NBER WORKING PAPER SERIES

THE MENTAL HEALTH OF THE YOUNG IN LATIN AMERICA

David G. Blanchflower
Alex Bryson

Working Paper 33111
http://www.nber.org/papers/w33111

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
November 2024

David G. Blanchflower and Alex Bryson would like to thank the United Nations for support. The copyright for all research commissioned by the Human Development Report Office will be held by UNDP. We thank the ESRC Data Archive for access to the data. We thank Gabe Gottesman and Noah Durham for research assistance and Carol Graham, Jon Haidt, Christina Lengfelder, Bruce Sacerdote and Tara Thiagarajan for useful comments and Mariano Rojas for help with the data. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

The Mental Health of the Young in Latin America
David G. Blanchflower and Alex Bryson
NBER Working Paper No. 33111
November 2024
JEL No. I31, J13

ABSTRACT

We examine the mental wellbeing of the young in 18 Latin American countries using data from five cross-country comparative studies plus cross-sectional and quarterly time series data for a single country, Mexico. We examine whether there has been a decline in youth mental health and, if so, whether it has removed the U-shape in happiness and the hump-shape in unhappiness in Latin America as it has done in the United States and elsewhere. In the Global Minds data, the mental health of the young is poorer than that of older age groups. The Enbiare surveys for Mexico indicate that declining wellbeing of the young has changed the age profile of (un)happiness in that country. The OECD's Programme for International Student Assessment (PISA) data show a decline in the mental health of school children in Latin America, and that mental ill-health is more pronounced among those who have early access to, or spend excessive time spent on, digital devices. However, in both the Gallup World Poll and the Latinobarometers the young remain happier than older age groups, even though the wellbeing of the young has declined in some Latin American countries. We speculate as to why there may be differences in trends across surveys.

David G. Blanchflower
Bruce V. Rauner Professor of Economics
6106 Rockefeller Hall
Dartmouth College
Hanover, NH 03755-3514
and Adam Smith School of Business, University of Glasgow
and also NBER
blanchflower@dartmouth.edu

Alex Bryson
Professor of Quantitative Social Science
UCL Social Research Institute
University College London
55-59 Gordon Square
London WC1H 0AL
United Kingdom
a.bryson@ucl.ac.uk

1. Introduction

In hundreds of studies across the world spanning many decades, illbeing peaked in middle-age – and the accompanying peak in mental illbeing – was a well-established empirical regularity (Blanchflower, Graham and Piper, 2023; Blanchflower, 2020, 2021). But there is growing evidence that the age profile of mental illbeing has shifted to the left in recent years, such that peaks in depression and anxiety which previously occurred when people were in their late 40s or early 50s, are now occurring when people are in their mid-20s. Mental illbeing falls subsequently, and wellbeing tends to rise. This change, initially observed in the United Kingdom and the United States where it began shortly after the Great Recession of 2008 was also found in 34 other countries (Blanchflower, Bryson and Xu, 2024).[1] It has also been found in sixteen countries belonging to the International Social Survey Program between 2011 and 2021,[2] in the five European countries in the Come-Here Survey for 2020-2024 in France, Germany, Spain, Italy and Sweden (Blanchflower, Bryson, Lepinteur and Piper, 2024). Country-specific surveys have found similarly including in Australia (Botha et al., 2023), Canada (Garriquet, 2021), Norway (Krokstad et al., 2022), Iceland (Thorisdottir et al., 2021) and Scotland (Blanchflower, Bryson and Bell, 2024).

In many of these surveys, the deterioration in mental health among young women is particularly pronounced. For example, Miens et al (2020) reported an increase in the prevalence of perceived poor/fair mental health and professionally diagnosed mood and anxiety disorders for Canadians aged 12–24 years over the period 2012-2018. These trends were most pronounced for young females aged 19-24.

This change in the age profile of mental health has occurred because the wellbeing of the young has deteriorated in absolute terms, while the mental health of older age groups has remained relatively stable. One can see this clearly in the United States, for example, where the Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) data show how life satisfaction has fallen markedly for under-40s between 2010 and 2023 (Chart 1) whilst despair has risen for this group over the same period (Chart 2).[3] The life satisfaction and despair profile for older people has remained unchanged.[4]

This deterioration in the mental health of the young seems to start in childhood and continues into adolescence. de Looze et al., (2020) found a deterioration in children's and adolescents' mental health in the Netherlands. Blanchflower and Bryson (2024e) reported a dramatic rise in feelings of being sad or hopeless almost every day for two weeks in the United States using data on high school students ages 14-18 from the Youth Risk Behavior Surveillance System Surveys for 1999-

---

[1] Algeria; Angola; Arabia; Argentina; Australia; Brazil; Canada; Chile; Colombia; Ecuador; Egypt; France; Germany; Guatemala; India; Iraq; Italy; Jordan; Mexico; Morocco; New; Nigeria; Pakistan; Paraguay; Peru; Philippines; Saudi Arabia; South Africa; Spain; Tunisia; Uruguay; Venezuela; Yemen; New Zealand.

[2] Croatia; Czechia; Denmark; Finland; Germany; Israel; Italy; Japan; Norway; Philippines; Poland; Russia; Slovakia; Slovenia; Switzerland and Taiwan.

[3] The life satisfaction question used for Chart 1 asks "*In general, how satisfied are you with your life? Would you say very satisfied, satisfied, dissatisfied or very dissatisfied?"* with responses coded 1 (very dissatisfied) to 4 (very satisfied). Chart 2 is based on responses to the following question: *Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?*" Despair is set to one if the answer is 30 and zero if under 30.

[4] Ruhm (2024) confirms findings in the US of particularly adverse trends in young people's mental health from 1999-2019, especially among females aged 20-34.

2021.[5] And Chollet et al.'s (2024) analyses of the UK's Household Longitudinal Survey (UKHLS) show a dramatic decline in the happiness of school children aged 10-15 since 2009.

Marquez et al (2024) noted declines in life satisfaction among children ages 15 and 16 using the OECD PISA surveys from 2015-2022 in 37/41 countries they examined.[6] This includes several Latin American countries we examine in detail below. They also showed declines between 2013/14 and 2021/22 using life satisfaction data for children aged 15 in 27 countries using Health Behaviour in School-aged Children (HBSC) survey data.[7] In many European countries the declines were apparent in both surveys (e.g. Austria, France, Greece, Netherlands and the UK). Somewhat surprisingly, as we note below, these authors find scant evidence of declining wellbeing of those ages 15-24 using the Gallup World Poll.

The focus of much on-going research is why this change has occurred. Some argue that there are likely multiple potential reasons for the change. They range from better and faster diagnoses of mental health conditions; the 'scarring' effect of the Great Recession of 2008; changes in the social norms regarding preparedness to report mental health conditions – especially after COVID; and a decline in the perceived life chances of younger people compared to older generations, allied to increased pressure on young people to succeed in the light of poorer prospects for all.

Some of these possible causes do not appear to have much face validity when one considers the timing of the change and the age of those affected. For example, the fact that anxiety, worry and depression have been rising among school children suggests that factors linked solely to adulthood, such as the impact of recession, are not likely to be key determinants of change. Similarly, whilst COVID may have been a contributory factor, the decline in the mental health of the young predates it by about a decade.

The evidence of recently declining youth wellbeing is especially strong in developed Western countries in Northern Europe (Denmark, Finland, Norway, the Netherlands and Sweden) and English speaking (Australia, Canada, New Zealand, the United States and the United Kingdom). Evidence for the rest of the world is sparse. Although countries in other regions of the world are included in some cross-country data sets such as the International Social Survey Program (ISSP) and the Gallup World Poll (GWP) they are rarely the focus of attention and, instead, appear as one of a number of countries in pooled country analyses. In some cases, country rankings of wellbeing are included, notably in the World Happiness Reports, but examination of issues such as changes in wellbeing by age over time are rare.

---

[5] *Q13. During the past 12 months did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities? Yes/No*

[6] Austria, Brazil, Bulgaria, Chile, Colombia, Costa Rica, Dominican Republic, Croatia, Czechia, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Macau, Mexico, Montenegro, Netherlands, Peru, Poland, Portugal, Qatar, Slovakia, Slovenia, Spain, Switzerland, Thailand, Turkey, UAE, UK, Uruguay but not in Hungary, Hong Kong, South Korea and Taiwan.

[7] Armenia, Austria, Belgium (French), Bulgaria, Canada, Denmark, Estonia, Finland, France, Greece, Greenland, Hungary, Iceland, Ireland, Italy, Latvia, Malta, Moldova, Netherlands, Norway, Poland, Slovakia, Slovenia, Spain, Sweden, Switzerland and UK but not in Albania, Belgium (Flemish), Croatia, Cyprus, Germany, Luxembourg, North Macedonia, Portugal and Romania.

In this paper we contribute to the literature by focusing on subjective wellbeing and mental health in Latin America.[8] Of course, we are not the first to do so. We review the existing evidence in Section Two. However, those studies do not address the two questions tackled in this paper. The first is whether the change in the age profile of wellbeing, apparent in North America, Europe and English-speaking countries across the globe, is also apparent in Latin America. The second question is what role is played by social media, particularly smartphone usage, in the mental health of Latin Americans.

We examine the wellbeing of Latin Americans in eighteen Latin American countries. The evidence regarding change in the wellbeing of the young is somewhat contradictory, potentially reflecting differences in sampling methods and wellbeing metrics across surveys. The mental health of young Latin Americans responding to internet-based surveys such as Global Minds is lower than that of older people. However, this is not evident in other surveys such as the Gallup World Poll or the Latinobarometers.

2. Wellbeing in Latin America

2.1: How does Latin America Differ from the West?

Countries in Latin America differ in many ways from those in North America and Europe where much of the research on changes in young people's mental health has been undertaken. These differences mean that the decline in mental illbeing among the young, found elsewhere, may not necessarily materialize in Latin America.

As background there is considerable variation in the populations of the eighteen Latin American countries. According to the US Census Bureau's International Database in 2023 Brazil is the largest with 200 million inhabitants followed by Mexico with 131 million. The smallest is Uruguay with 3 million inhabitants.[9]

The wellbeing literature identifies economic development and income equality as two key factors affecting how people feel. Wellbeing tends to be higher in countries that are more prosperous and more equal (Blanchflower and Bryson, 2024d). Latin American countries tend to be somewhere in the middle of the country rankings in terms of economic development. Let us take the United Nations' Human Development Index (HDI), for example. Table 1 shows the rankings of Latin American countries according to the HDI in 2022 (column 1), together with four sub-components of the index, namely life expectancy, expected and median years of schooling, and Gross National Income (GNI) per capita in 2017 (US dollars, purchasing power adjusted). The HDI rank in 2015 is provided in column 8.

Taken as a group the Latin American and Caribbean countries had a 2022 HDI index above Sub-Saharan Africa, South Asia and the Arab States, but below Europe and Central Asia. It was on a par with East Asia and the Pacific. There is lots of heterogeneity within the Latin American

[8] This is the first in a series of three papers. This will be followed by papers on Africa and Asia.

[9] The populations (in millions) in 2023 were Argentina=47; Bolivia=12; Chile=19; Colombia=50; Costa Rica=5; Dominican Republic=11; Ecuador=18; El Salvador=7; Guatemala=18; Honduras=10; Nicaragua=7; Panama=5; Paraguay=8; Peru=33 and Venezuela=31. See https://www.census.gov/data-tools/demo/idb/#/dashboard?COUNTRY_YEAR=2024&COUNTRY_YR_ANIM=2024&CCODE_SINGLE=VE&CCODE=VE

grouping. The highest ranked Latin American country on the HDI in 2022 is Argentina at 48th with a GNI of $22,048 versus $69,433 for the highest ranked country, Switzerland (row 1).[10] The lowest ranked Latin American country is Honduras at 138th. Venezuela showed a big drop in rank from 81st to 119th while Guyana had a big improvement (123rd to 95th).

Income inequality is especially high in Latin America, militating against high levels of subjective wellbeing. The World Bank Database provides data for 2022 regarding inequality in fourteen Latin American countries.[11] We do not have recent data for Guatemala, Honduras, Nicaragua or Venezuela. Inequality is higher in most Latin American countries than it is in the US or the UK, except in the case of the Dominican Republic. It is highest in Brazil (Table 2). Although there is some disagreement in the literature about the origins of high inequality in Latin America, we can expect it to contribute to a lowering of wellbeing among people in Latin America.[12] Direct evidence to this effect is provided by Graham and Felton (2006).

Demographically, Latin America is rather different too, for at least three reasons. First, populations are growing, whereas they are stable or declining in Western industrialized democracies. According to the U.S. Census Bureau International Database[13], if we consider population growth rates between 2010 and 2024 they are as follows, with the slowest growth in Uruguay and the fastest in Guatemala and Panama - Argentina=13.6%; Bolivia=22.8%; Brazil=11.2%; Chile=11.4%; Columbia=13.2%; Costa Rica=16.4%; Dominican Republic=14.3%; Ecuador=22.4%; El Salvador=11.1%; Guatemala=28.5%; Honduras=19.2%; Mexico=14.5%; Nicaragua=18.1%; Panama=28.4%; Paraguay=18.1%; Peru=11.1%; Uruguay=3.7%; and Venezuela=9.0%. This compares with a growth of 10.6% in the USA over the same period.

Second, although the percentage of young people aged under-25 varies quite a lot across Latin American countries – from a high as 21.5% in Honduras to a low of 11.6% in Chile - most tend to have a higher percentage of young people in them than the United States where the percentage is 11.4%.[14] This is worth recollecting when considering the relative wellbeing of different age groups across countries.

Third, religion plays a more prominent role in most Latin American countries than it does in North America and Europe. In many cases, a high percentage of the population are Catholic. This is

---

[10] Although with 19 years of expected schooling Argentina ranks very highly, and above Switzerland and Norway who are shown in rows 1 and 2.

[11] https://wdi.worldbank.org/table/1.3?_gl=1*fathonyc7r*_gcl_au*MTg5ODc3NDQ1Mi4xNzI3MDk1ODMx

[12] Eslava and Caicedo (2023) examine the sources of this inequality. They argue that "*factor endowments and particular institutions helped to determine, perpetuate and exacerbate the high levels of economic inequality, potentially along with other post-independence factors. We stress the role of slavery in generating patterns of underdevelopment and increased income concentration in the United States and Latin America*". Williamson (2015) has a somewhat different view arguing that "*The history that made it a relatively unequal region was the absence of a 20th century Great Egalitarian Leveling in Latin America, something that appeared in most industrial economies from World War 1 to the 1970s. That Latin American inequality has its roots in its colonial past is a myth*."

[13] https://www.census.gov/data-tools/demo/idb/#/dashboard?COUNTRY_YEAR=2024&COUNTRY_YR_ANIM=2024

[14] The data from the U.S. Census Bureau International Database. The proportions are as follows - Argentina=14.4%; Bolivia=19.6%; Brazil=14.3%; Chile=11.6%; Columbia=14.7%; Costa Rica=13.0%; Dominican Republic=17.6%; Ecuador=18.8%; El Salvador=16.3%; Guatemala=20.8%; Honduras=21.5%; Mexico=16.8%; Nicaragua=17.7% Panama=15.0%; Paraguay=15.0%; Peru=16.1%; Puerto Rico=10.0%; Uruguay=12.9% and Venezuela=15.6%.

important for wellbeing since several studies identify a correlation between belief in God and subjective wellbeing (Yaden et al., 2022).

2.2: Wellbeing in Latin America

Despite the challenges Latin Americans face, studies on wellbeing suggest wellbeing in Latin America is quite high. Beytía (2016) argues that happiness in Latin America in part is explained by the quality of family ties. Rojas (2018, 2020) suggests that the abundance of close, warm and genuine interpersonal relations in all relational spheres of life is another factor. However, it is not clear that religion plays an important role: in a study of Colombia, Costa Rica and Mexico, Rojas (2023) finds that religious variables are not an important determinant of wellbeing. Latin America also faces significant social and economic challenges which may militate against wellbeing. For instance, it includes countries with the highest homicide rates in the world (Jaitman et al., 2015).

If one examines a behavioral outcome which might also reflect on the wellbeing of citizens, such as suicide rates, it is apparent that they vary markedly across Latin American countries, and trends in the last 20 years are quite different across countries. Table 3 presents suicide rates in Latin America in 1990 and 2019, reported by Dávila-Cervantes (2019). They are consistently higher for men than they are for women across countries and over time, in keeping with other studies. Among men, suicide rates are highest in Uruguay and have risen dramatically in the last 20 years, followed by Chile (where they have been falling) and Argentina. They are lowest in Honduras and Peru. Among women suicide rates are highest in Uruguay where they have also been rising and are lowest in Honduras. We also present suicide rates by gender for several western countries. Of note is that in all male rates are higher than female rates. It is notable US rates rose and male rates in 2019 were higher in the US than in all Latin American countries except Uruguay.[15]

In addition to the work of Rojas (2016, 2018, 2020) mentioned above, there is a steadily growing, albeit small, literature measuring wellbeing in Latin America and its relationship with age.[16] The literature relies mainly on three major data sources - the Latinobarometers, the World Values Survey and the Gallup World Poll – focusing primarily on aspects of positive affect such as life satisfaction. We examine all three below, together with evidence from other surveys which are often for single countries.

Blanchflower (2021) found U-shapes in wellbeing in age across 145 countries including 109 developing countries with an age minimum, or nadir, in midlife around age 50. This included evidence of significant U-shapes from eighteen Latin American countries from Latinobarometer in 2017 and 2018, with average minima all around age 50.[17]

Several studies focus exclusively on the Latinobarometer survey series. Blanchflower and Oswald (2008) used data for the period 1997-2005 found life satisfaction was U-shaped in age in models

[15] However, it is possible that suicide is under-reported in Latin America due to the influence of Catholicism. We thank Carol Graham for this point.

[16] See, for example, Easterlin et al (2010), OECD (2021), Macchia and Plagnol (2019), Macchia, Plagnol and Easterlin (2024), Helliwell et al (2024) and Núñez-Naranjo, Morales-Urrutia and Simbaña-Taipe (2024) for Ecuador and Golgher (2023) for Brazil.

[17] The turning point in age by country was as follows: Argentina 45, Bolivia 53, Brazil 44, Colombia 45, Costa Rica 41, Dominican Republic 37, Ecuador 48, El Salvador 54, Guatemala 57, Haiti 44, Honduras 59, Mexico 45, Panama 47, Paraguay 44, Peru 49, Puerto Rico 38, Uruguay 47 and Venezuela 47.

controlling for a variety of potential confounders. It was lowest at age 50 for men and age 43 for women. Graham and Felton (2006) confirm this finding for happiness using the Latinobarometer for 2004. Ruprah and Luengas (2011) examined data for 1997–2006, minus the Dominican Republic and found "*the age effect on happiness has a "U" shape as found in other studies*". Their function minimized at age 41. Macchia and Plagnol (2019b) examined data for 2004–2007 and 2009–2015. They concluded: "*the negative coefficient of age and the positive coefficient of age-squared confirms the U-shape in age that has been found in previous studies*". Their function minimized at age 53. Lahsen and Piper (2019) used data from 2006-2015 also concluding "*age …follows the often-found U-shape, with life satisfaction falling in early adulthood, reaching a bottom at approximately 52 years, before increasing again*" (p.11).[18]

Further confirmation of the U-shaped relationship between life satisfaction and age comes from the 2014 version of the Americas Barometer, a survey created by the Latin America Public Opinion Project (LAPOP) which covers 18 Latin American countries (Londono et al., 2019).[19]

There are also some single-country studies that include age and its square in wellbeing equations which find wellbeing is U-shaped in age in Latin America. They include Acosta-Gonzalez and Marcenaro-Gutiérrez (2021) who examined happiness in the Ecuador Living Conditions Survey 2014 - Pontarello, Orellano and Segovia (2020) - also for Ecuador; and Copestake et al (2009) who used the WeD Peru Income and Expenditure Survey 2004-2005 and found that "age was a significant predictor of people's happiness, showing a traditional U shape with the low point of happiness at 56 years".

