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THE DECLINING MENTAL HEALTH OF THE YOUNG AND THE GLOBAL DISAPPEARANCE OF THE HUMP SHAPE IN AGE IN UNHAPPINESS

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ABSTRACT

Across many studies subjective well-being follows a U-shape in age, declining until people reach middle-age, only to rebound subsequently. Ill-being follows a mirror-imaged hump-shape. But this empirical regularity has been replaced by a monotonic decrease in illbeing by age. The reason for the change is the deterioration in young people's mental health both absolutely and relative to older people. We reconsider evidence for this fundamental change in the link between illbeing and age with micro data for the United States and the United Kingdom. Beginning around 2011 there is a monotonic and declining cross-sectional association between well-being and age. In the UK the recent COVID pandemic exacerbated the trends by impacting most heavily on the wellbeing of the young, but this was not the case in the United States. We replicate the decrease in illbeing by age across 34 countries, including the United States and the United Kingdom, using five ill-being metrics for the period 2020-2024 and confirm the findings.

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1. Introduction

The fact that wellbeing declines with age until middle-age, then rebounds again later in life, is a key empirical regularity in the wellbeing literature. This U-shape in wellbeing by age, first described in detail by Blanchflower and Oswald (2008), has since been replicated more than 600 times in studies, mostly in refereed journals across a range of fields, across many countries and time (Blanchflower and Graham, 2021, 2020 and Blanchflower, Graham and Piper, 2023). The mid-life troughs seem to be similar in developed and developing countries at around age 50 after which well-being rises (Blanchflower, 2021). The U-shape has been apparent across a whole range of wellbeing metrics including life satisfaction, financial satisfaction, worthwhileness and happiness.

The mirror-image of this U-shape in well-being is a hump-shape in ill-being by age which is apparent for worry, stress and depression. (Blanchflower, 2020 and Graham and Ruiz Pozuelo, 2017). Peak ill-being in mid-life coincides with deaths of despair from suicide, drug overdoses and alcohol poisoning which also peak in mid-life (Case and Deaton, 2020; Ehlman et al., 2022 and Spencer et al., 2024 for the United States; Walsh et al., 2021 for the UK), as do psychiatric admissions (Le Bon and Le Bon, 2014), and the taking of anti-depressants (Blanchflower and Oswald, 2016). Fortin et al. (2015) reported evidence of a hump-shape in age for stress. Krueger (2017) found evidence from the American Time Use Survey for 2010, 2012, and 2013 that prime-age men and women age 25–54 were significantly more tired, sad or stressed than was the case for younger or older groups.

The reasons for this U-shape in well-being and hump shape in ill-being with age are hotly contested, but the pattern has been observed in panel data tracking wellbeing within individuals over time (Cheng, Powdthavee and Oswald, 2017) suggesting wellbeing changes over the life-course. Other studies confirm the effect is not driven by cohort effects (Blanchflower and Oswald, 2008) and is, in fact, apparent in multiple cohorts (Gondek et al, 2020). Claims have been made that it is linked to changes in what people expect from life over time or set points against which individuals calibrate how their life is unfolding. The pattern is even apparent in apes (Weiss et al, 2012) who are close to humans biologically, leading some to speculate that the life-course of wellbeing is linked to psychological traits common to primates.

An issue worth examining is whether unhappiness is simply the inverse of happiness. Huppert and Whittington (2003) warned of the lack of correlation between positive and negative affect. They found that joblessness was more strongly associated with a fall in positive feelings than with an increase in psychological symptoms such as depression. Huppert (2009) asked the question whether the things that influence well-being are the same as those that impact ill-being? Huppert concluded that "*some are, and some are not*". Serotonin levels have been shown to be related to positive mood but not related to negative mood. We should note that a number of results do go through from happiness to unhappiness equations. In the former being unemployed lowers happiness and in unhappiness equations it raises it, similarly income raises happiness and lowers unhappiness.

Recent published evidence for Australia (Botha et al., 2022), Canada (Garriguet, 2021) the UK (Banks and Xu, 2020) and the United States (Blanchflower and Bryson, 2024b and Twenge, 2020 and Udupa et al., 2023) support the evidence of declining well-being of the young. However, these

studies do not draw out the implications for the pattern in ill-being across age and thus their impact on the hump-shape in ill-being by age as we do.

