matched by Estonia, but with most having usage rates of under 70% and only two over 80%, with Turkmenistan at 18%. By 2022 the US was at 97% and the gap had narrowed – now three were over 90%.

The concern is that this deteriorating wellbeing of the young may have impacts on other variables such as graduation rates, labor force participation rates, establishing households and relationships and on morbidity more generally and potentially on mortality. To this point we have seen little evidence around the world of rises in suicide rates or drug poisoning deaths but there is evidence of increasing self-harm and thoughts of suicide.

We have growing evidence from around the world that the young are in crisis. This is particularly apparent in English speaking countries and with the internet connected young everywhere. As the sales of smart phones increases and the usage of the internet rises the concern is the wellbeing of the young worsens in other parts of the world, including in Eastern Europe and Central Asia in the former Soviet Republics. Now is the time to act before it is too late.

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Table 1. HDI and World Happiness Report 2024 ranks and age<30 Source: UN HDR and Helliwell et al, 2024)

	HDI	WHR	WHR <30	GNI/capita	Population	%15-29
United States (14)	20	23	62	$65,565	336,482,168	19.9%
Albania	74	87	66	$15,293	2,579,534	21.0%
Armenia	76	82	72	$15,388	2,976,765	17.3%
Azerbaijan	89	101	95	$15,018	10,650,239	20.0%
Belarus	69	n/a	n/a	$18,425	9,501,451	15.1%
Bosnia and Herzegovina	80	65	33	$16,571	3,677,149	15.7%
Bulgaria	70	81	40	$25,921	6,782,659	15.0%
Croatia	39	63	14	$34,324	4,090,839	16.4%
Czechia	32	18	10	$39,945	10,837,890	15.0%
Estonia	31	34	44	$37,152	1,342,910	15.4%
Georgia	60	91	78	$15,952	4,900,961	16.5%
Hungary (30)	47	56	36	$34,196	9,855,745	16.2%
Kazakhstan	67	49	69	$22,587	20,260,006	19.5%
Kosovo					1,977,093	24.4%
Kyrgyzstan	117	75	81	$4,782	6,172,101	23.5%
Latvia	37	46	31	$32,083	1,907,341	15.4%
Lithuania	37	19	1	$38,131	2,835,340	15.4%
Moldova	86	71	29	$12,964	3,599,528	17.4%
Montenegro	50	76	50	$22,513	599,849	18.4%
N Macedonia	83	84	67	$16,396	2,135,622	18.4%
Poland (15)	36	35	43	$35,151	38,746,310	15.6%
Romania	53	32	8	$31,641	18,148,155	15.2%
Russia	56	72	68	$26,992	140,820,810	15.2%
Serbia	65	37	3	$19,494	6,652,212	16.6%
Slovakia	45	45	38	$32,171	5,563,649	15.3%
Slovenia	22	21	15	$41,587	2,158,404	14.7%
Tajikistan	126	88	89	$4,807	10,394,063	23.5%
Turkmenistan	94	n/a	n/a	$12,800	5,744,151	23.3%
Ukraine	100	105	82	$11,416	35,661,826	14.4%
Uzbekistan	106	47	71	$8,056	36,520,593	22.1%

https://hdr.undp.org/data-center/human-development-index#/indicies/HDI; https://www.census.gov/data-tools/demo/idb/#/dashboard?dashboard_page=country&COUNTRY_YR_ANIM=2024
https://worldhappiness.report/ed/2024/#appendices-and-data
https://www.ipsos.com/sites/default/files/ct/news/documents/2024-04/Ipsos%20Global%20Happiness%20Index%202024%20-%20NZ%20version%20%2815%20Mar%202024%29_1.pdf
In parentheses IPSOS survey rankings. -Taking all things together, would you say you are: very happy, rather happy, not very happy, not happy at all? 1=Netherlands; 2=Mexico; 3=Indonesia; 4=India; 5=Brazil; 6=Thailand; 7=Ireland; 8=Malaysia; 9=New Zealand; 10=Great Britain; 11=Singapore; 12=Belgium; 13=Argentina; 14=United States; 15=Poland; 16=Australia; 17=France; 18=Canada; 19=Colombia; 20=Spain; 21=South Africa; 22=Chile; 23=Peru; 24=Sweden; 25=Germany; 26=Türkiye; 27=Italy; 28=Japan; 29=South Korea; 30=Hungary. ;

Table 2. Suicide rates by age- source OECD 2022 /100000

	15-19	20-24	25-29
Czech Republic	6.1	10.1	10.9
Estonia	12.1	17.6	21.5
Hungary	4.5	8.7	8.9
Latvia	3.3	13.3	7.9
Lithuania	8.5	17.7	15.7
Poland	6.9	11.8	14.0
Slovak Republic	4.9	6.4	5.6
Slovenia	8.5	9.7	2.6

https://www.oecd-ilibrary.org/social-issues-migration-health/suicide-rates-generally-increase-with-age_5b4fab1f-en

Table 3a. Eurobarometer 4-step life satisfaction equations, 2004-2023 age18 & <70