Ahumada and Iturra (2021) use individual self-reported measures of subjective wellbeing in 305 Chilean cities from the Socio-Economic Characterization Survey 2013 (CASEN). They conclude: "*the subjective wellbeing age relationship is U-shaped, meaning that older individuals are happier than younger individuals*." (p.5). The function also minimizes at age 52. Also, for Chile, Boncompten and Paredes (2020) analyzed the 2011 National Socio-Economic Characterization Survey (CASEN), concluding that "*age affects life satisfaction in a way in which the two extremes, the youngest and the eldest, have higher life satisfaction".*

Similarly, Tetaz (2012) analyzed happiness in Argentina using the World Value Survey and reported that *"age has a negative impact on life satisfaction until somewhere between 45 and 55 years of age (depending on the wave analyzed). … Summing up, age "U" shape effects are always present* (p.55)". Golgher (2024) for Brazil used the World Values Surveys for 2014 and 2018, and found happiness is U-shaped in age.

However, there is one study which comes to a different conclusion using a different data set. Steptoe, Deaton and Stone (2015) use the Gallup World Poll for 2006-2010 to examine the association between age and Cantril's Ladder, which is an 11-point evaluative life satisfaction

[18] Gerstenblüth and Rossi (2013) examined the 2007 Latinobarometer surveys for Chile and Uruguay. They reported that "*we find the same convex shape as in the other literature, i.e. that happiness declines with age to reach a low point at 48.2 years.*"

[19] Londoño, et al. (2019) use the 2014 version of the Americas Barometer. It is a public opinion and social behavior survey administered annually in Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela.

metric. They reported that "*respondents from Latin America … show decreased wellbeing with age*" and contrasted this pattern with the U-shaped pattern of wellbeing in age they found in high income English-speaking countries.[20] However, they do report a hump-shape in age for the proportion reporting "*a lot of worry yesterday*" and "*a lot of stress yesterday*", a pattern they also observed for the high-income English-speaking countries.

2.3: Wellbeing of The Young in Latin America

Some of the literature focusing on the mental health and wellbeing of the young has included analyses for Latin American countries. We review the studies below. They offer conflicting evidence regarding recent trends in young people's mental health in Latin America.

Helliwell et al (2024) used data from the GWP for 2021-2023 to look at the wellbeing of the young across countries, including in Latin America.[21] They attempted to identify which age group was the least happy using responses to Cantril's Ladder (their Table 2.2). They identified only *seven* out of 143 countries where the 'young' (those aged under 30) were the least happy - Canada, Denmark, Finland, Germany, Netherlands, Norway and Sweden. Their study included 18 Latin American countries. In all of them the young were the happiest age group.

Marquez and Long (2021) report a decline in mean levels of life satisfaction among 15- and 16-year-olds between 2015 and 2018 using data from the Programme for International Student Assessment (PISA).[22] The decline was statistically significant in 43 of the 46 countries in their data including all seven Latin American countries in their data – Brazil; Chile; Colombia; Costa Rica; Mexico; Peru and Uruguay.

Marquez et al (2024) as noted above also examine the Cantril Ladder data in PISA, but this time over the period 2015-2022 in eight Latin American countries. The life satisfaction of these young people aged 15 and 16 falls markedly over the period in each of these countries (Table 4). Marquez et al (2024) also present trends in Cantril Ladder scores for 15–24-year-olds for eight pooled Latin American and Caribbean countries in the GWP between 2005 and 2022. In contrast to the PISA data, these GWP data suggest life satisfaction was roughly stable, and may even have increased a little (see Figure 3.2a on page 72 and Figure 3.2b on page 74).

---

[20] Helliwell et al. (2024) group GWP Cantril's Ladder data for 2021-2023 and report scores by age for different regions of the world. They also find wellbeing based on Cantril's Ladder declines in Latin America with age, though it does seem to follow a u-shape among women. In contrast, it seems Cantril's Ladder is roughly constant across age groups in Western Europe and is rising in North America and Australasia (Figure 2.4). They also construct a positive affect measure based on laughter, enjoyment and doing interesting things on the day before the survey. This declines in age in Western Europe in both 2006-2010 and 2021-2023, it is U-shaped in North America and Australasia and is downward-sloping in both periods in Latin America (Figure 2.9).

[21] Helliwell et al (2024) used the GWP data for 2021-2023 to rank Latin American countries, with rankings for ages 18-30 as follows - 12. Costa Rica (11); 25. Mexico (22); 26. Uruguay (30); 33. El Salvador (17); 38. Chile (39); 39. Panama (26); 42. Guatemala (49); 43. Nicaragua (28); 44. Brazil (60); 48. Argentina (34); 57. Paraguay (37); 61. Honduras (56); 68. Peru (63); 69. Dominican Republic (61); 73. Bolivia (74); 74. Ecuador (59); 78. Colombia (76); 79. Venezuela (83)

[22] The PISA study uses an adapted version of the Cantril Ladder measuring life satisfaction: "Here is a picture of a ladder. The top of the ladder '10' is the best possible life for you, andThis study includes a "0" to "10" life satisfaction item: "How satisfied are you with each of the following things in your life? […] 0 = Not at all satisfied; 10 = totally satisfied […]. Your life as a whole". HSBC uses a "0" to "10" life satisfaction item: "How satisfied are you with each of the following things in your life? […] 0 = Not at all satisfied; 10 = totally satisfied […]. Your life as a whole"

Blanchflower, Bryson and Xu (2024) report changes in mental health and wellbeing over the period 2020-2024 from *The Global Minds Project* for 34 countries with at least 10,000 observations including nine from Latin America – Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay and Peru. They find young people aged under-25 had the lowest happiness levels and worst mental health.

3. Data and Estimation

3.1: Data

We examine the wellbeing of the young and how it has changed using six micro data files which include, or are confined to, respondents from Latin America. These are the Gallup World Poll, 2005-2023; Latinobarometers, 1997-2023; World Values Surveys 1981-2022; Global Minds, 2020-2024; the Enbiare survey for Mexico 2021 and a quarterly time series, Q32013-Q32024; and PISA data on those age 15 and 16 in 2021.

3.1.1: Gallup World Poll, 2005-2023

The Gallup World Poll (GWP) is a survey that has been conducted in over 160 countries since 2005, including 18 Latin American countries. In countries where a telephone survey is used Gallup purchases telephone samples from sample providers and uses random-digit dialing (RDD) to produce nationally representative lists of telephone numbers as a sampling frame. In the developing world, including Latin America, Gallup uses face-to-face interviewing in randomly selected households which take about one hour. Samples are probability based and intended to be nationally representative of the civilian non-institutionalized population aged 15 and older.[23] Achieved sample sizes are usually around 1,000 observations per year in each country. Sample sizes by country for young people are small. In 2023 samples sizes by country under the age of 25 averaged only 169 respondents in 2023.

Our analyses focus on Cantril's Ladder which is an 11-step wellbeing metric based on responses to the following question: "*Please imagine a, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?*" We also examine aspects of wellbeing 'yesterday' using dummy variables capturing positive and negative affect along dimensions such as enjoyment and sadness.

3.1.2: Latinobarometer, 1997-2023

The Latinobarómetro is an annual public opinion survey that involves some 20,000 interviews in 18 Latin American countries.[24] The survey, which is face-to-face, has been running since 1995. Usually there are between 1,000-1,200 observations per country. We focus on the 4-step life satisfaction question asked in 20 of the surveys since 1997: "*Generally speaking how satisfied are you with your life? Would you say you are not at all satisfied (=1); not very satisfied (=2); quite*

[23] For more on Gallup's sampling methodology see https://www.gallup.com/178667/gallup-world-poll-work.aspx

[24] Latinobarómetro Corporation is the non-profit NGO based in Santiago, Chile responsible for collecting and publishing the data. The countries covered are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela. Details of the survey, questionnaires, technical reports, annual reports and data for downloading are all available here: https://www.latinobarometro.org/lat.jsp

satisfied (=3) or very satisfied (=4)?" The question is asked in 1997, 2000-2001; 2003-2011; 2013, 2015- 2017, 2019-2020 and 2023. Sample sizes by countries are small. For example, in 2023 there were an average of 204 respondents per country under the age of 25.

3.1.3: World Values Surveys, 1981-2022

The World Values Survey (WVS) has been running since 1981. Today it covers 120 countries. The survey is conducted periodically, with the last conducted between 2018 and 2022.[25] The interviews are available in ten Latin American countries. The latest wave #7 was mostly conducted in 2018 (Brazil, Chile, Colombia, Ecuador, Mexico, Peru), with interviews in 2017 in Argentina, 2020 in Guatemala, 2021 in Venezuela and in 2022 in Uruguay. It aims for minimum sample sizes of 1,200 per country. Sampling is based on probability sampling, usually stratified, to produce samples that are nationally representative of the adult population aged 18 years or more residing in private households. The survey is usually conducted face-to-face. We analyze the 10-step life satisfaction data available from 1981 for 10 Latin American countries from 1981 to 2022.[26] Samples sizes in the latest wave #7 are also small averaging 255 respondents under the age of 25.

3.1.4: Enbiare Surveys for Mexico

We have two micro surveys from Mexico that contain information on both positive and negative affect. The National Institute of Statistics and Geography (INEGI) conducted the National Survey of Self-Reported Wellbeing (ENBIARE) 2021, in accordance with the Better Life Initiative: Measuring Wellbeing and Progress, promoted by the Organization for Economic Co-operation and Development (OECD).[27] Data are available on three positive affect variables – an 11-step life satisfaction measure; an 11-step ladder scale, akin to Cantril's Ladder, asking the respondent to locate themselves on a scale running from 'the worst' to 'the best possible life'; and how much of the previous day they felt excited or joyful, recorded on a 10-point scale. The data also contain two negative affect measures, also scored on 11-step scales, relating to feeling how much of the previous day the respondent had been "worried, anxious or stressed" and how much of the day they had been "bored or uninterested in what you were doing". In this survey there are 4302 respondents under the age of 25 that responded to the wellbeing questions.

We also have the Enbiare Quarterly Surveys for Mexico from Q32013-Q32024.[28] These contain the life satisfaction, "worried, anxious or stressed" and "bored or uninterested" measures described above, together with a positive affect variable on life being worthwhile, scored from 1 (strongly disagree) to 10 (totally agree). To see whether there have been changes over time in the wellbeing of the young in each of the four cases we split the samples and report separate results for Q32013-Q42020 and then Q1-2021 to Q3-2024. There are 3099 respondents under the age of 25 in the later period.

3.1.5: Global Minds, 2020-2024

---

[25] Data and documentation can be found here: https://www.worldvaluessurvey.org/WVSContents.jsp

[26] Argentina 1984, 1991, 1995, 1999, 2006, 2013 and 2017; Brazil 1991, 1997; 2006; 2014; 2018; Chile 1990; 1996; 2000; 2012 and 2018; Colombia 1997; 1998; 2005; 2012; 2018; Ecuador 2013, 2018; Guatemala 204, 2020; Mexico 1981, 1990, 1996, 1999, 2000, 2005; 2012 and 2018; Peru 1996; 2001; 2006; 2012 and 2018; Uruguay 1996, 2006, 2011, 2022 and Venezuela 1996, 2000 and 2021.

[27] http://en.www.inegi.org.mx/programas/enbiare/2021/#microdatos

[28] https://www.inegi.org.mx/investigacion/bienestar/basico/#microdatos

Global Minds 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 (https://sapienlabs.org).[29] We examine Global Minds data, pooled over the years 2020-2024 from 18 Latin American countries - Argentina; Bolivia; Brazil; Chile; Colombia; Costa Rica; Dominican Republic; Ecuador; El Salvador; Guatemala; Honduras; Mexico; Nicaragua; Panama; Paraguay; Peru; Uruguay; Venezuela - with around 5000 observations and above on individuals of working age, under age 65.

In Global Minds there are 60,698 respondents in Latin America under the age of 25 in the years 2023 and 2024 and 104,717 in total between 2000 and 2024. The 2023 and 2024 surveys include 6,489 in Argentina, 2,141 in Bolivia, 1572 in Brazil, 9,247 in Colombia, 1,842 in Ecuador, 1,202 in Guatemala, 18,871 in Mexico, 1,373 in Paraguay, 4,781 in Peru and 7,162 in Venezuela.

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.[30] 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.

We also examine a 9-step life satisfaction measure which is only available in 2023 and has previously been studied by Blanchflower, Bryson and Bell (2024). We also examine a 9-step measure of suicidal thoughts and intentions based on responses to the question *"Thinking or feeling like you want to kill or physically harm yourself"*. For life satisfaction and suicidal thoughts, the 1 to 9 scale ranges from 1=never causes me any problems: 5=sometimes causes me difficulties or distress but I can manage and 9=has a constant and severe impact on my ability to function. The 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.

3.1.6: Programme for International Student Assessment (PISA), 2022

Micro data are available from the OECD on 7 Latin American countries in the PISA 2022 survey of school children ages 15 and 16 year used by Marquez et al (2024).[31] The survey contains data not just on life satisfaction but also on whether the child has a phone at home with internet access, how many hours are spent on a digital device and feelings the child has when not near that device. In the PISA 2022 survey across ten Latin American countries there are an average of 8300 observations per country.

[29] The most recent report is available here https://mentalstateoftheworld.report/2023_read/

[30] For details of how the MHQ score is constructed see Newson and Thiagarajan (2020) and Bala, Newson and Thiagarajan (2024),

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

3.2: Estimation

We present descriptive analyses in charts depicting trends in wellbeing over time by age, as well as trends in mean scores, as well as country rankings based on mean scores. These descriptive results are survey weighted. They are supplemented by unweighted regression analyses capturing the independent partial correlation between age and the wellbeing metrics described above. We estimate linear regressions, even where the dependent variable is a (0,1) dummy variable to ease interpretation.[32]

4. Results

The main question we address is whether there has been a decline in youth mental health and whether that has removed the U-shape in happiness and the hump-shape in unhappiness in Latin America, as it has done in the US and elsewhere. The way we tackle that is to look at the relationship between age and wellbeing and illbeing in the years after 2020 to see if the U-shape has gone. But first it makes sense to look at overall changes in wellbeing over time and then look at changes for the young.

4.1. Time series changes in country rankings in wellbeing in Latin America

Evidence of changes over time in overall happiness and life satisfaction levels are reported in the World Database on Happiness. In particular information is available on 4-step life satisfaction, especially from the Latinobarometers and on 11-step Cantril life satisfaction from the Gallup World Poll. Time series changes for eighteen Latin American countries for selected years from 2007 are reported in Appendix Table 1 for 4-step life satisfaction and Appendix Table 2 for the 11-step Cantril Ladder.

Table 5 reports the most recent life satisfaction scores for eighteen Latin American countries based on micro-data.[33] The first column presents mean scores for the 4-step life satisfaction measure in the Latinobarometer (LB) for 2023, with 2022 scores in parentheses. Column 2 presents means from the 11-step Cantril Ladder life satisfaction question from the 2023 Gallup World Poll (GWP). Column 3 presents mean scores for the 10-step life satisfaction data from the World Values Survey (WVS) sweep 7 (2017-2021).

There seems to be a good deal of disagreement between them in terms of rankings. According to LB the highest ranked countries in 2023 are the Dominican Republic and Guatemala with Brazil the lowest ranked. According to GWP data for the same year the highest ranked is Costa Rica and lowest ranked Venezuela while in the WVS Colombia is highest ranked and Venezuela is lowest.

Table 6 also presents rankings on wellbeing measures, this time from the GWP pooled over the period 2008-2017. We take the rankings provided in Blanchflower and Bryson (2024d) for 164 countries, all 50 States in the United States and the District of Columbia (a total of 215 geographical locations) but confine the table to Latin American countries.[34] The rankings are based on 8 measures, namely four positive affect metrics – Cantril's Ladder, enjoyment, smiling and well-rested - plus four negative affect variables – pain, sadness, worry and anger. For every

[32] Our results for (0,1) outcomes are not sensitive to the use of logits or probits.
[33] We do not have data on Belize, Suriname or Guyana.
[34] The data for the US states and District of Columbia are taken from Gallup's US Daily Tracker which ceased in 2017 which is why the data stop at that point.

measure, a larger number means a lower wellbeing rank. The final column adds together the ranks to produce a final ranking where bigger numbers mean worse wellbeing. The rankings are not stable.

Of note is how different the ranks are depending on the variable used. For example, overall Paraguay ranks and 123rd with Cantril and 54th overall but is top in the world based on smiling. So GWP results are highly sensitive to which variable is used. The final ranking in column 9 helps 'smooth' variance associated with specific measures. On this metric, Bolivia with a global ranking of 178 out of 215 has the lowest wellbeing in Latin America, followed by Peru (163rd). At the top of the Latin American rankings is Panama at 44th in the world, followed by Paraguay at 54th.

4.1. Gallup World Poll, 2005-2022

Blanchflower (2024) has expressed several concerns with the GWP, not least as it seems so out of line with other surveys. Samples are small, especially for large countries. In the years 2020-2023, there were 4,020 observations for the entire U.S., with only 319 of those under the age of 25. In Latin America, there are also sample size issues. For example, over the period 2020-2023 sample sizes in Brazil, with a population of 220 million has 700 respondents ages 18-24 versus 576 in Uruguay with a population of 3 million.

There was also evidence that data from the USGWP were not consistent with a much larger Gallup survey for the US – the Daily Tracker. The survey's wellbeing measures also tended to not decline during the Great Recession or COVID-19, which seems unlikely to reflect reality, given that most other surveys show declines. As noted from Table 6 above rankings are very different depending on which of Gallup's wellbeing and illbeing measures are used. Paraguay ranks top for smiling and 123rd using Cantril.

Table 7a reports time-series evidence on Cantril Ladder mean scores in 18 Latin American countries for those ages 18-24 by country and year for the period 2007-2023. We also provide data for the USA (which shows a sharp decline) and the UK for comparison. There is no obvious evidence here of declining life satisfaction of the young in the whole Latin American sample: the mean rises between 2013 and 2023 (row 1). Trends are divergent at country level. It rises in eight countries – Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Guatemala, Nicaragua, and Paraguay. It declines in nine - Bolivia, Brazil, Chile, Colombia, Mexico, Panama, Peru, Uruguay and Venezuela. Argentina shows a decline through 2022 but then has a sharp increase in 2023.

When we regress scores on the Cantril Ladder on a linear time trend for the period since 2013 we find that the wellbeing of young people has declined significantly in six countries (Argentina, Brazil, Chile, Colombia, Costa Rica, and Venezuela); risen in five countries (the Dominican Republic, El Salvador, Hondurax, Paraguay and Nicaragua); and remained constant in seven (Bolivia, Ecuador, Guatemala, Mexico, Panama, Peru and Uruguay).

Table 7b reports data on changes in Cantril Ladder life satisfaction means for young people aged 18-24 between 2012-2014 and 2021-2023 by country, ranked by the extent of the change for 141 countries around the world. Of these, 58 countries showed declines in life satisfaction, including twelve Latin American countries – Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica,

Guatemala, Mexico, Panama, Peru, Uruguay and Venezuela. Six Latin American countries – the Dominican Republic, Ecuador, El Salvador, Honduras, Paraguay and Nicaragua – were among the 82 countries where life satisfaction rose. (There is one country – Poland – where life satisfaction of the young remained unchanged).

The U-shaped age-happiness relation in Latin American countries was a well-established fact in the literature until 2020. Chart 3 plots Cantril's Ladder scores by age for 2010 and 2022. It suggests that the U-shape persists. To explore this further Table 8 takes data from the GWP and estimates an OLS Cantril equation for Latin America for 2005-2019 in column 1 and 20202-2023 in column 2. This reveals that life satisfaction declines with age in both periods: there is no sign of a u-shape once sex, year and country fixed effects are controlled for. This is also the case with enjoyment (columns 3 and 4).