There is a growing body of evidence suggesting that the rise in ill-being of the young is associated with the rise in the use of the internet and smartphones (Haidt, 2024, Twenge and Farley; Twenge and Martin, 2020; Twenge, Martin and Campbell, 2018 and Udupa, Twenge, McAllister and Joiner, 2023). The timing fits almost exactly, both the use of the internet and the declining mental health of the young, and especially for young females, both started climbing from around 2011. Covid simply extended pre-existing trends. Blanchflower and Bryson (2024b), for example reported that screen time among high school students rose rapidly from 2011. The proportion of young women with internet screen time of 5 hours a day and more rose from 10% in 2011 to 43% in 2021.[1]

We contribute to the literature by showing that this relative decline in the ill-being of the young means that unhappiness now declines over the life-course monotonically. There is no longer a hump shape in ill-being in the US and the UK. Since COVID the decline in ill-being with age is apparent across 32 other countries, as well as the US and the UK, using comparable survey evidence on distress, fear and anxiety and suicidal thoughts in the Global Minds Dataset.

In the United Kingdom the trend has been exacerbated, but not caused, by COVID and related lockdown policies which appear to have impacted most adversely on the young, notwithstanding the greater adverse physical health consequences contracting COVID has on older people. The young again had the highest incidence of COVID-19 and it disproportionately worsened their mental health (Blanchflower and Bryson, 2023b, 2022).

We largely restrict our analysis to those of working age (18-70 years). For the US we make use of publicly available micro level individual data from the Behavioral Risk Factor Surveillance System (BRFSS) conducted by the Centers for Disease Control (https://www.cdc.gov/brfss/index.html). The BRFSS is the nation's premier system of health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services. Established in 1984 with 15 states, BRFSS now collects data in all 50 states as well as the District of Columbia and three U.S. territories. BRFSS completes more than 400,000 adult interviews each year, making it the largest continuously conducted health survey system in the world.

For the UK we examine data from the UK Household Longitudinal Survey (UKHLS) which is a household panel study, from 2009 to 2021. We also make use of individual data from the UK Annual Population Surveys, 2012-2021 that has included questions on anxiety since 2012. We find in both countries that the rise in ill-being has disproportionately impacted whites, females and the young, consistent with earlier work for the United States which indicated that Native Americans' unhappiness had risen most (Blanchflower and Feir, 2021). We also report evidence on 1.4 million people of rising levels of being distressed and struggling, being anxious, fearful and even having suicidal thoughts or intentions in the Global Minds Project (https://sapienlabs.org/global-mind-project/) for the years 2020-2024, across 34 countries drawn

[1] For male high school students. the percent with 5 hours a day and over rose from 14% to 36%.

from every continent.[2] Our results confirm the new empirical regularity: ill-being declines with age.

2. The impact of rising subjective ill-being

Before presenting evidence on rising subjective ill-being by age it is worth recalling why this might be of concern to social scientists, public health academics, policymakers and society.

First, individuals' self-reports of their health have causal effects on physical health. Those reporting higher levels of happiness live longer (Hudomiet, Hurd and Rohwedder, 2021). Anxiety and depression slow the rate at which wounds heal. Patients scoring in the top 50% of total Hospital Anxiety and Depression Scale (HADS) scores were four times more likely to have delayed healing than those scoring in the bottom 50% (Cole-King and Harding, 2001).

Second, deterioration in mental health, especially among the young, is a major cause of increasing hospital admissions. According to the 2022 National Healthcare Quality and Disparities Report, in the US from 2016 to 2019, the rates of emergency department visits with a principal diagnosis related to mental health only increased for ages 0-17 years, from 784.1 per 100,000 population to 869.3 per 100,000 population.[3] The rate for this age group dropped slightly in 2019, but in 2018, the rate was 976.8 per 100,000 population, a 25% increase from 2016.