	2020-2023			2004-2019		
	18-24	T	N	18-24	T	N
Albania	.339	15.56	9,083	.265	14.27	10,205
Bosnia/Herzegovina	.213	9.03	7,458			
Bulgaria	.325	15.74	12,052	.368	33.55	59,089
Croatia	.186	10.21	12,226	.278	30.16	58,915
Czechia	.032	1.47	12,625	.174	20.80	64,767
Estonia	.105	5.59	11,417	.257	26.84	51,692
Hungary	.197	8.25	12,133	.232	20.91	59,590
Kosovo	.195	8.61	7,478			
Latvia	.217	9.49	11,832	.357	40.68	60,679
Lithuania	.305	13.64	11,195	.448	43.52	53,385
Montenegro	.104	2.77	4,589	.148	6.50	11,128
Moldova	.507	9.76	2,430			
Northern Macedonia	.184	7.26	9,993	.242	13.12	21,558
Poland	.081	3.98	12,064	.287	23.95	59,190
Romania	.057	2.91	12,966	.253	26.84	63,000
Serbia	.317	11.70	8,508	.290	12.53	12,080
Slovakia	.243	10.44	11,574	.206	21.02	63,006
Slovenia	.105	5.39	11,513	.232	27.39	57,241

Equations include gender and year dummies.

Table 3b. Emotional and psychological problems – continuous age variable

	Age Coefficient	T	N
Bulgaria	-.0049	4.32	894
Croatia	-.0030	2.78	884
Czech Republic	-.0067	6.08	852
Estonia	-.0071	6.22	812
Hungary	-.0063	5.91	858
Latvia	-.0051	4.80	850
Lithuania	-.0065	6.88	889
Poland	-.0066	6.21	892
Romania	-.0089	8.41	893
Slovakia	-.0087	7.73	857
Slovenia	-.0085	8.01	913

Note: The age coefficient is for a linear age term. Equations also include gender control and age<70.

Source: Flash Eurobarometer #530, 2023

Table 4. GWP coefficient on age 18-24 dummy age for 11-step Cantril Ladder, <70 includes year and gender controls, 2018-2023

	Coefficient	T	N		Coefficient	T	N
Albania	1.3830	13.49	4,897	Lithuania	.7370	9.39	4,847
Armenia	1.1724	11.86	4,207	Latvia	.3140	4.05	5,360
Azerbaijan	.4755	5.62	3,928	Moldova	1.1670	15.02	5,457
Belarus	.9701	7.52	1,893	Montenegro	.7422	8.74	4,580
Bosnia/Herz	1.0592	13.45	5,271	N Macedonia	1.3025	14.30	5,075
Bulgaria	.9013	8.48	4,782	Poland	.0934	1.23	5,254
Croatia	.7332	9.75	5,334	Romania	1.0467	11.25	4,957
Czechia	.2256	2.61	4,224	Russia	.5730	9.67	11,719
Estonia	.6739	6.98	2,888	Serbia	1.2735	14.84	5,184
Georgia	1.1039	12.42	5,084	Slovakia	.4463	5.33	5,147
Hungary	.8382	7.97	4,665	Slovenia	.3527	3.18	4,863
Kazakhstan	.2065	2.91	5,633	Turkmenistan	-.1198	1.63	2,004
Kosovo	.8045	10.81	5,627	Ukraine	1.0643	10.25	5,365
Kyrgyzstan	.4934	7.29	5,679	Uzbekistan	.0176	0.22	5,737

Table 5. Year Coefficients and t-values, Cantril Gallup World Poll, 2013-2023 - Europe

	Age <25			Age 35-54		
	Coefficient	t	N	Coefficient	t	N
Albania	.0914	1.57	749	.1391	3.51	1570
Armenia	.0460	0.99	587	.0526	1.76	1425
Azerbaijan	-.0375	1.24	679	-.0464	2.02	1529
Belarus	.8934	3.46	207	.5219	4.36	780
Bosnia/Herz	-.0173	0.41	902	.0278	0.94	1890
Czechia	-.1076	2.61	477	-.0440	1.81	1872
Kazakhstan	.0230	0.58	855	.0791	3.54	2329
Kyrgyzstan	.0468	1.19	1042	.0829	3.39	2065
Latvia	.1057	2.37	518	.0858	4.12	2235
Lithuania	.1697	3.64	554	.1739	7.31	1940
Moldova	.0170	0.48	858	.0750	2.70	1909
Montenegro	.0798	1.80	709	.0771	2.79	1730
N Macedonia	.0536	0.97	722	.0577	1.76	1842
Poland	.0577	1.48	529	.0506	2.50	2141
Romania	.0752	1.53	559	.1094	3.89	2034
Russia	.1004	3.27	1516	.1229	6.12	4803
Serbia	.1158	2.50	742	.0903	3.24	2081
Slovakia	.0320	0.69	537	.0074	0.30	2057
Slovenia	-.0193	0.38	289	.1038	4.52	2174
Turkmenistan	1.0751	8.47	524	.6892	6.42	751
Ukraine	-.1050	1.82	466	-.0390	1.48	2335
Uzbekistan	.0606	1.36	1040	.0207	0.69	2016

Table 6. 10-step Life satisfaction, World Values Survey #7 2017-2023 and European Social Survey #11, 2023. Age <70. Coefficient on age18-24 dummy.

a) World Values Survey wave 7

	Coefficient	t	N
Armenia	+1.0083	3.42	1,067
Czechia	+.3308	1.68	1,038
Kazakhstan	-.1279	0.65	1,217
Romania	+.8061	4.67	1,060
Russia	+.5774	3.73	1,611
Serbia	+.9725	5.06	927
Slovakia	-.0301	0.11	1,009
Tajikistan	+.3466	2.49	1,159
Ukraine	+.9054	4.10	1,125

b) European Social Survey #11

	Coefficient	t	N
Croatia	.6460	3.59	1,182
Hungary	.4750	2.60	1,675
Lithuania	.7127	2.87	1,101
Poland	-.3095	1.73	1136
Serbia	.9454	3.85	1,165
Slovakia	.5058	1.49	1,100
Slovenia	.2386	1.38	962

All equations include a gender and age <25 dummy and sample is age<70. * means significantly negative.