Table 9 shifts from a pooled country regression to separate estimates of Cantril's Ladder by country. The table reports the coefficient and t-statistic for a dummy variable identifying those aged 18-24, relative to older people. The only other variables in these models (not reported) are a female dummy and year dummies. In all cases the coefficients are significantly positive, confirming that the higher life satisfaction of young people relative to older people is apparent for each of the Latin American countries in the GWP.

We know of no published evidence on hump shapes in illbeing in Latin America, but data is available in the GWP. Chart 4 uses *worry* – defined as a (1,0) dummy - "*did you experience worry yesterday*?" - from the Gallup World Poll for the years 2005-2019 and then from 2020-2022 by age for Latin America. In both periods worry is hump-shaped, rising to a peak around age fifty. There is no sign of rising worry among the young relative to older age groups. Instead, the hump-shape becomes a little more pronounced due to a rise in worry among the middle-aged.

Table 10 examines the age pattern in negative affect further by estimating the partial correlation between age and two aspects of negative affect in GWP – sadness and worry – having conditioned on gender, country dummies and year dummies. It is the same exercise as in Table 8 but this time for negative affect. Both sadness and worry rise in age. There is no U-shape among those aged 65 and under. Going back to Chart 4, negative affect begins to decline after that point in life.

4.2. Latinobarometers. 1997-2023

In Table 11 we report weighted means for the 4-step life satisfaction variable described in Section 3.1.2 for those ages 18-24 weighted in selected years from 2013-2023. Life satisfaction declines over the decade in eight countries although the declines are small in Colombia, Ecuador, Panama and Uruguay. The declines from 2013 to 2023 are in parentheses – Argentina (-.15), Colombia (-.03), Costa Rica (-.03), Mexico (-.30), Panama (-.02), Uruguay (-.01) and Venezuela (-.07). Life satisfaction rose in the remaining 10 Latin American countries as follows: Bolivia (+.18), Brazil (+.12), Chile (+.14), Dominican Republic (+.09), El Salvador (+.20), Guatemala (+.16), Honduras (+.10), Nicaragua (+.14), Paraguay (+.25) and Peru (+.29).

We pooled twenty Latinobarometers together and in Table 12 report results of regressing life satisfaction on four age dummies (with the reference group being those aged under-25), gender, country and year dummies for a sample of working age under sixty-five. Separate estimates are

provided for 1997-2018 and for 2020-2023. In both periods life satisfaction *declines* in age, as it did in the GWP for Latin America, and changes over time are not substantial.

4.3. World Values Survey, 1981-2022

Life satisfaction of those age 18-24 fell between wave 6 (2010-2014) and wave 7 (2017-2022) in Brazil; Chile; Colombia; Ecuador: Mexico but not in Argentina, Peru or Uruguay.[35] Table 13 regresses 10-step life satisfaction on age dummies, gender and country dummies. In column 1 for waves 1-6 we find life satisfaction is U-shaped in age – minimizing in the 45-54 age band. In the second column, for wave 7, with surveys taken between 2017 and 2022, this relationship has disappeared: there are no significant differences in life satisfaction across age bands from 2017 onwards.

4.4. Enbiare surveys for Mexico

Table 14a shows the age pattern in positive affect and negative affect in Mexico using the 2021 Enbiare cross-sectional survey described in Section 3.1.4. The regressions also contain a female dummy variable and are confined to people aged below 65. The exact question wording for each of the dependent variables is reproduced below the table.

In column 1 life satisfaction declines in age, whereas the 'step of life' and 'excited or joyful' measures in in columns 2 and 3 both *increase* in age. So, even when focusing on subjective wellbeing in the same survey, the correlation with age can differ markedly.

In columns 4 and 5 equivalent results are reported for two negative affect variables, being worried, anxious or stressed and bored uninterested the day before. Both decline later in life, consistent with the step of life and excited/joyful variables and contrasting with the age pattern for life satisfaction.

To see whether there have been changes over time in the wellbeing of the young in Mexico we turn to the Enbiare Quarterly Data for 2013-2024. For each of the dependent variables described in Section 3.1.4 we split the sample and report separate results for Q32013-Q42020 and then Q1-2021 to Q32024.

As with the cross-section survey we find that life satisfaction declines in age (Table 14b). It does so in both periods, although the association is attenuated in the second period, as indicated by the decline in the size of the age coefficients.

This stands in direct contrast with the worthwhile variable that shows a decline with age in the first period and a rise in the second, before falling away for those over 55. The worried, anxious or stressed variable shows an increase with age through to 2020, but a decline thereafter. The older age groups have lower likelihood of being bored or uninterested than those aged 25 and under, an association that strengthened considerably from 2021.

[35] Wave 6 and wave 7 (in parentheses) weighted life satisfaction means for countries in both sweeps are as follows Argentina=7.69 (7.83); Brazil=7.75 (7.27); Chile=7.59 (6.74); Colombia=8.51 (7.93); Ecuador=8.06 (7.82); Mexico=8.63 (8.24); Peru=7.38 (7.75) and Uruguay=7.81 (8.52).

Based on these Enbiare surveys for Mexico, it seems that the life satisfaction and 'step of life' variables differ from the other wellbeing variables – they are the only two that do not pick up a change in the age profile of responses to wellbeing questions. On the other variables it seems that, from 2021 onwards, those aged under-25 were experiencing *lower* wellbeing than those in older age groups.

4.5. Global Minds, 2020-2024

Next, we turn to the Global Minds web-based survey data for 2020-2024 described in Section 3.1.5. We analyze the three dependent variables described in that section for 18 Latin American countries, referring to other countries too to put the data into context.

Global Minds identifies individuals as 'distressed and struggling' if their MHQ scores are between -100 and zero. In 2023 this accounted for 27% of their sample. In their **Mental State of the World in 2023**, Sapien Labs argued that "*the most prominent and persistent trend we've seen in the data … is decreasing MHQ scores in each younger age group, and a corresponding increase in the percentage of individuals who are struggling with significant mental health challenges. This trend is apparent in Internet-enabled populations of every country measured from Africa to Asia, Europe to the Americas*'.[36]

Table 15 reports regression analyses for the Latin American countries pooled, for three separate dependent variables, namely the MHQ score, life satisfaction and having suicidal thoughts or intentions. In the first two columns positive affect rises with age, and in the final column, suicidal thoughts decline in age. Table 16 repeats the exercise, but this time runs separate estimates by Latin American country. Part a) shows results for the MHQ and part b) shows estimates for suicidal thoughts. In every case wellbeing rises with age and suicidal thoughts decline in age everywhere.

The results here are entirely different from those from the GWP and Latinobarometers. The question is why?

4.6: Internet and cell phone usage

In the literature for developed countries, and especially those that are English-speaking, there is growing concern about the role of smart phones and internet screen time in declining mental health of the young (Boer et al., 2020; Udupa et al., 2023; Twenge, 2020; Twenge and Farley, 2021; Haidt 2024a, 2024b).

Chart 5 reports internet usage (https://datahub.itu.int/) as percentage of the population in the United States and nine Latin American countries going back to the mid-1990s. Whereas coverage took off rapidly in the United States in the late 1990s, and has grown more steadily since 2005, coverage in Latin America started slowly but has been rising steadily ever since. Today, whilst internet coverage is close to 100% in the United States, it is not far behind in some Latin American countries such as Chile and Argentina. But it remains considerably lower in Brazil, Belize, Cuba and Colombia.

It is a different story with cell phone subscriptions per 100 in the population, provided by the United Nations (https://datahub.itu.int/). Unfortunately, we do not have information on the

[36] https://sapienlabs.org/wp-content/uploads/2024/03/4th-Annual-Mental-State-of-the-World-Report.pdf

proportion that are smart phones. We present the data in two charts (Charts 6a and 6b) for clarity. As with internet coverage, it grew more rapidly in the United States than in Latin America until around 2005 but since then a number of Latin American countries have surpassed cell phone subscriptions in the United States, with a number of countries having more than one cell phone subscription per head of population.

By 2023 Table 17 shows that cell phone subscriptions per head of population were lower only in Cuba, Bolivia, Dominican Republic and Honduras than the US but higher in the remaining countries with the highest coverage rates in Colombia (167/100) and Panama (157/100).[37] Fifteen countries had higher coverage ratios than the US by 2023. So, cellphones are everywhere.

In 2023 the Global Minds survey asked respondents for the age at which they first had smartphone access. Table 18 shows that thirty eight percent of those age 18-24, compared with 5% of those age 25-34, had access to a smartphone below the age of ten.

Table 19 shows the proportion of those age 18-24 that first accessed a smartphone under the age of ten in 15 Latin American countries. Some sample sizes are small but the proportion ranges from 20% to 51% and averages 38% overall. One should perhaps treat these estimates as an upper bound, since the survey is an internet survey which implies some IT proficiency. Nevertheless, the figures indicate very early access to a smartphone was common across Latin America.

It turns out that the age of accessing a smartphone is associated with poor subsequent wellbeing. In Table 20 for those age 18-24 and 25-34 we regress MHQ and suicidal thoughts on age first had smartphone access plus gender and country. If the respondent accessed a smartphone before the age of 10 (the reference category for the age categories) their subsequent mental health is markedly worse.[38] This is consistent with earlier work by Sapien Labs who found that, across the world and not just for Latin America, "*young adults aged 18-24 who acquired their first smartphone at each older age had, on average, progressively better mental wellbeing as measured by the Mental Health Quotient or MHQ. This pattern was present for both biological females and males*".

And later

"Suicidal thoughts and intentions had an average global rating of 5.8 for females who acquired their first smartphone at age 6. This rating decreased systematically for increasing ages of smartphone acquisition to a rating of 3.6 for those who acquired their first smartphone at age 18. For males, average ratings were 4.1 for those who acquired their first smartphone at age 6 compared to 3.2 for those who acquired their first smartphone at age 18."

Finally, we turn to data from the OECD's 2022 PISA survey of school children aged 15 and 16. We focus on the 7 Latin American countries in the survey which reveal very high internet access at home: Argentina=91%; Brazil=94%; Chile=98%; Dominican Republic=83%; Mexico=95%; Peru=72% and Uruguay=95%.

---

[37] Full time series changes are reported in Appendix Table 3 prepared by the United Nations.
[38] See Sapien Labs 'Age of first smartphone/tablet and mental wellbeing outcomes, 2023'. https://sapienlabs.org/wp-content/uploads/2023/05/Sapien-Labs-Age-of-First-Smartphone-and-Mental-Wellbeing-Outcomes.pdf

The survey also asks respondents about how many hours a day they use digital resources 'for leisure, before and after school'. In Table 21 we pool the data for the Latin American countries and identify the partial correlation between time on a digital device and four wellbeing metrics, namely life satisfaction, and three negative affect variables – I panic easily; I get nervous easily and I am easily upset. The regression estimates control for gender, age and country dummies. In each case we include 6 dummies for the length of time before and after school digital devices were used. For reference purposes, in the first column we include a slightly bigger list of countries than we do in subsequent tables, which includes Guatemala and Paraguay, which do not have responses to the digital usage variable. Guatemalan children are most satisfied and those from Peru least satisfied.

It is apparent from column 2 that those with up to four hours of digital time a day are more satisfied with life than those with none (who are the reference category). But life satisfaction declines among school children in Latin America once they spend four or more hours a day on a digital device. Spending time on a digital device per se, then, is not associated with negative affect. What matters is spending a lot of time on a digital device. In column 2 those children who spent six hours or more a day were less satisfied. 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*". Panic, nervousness and being upset all begin to rise statistically significantly among those spending at least four hours per day on a digital device, with the size of the 'effect' rising for longer hours up to six hours a day.

4. Conclusions

In recent work we have shown that the mental health of the young in North America and much of Europe has been declining at a time when the mental health of older people has remained roughly stable. This has resulted in a shift in the peak of mental illbeing, from around middle-age when people are in their late 40s and early 50s, to around their early to mid-20s. In Latin America, some surveys show a similar pattern. It is the case in the Mexican survey Enbiare and, to some extent, in the World Values Survey.

In some other surveys, the mental health and wellbeing of the young has also been declining yet it remains higher, relatively speaking, to that of older people. This is the case, for example, in the Gallup World Poll for 12 of the 18 Latin American countries (Table 7b), and 8 of the 18 Latin American countries in Latinobarometer (Table 11). The decline in the mental health of the young is also apparent among Latin America's school children in the PISA survey (Table 4).

Smartphone subscriptions have risen rapidly in Latin America. By 2023 there was more than one cell phone subscription per person in Argentina, Costa Rica, El Salvador, Panama, Paraguay, Peru and Uruguay (Table 18). We have presented new evidence to indicate that both the age at which one first gains access to a smartphone, and the time spent on a digital device are strongly linked to poorer wellbeing and greater negative affect among young people in Latin America. The question

it begs is what to do. Mobile phones are now effectively banned in public schools in Australia Italy, Spain, Albania, The Netherlands, Hungary, France and Greece.[39] As of October 2024 eight US states have banned or restricted cell phone use in schools – California, Florida, Indiana, Louisiana, Minnesota, Ohio, South Carolina, Virginia.[40] The use of "*a mobile phone or any other electronic communications terminal equipment*" has been banned in nurseries, elementary schools and middle schools in France since 2018.

Perhaps the most compelling evidence that mental health is poorest among the young in Latin America comes from the Global Minds data for the period 2020-2024. It shows that wellbeing rises with age and mental illbeing falls with age in all 18 Latin American countries in the survey (Table 16).

It is difficult to compare subjective wellbeing metrics across countries for reasons that are well-known to scholars. Within-survey it helps to have a common questionnaire with standard metrics and a standardised sampling methodology, such that one is comparing like-with-like across countries. But each survey has its shortcomings, and some of these might help to explain why the relationship between age and wellbeing in Latin America is not wholly consistent across surveys. Can we identify aspects of the surveys that might account for the differences we find in age-wellbeing patterns across surveys?

Let us begin with sample sizes. Global Minds has very large samples which means sub-group analysis by age is relatively straightforward to undertake. Larger samples mean more precision in the estimation of partial correlations. Other surveys, by contrast, have much smaller samples, particularly for sub-group analyses. This is particularly the case for the Gallup World Poll and Latinobarometers, which means more precise estimates are only possible if one aggregates across years of data. However, differences in sample sizes cannot explain differences in wellbeing levels, or trends, by age.

A second issue is potential biases in achieved samples. The intention of all survey producers is to provide data from which one might extrapolate to a population. This might be achieved through probability sampling, often with stratification and clustering for efficient sampling. But once these design features are accounted for using weights and clustering one should be able to extrapolate to a population. Where there is no probabilistic sampling, as in the case of Global Minds, it is possible to reweight the data, so they reflect population distributions on age and the like. Issues may arise, however, where achieved samples do not reflect population distributions, especially along dimensions that are not observable to the analyst. It may be that survey responses vary by age and may vary according to the survey mode. For instance, the degree to which respondents feel comfortable completing on-line surveys may decline with age, potentially introducing response biases.

---

[39] https://www.abc.net.au/news/2024-08-15/is-mobile-phone-ban-in-schools-helping-students-learn/104218850#, https://www.nytimes.com/2024/08/11/technology/school-phone-bans-indiana-louisiana.html and https://www.politico.com/news/2024/06/18/newsom-desantis-smartphones-school-children-00164030 and https://cne.news/article/4415-school-ban-on-smartphone-is-winning-ground-in-europe

[40] Nirmita Panchal and Sasha Zitter 'A look at state efforts to ban cellphones in schools and implications for youth mental health', 5 September 2024, Kaiser Family Foundation. https://www.kff.org/mental-health/issue-brief/a-look-at-state-efforts-to-ban-cellphones-in-schools-and-implications-for-youth-mental-health/

Even if the survey provider can reweight the sample data to reflect population shares, this may not overcome problems of selection bias along hard-to-observe dimensions such as wellbeing. In the worst-case scenario, it may be that a particular survey format attracts or repels certain types of respondent based on their wellbeing. It might be that those who are already not feeling great spend more time on-line and, if so, might be more likely to complete an on-line survey. If this differs by age it might create difficulties in obtaining reasonable population estimates regarding the age distribution of wellbeing.

Global Minds have investigated whether there are survey mode differences in wellbeing responses by age, comparing their on-line survey with face-to-face interviews for an Indian sample of 4,500 respondents. They get similar trends across survey modes.[41] There is no reason to suspect that these results would not hold in Latin America.

Survey mode might also impact the honesty with which respondents answer wellbeing questions. For instance, respondents may be more forthcoming about their true feelings in an on-line survey, compared to a survey conducted face-to-face with an interviewer, where they may feel more reticent to report illbeing. Such patterns may differ by age, especially where young people are faced by experienced, older survey interviewers. However, this type of survey mode effect is unlikely to be time-varying, in which case it might affect levels of wellbeing, and the relative wellbeing of different groups, but is less likely to impact changes in wellbeing across sub-groups.

A further issue that can impact both levels of wellbeing and changes in wellbeing over time is the nature of survey metrics. Two issues are relevant here. The first is question wording. The second is the coding of responses. Both are critical in understanding wellbeing. The concept itself is multifaceted. For instance, there can be difficulties relying on Cantril's Ladder (as well as happiness and life satisfaction) because these metrics often behave in rather different ways to other positive and negative affect metrics. We have illustrated this in our work on the gender wellbeing gap which has shown that women suffer from greater illbeing than men, and are less likely to express wellbeing, on all metrics except Cantril's Ladder, happiness and life satisfaction (Blanchflower and Bryson, 2024b). Whether differences across surveys in the age-wellbeing relationship can be partially explained by over-reliance on these metrics is a question worthy of further investigation.[42]

If we turn to the issue of response coding, social scientists often prefer coding frames which allow the respondent to plenty of space to say how they actually feel. For wellbeing this is particularly important because some concepts such as despair are very unlikely to be identified using simple (0,1) outcomes. And yet, in some cases (0,1) outcomes are all that are available. This is a feature of the Gallup World Poll, for example, since all of its wellbeing outcomes except Cantril's Ladder are coded as (0,1) responses. Just how important this might be in terms of shedding light on the age-wellbeing relationship and changes over time is unclear.

[41] Personal communication from Tara Thiagarajan.

[42] For example, in a personal communication with Jon Haidt we have been informed that the evidence on the impact of social media and wellbeing is clearer from negative affect variables, including anxiety and depression, than it is in wellbeing measures.

Notwithstanding these differences across surveys, two consistent messages emerge from the analyses we present in this paper. First, the wellbeing of the young has been declining in many Latin American countries, across surveys, and using various measures of wellbeing and mental health. Second, the use of smartphones and other digital devices appears to be playing a role in this decline. There is a burgeoning mental health crisis among the young in Latin America.

References

Acosta-González HN, Marcenaro-Gutiérrez OD (2021) 'The relationship between subjective wellbeing and self-reported health: evidence from Ecuador', *Applied Research in Quality of Life* 16: 1961–1981. https://doi.org/10.1007/s11482-020-09852-z

Ahmed Lahsen A and Piper AT (2019), 'Property rights and intellectual property protection, GDP growth and individual wellbeing in Latin America', *Latin American Economic Review*, 28, 12. https://doi.org/10.1186/s40503-019-0073-5

Ahumada G and Iturra, V (2021), 'If the air was cleaner, would we be happier? An economic assessment of the effects of air pollution on individual subjective wellbeing in Chile' *Journal of Cleaner Production*, 289. https://doi.org/10.1016/j.jclepro.2020.125152

Bala J, Newson JJ and Thiagarajan TC (2024), 'Hierarchy of demographic and social determinants of mental health: analysis of cross-sectional survey data from the Global Mind Project', *BMJ Open*, https://doi.org/10.1136/bmjopen-2023-075095

Beytía P (2016), 'The singularity of Latin American patterns of happiness' in *Handbook of Happiness Research in Latin America* edited by Mario Rojas, Springer.