Third, higher rates of depression result in higher usage of anti-depressant drugs, especially among women. Brody and Gu (2020) found for the US that during 2015–2018, 13.2% of adults aged 18 and over used antidepressant medications in the past 30 days. Use was higher among women (17.7%) than men (8.4%). Over the decade from 2009–2010 through 2017–2018, the percentage of adults using antidepressants increased. This rise in use was observed among women, but not men. Chua et al (2024) found that antidepressant dispensing to adolescents and young adults in the US was rising before the COVID-19 outbreak and rose 63.5% faster afterward. This change, the authors found "*was driven by increased antidepressant dispensing to females and occurred despite decreased dispensing to male adolescents*." In the UK anti-depressant prescribing to children ages 12-17 doubled between 2005 and 2017.[4]

Fourth, declining mental health has been linked to rising suicide rates, especially among the young. Depression, anxiety and behavioral disorders are among the leading causes of illness and disability among adolescents. Suicide is the fourth leading cause of death among 15-29 year-olds.[5] From 2008 to 2020, the rates of death from suicide among people age 12 and over increased 16% overall, from 14.0 per 100,000 population to 16.3 per 100,000 population. Specifically, the rate for youths ages 12-17 increased from 3.7 per 100,000 population to 6.3 per 100,000 population. Most

[2] We choose countries that have at least 10,00 observations. Algeria=45,666; Angola=11,419; Argentina=60,234; Australia=24,665; Brazil=48,249; Canada=31,318; Chile=13,931; Colombia=42,252; Ecuador=10,278; Egypt=74,124; France=33,732; Germany=18,787; Guatemala=13,872; India=145,596; Iraq=25,773; Italy=16,770; Jordan=22,318; Mexico=78,521; Morocco=30,490; New Zealand=11,153; Nigeria=23,036; Pakistan=37,404; Paraguay=10,106; Peru=22,168; Philippines=19,996; Saudi Arabia=12,764; South Africa=33,350; Spain=37,3773; Tunisia=19,1611; UK=55,2734; USA=98,1218; Uruguay=10,061; Venezuela=53,1704 and Yemen=27,5272.

[3] https://www.ncbi.nlm.nih.gov/books/NBK587174/

[4] https://evidence.nihr.ac.uk/collection/antidepressants-for-children-and-teenagers-what-works-anxiety-depression/?utm_source=partner&utm_medium=partner&utm_campaign=antidepressants&utm_term=guardian

[5] https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health

recently we have seen a rise in youth suicides in the US as documented in Figure 1. Male rates are markedly higher than female rates, but both are on an upward trend since around 2010.[6] Female rates rose from 3.9/100000 to 6.1/100000, a rise of over 50%.

Fifth, falling mental health is a major contributor to school absenteeism, impacting human capital investments for the next generation. For example, there has been a dramatic rise in the US in chronic absenteeism- –defined as students missing 10 percent or more of the school year–, up from 17.6% in 2017 to 29.6% in 2021 (Saavedra, Polikoff, and Silver, 2024). According to the Mental Health of Children and Young People Survey 2023 by the NHS in England, the prevalence of a probable mental disorder in children aged 8 to 16 years rose between 2017 and 2020, from 12.5% in 2017 to 17.1% in 2020. Rates in the subsequent survey waves were similar with no statistically significant differences between these years. In 2021, 17.7% of children in this age group had a probable mental disorder, in 2022, the figure was 19.0% and in 2023, it was 20.3%.

One in four children in the UK entering school are not toilet trained. Sixty-nine percent of high school teachers in the US in a Pew survey (Lin, Parker and Horowitz, 2024) in 2024 noted that anxiety and depression in their school was a major problem and 61% said the same about chronic absenteeism. The survey found that the struggles of students was impacting the wellbeing of their teachers; 77% of public k-12 teachers said their job was stressful and 68% said it was overwhelming. Kindred[2] conducted a school readiness survey among 1000 primary school teachers. Teachers say 37% of children are unable to listen and respond to basic instructions, and 37% are unable to dress independently. Teachers say 46% of children are unable to sit still and 38% find it hard to play/share with other children and 24% of children in their Reception class are not toilet trained. The WHO has estimated globally, one in seven 10-19-year-olds experiences a mental disorder, accounting for 13% of the global burden of disease in this age group.