Table 7. Happiness and continuous age ISSP, 2018 and 2021 age <70

	2021			2018		
	Coefficient	t	N	Coefficient	t	N
Bulgaria				-.0147	7.31	711
Croatia	-.0197	9.36	1,032	-.0140	9.11	917
Czechia	-.0147	5.92	1,059	-.0081	6.26	1,580
Georgia				-.0114	7.50	1152
Hungary				-.0137	7.92	905
Lithuania				-.0110	9.35	829
Poland	-.0021	1.05	904			
Russia	-.0147	6.93	1,424	-.0073	6.56	1,301
Slovakia	-.0111	4.31	870	-.0073	6.09	1131
Slovenia	-.0131	6.08	878	-.0073	5.77	867

Note: * means significantly negative – t>2, age coefficients and t-values reported
7-step happiness completely unhappy to completely happy.

Table 8. EBRD's Life in Transition Surveys 3 (2016) and 4 (2022 and 2023) age <70
https://www.ebrd.com/what-we-do/economic-research-and-data/data/lits.html

	2022-2023			2016		
	Coefficient	T	N	Coefficient	T	N
Albania	+.4146	2.48	846	-.1846	2.04	1,366
Armenia	.1595	0.81	831	+.8053	5.89	1,175
Azerbaijan	.1755	1.42	949	+.4867	6.52	1,270
Belarus	.1112	1.11	933	+.2600	2.32	1,316
Bosnia	.0188	0.13	808	+.1427	1.60	1,348
Bulgaria	+.3040	1.80	752	+.4810	3.56	1,173
Croatia	+.2234	1.75	764	+.3171	3.01	1,275
Czechia	.1638	1.35	955	+.2010	1.91	1,303
Estonia	.0256	1.56	778	+.4150	3.26	1,054
Georgia	+.2722	1.82	814	+.2334	1.80	1,200
Hungary	+.3145	2.04	802	.1224	0.84	1,130
Kazakhstan*	+.1967	1.97	970	+.2322	2.61	1,304
Kosovo	.0890	0.86	905	.1165	1.44	1,364
Kyrgyzstan	-.0252	0.29	926	+.1810	2.35	1,348
Latvia	+.2505	1.84	706	+.1967	1.78	1,095
Lithuania	-.1394	3.44	714	+.4667	4.36	1,128
Moldova	+.6496	4.28	770	+.1859	1.73	1,276
Montenegro	-.2128	1.79	867	-.0091	0.10	1,298
North Macedonia	+.2863	1.73	817	.1184	1.11	1230
Poland	.1450	0.87	830	+.2144	1.80	1,319
Romania	.2640	1.52	839	+.3599	2.92	1,152
Russia	+.4523	4.00	923	+.4035	3.98	1,320
Serbia*	.0251	0.20	853	.0625	0.53	1,267
Slovakia	.2115	1.24	815	+.1656	1.67	1,253
Slovenia	.1442	1.19	775	+.3231	2.93	1,140
Tajikistan	-.0256	0.36	933	.0427	0.65	1,329
Uzbekistan	-.1158	1.63	947	-.0888	1.43	1,389

Table 9. 10-step Life satisfaction, UNICEF MCIS surveys

	Belarus	Montenegro	North Macedonia	Serbia
	2019	2018	2019	2019
15-17	+.5837 (5.99)	.2867 (2.26)	.0853 (0.52)	.3801 (2.68)
25-34	.0274 (0.46)	-.0724 (0.82)	-.1663 (1.58)	-.0072 (0.09)
35-44	-.1730 (2.84)	-.2966 (3.35)	-.4511 (4.16)	-.3556 (4.29)
45-49	-.6720 (9.00)	-.5709 (5.26)	-.8245 (6.16)	-.6137 (6.19)
Female	.2937 (7.70)	.3322 (5.12)	n/a	n/a
Constant	7.0608	8.6292	8.0186	8.2404
Adj R^2	.0350	.0254	.0344	.0239
N	7,781	3,093	3,167	3,736

Notes: Women only in North Macedonia and Serbia

Table 10. Global Minds MHQ means age<65.