Blanchflower DG (2024), 'Is the Gallup World Poll reliable?', *After Babel Substack*, June 2024 https://www.afterbabel.com/p/gallup-world-poll

Blanchflower DG (2021), 'Is happiness U-shaped everywhere? Age and subjective wellbeing in 145 countries', *Journal of Population Economics*. https://doi.org/10.1007/s00148-020-00797-z

Blanchflower DG (2020), 'Unhappiness and age', *Journal of Economic Behavior and Organization*. https://10.1016/j.jebo.2020.04.022

Blanchflower DG and Bryson A.J. (2024a), 'Were COVID and the Great Recession wellbeing reducing?' forthcoming *Plos One*.

Blanchflower DG and Bryson AJ (2024b), 'The gender wellbeing gap', *Social Indicators Research*, https://doi.org/10.1007/s11205-024-03334-7

Blanchflower DG and Bryson AJ (2024c), 'The adult consequences of being bullied in childhood', *Social Science and Medicine*. https://doi.org/10.1016/j.socscimed.2024.116690

Blanchflower DG and Bryson AJ (2024d), 'Wellbeing rankings,' *Social Indicators Research*, 171: 513–565. https://doi.org/10.1007/s11205-023-03262-y

Blanchflower DG and Bryson AJ (2024e), 'The consequences of abuse, neglect and cyber-bullying on the wellbeing of the young', NBER Working Paper No. 32119 February

Blanchflower DG, Bryson AJ and Bell DNF (2024), 'The declining mental health of the young in the UK', NBER Working Paper #32789.

Blanchflower DG, Bryson A, Lepinteur A, and Piper A (2024), 'Further evidence on the global decline in the mental health of the young,' NBER Working Paper #32500.

Blanchflower DG, Bryson AJ and Xu X (2024), 'The declining mental health of the young and the global disappearance of the hump shape in age in unhappiness', NBER Working Paper #32337.

Blanchflower, DG, Graham C and Piper A (2023), 'Happiness and age – resolving the debate', *National Institute Economic Review, 16(6)*. https://doi.org/10.1017/nie.2023.1

Blanchflower DG and Oswald AJ (2008), 'Is wellbeing U-shaped over the life cycle?' *Social Science & Medicine*, 66:1733–1749. https://doi.org/10.1016/j.socscimed.2008.01.030

Boer, M. et al. (2020) "Adolescents' Intense and Problematic Social Media Use and their Wellbeing in 29 Countries", *Journal of Adolescent Health*, 66: S89-S99

Boncompte JG and Paredes RD (2020), 'Human capital endowments and gender differences in subjective wellbeing in Chile', *Journal of Happiness Studies*, 21: 241–269. https://doi.org/10.1007/s10902-019-00085-y

Botha F, Morris RW, Butterworth P, and Glozier N (2023), 'Generational differences in mental health trends in the twenty-first century', *Proceedings of the National Academy of Sciences*, 120 (49), e2303781120. https://doi.org/10.1073/pnas.2303781120

Chollet D, Turner A, Marquez J, O'Neill J, Moore L. (2024), *The Good Childhood Report 202*4. The Children's Society, London. https://www.childrenssociety.org.uk/sites/default/files/2024-08/Good%20Childhood%20Report-Main-Report.pdf

Copestake, J, Guillen-Royo M, Chou W, Hinks T and Velazco J (2009), 'The relationship between economic and subjective wellbeing indicators in Peru', *Applied Research in Quality of Life*, 4: 155–177. https://doi.org/10.1007/s11482-009-9070-1

Dávila-Cervantes CA (2022), Suicide burden in Latin America, 1990–2019: findings from the Global Burden of Disease Study 2019', *Public Health*, 205: 28-36, https://doi.org/10.1016/j.puhe.2022.01.014.

De Looze ME, Cosma AP, Vollebergh WAM, Duinhof EL, de Roos SA, van Dorsselaer S, van Bon-Martens MJH, Vonk R and Stevens GWJM (2020), 'Trends over time in adolescent emotional wellbeing in the Netherlands, 2005-2017: Links with perceived schoolwork pressure, parent-adolescent communication and bullying victimization', *Journal of Youth Adolescence*, 49: 2124–2135. https://doi.org/10.1007/s10964-020-01280-4

Easterlin RA McVey LA, Switek M, Sawangfa O, Zweig JS (2010), 'The happiness–income paradox revisited', PNAS, 107(52): 22463-22468. https://doi.org/10.1073/pnas.1015962107

Eslava F and Caicedo FV (2023), 'Origins of Latin American inequality', IDB Working Paper Series, No. IDB-WP-01492, Inter-American Development Bank (IDB), Washington, DC, https://doi.org/10.18235/0005041

Gagné T, Nandi A, Schoon I (2022), 'Time trend analysis of social inequalities in psychological distress among young adults before and during the pandemic: evidence from the UK Household Longitudinal Study COVID-19 waves', *Journal of Epidemiology and Community Health*, 76:421-427. http://doi.org/10.5255/UKDA-SN-8644-10

Garriguet D (2021), 'Health of youth in Canada', in *Portrait of Youth in Canada*, Statistics Canada, February 1. https://www150.statcan.gc.ca/n1/pub/42-28-0001/2021001/article/00001-eng.htm

Gerstenblüth M and Rossi M (2013), 'Are healthier people happier? Evidence from Chile and Uruguay', *Development in Practice*, 23(2): 205-216. https://doi.org/10.1080/09614524.2013.772024

Golgher AB (2024), 'Food insecurity, subjective wellbeing and the use of social networking services in Brazil between 2014 and 2018', *Revista Brasileira de Estudos de População*, https://doi.org/10.20947/S0102-3098a0265

Graham, C and Felton A (2006), 'Inequality and happiness: Insights from Latin America' *Journal of Economic Inequality*, 4: 107–122. https://doi.org/10.1007/s10888-005-9009-1

Haidt J (2024a), *The Anxious Generation. How the Great Rewiring of Childhood is Causing an Epidemic of Mental Illness*, Penguin, Random House.

Haidt J (2024b), 'Yes, social media really is a cause of the epidemic of teenage mental illness: two major problems with a review in Nature', *After Babel*, April 9. https://www.afterbabel.com/p/phone-based-childhood-cause-epidemic

Helliwell, J. F., Huang, H., Shiplett, H., and Wang, S. (2024) 'Happiness of the younger, the older, and those in between', Chapter 2 in Helliwell, J. F., Layard, R., Sachs, J. D., De Neve, J-E., Aknin, L. B. and Wang, S. (eds) *World Happiness Report 2024* University of Oxford: Wellbeing Research Centre. http://doi.org/10.18724/whr-f1p2-qj33

Hudomiet P, Hurd MD, Rohwedder S (2021), 'The age profile of life satisfaction after age 65 in the U.S.', *Journal of Economic Behavior and Organisation*:189: 431-442. https://doi.org/10.1016/j.jebo.2021.07.002

Jaitman L, Soares R, Olavarría-Gambi M & Guerrero Compeán R (2015). *The welfare costs of crime and violence in Latin America and the Caribbean*. Washington: InterAmerican Development Bank.

Krokstad S, Weiss DA, Krokstad MA, Rangul V, Kvaløy K, Ingul JM, Bjerkeset O, Twenge J, Sund ER (2022), 'Divergent decennial trends in mental health according to age reveal poorer

mental health for young people: repeated cross-sectional population-based surveys from the HUNT Study, Norway', *BMJ Open*. https://doi/org/10.1136/bmjopen-2021-057654

Londoño CO, Mesa DG, Cardona-Sosa, L and Toro CG (2019), 'Happiness and victimization in Latin America', *Journal of Happiness Studies*, 20: 935–954. https://doi.org/10.1007/s10902-018-9981-3

McNamee, P., Mendolia, S. and Yerokhin, O. (2022), 'Social media use and emotional and behavioural outcomes in adolescence: Evidence from British longitudinal data', *Economics and Human Biology*, 41: 100992. http://dx.doi.org/10.1016/j.ehb.2021.100992

Macchia L, Plagnol AC and Easterlin RA (2024), 'Trends and fluctuations in financial satisfaction and macroeconomic indicators in times of economic changes: the case of Latin America', *International Journal of Happiness and Development*, 8(3): 295-312. https://doi.org/10.1504/IJHD.2024.137970

Macchia L and Plagnol AC (2019a), 'Life Satisfaction and Confidence in National Institutions: Evidence from South America', *Applied Research Quality Life,* 14:721–736 https://doi.org/10.1007/s11482-018-9606-3

Macchia, L. and Plagnol, A.C. (2019b), The subjective wellbeing political paradox: evidence from Latin America. In M. Rojas (Ed.), *The Economics of Happiness: How the Easterlin Paradox Transformed our Understanding of Wellbeing and Progress*. New York: Springer.

Marquez J, and Long EA (2021), 'A global decline in adolescents' subjective wellbeing: a comparative study exploring patterns of change in the life satisfaction of 15-year-old students in 46 countries', *Child Indictors Research,* 14, 1251–1292. https://doi.org/10.1007/s12187-020-09788-8

Marquez J, Taylor L, Boyle L, Zhou W and De Neve JE (2024), 'Child and adolescent wellbeing: global trends, challenges and opportunities', *World Happiness Report, 2024* edited by John F. Helliwell, Richard Layard, Jeffrey D. Sachs, Jan-Emmanuel De Neve, Lara B. Aknin, and Shun Wang, Wellbeing Research Centre, University of Oxford. http://doi.org/10.18724/whr-91b0-ek06

Wiens K, Bhattarai A, Pedram P, Dores A, Williams J, Bulloch A and Patten S (2020), 'A growing need for youth mental health services in Canada: examining trends in youth mental health from 2011 to 2018', *Epidemiology and Psychiatric Sciences*. 2020; 29: e115. https://doi.org/10.1017/S2045796020000281

Newson JJ and Thiagarajan TC (2020), 'Assessment of population wellbeing with the Mental Health Quotient (MHQ): development and usability study', *JMIR Mental Health*, 7(7): e17935. https://doi.org/10.2196/17935

Núñez-Naranjo A, Morales-Urrutia X, Simbaña-Taipe L (2024), 'Social capital, education, and subjective wellbeing in Ecuador'. *Frontiers in Sociology*. https://doi.org/10.3389/fsoc.2024.1417538

Odgers C (2024), 'The great rewiring; is social media really behind an epidemic of teenage mental illness?', *Nature*, 29 March.

OECD (2021), *How's Life in Latin America? Measuring well-being for policy making*, Paris.

Pontarollo N, Orellana M & Segovia J (2020), 'The determinants of subjective wellbeing in a developing country: the Ecuadorian case', *Journal of Happiness Studies*, 21: 3007–3035. https://doi.org/10.1007/s10902-019-00211-w

Rojas M (2023) Is there a religious explanation for high life satisfaction in Latin America?' *Third World Quarterly*, 44(7). https://doi.org/10.1080/01436597.2023.2193319

Rojas M (2020), *Wellbeing in Latin America: Drivers and Policies*, Springer.

Rojas M (2018), 'Happiness in Latin America has social foundations', *World Happiness Report*, 2018, edited by John F. Helliwell, Richard Layard and Jeffrey D. Sachs,

Rojas M (2016), *Handbook of Happiness Research in Latin America*, International Handbooks of Quality of Life, Springer.

Ruhm CJ (2024), '"Despair" and death in the United States', NBER Working Paper #32978.

Ruprah IJ and Luengas P. (2011), 'Monetary policy and happiness: Preferences over inflation and unemployment in Latin America' *The Journal of Socio-Economics*, 40(1): 59-66. https://doi.org/10.1016/j.socec.2010.08.001

Steptoe A, Deaton A and Stone AA (2015), 'Psychological wellbeing, health and ageing', *The Lancet*, https://doi.org/10.1016/S0140-6736(13)61489-0

Tetaz, M. (2012), 'The economics of happiness in Argentina', *Palermo Business Review,* 7:41-65.

Thorisdottir E, ·Asgeirsdottir BB, Kristjansson AL, Valdimarsdottir HB,· Tolgyes, EMJ, Sigfusson J, Allegrante JP, Sigfusdottir ID·and Halldorsdottir T (2021), Depressive symptoms, mental wellbeing, and substance use among adolescents before and during the COVID-19 pandemic in Iceland: a longitudinal, population-based study', *The Lancet Psychiatry*, 8, (8): 663—672. https://doi.org/10.1016/S2215-0366(21)00156-5

Twenge JM (2020), 'Increases in depression, self-harm, and suicide among U.S. adolescents after 2012 and links to technology use: possible mechanisms', *Psychiatric Research and Clinical Practice*, 2(1):19-25. https://doi.org/10.1176/appi.prcp.20190015

Twenge JM and Farley E (2021), 'Not all screen time is created equal: Associations with mental health vary by activity and gender', *Social Psychiatry and Psychiatric Epidemiology*, 56: 207-217. https://doi.org/10.1007/s00127-020-01906-9

Twenge JM and Martin GN, (2020), 'Gender differences in associations between digital media use and psychological wellbeing: Evidence from three large datasets', *Journal of Adolescence*, 79: 91-102. https://doi.org/10.1016/j.adolescence.2019.12.018

Twenge JM, Martin GN, and Campbell WK (2018), 'Decreases in psychological wellbeing among American adolescents after 2012 and links to screen time during the rise of smartphone technology', *Emotion*, 18(6): 765–780. https://doi.org/10.1037/emo0000403

Udupa NS, Twenge JM, McAllister C, Joiner TE (2023), 'Increases in poor mental health, mental distress, and depression symptoms among U.S. adults, 1993–2020', *Journal of Mood and Anxiety Disorders*, 2, August, 100013. https://doi.org/10.1016/j.xjmad.2023.100013

Villar F P (2022), 'Is there a mineral-induced 'economic euphoria'? Evidence from Latin America', *Journal of Happiness Studies*, 23: 1403–1430. https://doi.org/10.1007/s10902-021-00455-5

Williamson JG (2015), 'Latin American inequality: Colonial origins, commodity booms or a missed twentieth-century leveling?', *Journal of Human Development and Capabilities*, 16 (3), 324–341. https://doi.org/10.1080/19452829.2015.1044821

Yaden D. B., Batz-Barbarich, C. L., Ng., V., Vaziri, H., Gladstone, J. N., Pawelski, J. O. and Tay, L. (2022), 'A meta-analysis of religion/spirituality and life satisfaction", *Journal of Happiness Studies*, 23: 4147-4163. https://link.springer.com/article/10.1007/s10902-022-00558-7

Table 1 2022 UN Human Development Index (HDI) https://hdr.undp.org/data-center/human-development-index#/indicies/HDI

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Switzerland	0.967	84.3	16.6	13.9	69,433	1
2	Norway	0.966	83.4	18.6	13.1	69,190	2
48	Argentina	0.849	76.1	19.0	11.1	22,048	43
52	Uruguay	0.830	78.0	17.4	9.1	22,207	60
57	Panama	0.820	76.8	13.2	10.7	32,029	62
64	Costa Rica	0.806	77.3	16.1	8.8	20,248	70
82	Dominican Rep	0.766	74.2	13.6	9.2	18,653	94
83	Ecuador	0.765	77.9	14.9	9.0	10,693	82
87	Peru	0.762	73.4	14.8	10.0	11,916	85
89	Brazil	0.760	73.4	15.6	8.3	14,616	89
91	Colombia	0.758	73.7	14.4	8.9	15,014	86
95	Guyana	0.742	66.0	13.0	8.6	35,783	123
97	Dominica	0.740	73.0	13.6	9.2	12,468	105
102	Paraguay	0.731	70.5	13.9	8.9	13,161	97
119	Venezuela	0.699	71.1	13.5	9.6	6,184	81
120	Bolivia	0.698	64.9	15.0	9.8	7,988	122
127	El Salvador	0.674	71.5	11.9	7.2	8,886	124
130	Nicaragua	0.669	74.6	12.6	7.3	5,427	131
136	Guatemala	0.629	68.7	10.8	5.7	8,996	134
138	Honduras	0.624	70.7	10.0	7.3	5,272	141
Latin America & Caribbean		0.763	73.7	14.8	9.0	15,109	
Arab States		0.704	71.3	11.9	7.8	14,391	
East Asia & Pacific		0.766	76.2	14.5	8.2	16,138	
Europe & Central Asia		0.802	73.6	15.5	10.6	19,763	
South Asia		0.641	68.4	11.9	6.6	6,972	
Sub-Saharan Africa		0.549	60.6	10.3	6.0	3,666	
World		0.739	72.0	13.0	8.7	17,254	

Notes: (1) HDI rank 2022 (3) HDI value (4) Life expectancy at birth years. (5) Expected years of schooling years (6) Mean years of schooling (7) Gross national income (GNI) per capita (2017 PPP $) and (8) HDI rank 2015.

Table 2: Latin American Countries' Gini Index

Argentina	40.7
Bolivia (2021)	40.9
Brazil	52.0
Chile	43.0
Colombia	54.8
Costa Rica	47.2
Dominican Republic	37.0
Ecuador	45.5
El Salvador	38.8
Mexico	43.5
Panama (2023)	48.9
Paraguay	45.1
Peru	40.3
Uruguay	40.6
USA (2021)	39.8
UK (2021)	32.4

Source: World Bank Development Indicators, https://wdi.worldbank.org/table/1.3?_gl=1*fnyc7r*_gcl_au*MTg5ODc3NDQ1Mi4xNzI3MDk1ODMx

Table 3. Age standardized suicide rate (95% UI), per 100000

	Males		Females	
Country	1990	2019	1990	2019
Argentina	12.7	18.4	4.1	4.3
Bolivia	7.8	8.7	4.4	3.6
Brazil	9.8	10.2	2.7	2.5
Chile	33.6	18.6	5.4	3.7
Colombia	7.1	9.5	1.6	2.1
Costa Rica	9.2	14.6	1.6	2.2
Ecuador	6.5	14.8	3.3	4.3
El Salvador	16.0	14.5	6.1	3.2
Guatemala	9.4	8.4	1.9	2.5
Honduras	5.7	4.1	1.4	0.9
Mexico	5.4	10.6	1.0	2.1
Nicaragua	6.7	8.6	3.3	2.3
Panama	7.4	8.1	1.5	1.5
Paraguay	3.8	9.3	1.9	3.0
Peru	4.2	4.5	2.0	1.5
Uruguay	18.7	31.7	4.7	8.0
Venezuela	9.2	13.9	2.0	2.7
UK	10.8	10.4	3.2	3.4
USA	18.5	22.4	5.2	6.8
Canada	15.1	15.3	5.5	5.4
France	21.2	15.2	7.2	4.5
Germany	14.8	12.8	4.5	3.9
Japan	27.4	17.5	10.3	6.9

https://x.com/kingofqueensla1/status/1839406086677479473 Source: Dávila-Cervantes (2022). And for the non Latin countries https://www.who.int/data/gho/data/indicators/indicator-details/GHO/age-standardized-suicide-rates-(per-100-000-population)

Table 4: Mean Cantril Ladder Scores Among 15- and 16-Year-Old Students in PISA

	2015	2018	2022
Brazil	7.59	7.05	6.85
Chile	7.37	7.03	6.41
Colombia	7.88	7.62	6.96
Costa Rica	8.21	7.96	7.32
Dominican Republic	8.50	8.09	7.44
Mexico	8.27	8.11	7.26
Peru	7.50	7.31	6.37
Uruguay	7.70	7.54	7.03

Source: Marquez et al. (2024)

Table 5. Wellbeing in Latin America

	2023 Latinobarometer	2023 GWP	WVS 2017-2021
Argentina	2.96 (2.89)	6.4	7.7
Bolivia	2.79 (2.82)	5.9	7.5
Brazil	2.82 (2.81)	6.6	7.6
Chile	2.86 (2.75)	6.2	7.2
Colombia	3.26 (3.34)	5.9	8.2
Costa Rica	3.34 (3.33)	7.4	
Dominican Republic	3.41 (3.35)	5.9	
Ecuador	3.15 (3.09)	5.9	7.8
El Salvador	3.37 (3.31)	6.5	
Guatemala	3.41 (3.39)	6.4	7.5
Honduras	3.19 (3.21)	5.9	
Mexico	2.97 (3.22)	7.0	8.1
Nicaragua	* (3.21)	6.4	7.9
Panama	3.32 (3.29)	6.5	
Paraguay	3.14 (2.94)		
Peru	3.05 (3.03)	5.9	7.6
Uruguay	3.14 (3.15)	6.7	8.1
Venezuela	3.17 (2.91)	5.8	7.0