Finally, poor mental health increasingly contributes to non-participation in the labor market. Since the pandemic, in the UK 62,000 more young people have become economically inactive, an increase of 2% (Buchanan, 2023). The inactivity rate for young people has risen from a pre-pandemic rate of 37.1% to 38.2%. In comparison, the youth unemployment rate has fallen from 12.3% in January to March 2020 to 10.8% in November to January 2023. There has been an overall decrease of 37,000 in the number of people aged between 16 to 24. Buchanan reported that between 2019 and 2022 there was a 29% increase in economic inactivity among those aged 16 to 24 and a 42% increase among those aged 25 to 34 years. Among these age groups, the largest overall increase in people with long-term sickness was due to mental illness, which rose by around 20,000 (a 24% increase).

For all these reasons it is important to map trends in subjective ill-being over time, and by age and sex, both in the USA, UK and elsewhere.

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[6] According to Garnett and Curtin (2023) suicide rates by age /100000 were as follows from 2010-2021

Females	*15-24*	*25-44*	*45-64*	*65-74*
2010	3.9	6.2	8.6	4.6
2021	6.1	7.4	8.2	5.6
Males	*15-24*	*25-44*	*45-64*	*65-74*
2010	16.9	23.6	29.2	23.9
2021	23.8	30.0	27.1	26.1

3. **Trends in Subjective Ill-being by Age in the United States**

Figure 2 plots trends in despair by age group and gender in the United States from 2009 to 2022 using the Behavioral Risk Factor Surveillance System (BRFSS) surveys (https://www.cdc.gov/brfss/index.html). Following Blanchflower and Oswald (2020) and Blanchflower and Feir (2022) our *despair* measure is based on those who gave the answer 30 to the question.

Q3. "*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?*" The figure plots the proportion of people saying that in the past 30 days all 30 were bad mental health days.

This despair variable has both a median and a mode of zero. On average between 2020 and 2022 in the BRFSS 57.6% of respondents reported zero days; 77% reported 5 or fewer; 91.5% reported 20 or fewer days while 7% reported exactly 30 (n=459,151). Overall, the (weighted) incidence of despair nearly doubled from 3.7% in 1993 to 7% in 2023.

Figure 2 plots despair for three age groups, separately by gender. For both genders, levels of despair in 2009 were highest among the oldest age group (45-70) and higher for the middle-aged (25-44) than the young (18-24). However, the percentage of young people in despair rose rapidly over this period, more than doubling for men (from 3.0% to 7.3%) and doubling for women (5.6% to 10.6%). Despair also rose among the middle-aged, but less rapidly (from 6.0% to 8.6% for women and from 4.5% to 6.8% for men), while the percentage of older men and women in despair remained roughly constant over the period. As result, by 2022 relative levels of despair across age groups were reversed for both men and women, with the youngest age group having the highest levels of despair, and the oldest age group the lowest.

Figure 3 plots these despair data for the US going back to the early 1990s for different sub-groups in the US population. The concern in the 'deaths of despair' literature was the problem faced by prime-aged (35-54-year-olds) whites with a high school diploma or less (Case and Deaton, 2020). Others have pointed to the mental health problems faced by Natives in particular (Blanchflower and Feir, 2022). What Figure 3 illustrates is that, whilst we should continue to be concerned about these groups in the population since their levels of despair remain high, since around 2014 the rate of despair has grown most quickly among the young, especially females under age 25, such that by the end of the period their despair levels are on a par with those who were the focus of Case and Deaton's (2020) work. As noted above we have already started to see a rise in suicide rates in the young. To this point there is no evidence of rising drug overdose deaths among the young.[7] By 2022 the despair levels of young females matched those of natives and prime age less educated whites.

These trends have resulted in a very different relationship between age and ill-being over time, as indicated in Figure 4. The hump shape has gone. Between 2009 and 2018, despair is hump-shaped in age, very much in accordance with the literature discussed above. The rapid rise in despair

[7] Spencer, Garnett and Miniño (2024) note a fall in drug overdose deaths among ages 15-24 from 2021-2022 from 17.2/100000 to 15.1/100000. The rate is well below that of older groups , for example, those ages 35-44 saw rates rise from 62.0 to 63.1.

before the age of 45, and especially before the mid-20s, has fundamentally changed the lifecycle profile of despair, such that the hump-shape is no longer apparent between 2019 and 2023 (dotted line in Figure 3). Despair rose the most for the youngest group but also rose for those up to age 45; over age 45 it remained unchanged. Despair is now declining more or less monotonically in age.