	All	Age 18-24	N (overall)
Albania	117	144	1,344
Armenia	85	24	2,383
Azerbaijan	78	27	1,391
Belarus	72	36	2,616
Bosnia	64	24	100
Bulgaria	60	10	145
Croatia	71	33	95
Czechia	75	42	161
Georgia	87	7	2,043
Hungary	79	42	217
Kazakhstan	67	34	813
Kyrgyzstan	58	23	3,249
Latvia	66	41	109
Lithuania	58	18	98
Moldova	84	42	715
Montenegro	46	-6	54
N Macedonia	65	38	49
Poland	62	27	412
Romania	98	38	347
Russia	61	47	2,932
Serbia	89	87	101
Slovakia	74	36	77
Slovenia	87	37	73
Tajikistan	58	15	496
Turkmenistan	69	n/a	501
Ukraine	69	25	8,099
Uzbekistan	67	33	3,017
All	73	58	31,334

Table 11. MHQ in Global Minds with samples >1000

	All	Albania	Armenia	Azerbaijan	Belarus	Georgia
25-34	6.964 (12.72)	-37.259 (3.82)	21.401 (2.21)	12.108 (0.94)	.290 (1.50)	48.307 (3.77)
35-44	20.269 (22.01)	-32.194 (3.72)	50.523 (6.66)	42.379 (4.13)	23.642 (4.66)	54.994 (5.27)
45-54	34.561 (32.92)	-15.404 (1.75)	62.964 (8.88)	47.544 (5.07)	38.194 (8.16)	72.186 (7.681)
55-64	45.721 (51.74)	6.490 (0.74)	65.856 (9.38)	54.978 (6.01)	51.307 (11.11)	78.365 (8.53)
65-74	52.568 (72.18)	12.243 (1.04)	71.398 (9.96)	62.459 (6.70)	50.565 (10.19)	87.843 (9.47)
75-84	55.669 (69.12)	0.560 (0.03)	69.630 (8.21)	66.884 (5.76)	79.701 (9.87)	87.654 (8.56)
>=85	34.362 (34.51)	0.670 (0.03)	76.498 (4.75)	64.829 (2.72)	29.571 (1.43)	113.342 (5.14)
Male	9.790 (12.75)	3.814 (0.82)	7.884 (2.82)	5.793 (1.72)	11.364 (4.54)	5.557 (2.13)
Other	-28.371 (8.86)	-44.687	21.684 (1.75	-17.794 (1.30)	5.300 (0.51)	-41.910 (2.80)
Constant	39.758	149.186	19.297	65.949	95.645	.807
Adjusted R^2	.1133	.3298	.0620	.0492	.0813	.0671
N	31,333	1,350	2,406	1,408	2,666	2,043

	Kyrgyzstan	Russia	Ukraine	Uzbekistan
25-34	3.241 (0.70)	15.024 (5.44)	13.903 (2.57)	3.428 (0.60)
35-44	24.666 (6.77)	27.159 (7.34)	20.486 (4.87)	24.438 (5.45)
45-54	44.942 (13.47)	37.480 (7.65)	35.608 (9.40)	39.698 (9.57)
55-64	57.814 (16.96)	49.694 (9.77)	50.978 (13.76)	49.328 (11.67)
65-74	62.385 (13.91)	54.461 (8.12)	61.146 (16.28)	51.338 (10.47)
75-84	82.326 (4.76)	29.680 (1.68)	65.532 (14.05)	74.040 (7.45)
>=85	-10.236 (0.30)	-115.004 (3.70)	51.692 (4.41)	81.426 (3.28)
Male	12.068 (5.31)	11.061 (4.58)	8.769 (6.32)	9.461 (4.02)
Other	21.101 (1.76)	38.490 (3.93)	-15.775 (2.49)	-14.594 (1.15)
Constant	26.302	85.408	38.500	.0783
Adjusted R^2	.1355	.0849	.0732	55.094
N	3,249	2,932	8,099	3,016

Column 1 also includes country dummies

Table 12. OECD PISA Life satisfaction scores and changes, 2015-2022 ages 15 &16

	2015	2018	2022	2022-2015
Bulgaria	7.42	7.15	7.04	-0.38
Croatia	7.90	7.69	7.37	-0.53
Czech Republic	7.05	6.91	6.56	-0.49
Estonia	7.50	7.19	6.91	-0.59
Hungary	7.17	7.12	7.21	+0.04
Kazakhstan	8.76	8.76	8.41	-0.35
Latvia	7.37	7.16	6.76	-0.61
Lithuania	7.86	7.61	7.14	-0.72
Montenegro	7.75	7.69	7.52	-0.23
Poland	7.18	6.74	6.26	-0.92
Romania	7.87	7.87	7.53	-0.34
Serbia	7.61	7.61	7.48	-0.13
Slovak Republic	7.47	7.22	7.02	-0.45
Slovenia	7.17	6.86	6.61	-0.56

Table 13. PISA 2015-2022 results. 'The State of Learning and Equity in Education', OECD https://www.oecd.org/en/publications/pisa-2022-results-volume-i_53f23881-en.html

	Maths				Reading			
	2015	2018	2022		2015	2018	2022	
Albania	413	437	368	-45	405	405	358	-47
Bulgaria	441	436	417	-24	432	420	404	-28
Croatia	464	464	463	-1	487	479	475	-12
Czechia	492	499	487	-5	487	490	489	+2
Estonia	520	523	510	-10	519	523	511	-8
Georgia	404	398	390	-14	401	380	374	-27
Hungary	477	481	473	-4	470	476	473	+3
Kosovo	362	366	355	-7	488	479	475	-13
Latvia	482	496	483	+1	472	476	472	0
Lithuania	478	481	475	-3	509	525	510	+1
Moldova	420	421	414	-6	416	424	411	-5
Montenegro	418	430	406	-12	427	421	405	-22
Poland	504	516	489	-15	506	512	489	-17
Romania	444	430	428	-16	434	428	428	-6
Slovakia	475	486	464	-11	453	458	447	-6
Slovenia	510	509	485	-25	505	495	469	-36
USA	470	478	465	-5	497	505	504	7