*=Not available in 2023. 2022 Latinobarometer estimates in parentheses

Table 6. Wellbeing rankings in Latin America from Blanchflower and Bryson (2024d) using GWP data 2008-2017 – includes US states

	Cantril	Enjoy	Smile	Well rested	Pain	Sadness	Worry	Anger	Final
Argentina	81	73	15	60	156	143	177	96	95
Bolivia	112	123	118	144	177	209	208	192	178
Brazil	75	102	115	163	153	151	192	116	144
Chile	80	76	64	150	161	157	180	137	134
Colombia	90	82	52	26	139	174	164	142	106
Costa Rica	25	66	2	27	138	142	156	124	80
Dominican Republic	151	141	113	133	172	194	186	105	166
Ecuador	107	80	31	31	151	184	183	131	112
El Salvador	100	91	11	18	179	182	184	143	116
Guatemala	94	86	14	21	170	179	173	133	107
Honduras	136	106	35	22	154	177	165	104	114
Mexico	69	90	82	25	128	123	152	11	81
Nicaragua	116	119	34	17	181	193	175	128	128
Panama	73	85	4	9	96	105	94	18	44
Paraguay	123	51	1	4	123	54	166	3	54
Peru	110	112	100	126	163	198	202	171	163
Uruguay	91	78	80	88	137	145	176	90	111
Venezuela	93	92	12	23	108	116	145	109	83

Table 7a. Cantril life satisfaction ladder Gallup World Poll weighted Time Series 2013-2023 age<25

11-step	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Latin America	6.45	6.63	6.49	6.49	6.65	6.63	6.73	6.19	6.40	6.82	6.78
Argentina	7.29	6.98	7.13	7.05	6.98	6.43	6.62	6.47	6.31	6.84	7.27
Bolivia	6.24	6.33	6.46	6.59	6.30	6.52		6.24	6.05	6.49	6.14
Brazil	7.16	7.31	6.97	6.71	6.78	6.71	6.70	6.53	6.29	6.52	6.88
Chile	7.37	7.54	7.04	7.05	7.41	7.18		6.48	6.72	6.69	6.74
Colombia	6.80	7.07	6.59	6.69	6.64	6.60	6.80	5.78	5.57	6.49	6.40
Costa Rica	7.50	7.57	7.21	7.62	7.48	7.53	7.38		6.78	7.32	7.70
Dominican R	5.99	6.22	6.32	6.11	6.48	6.30	6.87	5.85	6.88	6.46	6.48
Ecuador	6.54	6.34	6.57	6.81	6.58	6.73	6.48	6.16	6.21	6.86	6.61
El Salvador	6.96	6.84	6.62	7.10	6.90	6.91	7.27	5.93	7.36	6.99	7.34
Guatemala	6.35	7.22	6.94	7.02	6.87	7.02	6.72			6.65	6.61
Honduras	5.43	6.05	6.09	6.40	6.59	6.86	6.73		6.20	6.77	6.72
Mexico	7.80	6.96	6.39	7.00	6.78	7.00	6.87	6.41	6.53	7.35	7.02
Nicaragua	6.44	6.98	6.65	6.68	7.08	6.48	6.96	6.69	6.69	7.13	7.13
Panama	7.33	7.21	7.18	6.43	6.97	6.74	6.94		7.15	6.72	7.28
Paraguay	6.21	5.51	5.94	6.40		6.59	6.43	5.38	6.14	7.08	6.87
Peru	6.30	6.26	6.17	5.99	6.25	6.60	6.28		5.99	6.70	6.26
Uruguay	7.11	7.13	7.04	6.83		7.09	7.02	6.78	6.97	7.06	6.91
Venezuela	6.84	6.21	5.89	4.51	5.70	5.50	5.97	5.19	5.10	6.46	6.19
UK	*6.76*	*6.48*	*6.47*	*6.81*	*7.11*	*7.15*	*7.44*	*6.93*	*7.21*	*6.60*	*6.53*
USA	*7.56*	*7.38*	*7.39*	*6.90*	*6.81*	*6.76*	*6.65*	*6.69*	*6.73*	*6.39*	*6.33*

Cantril - Suppose the top of the ladder represents the best possible life for you and the bottom of the ladder the worst possible life. Where on this ladder do you feel you personally stand at the present time? 10-0 https://worlddatabaseofhappiness.eur.nl/equivalent-measures/11-step-numeral-best-worst-possible-life-9/

Table 7b. Change in Cantril age 18-24 from Gallup World Poll, 2012-2014 vs 2021 to 2023.

Lebanon	-2.79	Bahrain	-0.19	Cyprus	0.45
Afghanistan	-1.85			Moldova	0.46
Sierra Leone	-1.54	Pakistan	-0.18	Mongolia	0.47
Zambia	-1.25	Azerbaijan	-0.16	Puerto Rico	0.48
Congo Kinshasa	-1.00	India	-0.13	Madagascar	0.50
Canada	-0.95	Botswana	-0.12	Kenya	0.51
United States	-0.94	**Uruguay**	**-0.12**	Philippines	0.53
Algeria	-0.89	**Bolivia**	**-0.12**	Tanzania	0.53
Germany	-0.82	Jamaica	-0.11	Kyrgyzstan	0.53
Tunisia	-0.78	Yemen	-0.10	North Macedonia	0.55
Bangladesh	-0.77	Netherlands	-0.10	Estonia	0.56
Jordan	-0.76	Iran	-0.09	China	0.58
Northern	-0.75	Russia	-0.08	Montenegro	0.59
Switzerland	-0.74	**Mexico**	**-0.06**	Bosnia an	0.59
Malawi	-0.71	France	-0.05	Cambodia	0.61
Turkey	-0.67	Namibia	-0.03	Latvia	0.63
Colombia	**-0.67**	Nigeria	-0.02	Ukraine	0.68
New Zealand	-0.62	**Peru**	**-0.01**	**Honduras**	**0.70**
Zimbabwe	-0.61	Poland	0.00	Chad	0.71
Chile	**-0.60**	Israel	0.02	Iraq	0.71
Brazil	**-0.59**	Malaysia	0.02	Mozambique	0.72
Egypt	-0.59	Palestine	0.02	Uganda	0.77
Australia	-0.58	Italy	0.03	Romania	0.78
Singapore	-0.54	Ghana	0.05	Hungary	0.79
Hong Kong	-0.53	**Ecuador**	**0.07**	**Paraguay**	0.81
Norway	-0.51	Slovakia	0.07	Vietnam	0.84
Malta	-0.45	Luxembourg	0.08	Albania	0.89
Spain	-0.40	Saudi Arabia	0.08	Niger	0.91
Venezuela	**-0.39**	Taiwan	0.09	Kuwait	0.94
Ethiopia	-0.39	Japan	0.11	Georgia	1.00
Austria	-0.34	Slovenia	0.15	Senegal	1.01
Costa Rica	**-0.34**	South Korea	0.16	Togo	1.04
Argentina	**-0.32**	UAE	0.19	Benin	1.08
Myanmar	-0.29	Tajikistan	0.21	Gabon	1.08
Mauritius	-0.26	Portugal	0.22	Burkina Faso	1.11
Morocco	-0.23	Mali	0.24	Liberia	1.13
Finland	-0.23	Libya	0.26	Ivory Coa	1.13
Sweden	-0.23	United Kingdom	0.27	Congo Bra	1.15
Ireland	-0.23	**Nicaragua**	**0.30**	Kosovo	1.18
Belgium	-0.23	Uzbekistan	0.30	South Africa	1.22
Denmark	-0.23	Nepal	0.31	Armenia	1.25
Thailand	-0.22	Greece	0.31	Croatia	1.27
Guatemala	**-0.21**	Iceland	0.32	Guinea	1.36
Czechia	-0.19	Cameroon	0.33	Bulgaria	1.44
Sri Lanka	-0.19	Kazakhstan	0.35	Lithuania	1.44
Bahrain	-0.19	Mauritania	0.38	Serbia	1.53
Panama	**-0.19**	Indonesia	0.40		
Pakistan	-0.18	**El Salvador**	**0.43**		
Azerbaijan	-0.16	**Dominican Republic**	**0.43**		

Table 8. GWP Positive affect age <65, 2005-2023

	Cantril 2005-2019	Cantril 2020-2023	Enjoy 2005-2019	Enjoy 2020-2023
25-34	-.4267 (29.47)	-.3582 (12.14)	-.0432 (17.63)	-.0289 (6.03)
35-44	-.6913 (45.25)	-.6052 (19.71)	-.0631 (24.44)	-.0583 (11.68)
45-54	-.8495 (52.62)	-.7825 (24.03)	-.0781 (28.63)	-.0808 (15.25)
55-64	-.9532 (54.41)	-.8601 (25.03)	-.0876 (29.60)	-.1029 (18.43)
Female	.0819 (7.89)	.0895 (4.37)	-.0272 (15.54)	-.0368 (11.04)
Argentina	.1953 (5.90)	-.3360 (5.90)	.0065 (1.17)	-.0548 (5.89)
Belize	-.0334 (0.41)		-.0857 (6.11)	
Bolivia	-.5958 (18.05)	-.9211 (17.47)	-.0857 (5.34)	-.0890 (10.36)
Brazil	.3450 (10.88)	-.2711 (4.79)	-.0702 (13.08)	-.1246 (13.49)
Columbia	.0374 (1.15)	-.8521 (15.17)	-.0191 (3.47)	-.0797 (8.70)
Costa Rica	.9031 (27.65)	.2308 (3.95)	.0224 (4.06)	-.0226 (2.38)
Cuba	-.3665 (4.50)		-.1697 (12.26)	
Dominican Republic	-1.1564 (35.40)	-1.0095 (17.91)	-.1248 (22.60)	-.1655 (18.03)
Ecuador	-.4955 (15.22)	-.8828 (15.80)	-.0006 (0.13)	-.0669 (7.35)
El Salvador	-.3167 (9.77)	-.4080 (7.17)	-.0261 (4.77)	-.0119 (1.29)
Guatemala	-.1030 (3.18)	-.5377 (7.55)	-.0224 (4.09)	.0200 (1.74)
Guyana	-.0211 (0.19)		-.0757 (3.90)	
Haiti	-2.3454 (56.84)		-.2890 (41.24)	
Honduras	-.9179 (28.34)	-.7665 (12.25)	-.0552 (10.08)	-.0359 (3.53)
Mexico	.5877 (18.04)	-.0168 (0.30)	-.0278 (5.03)	-.0032 (0.35)
Nicaragua	-.6817 (21.10)	-.3538 (6.29)	-.0776 (14.25)	-.0526 (5.76)
Panama	.4759 (14.65)	-.2406 (3.81)	-.0132 (2.40)	.0051 (0.50)
Paraguay	-.7254 (22.16)	-.7699 (13.64)	.0432 (7.80)	.0296 (3.23)
Peru	-.5726 (17.60)	-.9807 (17.17)	-.0687 (12.46)	-.0641 (6.88)
Puerto Rico	.8062 (8.56)	.5964 (4.01)	-.0006 (0.04)	-.0250 (1.03)
Venezuela	-.1299 (3.96)	-1.2738 (22.68)	-.0515 (9.27)	-.1335 (14.59)
_cons	6.9941	6.9127	.9308	.9173
Adjusted R^2	.0881	.0456	.0265	.0275
N	215,159	57,182	215,870	57,344

Notes: Uruguay excluded, and equations also include year dummies. T-statistics in parentheses

Table 9. Coefficient and t-values on age 18-24 variable in GWP Cantril equations, 2020-2023

Argentina	.6268 (6.23)	3,344
Bolivia	.5932 (8.70)	4,604
Brazil	.1632 (1.64)	3,417
Chile	.4130 (4.60)	3,999
Colombia	.4061 (4.16)	3,549
Costa Rica	.4041 (3.95)	3,261
Dominican Republic	.9116 (7.56)	3,490
Ecuador	.8292 (9.64)	3,646
El Salvador	.7685 (7.60)	3,366
Guatemala	.4478 (3.20)	1,722
Honduras	.9005 (6.39)	2,527
Mexico	.3432 (3.70)	3,564
Nicaragua	.7272 (7.25)	3,544
Panama	.7210 (5.82)	2,434
Paraguay	.7252 (6.94)	3,471
Peru	.6312 (6.70)	3,575
Uruguay	.4476 (5.01)	3,855
Venezuela	.4481 (4.08)	3,527

Table 10. GWP Negative affect age <65, 2005-2023

	Sadness 2005-2019	Sadness 2020-2023	Worry 2005-2019	Worry 2020-2023
25-34	.0383 (14.75)	.0561 (10.35)	.1056 (35.69)	.0973 (16.20)
35-44	.0719 (26.26)	.1107 (19.62)	.1389 (44.52)	.1566 (25.07)
45-54	.1041 (35.97)	.1497 (25.02)	.1582 (48.06)	.1756 (26.51)
55-64	.1234 (39.34)	.1778 (28.20)	.1583 (44.33)	.1689 (24.22)
Female	.0926 (49.73)	.1083 (28.73)	.0620 (29.24)	.0746 (17.89)
Argentina	.0079 (1.34)	.0413 (3.93)	.0085 (1.27)	.0741 (6.37)
Belize	.0632 (4.24)		-.1051 (6.20)	
Bolivia	.1659 (28.05)	.1557 (16.06)	.0940 (13.98)	.1177 (10.98)
Brazil	.0284 (5.00)	.0734 (7.05)	.0529 (8.18)	.1578 (13.68)
Columbia	.0525 (8.97)	.0896 (8.66)	-.0253 (3.81)	.0537 (4.70)
Costa Rica	.0164 (2.80)	.0535 (4.98)	-.0344 (5.16)	.0349 (2.94)
Cuba	.0063 (0.43)		.0279 (1.67)	
Dominican Republic	.0906 (15.48)	.0725 (6.99)	.0019 (0.30)	.0313 (2.73)
Ecuador	.0674 (11.53)	.1455 (14.13)	-.0029 (0.45)	.1246 (10.93)
El Salvador	.0587 (10.11)	.0829 (7.92)	-.0172 (2.61)	.0014 (0.13)
Guatemala	.0636 (10.98)	.0798 (6.13)	-.0151 (2.29)	-.0060 (0.42)
Guyana	.0552 (2.67)		-.1027 (4.37)	
Haiti	.1321 (17.65)		-.1160 (13.60)	
Honduras	.0451 (7.78)	.0572 (4.99)	-.0495 (7.50)	-.0251 (1.98)
Mexico	-.0170 (2.90)	.0210 (2.03)	-.0870 (13.05)	-.0401 (3.51)
Nicaragua	.1062 (18.39)	.0983 (9.53)	.0075 (1.15)	.0042 (0.37)
Panama	-.0245 (4.20)	.0184 (1.59)	-.1432 (21.56)	-.0543 (4.22)
Paraguay	-.0486 (8.28)	-.0183 (1.76)	-.0295 (4.43)	.0003 (0.03)
Peru	.1116 (19.11)	.1481 (14.08)	.0722 (10.86)	.1229 (10.55)
Puerto Rico	.0570 (3.36)	.0562 (2.06)	-.0618 (3.20)	.0387 (1.28)
Venezuela	-.0025 (0.44)	.1150 (11.11)	-.0791 (11.80)	.0843 (7.36)
_cons	.1217	.0704	.2929	.3203
Adjusted R^2	.0375	.0421	.0394	.0386
N	216,558	57,509	216,703	57,547

Notes: Uruguay excluded and equations also include year dummies. T-statistics in parentheses

Table 11. Life satisfaction for age 18-24 in Latinobarometers

	2013	2015	2016	2017	2020	2023
Argentina	3.12	3.20	3.06	3.11	2.64	2.97
Bolivia	2.79	2.92	2.97	2.99	3.03	2.95
Brazil	2.86	2.92	2.77	2.80	2.89	2.98
Chile	2.88	2.87	3.06	3.17	2.83	3.02
Colombia	3.45	3.40	3.44	3.44	3.43	3.42
Costa Rica	3.39	3.44	3.33	3.38	3.42	3.36
Dominican Republic	3.44	3.57	3.55	3.44	3.33	3.53
Ecuador	3.29	3.17	3.10	3.10	3.28	3.27
El Salvador	3.28	3.22	3.24	3.13	3.42	3.48
Guatemala	3.31	3.20	3.30	3.24	3.47	3.47
Honduras	3.22	3.10	3.18	3.26	3.35	3.32
Mexico	3.25	3.26	3.20	3.45	3.21	2.95
Nicaragua	3.21	3.28	3.26	3.23	3.35	*
Panama	3.38	3.41	3.34	3.46	3.33	3.36
Paraguay	3.01	3.31	2.89	2.89	2.98	3.26
Peru	3.00	2.99	3.06	3.21	3.22	3.29
Uruguay	3.12	3.06	3.16	3.11	3.22	3.11
Venezuela	3.22	3.08	2.76	2.95	2.99	3.15

*Not available

Table 12. Latinobarometers life satisfaction

	1997-2018	2020-2023
25-34	-.0696 (16.06)	-.0466 (3.55)
35-44	-.1271 (28.19)	-.0882 (6.49)
45-54	-.1575 (31.37)	-.1663 (11.35)
55-64	-.1691 (31.88)	-.1974 (13.14)
Female	-.0243 (8.03)	.0007 (0.09)
Bolivia	-.2798 (31.65)	-.1214 (4.81)
Brazil	-.1573 (17.71)	-.1157 (4.51)
Chile	-.0887 (9.94)	-.0862 (3.35)
Colombia	.2595 (29.58)	.4096 (16.20)
Costa Rica	.3625 (39.23)	.4099 (15.30)
Dominican Rep	.2233 (22.44)	.4425 (16.58)
Ecuador	-.1492 (16.97)	.1960 (7.78)
El Salvador	.0100 (1.09)	.4340 (16.19)
Guatemala	.1798 (19.57)	.4660 (17.64)
Honduras	.1620 (17.68)	.2564 (9.66)
Mexico	.1665 (18.97)	.1518 (5.98)
Nicaragua	.0599 (6.55)	.2798 (8.42)
Panama	.2836 (30.80)	.3861 (14.45)
Paraguay	-.0425 (4.65)	.1070 (4.24)
Peru	-.2861 (32.38)	.1340 (5.29)
Uruguay	-.0187 (2.06)	.2201 (8.46)
Venezuela	.2287 (26.07)	.1341 (5.19)
_cons	2.4081	3.0079
Adjusted R^2	.1076	.0588
N	302,433	34,895

Also includes year dummies, Argentina excluded

Table 13. WVS 10-step life satisfaction age <65

	1981-2014	2017-2022
25-34	-.0376 (1.32)	.1035 (1.79)
35-44	-.0948 (3.17)	.0703 (1.17)
45-54	-.1033 (3.15)	.0163 (0.26)
55-64	-.0193 (0.53)	.0810 (1.21)
Female	-.0496 (2.47)	-.0328 (0.83)
Brazil	.1649 (3.79)	-.2041 (2.26)
Chile	-.0652 (1.49)	-.4683 (4.59)
Colombia	1.0395 (25.86)	.4644 (5.09)
Ecuador	.3362 (4.47)	.0699 (0.73)
Guatemala	.4738 (6.05)	-.2189 (2.31)
Mexico	.6499 (16.27)	.4363 (4.83)
Peru	-.6499 (14.74)	-.0632 (0.68)
Uruguay	-.0334 (0.60)	.4051 (3.82)
Venezuela	-.1023 (1.81)	-.6986 (7.29)
Cons	6.8389	7.7778
Adjusted R^2	.0641	.0291
N	45711	11,558

Column 1 also includes wave dummies excluded is <25 and Argentina

Table 14a. Wellbeing in Mexico from Enbiare 2021

	Life satisfaction	Step of life	Excited or joyful	Worried, anxious or stressed?	Bored or uninterested?
Age 25-34	.0159 (0.46)	.2016 (5.68)	.1022 (2.20)	.1348 (2.22)	-.3839 (6.81)
Age 35-44	-.1479 (4.16)	.2535 (7.05)	.1129 (2.40)	.0349 (0.57)	-.3801 (6.65)
Age 45-54	-.2992 (8.33)	.2964 (7.96)	.2013 (4.14)	-.1835 (2.88)	-.4592 (7.77)
Age 55-64	-.3669 (9.47)	.3452 (8.60)	.1483 (2.83)	-.4275 (6.23)	-.5538 (8.68)
Female	-.1709 (9.47)	.0361 (1.62)	-.3449 (11.87)	.4519 (11.89)	.2948 (8.35))
Adjusted R^2	.0090	.0033	.0056	.0087	.0056
N	27,357	27,357	27,357	27,357	27,357

Q1. Life "Could you tell me, on that scale of 0 to 10, how satisfied you are currently with your life?
Notice the blue card, which has numbers ranging from 0 to 10, where 0 means "totally dissatisfied" and 10 "totally satisfied"; Looking at the entire numerical scale, tell me which of these numbers best reflects your opinion.