4. Trends in Subjective Ill-being by Age in the United Kingdom

In this section we present similar trends for the United Kingdom, building on work first reported in Banks and Xu (2020) using data from the UK Household Longitudinal Survey (UKHLS) from 2009 to 2021.[8] We use the General Health Questionnaire mental health index (GHQ-12) questionnaire scored on a scale of 0 to 36 (Likert scale), where a score of 20 or higher we consider to be 'despair'. In 2009-10 the median was 10 and in 2020-21 the median was 11 among those aged 18-70. Approximately 8% of all respondents were classed as being in despair in 2009-10, rising to 12% in 2020-2021.

Figure 5 shows the rise in the ill-being of the young and, to a lesser extent, the middle-aged, since 2009 by gender for the UK for the same age groupings as used for the US above. Among men aged under-25, despair doubled (from 5% to 11%), as it did in the United States. By 2015 despair among young men had surpassed that reported by men aged 25-44, and by 2019 it had surpassed despair among older men aged 45 and over. The percentage of young women in despair rose even more sharply, from 8% in 2011 to 20% by 2020 with much of the increase coming after 2016. It also doubled (from 9% to 18%) among women aged 25-44, whereas the increase among older women was much less pronounced.

Figure 6 shows that, once again, the hump-shape in ill-being by age, measured here with despair, that is notable in the earlier period (2009-2018) has disappeared in the later period 2019-2021, to be replaced by a profile of despair that is **declining in age**. As in the case of the United States, the age-profile of despair did not change markedly among those in their late 40s and older, but levels of despair rose strongly among those below their mid-40s, especially among the youngest.

Table 1 reports annual changes in anxiety in the UK from the micro-data files on a self-reported 11-step anxiety variable on a scale from 0 to 10, using data from the Annual Population Survey (Blanchflower and Graham, 2021 also use these data). The exact question is

Q6. *"On a scale where nought is 'not at all anxious' and 10 is 'completely anxious', overall, how anxious did you feel yesterday?"*

The table shows a rise overall from 2011 to 2021 especially for white females under 25. There are notable rises for all young females under age 25 and whites but declines for blacks and Asians – mostly Indians, Bangladeshis and Pakistanis. ONS (2020) reported that there was evidence of increasing anxiety and depression among young women aged 16 to 24 years in the UK prior to the pandemic, with nearly one-third (31%) reporting some evidence of depression or anxiety in 2017

[8] The UKHLS has a two-year overlapping wave structure, with interviews conducted in 2009-10, 2010-11, 2011-12 and so on. For brevity, we mark the first year of each wave in Figure 5, with 2009 referring to the 2009-10 wave. In Figures 5 and 6, the earlier period refers to data collected between the 2009-10 wave and the 2018-19 wave, and the later period refers to data collected between the 2019-20 wave and the 2020-21 wave.

to 2018; this is an increase from the previous year (26%) and the same period five years earlier (26%). They also noted there was a decline in young people's satisfaction with their health in the UK, with about half (52%) of those aged 16 to 24 years saying they were mostly or completely satisfied with their health in 2017 to 2018 compared with 59% in the previous year. ONS (2020) also reported that in the years prior to the pandemic an increasing proportion of young people aged 16 to 24 years in the UK reported that they were finding it difficult or very difficult to get by financially, with 9% saying this in 2017 to 2018, compared with 6% the previous year; in particular the increase was significant among young men of this age.

Figure 7 plots anxiety by age using these APS data, plotted twice, for 2012-2017 and 2018-2021. Again, the rapid rise in anxiety among the young means that the hump-shaped profile observed in 2012-2017 is no longer seen in 2018-2021. Again, no inverse U-shape in the recent period. Anxiety now broadly declines with age in the UK.

5. Econometric analysis

Table 2 estimates despair equations for the USA and the UK using data from the BRFSS and the UKHLS and are restricted to those age 16-70. Equations are estimated separately for men and women and include age dummies plus year interactions in the first column and then age*covid dummies are added, where COVID is defined as years 2020 and 2021.