Table 14. PISA 2022 Survey of children ages 15 and 16, life satisfaction and hours per day using a digital device in Eastern Europe

	Eastern Europe
Female	-.8171 (59.85)
< 1 hour	.1506 (6.20)
>1 & <2 hours	.1235 (4.83)
>2 & <3 hours	-.0136 (0.52)
>3 & <4 hours	-.1211 (4.36)
>4 & <5 hours	-.2257 (7.36)
>5 & <6 hours	-.3486 (9.89)
>6 & <7 hours	-.4511 (10.61)
>=7 hours	-.5131 (15.88)
cons	8.4390
Adjusted R^2	.0777
N	12556

Notes: Reference group for time on digital device: None. Also includes country dummies. T-statistics in parentheses

Question. This school year, about how many hours a day do you usually use digital resources in the following situations? Please think of different kinds of digital resources such as desktop computers, laptops and tablets as well as educational software and other digital learning tools. - For leisure before and after school (st326q04jd)

	Digital hours/day			
	>=1 & <4	>=4 & <7	>=7	N
Eastern Europe	.059 (2.80)	-.297 (11.54)	-.501 (15.49)	125,556
Albania	.028 (0.24)	-.362 (2.37)	-.124 (0.58)	4,202
Bulgaria	.131 (0.93)	-.023 (0.15)	-.149 (0.88)	4,905
Czechia	.091 (0.97)	-.319 (2.87)	-.665 (4.93)	7,908
Estonia	.176 (1.09)	-.172 (1.04)	-.493 (2.78)	6,193
Georgia	.315 (2.56)	-.031 (0.23)	-.097 (0.60)	4,940
Croatia	.211 (2.05)	-.202 (1.71)	-.529 (3.78)	5,795
Hungary	.371 (2.63)	.104 (0.70)	-.071 (0.41)	5,865
Kazakhstan	-.366 (10.04)	-.978 (16.61)	-1.233 (13.33)	19,203
Kosovo	.274 (2.51)	-.042 (0.30)	.273 (1.39)	4,888
Latvia	.183 (1.29)	-.181 (1.20)	-.555 (3.36)	4,987
Lithuania	.145 (1.83)	-.189 (1.92)	-.530 (4.13)	6,720
Moldova	.215 (2.23)	.126 (0.97)	-.442 (2.36)	5,710
N Macedonia	.382 (3.33)	-.043 (0.31)	-.326 (1.90)	5,440
Montenegro	.227 (2.22)	-.171 (1.24)	-.792 (4.29)	5,001
Romania	.052 (0.45)	-.271 (2.22)	-.277 (2.05)	6,867
Serbia	.251 (2.62)	-.109 (0.92)	-.101 (0.66)	5,985
Slovakia	.398 (2.97)	.079 (0.55)	-.094 (0.60)	5,276
Slovenia	.209 (2.40)	-.372 (3.05)	-1.130 (5.80)	6,105
Ukraine	.305 (2.22)	.008 (0.05)	-.414 (2.03)	3,246
Uzbekistan	.385 (4.38)	.372 (2.76)	.443 (2.14)	6,320

Chart 1. Life satisfaction by Age in Eastern Europe, 2004-2023, 4-step, Eurobarometers