Q2. pa5 On what step do you feel your life is currently located?
Notice the ladder on the purple card, whose steps are numbered from zero to ten, where step 0 is "the worst possible life" and step 10 is "the best possible life."

Q3. Pa4_05 A4. How much of yesterday did you feel excited or joyful?
Now look at the green card, where 0 means "at no time of the day" and 10 means "all day." I ask you to observe it before giving your answer.

Q4. pa4_07 Now tell me, how much of yesterday did you feel worried, anxious, or stressed?
Now look at the green card, where 0 means "at no time of the day" and 10 means "all day." I ask you to observe it before giving your answer.

Q5. pa4_09. Now tell me, how much of yesterday did you feel bored or uninterested in what you were doing?
Now look at the green card, where 0 means "at no time of the day" and 10 means "all day." I ask you to observe it before giving your answer.

Table 14b. Wellbeing in Mexico from Enbiare Quarterly data, 2013-2024

	Life satisfaction		Worthwhile	
	2013-2020	2021-2024	2013-2020	2021-2024
Age 25-34	-.1141 (4.71)	.0227 (0.65)	.0283 (1.46)	.1348 (4.88)
Age 35-44	-.2647 (11.13)	-.0972 (2.79)	-.0084 (0.44)	.1429 (5.18)
Age 45-54	-.4127 (16.84)	-.2524 (7.20)	-.1102 (5.61)	.1034 (3.72)
Age 55-64	-.5032 (19.27)	-.4439 (12.35)	-.2254 (10.76)	-.0078 (0.28)
Female	-.1539 (10.69)	-.2282 (11.43)	-.0323 (2.80)	-.0482 (3.05)
Adjusted R^2	.0211	.0206	.0125	.0027
N	48,304	24914	48304	24914

	Worried, anxious or stressed		Bored or uninterested?	
	2013-2020	2021-2024	2013-2020	2021-2024
Age 25-34	.0501 (1.71)	-.2999 (0.67)	-.0691 (2.71)	-.1667 (4.32)
Age 35-44	.0809 (2.81)	-.0846 (1.89)	-.0817 (3.26)	-.2432 (6.31)
Age 45-54	.0416 (1.40)	-.0939 (2.08)	-.0678 (2.62)	-.2057 (5.30)
Age 55-64	-.0132 (0.42)	-.1566 (3.39)	-.0426 (1.55)	-.1865 (4.69)
Female	.1335 (7.66)	.2594 (10.10)	.1447 (9.54)	.1753 (7.94)
Adjusted R^2	.0069	.0061	.0107	.0060
N	48,304	24,914	48,304	24,914

All equations also include year dummies.
Q6. I usually feel that what I do in my life is worthwhile. Choose the number that reflects your opinion, 1=strongly disagree to 10=totally agree.
Q7 The question I am going to ask you next refer to how much of yesterday did you feel bored or uninterested in what I was doing? Choose the number that reflects your opinion 1=at no time of the day 5=half the day and 10=all day.

Table 15. Global Minds, ages <65, 2020-2024

	MHQ	Life satisfaction	Suicidal thoughts or intentions
25-34	29.1298 (79.44)	.6623 (23.60)	-1.1994 (89.19)
35-44	52.8828 (151.66)	1.3201 (50.03)	-1.9580 (153.10)
45-54	71.9950 (214.51)	1.7415 (70.36)	-2.3645 (192.09)
55-64	86.5959 (266.90)	2.0454 (87.02)	-2.6336 (221.31)
Female	-15.9347 (72.63)	-.2232 (13.48)	.2615 (32.50)
Islands	3.7464 (4.16)	-.2840 (2.05)	-.0246 (0.75)
Bolivia	-2.9471 (3.83)	.1322 (0.40)	.2492 (8.84)
Brazil	-20.4173 (44.80)	-.0787 (0.39)	.2427 (14.52)
Chile	-8.3809 (11.46)	-.0861 (1.64)	.2856 (10.65)
Colombia	4.6767 (10.35)	.0666 (2.42)	.1678 (10.13)
Costa Rica	6.2712 (6.32)	.2847 (0.81)	.0065 (0.18)
Dominican Republic	21.8254 (24.11)	.3288 (0.50)	-.3943 (11.88)
Ecuador	7.9479 (10.76)	.2863 (6.11)	.0480 (1.77)
El Salvador	14.3788 (18.21)	.7085 (1.98)	-.1961 (6.77)
Guatemala	8.7323 (13.11)	.3194 (7.40)	-.2003 (8.20)
Honduras	13.9173 (17.34)	-.3052 (0.70)	-.3307 (11.23)
Mexico	3.2503 (8.13)	.2578 (9.85)	-.3063 (10.18)
Nicaragua	11.7568 (14.32)	1.2799 (2.07)	-.2799 (7.49)
Panama	18.1355 (17.79)	.3328 (0.69)	-.1074 (4.05)
Paraguay	8.6285 (11.93)	1.0617 (1.40)	.0994 (4.74)
Peru	3.2397 (5.66)	-.0946 (2.34)	-.0160 (0.38)
Puerto Rico	-2.6284 (2.29)	-.1800 (2.68)	-.0002 (0.01)
Uruguay	2.6855 (3.27)	-.6608 (1.74)	-.3205 (20.38)
Venezuela	15.8613 (36.98)	.2510 (9.93)	.1115 (7.61)
Cons	51.22	5.37	3.7768
Adjusted R^2	.2071	.1677	.1539
N	401,409	53,015	401,409

Also includes year dummies: excluded <25 and Argentina

Table 16. Country MHQ and suicidal thought or intentions OLS equations Global Minds, 2020-2024 age<65. T-statistics in parentheses.

a) MHQ

	25-34	35-44	45-54	55-64	Female	N
Islands	29.33 (7.29)	48.03 (13.71)	75.02 (22.15)	86.21 (25,53)	-7.412 (4.46)	6,557
Argentina	25.67 (23.11)	45.91 (45.51)	62.17 (66.13)	77.56 (87.54)	-10.42 (17.42)	52,093
Bolivia	24.18 (10.42)	53.14 (25.11)	73.59 (36.43)	84.70 (42.00)	-15.11 (10.94)	9,447
Brazil	29.73 (19.31)	44.00 (35.82)	60.04 (51.66)	80.90 (71.85)	-23.70 (34.83)	42,805
Chile	24.12 (6.61)	44.86 (15.22)	65.86 (26.85)	81.06 (36.04)	-20.45 (14.64)	10,619
Colombia	30.10 (32.00)	52.27 (51.00)	74.30 (68.38)	86.32 (77.66)	-13.91 (20.09)	43,695
Costa Rica	19.83 (5.16)	32.92 (9.60)	58.91 (17.68)	76.33 (23.98)	-14.67 (7.44)	5,269
Dominican Rep	31.55 (10.54)	56.45 (20.34)	69.14 (24.89)	76.14 (27.41	-15.40 (8.60)	6,473
Ecuador	39.78 (17.66)	59.95 (27.71)	81.25 (40.47)	93.99 (50.63)	-13.52 (9.96)	10,334
El Salvador	32.27 (12.35)	64.16 (25.74)	82.51 (33.65)	91.92 (36.48)	-17.35 (11.63)	8,898
Guatemala	32.10 (15.60)	58.35 (31.85)	76.35 (42.04)	90.95 (47.82)	-13.92 (11.90)	13,373
Honduras	34.10 (13.12)	57.95 (23.73)	78.09 (31.87)	89.59 (35.46)	-19.37 (12.80)	8,566
Mexico	26.44 (34.33)	53.19 (65.46)	78.69 (97.25)	96.67 (125.77)	-16.23 (30.92)	76,172
Nicaragua	30.67 (11.93)	62.61 (25.87)	73.92 (30.19)	84.77 (34.75)	-17.96 (11.74)	8,129
Panama	37.32 (10.83)	56.52 (17.66)	74.82 (23.78)	91.16 (29.11)	-9.23 (4.79)	4,968
Paraguay	24.62 (11.60)	49.95 (25.11)	63.04 (29.45)	75.50 (33.05)	-16.81 (12.89)	11,020
Peru	29.02 (19.28)	60.12 (37.17)	86.38 (60.55)	96.34 (75.86)	-16.50 (17.26)	20,273
Uruguay	25.95 (6.27)	46.64 (13.09)	55.59 (16.58)	66.46 (20.31)	-12.43 (8.56)	8,136
Venezuela	24.99 (25.09)	48.51 (52.17)	68.39 (77.03)	79.54 (90.01)	-14.81 (25.37)	50,742

b) Suicidal thoughts or intentions

	25-34	35-44	45-54	55-64	Female	N
Islands	-1.073 (7.73)	-1.753 (14.50)	-2.279 (19.50)	-2.512 (21.57)	.001 (0.02)	6,557
Argentina	-1.144 (28.45)	-1.902 (52.07)	-2.267 (66.61)	-2.532 (78.95)	.150 (6.90)	52,093
Bolivia	-1.048 (11.59)	-2.087 (25.35)	-2.623 (33.37)	-2.853 (36.35)	.423 (7.86)	9,447
Brazil	-1.602 (28.13)	-2.121 (46.69)	-2.484 (57.80)	-2.871 (68.94)	.177 (7.03)	42,805
Chile	-1.281 (9.97)	-2.027 (19.54)	-2.467 (28.58)	-2.763 (34.91)	.239 (4.87)	10,619
Colombia	-1.133 (31.29)	-1.840 (46.66)	-2.368 (56.61)	-2.648 (61.92)	.232 (8.69)	43,695
Costa Rica	-.970 (7.27)	-1.408 (11.83)	-2.065 (17.86)	-2.419 (21.89)	.000 (0.01)	5,269
Dominican Rep	-1.269 (12.41)	-1.799 (18.98)	-1.943 (20.49)	-2.084 (21.96)	.199 (3.26)	6,473
Ecuador	-1.558 (18.80)	-2.297 (28.87)	-2.649 (35.89)	-2.981 (43.66)	.318 (6.37)	10.334
El Salvador	-1.097 (12.05)	-1.944 (22.52)	-2.314 (27.26)	-2.486 (28.49)	.219 (4.24)	8.898
Guatemala	-1.280 (17.61)	-2.016 (31.17)	-2.334 (36.39)	-2.619 (39.00)	.210 (5.08)	13,373
Honduras	-1.134 (12.84)	-1.876 (22.61)	-2.209 (26.53)	-2.357 (27.46)	.174 (3.39)	8,566
Mexico	-1.129 (38.39)	-1.968 (63.42)	-2.470 (79.92)	-2.792 (95.10)	.427 (21.28)	76,172
Nicaragua	-1.146 (12.61)	-1.939 (22.68)	-2.222 (25.69)	-2.355 (27.32)	.306 (5.67)	8,129
Panama	-1.348 (11.40)	-1.849 (16.84)	-2.179 (20.19)	-2.434 (22.66)	-.036 (0.54)	4,968
Paraguay	-.978 (12.50)	-1.795 (24.48)	-2.087 (26.45)	-2.297 (27.27)	.434 (9.04)	11,020
Peru	-1.250 (21.96)	-2.258 (36.94)	-2.792 (51.79)	-2.973 (61.94)	.506 (14.00)	20,273
Uruguay	-1.036 (7.27)	-1.619 (13.19)	-1.836 (15.89)	-2.114 (18.75)	.104 (2.08)	8,136
Venezuela	-.976 (27.72)	-1.717 (52.25)	-2.114 (67.37)	-2.236 (71.62)	.185 (8.98)	50742

Equations also include year dummies

Table 17. Internet and cell phone subscriptions

Year	2022	2023
	Internet	Cell phone subscriptions /100 population
USA	97	97
Argentina	88	138
Belize	70	67
Bolivia	73	67
Brazil	73	101
Chile	91	101
Colombia	73	167
Costa Rica	83	146
Cuba	73	70
Dominican Republic	84	92
Ecuador	70	101
El Salvador	63	183
Guatemala	54	114
Guyana	85	113
Honduras	60	74
Mexico	79	108
Nicaragua	61	106
Panama	74	157
Paraguay	74	127
Peru	75	122
Uruguay	90	142

Source United Nations

Table 18: Age at which you first had smartphone access, 2023

	Current Age		
	18-24	25-34	35-44
Age had phone access			
<10	37.7%	5.2%	2.9%
10-16	58.9%	55.3%	10.9%
17-20	3.0%	28.0%	28.3%
21-25	0.3%	9.6%	28.4%
26-35		1.9%	26.7%
31-44		2.9%	

Source: Global Minds, Latin American respondents, 2023

Table 19: Age at which first accessed smartphone, Global Minds, 2023

	%	N
Bolivia	28	296
Brazil	51	1,134
Colombia	35	3,125
Dominican Republic	35	153
Ecuador	31	236
El Salvador	23	214
Guatemala	20	352
Honduras	20	253
Mexico	42	7,718
Nicaragua	24	217
Panama	34	172
Paraguay	25	306
Peru	32	2,677
Uruguay	43	89
Venezuela	36	2,020
Latin America	38	20,774

Table 20. Age of smart phone access, Global Minds, 2023

	MHQ score		Suicidal thoughts and intentions	
Smart access	18-24	25-34	18-24	25-34
10-16	13.814 (13.65)	14.229 (4.59)	-.599 (13.57)	-.529 (4.47)
17	23.103 (5.48)	17.679 (4.61)	-.826 (4.50)	-.600 (4.10)
18	14.899 (3.06)	17.191 (4.65)	-.669 (3.15)	-.764 (5.41)
19	3.454 (0.42)	17.505 (3.97)	-.197 (0.55)	-.543 (3.23)
20	17.727 (2.08)	15.690 (3.98)	-1.167 (3.14)	-.544 (3.62)
21-25	24.044 (2.70)	14.599 (3.97)	-.931 (2.39)	-.685 (4.88)
26-30		8.344 (1.37)		-.474 (2.04)
31-35		2.192 (0.16)		-.667 (1.28)
Female	-25.856 (26.21)	-15.976 (11.56)	.941 (21.87)	.293 (5.56)
Islands	-5.067 (0.64)	3.877 (0.60)	.002 (0.01)	.010 (0.04)
Bolivia	-10.086 (2.27)	-11.480 (1.85)	.538 (2.78)	.569 (2.40)
Brazil	-12.397 (4.50)	-14.391 (4.28)	.141 (1.18)	-.118 (0.93)
Chile	-20.299 (3.55)	-4.892 (0.58)	.809 (3.25)	-.267 (0.83)
Colombia	2.999 (1.36)	14.831 (5.11)	.090 (0.94)	-.084 (0.76)
Costa Rica	9.421 (1.37)	2.548 (0.32)	-.123 (0.41)	-.004 (0.01)
Dominican Republic	24.514 (4.15)	17.504 (2.89)	-.822 (3.19)	-.518 (2.24)
Ecuador	-5.451 (1.12)	6.179 (0.80)	.563 (2.65)	.021 (0.07)
El Salvador	-2.438 (0.48)	-2.359 (0.46)	.037 (0.17)	.111 (0.57)
Guatemala	-0.048 (0.01)	5.218 (1.19)	-.160 (0.89)	-.197 (1.18)
Honduras	10.578 (2.23)	17.181 (3.68)	-.464 (2.25)	-.635 (3.57)
Nicaragua	-1.901 (0.38)	13.948 (2.71)	.108 (0.49)	-.545 (2.77)
Panama	6.950 (1.24)	20.942 (3.51)	-.094 (0.39)	-.488 (2.14)
Paraguay	5.527 (1.26)	10.689 (2.49)	-.303 (1.58)	-.204 (1.25)
Peru	-5.772 (2.54)	-8.042 (2.37)	.267 (2.70)	.335 (2.59)
Puerto Rico	-7.809 (0.45)	-2.502 (0.17)	-.053 (0.07)	-.637 (1.12)
Uruguay	19.819 (2.62)	22.505 (2.84)	-.667 (2.02)	-.586 (1.94)
Venezuela	8.224 (3.43)	10.057 (3.39)	-.355 (3.40)	-.356 (3.15)
Mexico	-2.926 (1.47)	.252 (0.10)	.117 (1.35)	.014 (0.15)
_cons	24.848	38.876	4.332	3.763
Adjusted R^2	.0488	.0260	.0371	.0097
N	20745	12081	20745	12,081

Excluded Argentina and <10. T-statistics in parentheses.

Table 21. PISA 2022 Survey of children age 15/16, wellbeing and hours per day using a digital device.