In the first column we see that despair increased among men and women in the USA and the UK under age 45, but the increase in all cases is most pronounced among those aged under-25. In column 2 we incorporate an additional interaction term to establish whether the rate of change differed during COVID. This shows that in the UK the rate of increase in despair among under-25s increased from 2020, even when compared to the underlying increase captured by a linear trend. However, although COVID led to a worsening in mental health in the United States as well, the effect was most pronounced for those aged 25-44 years, not the under-25s.

We delve further into the correlates of despair in the United States and the United Kingdom and how they have changed over time using the micro data from BRFSS for the USA (1993-2022) and the anxiety in the UK using the APS (2012-2021). There are many similarities, not least that it applies particularly to the young, females and whites and especially young white females. The econometric analysis confirms the time series evidence in the figures and charts presented above.

In Table 3 we run four sets of OLS regressions for all age groups with the dependent variable despair (as in 30/30 days were bad mental health days). Estimates are presented for 1993-1999, 2000-2010; 2011-2015 and 2016-2022. Sample sizes are 875,000 in the first period and 2.3-3.4 million in the remaining three. In addition to all age groups in the USA, the model includes controls for gender, education, race, labor force status, state and year. The changing age pattern of despair is confirmed here as the age coefficients in the final column, compared with the excluded of 18-24-year-olds, no longer peak in midlife as they did in the first three columns.

Table 4 reruns the analyses in Table 3 but limits the sample to those age <25. They include the same controls as in Table 2 but now also include single year of age dummies from 19-24 which are compared with the excluded of 18. Of particular note here is the marked rise in the female

coefficient, which is especially large at .035 in the final period. Within this age group despair rises with age. Blacks and Asians have notably lower incidence of despair especially in the later period.

Table 5 estimates similar equations to those for the US above with the anxiety variable from the APS for the United Kingdom. The sample is split into two time periods, 2012-2017 and 2018-2021. Sample sizes in the first two columns that apply to all ages are 960,000 and 380000 respectively and 53000 and 16000 in the final two that apply to youngsters under age twenty-five. In the first two columns we see age effects shift: anxiety rises markedly among the under-25s in the second period, as is seen in Figure 6. There is a much lower incidence among minorities than whites and the female coefficient rises in size. Columns 3 and 4 relate to those age under 25. Again, ill-being is rising with age among the young, and this age gradient is much more pronounced in the second period. The incidence of anxiety is sharply lower among minorities than whites as shown in Table 1. The US and UK results are broadly consistent.

6. Trends in Subjective Ill-being by Age in the Rest of the World.

We see evidence of declining youth mental health in three other English-speaking countries – Australia, Canada and New Zealand. In a recent paper Garriquet (2021) reported on trends in mental health in Canada using data from the biannual Canadian Community Health Surveys of 2003-2021. The data by gender for three age groups are plotted in Figure 8 and shows dramatic declines for young women ages 15-30 in the proportion saying their mental health was good or excellent, from 76% in 2003 to 54% in 2019.

A recent paper by Botha et al (2023) examined panel data on the well-being of the young in Australia and poor mental health among millennials from the Household, Income and Labor Dynamics in Australia (HILDA) survey. They reported that declining mental health in recent years was a particular problem for those ages 15-30 (p5).[9] The authors find that "*deteriorating mental health is particularly pronounced among people born in the 1990s and seen to a lesser extent among the 1980s cohort. There is little evidence that mental health is worsening with age for people born prior to the 1980s*."

According to the 2022/2023 New Zealand Health Survey psychological distress was highest in New Zealand in young people aged 15–24 years, with one in five (21.2%) experiencing high or very high levels of psychological distress.[10] One in ten children in New Zealand had emotional symptoms and/or behavioral problems. The survey also found that in 2022/23, one in ten (9.6%) children were likely to have emotional symptoms and/or behavioral problems, meaning that they have a risk of experiencing substantial difficulties in these 4 aspects of development: emotional symptoms, conduct problems, hyperactivity and peer problems. More girls (15.6%) than boys (11.1%), the survey found, were likely to have emotional symptoms. In 2021/22, nearly one in four (23.6%) young people in New Zealand aged 15–24 years experienced high or very high levels of psychological distress, up from 11% in 2020.