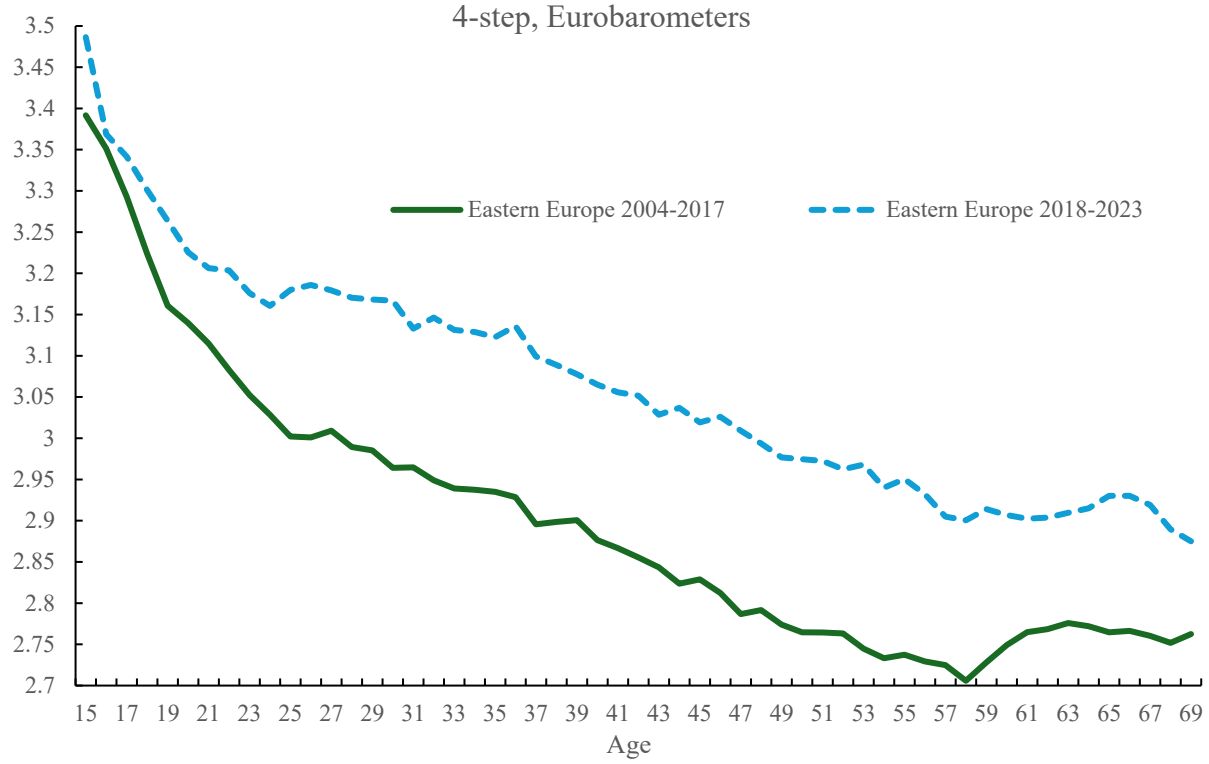


Chart 2. Unhappiness in Eastern Europe, Flash Eurobarometer, 2023

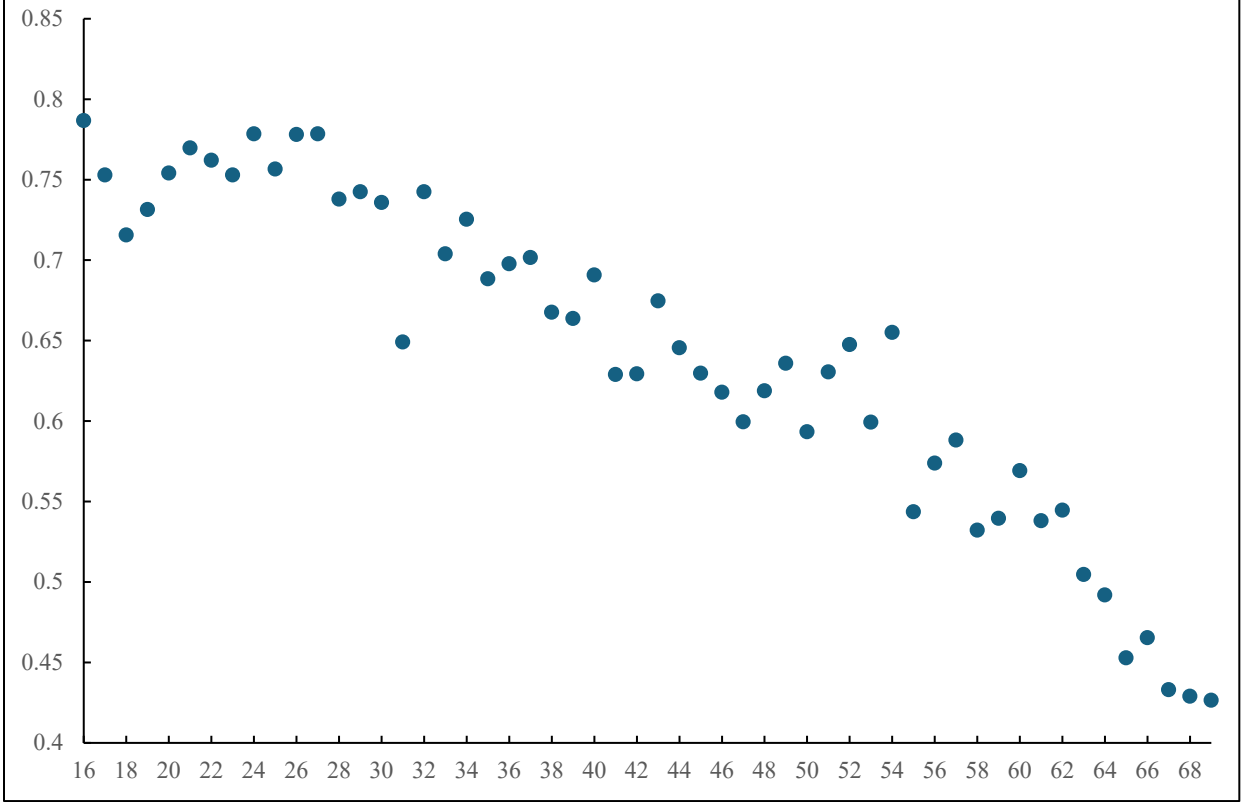
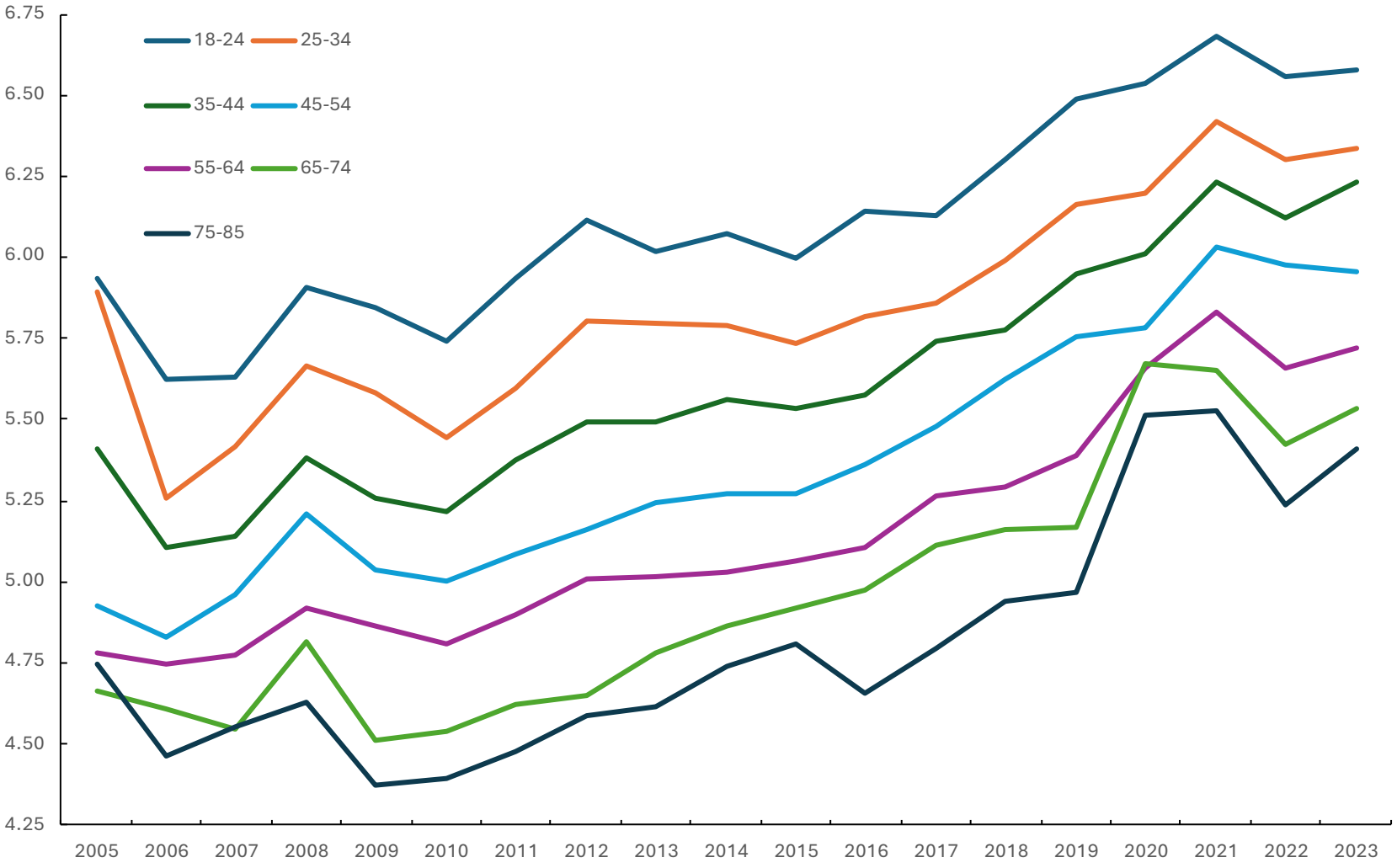