	Life	Life	Panic	Gets nervous	Easily upset
< 1 hour		.2943 (9.77)	.0068 (0.34)	.0266 (1.28)	-.0503 (2.48)
>1 & <2 hours		.2755 (7.99)	-.0064 (0.28)	.0330 (1.39)	-.0782 (3.38)
>2 & <3 hours		.1556 (4.10)	.0480 (1.87)	.0458 (1.76)	-.0399 (1.56)
>3 & <4 hours		.1240 (3.01)	.0376 (1.38)	.0264 (0.93)	-.0111 (0.41)
>4 & <5 hours		-.0145 (0.32)	.1176 (3.82)	.0997 (3.20)	.0576 (1.88)
>5 & <6 hours		-.0165 (0.32)	.1065 (3.08)	.1229 (3.46)	.1183 (3.39)
>6 & <7 hours		-.2353 (3.70)	.1759 (4.15)	.2084 (4.76)	.2209 (5.23)
>=7 hours		-.3708 (7.86)	.1819 (5.75)	.2005 (6.15)	.2316 (7.39)
Female	-.8995 (47.94)	-.9487 (47.43)	.8146 (60.66)	.5948 (43.16)	.5113 (38.14)
Brazil	.0402 (1.10)	.0097 (0.25)	-.0103 (0.40)	-.0124 (0.47)	.1889 (7.31)
Chile	-.3348 (7.66)	-.3980 (8.94)	.1261 (4.28)	.1416 (4.63)	.2311 (7.76)
Colombia	.0816 (2.04)	-.0577 (1.41)	.0535 (1.94)	-.0707 (2.49)	.1988 (7.22)
Costa Rica	.5220 (11.84)	.4488 (10.07)	-.0134 (0.46)	-.0211 (0.69)	.0129 (0.43)
Dominican Rep	.6657 (15.72)	.6364 (14.22)	.0435 (1.42)	-.1590 (5.07)	.1278 (4.16)
El Salvador	.5340 (12.89)	.4175 (9.51)	.1450 (4.82)	.1096 (3.56)	.2431 (8.13)
Guatemala	.9324 (20.34)				
Mexico	.4887 (11.58)	.3731 (8.69)	.2089 (7.26)	.2358 (7.95)	.2374 (8.25)
Panama	.2185 (4.18)	.0971 (1.78)	.1320 (3.63)	.0741 (2.00)	.1118 (3.08)
Paraguay	.5376 (11.66)				
Peru	-.4324 (10.31)	-.5788 (13.47)	.0375 (1.32)	.0049 (0.17)	-.0738 (2.59)
Uruguay	.2553 (6.14)	.1829 (4.19)	-.0616 (2.07)	.0809 (2.66)	.2388 (8.01)
Age 16	.0222 (1.13)	.0229 (1.09)	-.0131 (0.93)	-.0504 (3.47)	-.0195 (1.38)
cons	6.3441	7.2483	2.2911	3.018	2.7330
Adjusted R^2	.0443	.0193	.1075	.0623	.0558
N	83,387	66,743	31,963	31,835	31,868

Reference group for time on digital device: None. Reference country: Argentina

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*

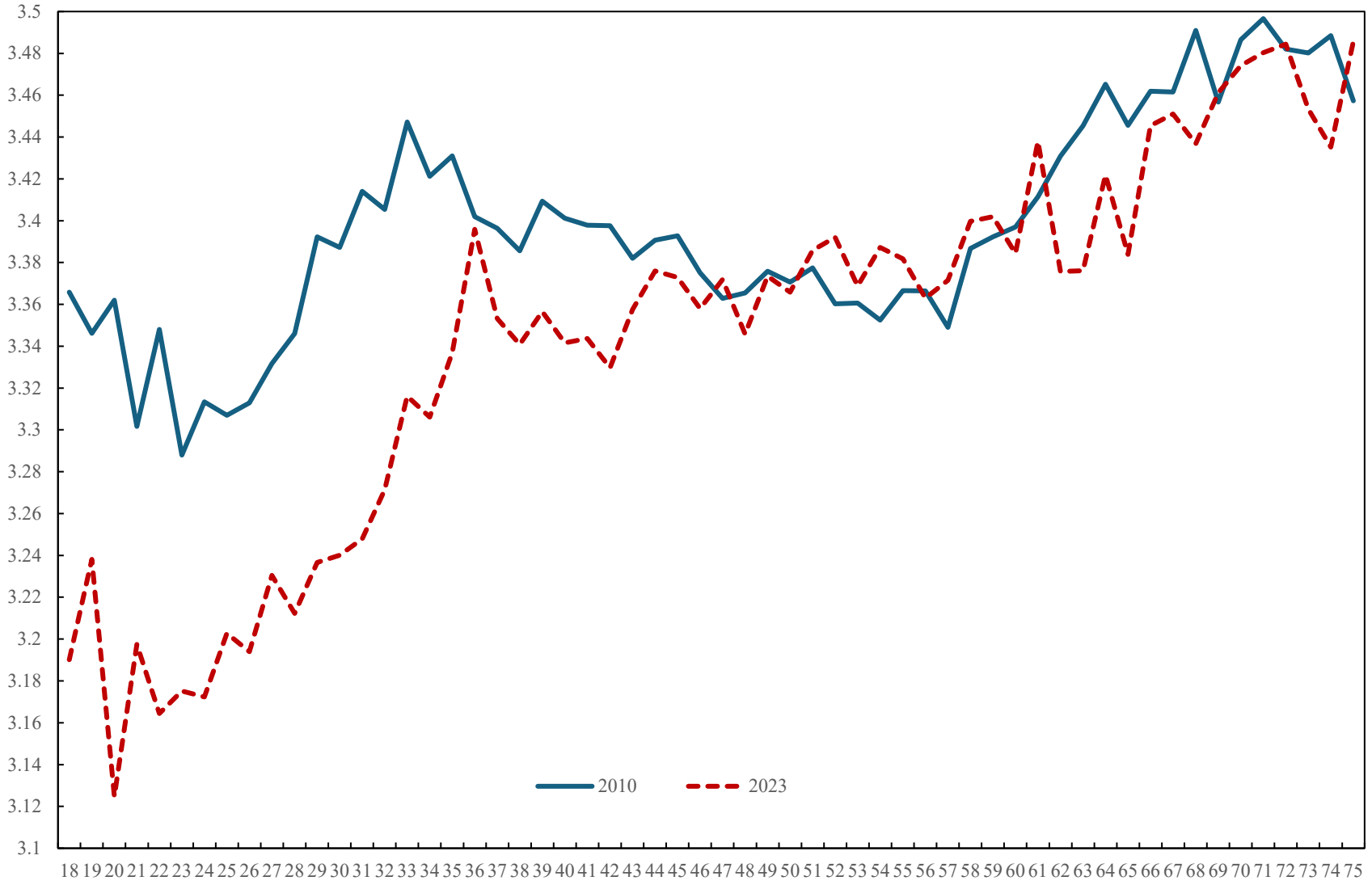
I panic easily.

I get nervous easily

I am easily upset.

1=strongly disagree; 2= disagree; 3=neither; 4=agree; 5=strongly agree

Chart 1. USA Life satisfaction, USA - source BRFSS



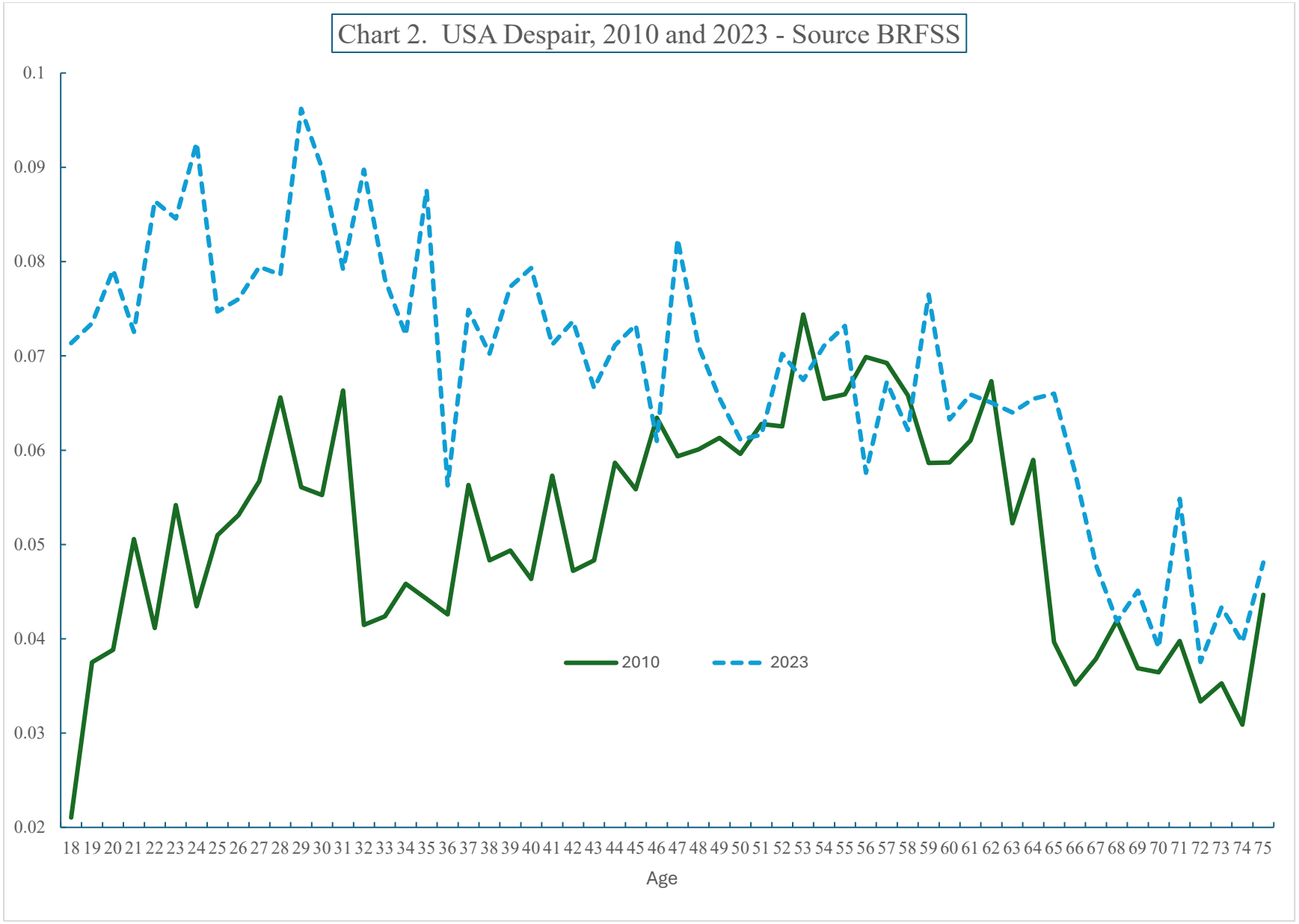


Chart 2. USA Despair, 2010 and 2023 - Source BRFSS
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
2010
2023
18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75
Age