[9] They noted that 'very high distress' - based on Kessler 10 score >29 - was markedly higher in the most recent cohorts with people born in the 1940s=3.7%; 1950s=6%; 1960s=7%; 1970s=8%; 1980s=9% and in the 1990s=13%

[10] Psychological distress was measured by the 10-item questionnaire Kessler Psychological Distress Scale (K10). It refers to a person's experience of symptoms such as nervousness, restlessness, fatigue, or depression in the past four weeks. https://www.health.govt.nz/publication/annual-update-key-results-2022-23-new-zealand-health-survey

We contribute further to the literature with analyses of the Global Mind Project which has been collecting data on mental health around the world since 2020.[11] In 2023 they collected online data from 71 countries sampling what they call "internet enabled populations". According to the project team the representativeness of the Global Mind data has been rigorously examined for the United States (US). National trends obtained from various rigorously stratified and randomly sampled US based surveys such as the American Community Survey and the Household Pulse Survey conducted by the US Census Bureau, and the American Trends Panel conducted by Pew Research Center, are closely mirrored in the Global Minds data for the US.

Data is collected on mental wellbeing and used to construct to construct a Mental Health Quotient (MHQ) assessment of people's cognitive and emotional capabilities, calculated on a 300-point scale running from -100 to +200. The MHQ contains six domains: overall hand function; activities of daily living; work performance; pain; aesthetics and satisfaction.[12] Scores in the normal healthy range spanned from 0 to 200.

The data are collected online and it takes around 15 minutes to complete.[13] The project identified individuals as 'distressed and struggling' if their MHQ scores were between -100 and zero. In 2023 this accounted for 27% of their sample. They 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'.*[14] Of particular note is that the UK ranks bottom - 71st out of 71 countries.

The Global Minds Project kindly gave us access to the micro data for the years 2020-2024. In total there were 49,346 observations in 2020; 232,006 in 2021, 492,966 in 2022; 522,660 in 2023 and 134,375 in 2024 making a total of 1,431,353 in all. We decided to examine individual countries with this pooled file, restricting analysis to the 34 countries with at least 10,000 observations giving us 1,218,662 or about 85% of the overall sample.[15] Appendix Table 1 sets out the number of observations by country across the four years; only the USA appears twice.

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

[12] For details of how the MHQ score is constructed see Newson and Thiagarajan (2020).

[13] https://sapienlabs.org/mhq/

[14] Of note are the rankings of distressed/struggling - 1=Sri Lanka; 2=Italy; 3=Georgia; 4=Nigeria; 5=Armenia; 6=Azerbaijan; 7=Dominican Republic; 8=Tanzania; 9=Malaysia; 10=Israel; 11=Venezuela; 12=Republic of Moldova; 13=Uruguay; 14=Panama; 15=Trinidad and Tobago; 16=Kyrgyzstan; 17=Zimbabwe; 18=Cote d'Ivoire; 19=Costa Rica; 20=Cameroon; 21=Philippines; 22=Portugal; 23=Honduras; 24=France; 25=Democratic Republic of the Congo; 26=Singapore; 27=El Salvador; 28=Tunisia; 29=Kenya; 30=Puerto Rico; 31=Nicaragua; 32=Jordan; 33=Belarus; 34=Mozambique; 35=Peru; 36=Sudan; 37=Argentina; 38=Algeria; 39=Belgium; 40=Colombia; 41=Paraguay; 42=Chile; 43=Morocco; 44=Ukraine; 45=United Arab Emirates; 46=Guatemala; 47=Saudi Arabia; 48=United States; 49=Ecuador; 50=Canada; 51=Mexico; 52=Tajikistan; 53=Bangladesh; 54=Syria; 55=Germany; 56=Angola; 57=Kazakhstan; 58=Spain; 59=Yemen; 60=Pakistan; 61=Iraq; 62=New Zealand; 63=Egypt; 64=Bolivia; 65=India; 66=Ireland; 67=Uzbekistan; 68=Australia; 69=Brazil; 70=South Africa; 71=United Kingdom.