Chart 3. Cantril life satisfaction over time in Eastern and Central Europe, GWP 2005-2023 (from year coefficients a regression with country dummies)



Appendix Table 1. U-shapes in Cantril from 2018-2024 GWP and Eurobarometers age<70 +gender and year

Country	Age	t	Age^2	t	Minimum	N
a) 4-step life satisfaction Eurobarometers 14/18 have no U-shape with minimum between 30 and 69						
Albania	-.0143	5.12	.00002	0.75	n/a	13,287
Bosnia	-.0138	4.16	.00006	1.50	n/a	7,665
Bulgaria	-.0166	8.48	.00005	2.38	n/a	24,614
Croatia	-.0084	4.63	-.0002	1.15	n/a	25,715
Czechia	-.0105	6.21	.00007	3.82	n/a	25,634
Estonia	-.0093	5.37	.00003	1.72	n/a	21,561
Hungary	-.0153	8.26	.00096	4.74	n/a	24,434
Kosovo	-.0320	9.64	.00031	7.87	52	7,846
Latvia	-.0300	16.61	.00024	11.94	63	24,014
Lithuania	-.0321	15.98	.00026	11.54	62	21,574
Moldova	-.0356	5.96	.00022	3.33	n/a	2,510
Montenegro	-.0013	0.29	-.00005	1.10	n/a	6,721
North Macedonia	-.0150	5.13	.00009	2.81	n/a	13,727
Poland	-.0030	1.91	-.0000	1.82	n/a	24,369
Romania	+.0079	4.42	-.0002	8.50	n/a	26,624
Serbia	-.0329	11.34	.00029	8.66	57	12,429
Slovakia	-.0186	10.13	.0001	6.18	n/a	23,819
Slovenia	-.0166	10.27	.00012	6.37	n/a	23,406
b) 11-step Cantril GWP 20/28 have no U-shape with minimum between 30 and 69						
Albania	-0.1349	9.45	0.0011	7.24	56	4,897
Armenia	-0.0859	6.37	0.0006	4.05	69	4,207
Azerbaijan	-0.0266	2.08	0.0000	0.60	n/a	3,928
Belarus	-0.0347	2.12	0.0000	0.28	n/a	1,893
Bosnia	-0.0751	6.43	0.0004	3.41	n/a	5271
Bulgaria	-0.0154	1.21	-0.0002	1.41	n/a	4782
Croatia	-0.1066	1.62	-0.0001	1.20	n/a	5334
Czechia	-0.0026	0.24	-0.0001	0.67	n/a	4,224
Estonia	0.0082	0.76	-0.0003	2.39	n/a	5,324
Georgia	-0.0924	7.54	0.0007	5.11	64	5,084
Hungary	-0.0069	0.56	-0.0002	1.97	n/a	4,665
Kazakhstan	-0.0246	2.27	0.0002	1.91	49	5,633
Kosovo	-0.0793	6.46	0.0007	4.55	58	5,627
Kyrgyzstan	-0.0781	7.54	0.0009	6.58	48	5,679
Latvia	0.0108	1.10	-0.0003	2.98	n/a	5,360
Lithuania	-0.1030	1.23	-0.0002	1.31	n/a	4,847
Moldova	-0.0507	4.63	0.0001	1.19	n/a	5,457
Montenegro	-0.0226	1.80	-0.0001	0.95	n/a	4,580
North Macedonia	-0.0831	6.62	0.0005	3.73	n/a	5,075
Poland	0.0259	2.63	-0.0004	3.86	n/a	5,254
Romania	-0.0483	4.00	0.0016	1.20	n/a	4,957
Russia	-0.0254	3.00	0	0.08	n/a	11,719
Serbia	-0.0711	5.94	0.0003	2.47	n/a	5184
Slovakia	0.0129	1.22	-0.0004	3.55	n/a	5,147
Slovenia	0.0042	0.34	-0.0003	1.89	n/a	4,863
Tajikistan	-0.0492	5.52	0.0004	4.12	55	7,800
Turkmenistan	-0.0026	0.20	0.0000	0.30	n/a	2,004
Ukraine	-0.0436	3.26	0	0	n/a	5,365
Uzbekistan	-0.0802	6.46	0.0010	7.43	37	5,737