Chart 3. Latin America Cantril life satisfaction from Gallup World Poll

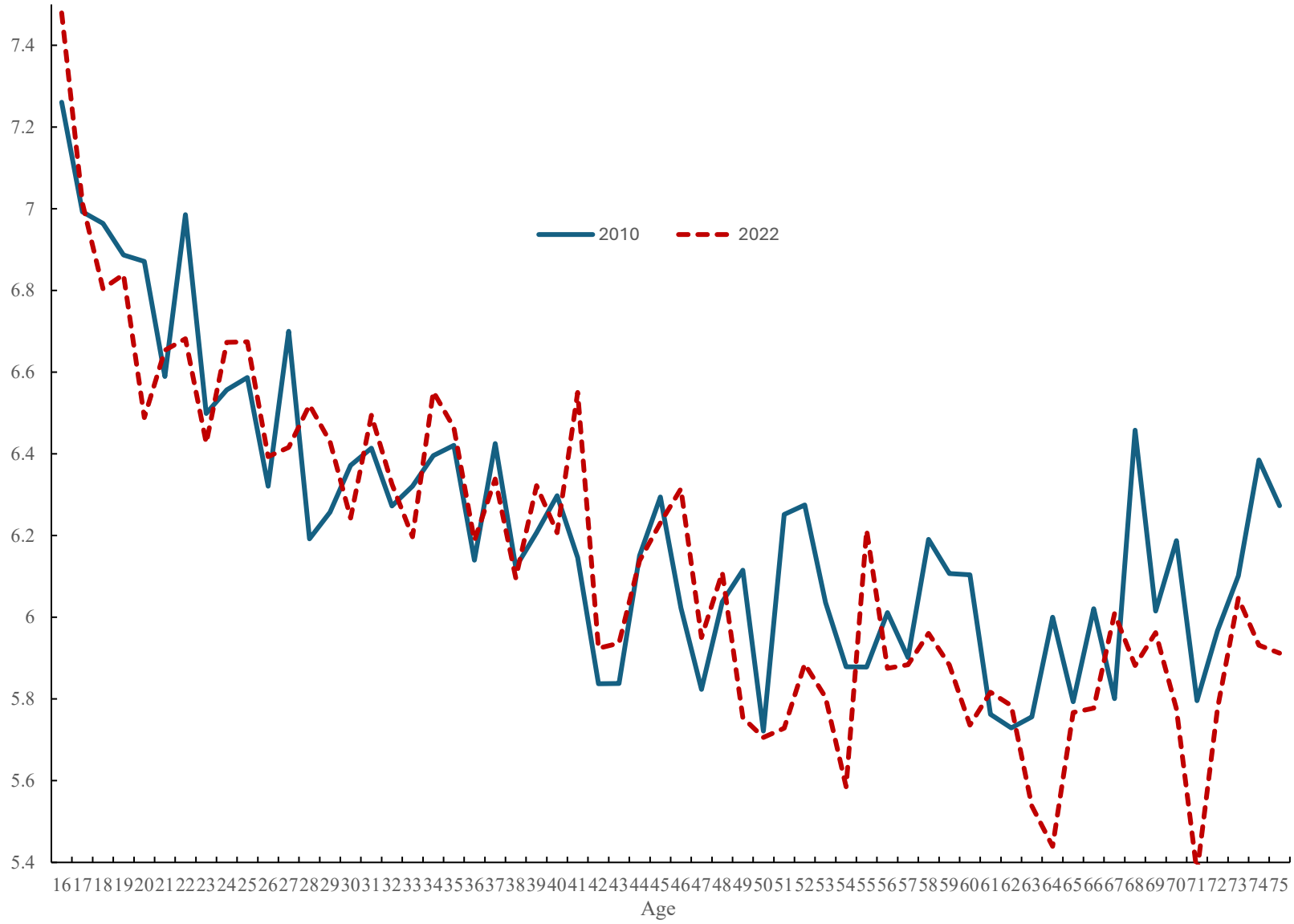


Chart 4. Worry in Latin America from the Gallup World Poll, 2005-2022

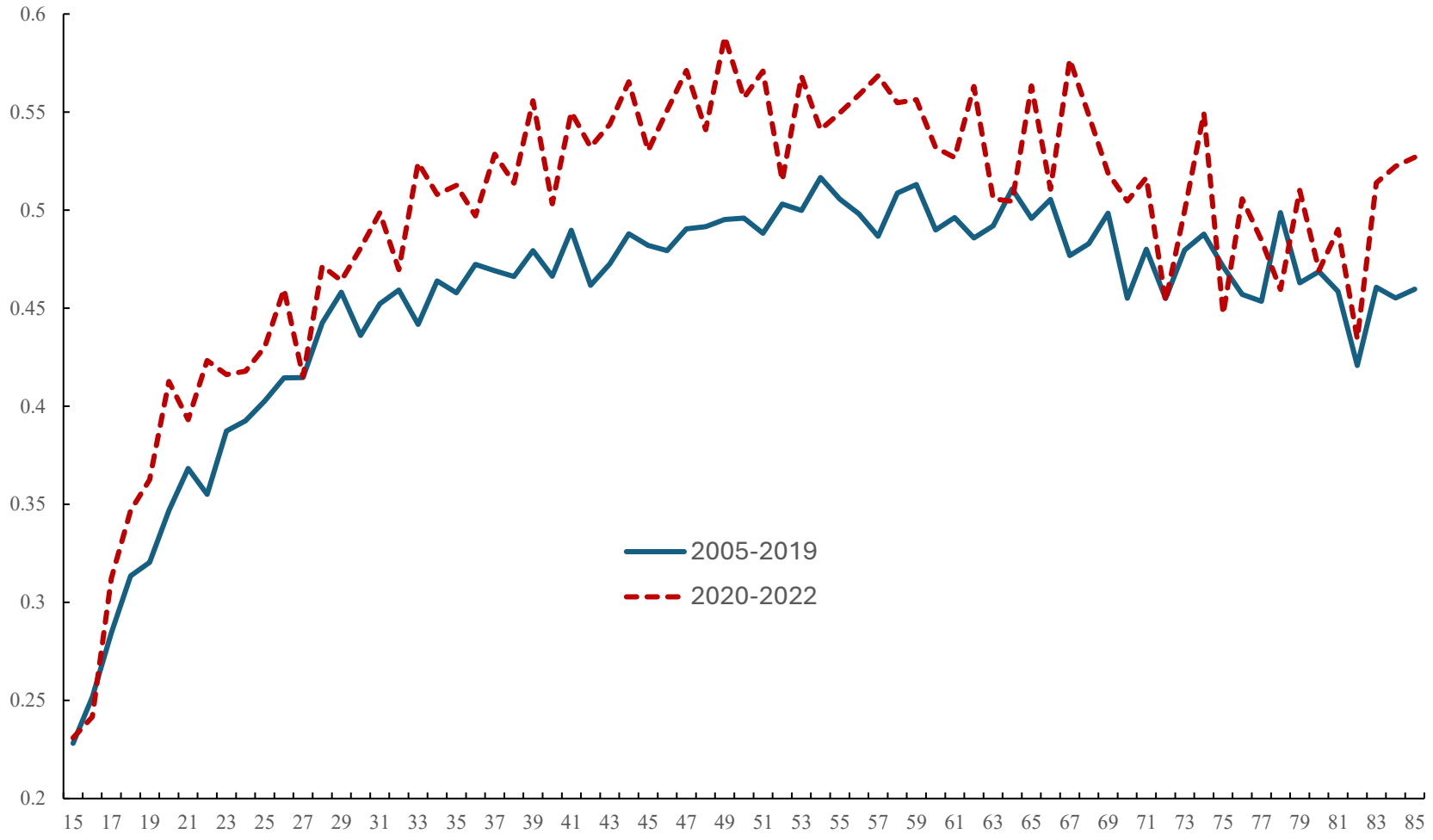


Chart 5. Latin American Internet usage population share

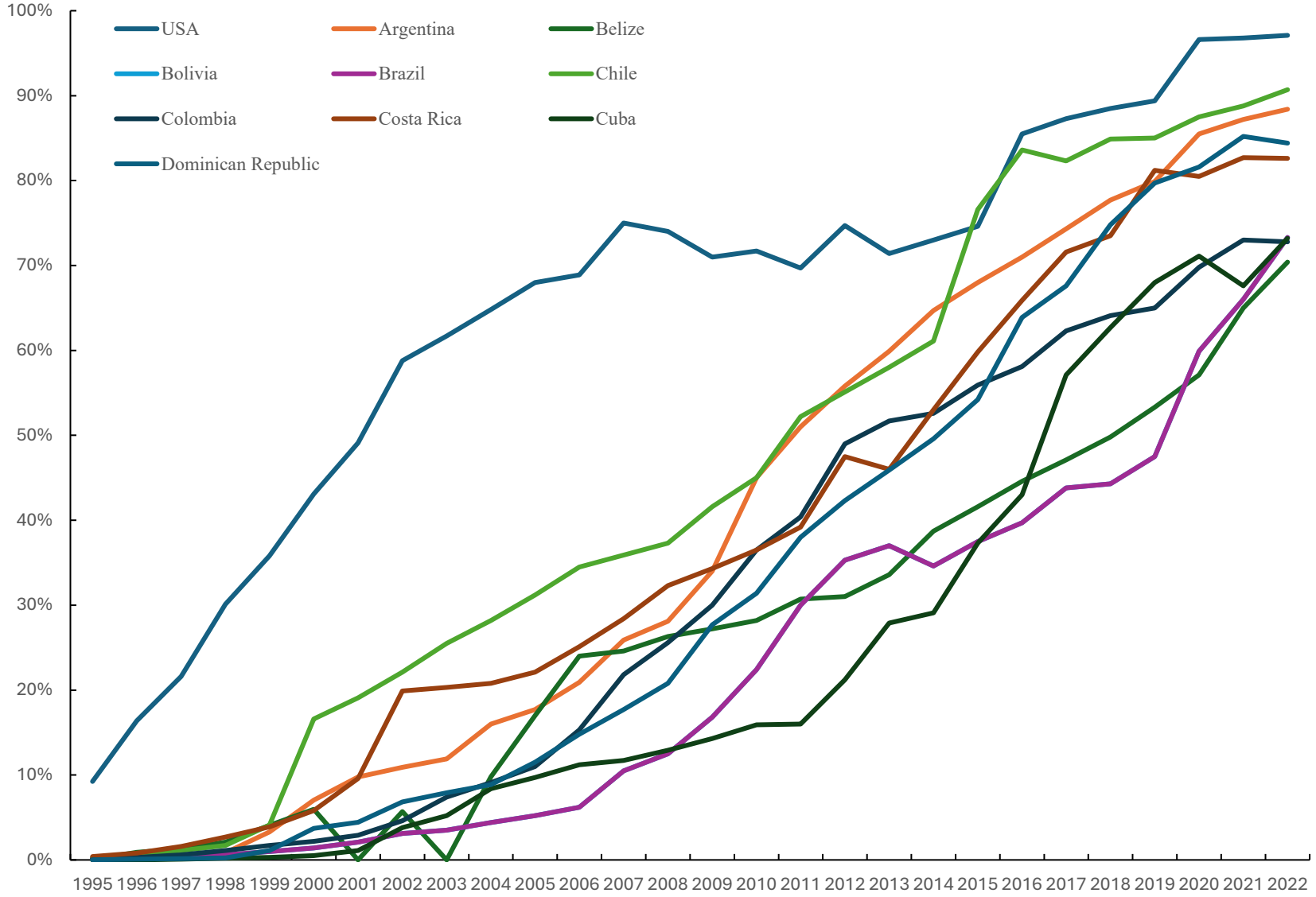


Chart 6a. Latin America cell phone subscriptions per 100 population

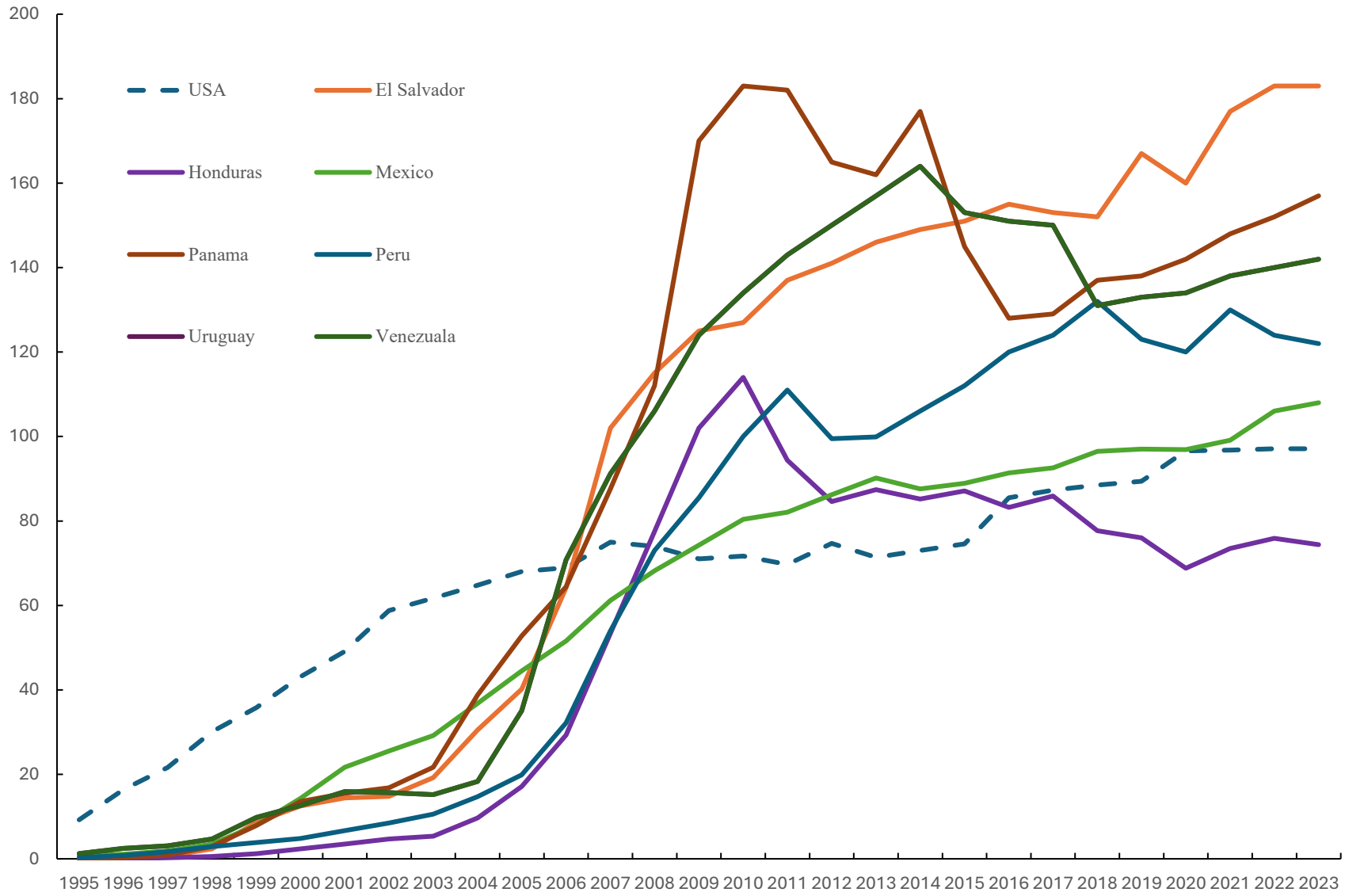
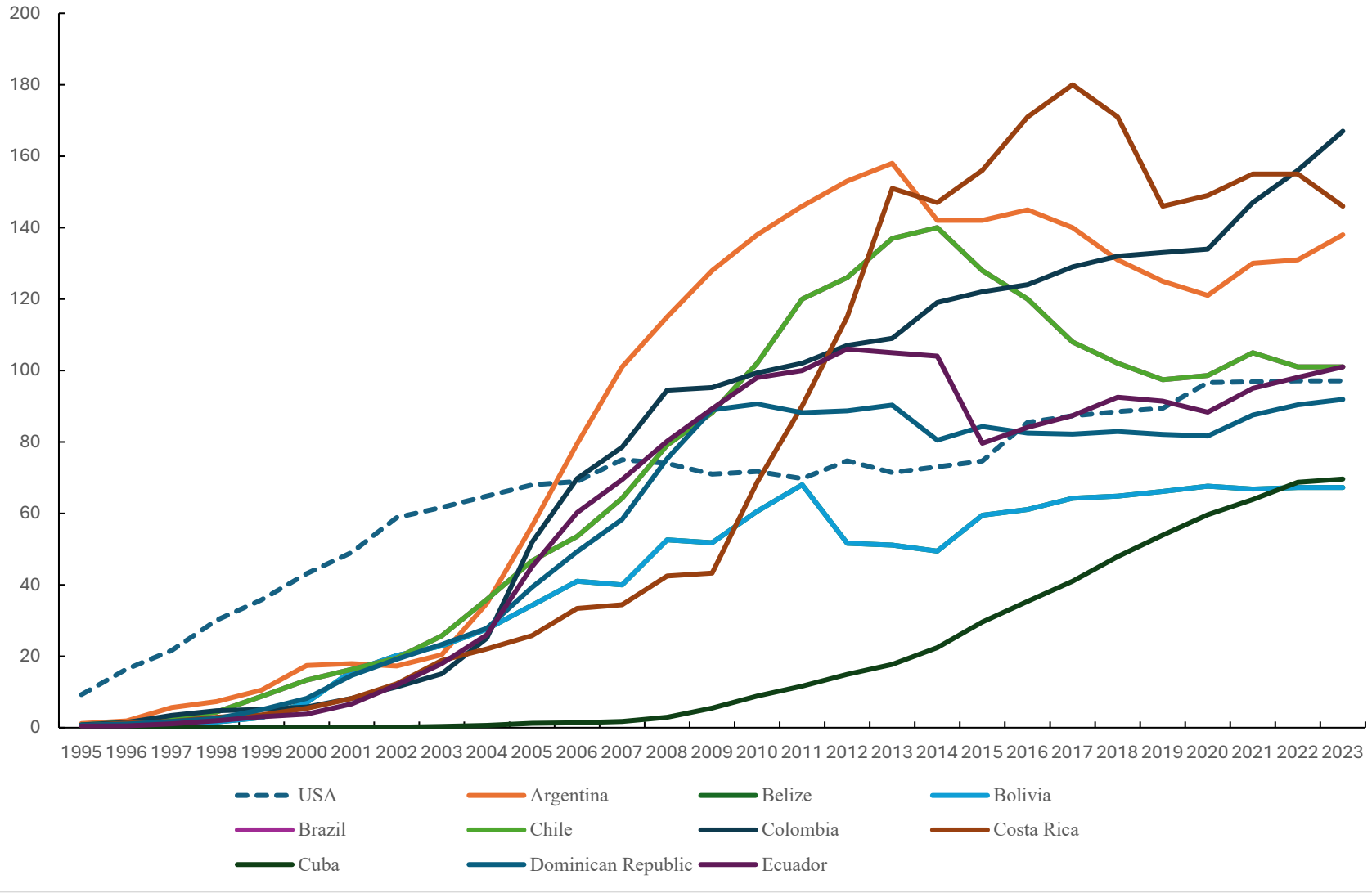


Chart 6b. Latin America cell phone subscriptions /100 population



Appendix Table 1 4-step life satisfaction from World Database of Happiness.
How satisfied are you with the life you lead?
- very satisfied
- fairly satisfied
- not very satisfied
- not at all satisfied
https://worlddatabaseofhappiness.eur.nl/equivalent-measures/4-step-verbal-lifesatisfaction-5/

	2007	2008	2009	2010	2011	2013	2015	2016	2017	2018	2020	2023
Argentina	2.85	3.01	2.84	2.97	2.98	3.07	3.07	3.00	3.07	3.00	2.89	2.96
Bolivia	2.67	2.94	2.81	2.85	2.61	2.70	2.78	2.83	2.83	2.77	2.82	2.79
Brazil	3.04	3.38	2.84	3.18	2.89	2.76	2.83	2.59	2.71	2.66	2.81	2.82
Chile	2.78	3.07	2.83	2.98	2.72	2.84	2.83	2.89	2.79	2.73	2.76	2.86
Colombia	3.36	3.39	3.35	3.32	3.22	3.30	3.30	3.28	3.34	3.35	3.37	3.26
Costa Rica	3.33	3.21	3.34	3.37	3.36	3.35	3.32	3.32	3.32	3.30	3.33	3.34
Dominican R	2.99	3.40	2.98	3.11	2.93	3.47	3.51	3.54	3.37	3.46	3.35	3.41
Ecuador	2.66	3.18	2.61	2.91	2.88	3.05	3.02	2.95	2.98	3.02	3.10	3.15
El Salvador	2.93	3.18	2.97	2.86	2.59	3.15	3.07	3.08	2.93	2.96	3.31	3.37
Guatemala	3.14	3.27	3.04	3.18	3.09	3.17	3.11	3.16	3.15	3.36	3.39	3.41
Honduras	3.10	2.86	2.81	3.18	3.00	3.09	3.16	3.16	3.25	3.30	3.21	3.19
Mexico	3.17	3.25	3.04	3.21	3.17	3.10	3.14	3.04	3.18	3.23	3.22	2.97
Nicaragua	3.01	3.12	2.93	3.14	3.16	3.10	3.19	3.15	3.10	2.88	3.21	NA
Panama	3.28	3.35	3.27	3.40	3.37	3.41	3.34	3.34	3.34	3.33	3.29	3.32
Paraguay	2.75	3.04	2.91	2.97	2.89	2.91	3.07	2.85	2.78	2.82	2.94	3.14
Peru	2.58	2.97	2.69	2.84	2.74	2.77	2.75	2.91	2.94	3.02	3.03	3.05
Uruguay	3.00	3.15	2.98	3.02	2.96	3.06	3.06	3.03	2.97	2.98	3.15	3.14
Venezuela	3.47	3.44	3.37	3.32	2.98	3.19	3.08	2.66	2.88	2.81	2.88	3.17
Finland	*3.27*	*3.30*	*3.27*	*3.27*	*3.29*	*3.27*	*3.30*	*3.33*	*3.35*	***3.31***	***3.10***	*3.33*
Spain	*3.08*	*3.01*	*2.81*	*2.86*	*2.89*	*2.77*	*2.91*	*2.91*	*3.02*	*3.03*	*3.16*	*3.15*
UK	*3.21*	*3.18*	*3.28*	*3.27*	*3.26*	*3.26*	*3.34*	*3.39*	*3.37*	***3.34***	***3.16***	*3.20*

Appendix Table 2. From World Database of Happiness - 11-step Cantril
Suppose the top of the ladder represents the best possible life for you and the bottom of the ladder the worst possible life. Where on this ladder do you feel you personally stand at the present time? 10-0

	2007	2008	2009	2010	2011	2013	2015	2016	2017	2018	2020	2023
Argentina	6.07	6.09	6.42	6.44	6.78	6.58	6.70	6.04	5.79	5.90	6.26	6.39
Bolivia	5.63	5.59	6.09	5.83	5.78	5.77	5.83	5.65	5.92	5.62	5.93	5.86
Brazil	6.32	6.69	7.00	6.95	7.02	7.14	6.55	6.33	6.19	6.11	6.26	6.55
Chile	5.7	5.79	6.49	6.35	6.53	6.74	6.53	6.32	6.44	6.04	6.42	6.23
Colombia	6.14	6.17	6.27	6.41	6.46	6.61	6.39	6.16	5.98	5.71	5.89	5.90
Costa Rica	7.43	7.22	7.61	7.27	7.23	7.16	6.85	7.23	7.14		7.08	7.38
Dominican R	5.08	4.84	5.43	5.02	5.40	5.02	5.06	5.61	5.43	5.17	5.52	5.92
Ecuador	5.00	5.97	6.02	5.83	5.80	6.02	5.96	5.84	6.13	5.35	5.89	5.85
Guatemala	6.33	6.64	6.45	6.20	5.74	5.98	6.46	6.33	6.63		6.15	6.42
Honduras	5.10	6.25	6.03	5.87	4.96	4.71	4.85	6.02	5.91		5.93	5.86
Mexico	6.52	6.98	6.96	6.17	6.91	7.44	6.24	6.41	6.55	5.96	7.04	7.01
Nicaragua	4.94	5.70	5.35	5.69	5.39	5.77	5.92	6.48	5.82	6.29	6.39	6.36
Panama	6.89	7.17	7.03	7.32	7.25	6.87	6.61	6.57	6.28		5.98	6.54
Paraguay	5.27	5.54	5.58	6.05	5.84	5.82	5.12	5.80	5.71	5.50	6.14	6.21
Peru	5.21	5.40	5.52	5.61	5.89	5.78	5.58	5.71	5.68		5.89	5.94
Uruguay	5.69	6.00	6.30	6.15	6.55	6.44	6.63	6.34	6.37	6.46	6.67	6.66
Venezuela	6.90	6.26	7.19	7.25	6.58	6.55	5.57	5.07	5.01	4.57	5.95	5.77
Finland		*7.67*		*7.39*	*7.35*	*7.44*	*7.45*	*7.66*	*7.79*	*7.86*	*7.89*	*7.70*
Spain	*6.99*	*7.29*	*6.20*	*6.19*	*6.52*	*6.15*	*6.38*	*6.32*	*6.23*	*6.51*	*6.50*	*6.46*
UK	*6.80*	*6.99*	*6.91*	*7.03*	*6.87*	*6.92*	*6.52*	*6.82*	*7.10*	*7.23*	*6.80*	*6.66*
USA	*7.26*	*6.88*	*7.16*	*6.53*	*7.12*	*7.25*	*6.86*	*6.80*	*6.99*	*6.88*	*6.34*	*6.52*

Appendix Table 3. Cell phone subscriptions / 100 population.

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
USA	43	49	59	62	65	68	69	75	74
Argentina	17	18	17	20	35	57	80	101	115
Belize	7	16	20	23	28	34	41	40	53
Bolivia	7	16	20	23	28	34	41	40	53
Brazil	13	16	20	26	36	47	54	64	79
Chile	13	16	20	26	36	47	54	64	79
Colombia	6	8	11	15	25	52	70	79	95
Costa Rica	5	8	12	19	22	26	33	34	43
Cuba	0	0	0	0	1	1	1	2	3
Dominican Republic	8	15	19	23	28	39	49	58	75
Ecuador	4	7	12	18	26	45	60	69	80
El Salvador	13	14	15	19	31	40	64	102	115
Guatemala	7	10	13	16	25	35	54	87	107
Guyana	5	10	10	18	23	37	53	71	59
Honduras	2	4	5	5	10	17	29	53	78
Mexico	14	22	26	29	37	45	52	61	68
Nicaragua	2	3	5	9	14	21	34	46	56
Panama	14	16	17	22	39	53	64	88	112
Paraguay	16	22	32	33	33	35	59	84	103
Peru	5	7	8	11	15	20	32	54	73
Uruguay	13	16	16	15	18	35	71	91	106
Venezuala	13	16	16	15	18	35	71	91	106

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017
USA	71	72	70	75	71	73	75	86	87
Argentina	128	138	146	153	158	142	142	145	140
Belize	52	61	68	52	51	49	60	61	64
Bolivia	52	61	68	52	51	49	60	61	64
Brazil	88	102	120	126	137	140	128	120	108
Chile	88	102	120	126	137	140	128	120	108
Colombia	95	99	102	107	109	119	122	124	129
Costa Rica	43	69	90	115	151	147	156	171	180
Cuba	6	9	12	15	18	22	30	35	41
Dominican Republic	89	91	88	89	90	81	84	83	82

Ecuador	89	98	100	106	105	104	80	84	87
El Salvador	125	127	137	141	146	149	151	155	153
Guatemala	122	125	132	138	141	108	113	112	121
Guyana	65	75	71	73	74	75	72	77	84
Honduras	102	114	94	85	87	85	87	83	86
Mexico	74	80	82	86	90	88	89	91	93
Nicaragua	59	69	83	99	114	117	118	124	130
Panama	170	183	182	165	162	177	145	128	129
Paraguay	99	103	112	115	118	120	120	120	118
Peru	86	100	111	100	100	106	112	120	124
Uruguay	124	134	143	150	157	164	153	151	150
Venezuala	124	134	143	150	157	164	153	151	150

Year	2018	2019	2020	2021	2022	2023
USA	89	89	97	97	97	97
Argentina	131	125	121	130	131	138
Belize	65	66	68	67	67	67
Bolivia	65	66	68	67	67	67
Brazil	102	97	99	105	101	101
Chile	102	97	99	105	101	101
Colombia	132	133	134	147	156	167
Costa Rica	171	146	149	155	155	146
Cuba	48	54	60	64	69	70
Dominican Republic	83	82	82	88	90	92
Ecuador	93	91	88	95	98	101
El Salvador	152	167	160	177	183	183
Guatemala	122	122	117	126	115	114
Guyana	90	96	106	105	113	113
Honduras	78	76	69	74	76	74
Mexico	97	97	97	99	106	108
Nicaragua	116	89	91	94	104	106
Panama	137	138	142	148	152	157
Paraguay	116	119	119	119	128	127
Peru	132	123	120	130	124	122
Uruguay	131	133	134	138	140	142
Venezuala	131	133	134	138	140	142

Appendix Table 5. Age distribution by country % those age 16+

Age	18-24	25-34	35-44	45-54	55-64	65+
Argentine	14.4	19.7	19.1	16.5	12.5	17.8
Bolivia	19.6	23.8	20.4	15.0	10.4	10.7
Brazil	14.3	20.0	20.4	17.2	13.9	14.3
Chile	11.6	19.6	18.4	16.3	16.4	17.6
Columbia	14.7	21.9	18.7	15.6	13.8	15.3
Costa Rica	13.0	20.9	20.5	16.6	14.5	14.4
Dominican Republic	17.6	23.4	19.7	15.7	12.6	11.0
Ecuador	18.8	22.8	19.0	15.0	11.2	13.3
El Salvador	16.3	25.6	19.5	15.3	11.2	12.0
Guatemala	20.8	27.1	20.0	14.3	9.1	8.6
Honduras	21.5	25.9	19.9	14.8	9.3	8.6
Mexico	16.8	22.2	20.4	16.6	12.5	11.5
Nicaragua	17.7	26.8	21.2	15.0	10.6	8.7
Panama	15.0	21.6	19.7	16.7	12.6	14.4
Paraguay	15.0	24.4	20.1	15.6	12.1	12.8
Peru	16.1	22.2	20.7	17.0	12.5	11.5
Puerto Rico	10.0	15.4	13.6	15.2	16.2	29.5
Uruguay	12.9	19.5	17.2	16.2	13.9	20.3
Venezuela	15.6	22.0	20.6	16.1	12.7	13.0
Latin America (LHS)	15.5	21.5	20.0	16.4	13.0	13.6
USA RHS)	11.4	17.6	16.8	15.0	15.5	23.7

Source: Census Bureau International Database.
https://www.census.gov/data-tools/demo/idb/#/pop?menu=popViz&CCODE=AR,BZ,BO,BR,CL,CO,CR,DM,DO,EC,SV,GT,GY,HT,HN,MX,NI,PA,PY,PR,UY,VE&CCODE_SINGLE=BR&popPages=BYAGE