Appendix Table 2. 77 countries with an MHQ equation age<65 and two gender dummies with significant and negative age 18-24 dummy with >1000 observations

All	1,423,862
Albania	1,2749
Algeria	46,446
Angola	13,9411
Argentina	59,679
Armenia	1,78097
Australia	18,8170
Austria	1,440
Azerbaijan	1,0095
Bangladesh	10,4808
Belarus	2,167
Belgium	4,790
Bolivia	11,100
Brazil	45,132
Cameroon	8,399
Canada	21,971
Chile	11,289
China	1,738
Colombia	47,496
Costa Rica	5,585
Côte d'Ivoire	8,419
DRC	7,300
Dominican Republic	7,142
Ecuador	11,191
Egypt	82,233
El Salvador	9,520
Finland	1,003
France	24,128
Georgia	1,336
Germany	17,64
Ghana	1,077
Guatemala	13,99
Honduras	9,131
India	164,6
Iraq	25,94
Ireland	6,990
Israel	10,11
Italy	12,65
Japan	2,193
Jordan	24,813
Kenya	7,825
Korea	3,062
Kyrgyzstan	2,965
Malaysia	3,844
Mexico	82,075
Morocco	31,348
Mozambique	11,754
New Zealand	7,826
Nicaragua	8,877
Nigeria	26,692
Pakistan	40,925
Panama	5,186
Paraguay	12,279
Peru	21,820
Philippines	21,244
Portugal	4,701
Puerto Rico	4,022
Russia	2,822
Saudi Arabia	13,509
Singapore	6,533
South Africa	30,795
Spain	38,386
Sri Lanka	5,905
Sudan	1,539
Switzerland	1,273
Taiwan	1,020
Tanzania	6,036
Trinidad & Tobago	4,886
Tunisia	17,615
Ukraine	5,726
UAE	6,818
UK	46,031
USA	61,162
Uruguay	8,681
Uzbekistan	2,641
Venezuela	54,601
Yemen	31,269
Zimbabwe	5,906

Appendix Table 3. Individuals using internet % population. Source: UN

Year	2000	2008	2012	2016	2018	2020	2021	2022	2023
USA	43	74	75	87	89	97	97	97	
Albania	0	24	49	60	65	72	79	83	83
Armenia	1	6	38	64	68	77	79	77	
Azerbaijan	0	17	54	78	80	85	86	88	
Belarus	2	23	47	71	79	85	87	90	92
Bosnia	1	35	45	60	70	73	76	79	83
Bulgaria	5	40	52	60	65	70	75	79	80
Croatia	5	40	52	60	65	70	75	79	80
Czechia	10	63	73	77	81	81	83	85	86
Estonia	29	71	78	87	89	89	91	92	93
Hungary	7	61	71	79	76	85	89	89	92
Kazakhstan	1	11	62	75	79	86	91	92	93
Kosovo					89				
Kyrgyzstan	1	16	20	41	63	72	75	80	
Latvia	6	63	73	80	84	89	91	91	92
Lithuania	6	55	67	74	80	83	87	88	89
Moldova	1	23	35	71	50	58	61	64	
Montenegro	2	46	57	72	79	81	83	84	
N Macedonia	2	46	57	72	79	81	83	84	
Poland	7	53	62	73	78	83	85	87	86
Romania	4	32	46	60	71	79	84	86	89
Russia	2	32	66	73	81	85	88	90	92
Serbia		36	48	67	73	78	81	84	85
Slovakia	9	66	77	81	80	90	89	89	87
Slovenia	15	58	68	76	80	87	89	89	90
Tajikistan	0	9	15	21		28	28	36	
Turkmenistan	0	2	7	18					
Ukraine	1	11	35	53	63	75	79		
Uzbekistan	0	9	24	47	55	71	77	84	89