[15] 34 countries and sample sizes are as follows. Algeria=45,666; Angola=11,419; Argentina=60,234; Australia=24,665; Brazil=48,249; Canada=31,318; Chile=13,931; Colombia=42,252; Ecuador=10,278; Egypt=74,124; France=33,732; Germany=18,787; Guatemala=13,872; India=145,596; Iraq=25,773; Italy=16,770; Jordan=22,318; Mexico=78,521; Morocco=30,490; New Zealand=11,153; Nigeria=23,036; Pakistan=37,404; Paraguay=10,106; Peru=22,168; Philippines=19,996; Saudi Arabia=12,764; South Africa=33,350; Spain=37,377;

We examine five new variables:

a) MHQ score used by the GM project (mean=68.7).
b) A (1,0) dummy to identify those distressed and struggling based on MHQ score being <0 (mean=.25).
c) Overwhelmed - *"Experiencing overwhelming feelings of unhappiness, sorrow and hopelessness, or having spells of uncontrollable crying"* (mean=4.47).
d) Fear and anxiety - *"Being scared or worried and experiencing feelings and sensations of nervousness or panic in your mind or body"* (mean=5.25).
e) Suicidal - *"Thinking or feeling like you want to kill or physically harm yourself"* (mean=2.63).

Variables c, d and e form part of the MHQ score and are scored from 1-9 where the respondent is told 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’. In regression analyses presented below we control for country, year and month of interview, gender, education and labor force status, as well as age.

Our first finding is that consistent with the evidence that the hump shape in ill-being has disappeared due to the declining well-being of the young, ill-being declines sharply with age. In Table 6 we report on how the percent distressed and struggling falls with age in all 34 countries. In Appendix Table 2 we report equivalent estimates for the other four variables which show a similar pattern. These data include information from the US, the UK, Australia and New Zealand and all show that ill-being falls with age. There is no evidence in any of these data of a hump shape in age in ill-being.

Second, in every country the mental health of young women aged under 25 is worse than that of men aged under 25 (Table 7).

Third, when we run OLS regression analyses for these five, ill-being, metrics for the post-COVID period (2020-2024) we confirm our bivariate results showing that ill-being, however defined, declines with age (Table 8). The MHQ score rises with age – a higher score is better. These estimates control for country, gender, education, labor force status, and year. But they also control for month, day and time of survey, something we have shown elsewhere can play an important impact on the way respondents answer these questions (Blanchflower and Bryson, 2023d; Blanchflower and Bryson, 2024f). Mental health is lower for the less educated, women, the unemployed and those unable to work. The country coefficients seem broadly consistent. In every case the UK has the largest coefficient. Adding controls does not change the story. Ill-being declines with age.

Fourth, rankings on each of these variables appear consistent as shown in Table 9. We based these rankings on the regression coefficients in Table 8 because of the possibility of year effects, especially for those countries (Algeria and Angola) sampled in 2020, the year of Covid. We rank

Tunisia=19,161; United Kingdom=55,273; United States=98,121; Uruguay=10,061; Venezuela=53,170; Yemen=27,527

countries from high to low on MHR, so country #1 is Venezuela and from low to high on the other four metrics. In every case the lowest ranked country is the UK. The sixth column is a ranking based on an additive ranking of the five metrics. We just add up each of the five ranks and then sort and rank again. The UK is the bottom ranked country overall (that is, it suffers from the greatest ill-being), followed by South Africa. The country performing best overall is Nigeria, followed by Venezuela and the USA.

These rankings are very different to those obtained in the recently reported World Happiness Report 2024 using the Gallup World Poll (GWP).[16] For comparison purposes in Table 9 we also report the World Happiness Rankings for each of the 33 countries, averaged over the years 2020-2023. We took the rankings from Figure 2.1 of the World Happiness Report, 2024 (https://worldhappiness.report/ed/2024/) and the rescaled them from 1 to 33, dropping Angola which did not have a ranking in the report. Australia ranks top in the WHR and 29th here. Nigeria ranks top here and 26th in the WHR.[17] Of interest is that the WHR ranks the top five countries as the English speaking countries, in order, of Australia, New Zealand, Canada, the UK and the USA. In contrast the GM survey has four out of the top five being developing countries, in order, Nigeria, Venezuela, USA, Guatemala and Paraguay.

7. Discussion

One of us even went as far as describing the well-being U-shape in age as '*among the most striking, persistent patterns in social science*'.[18] Until it wasn't. Major, once in a century shocks, like the Great Recession and Covid, which hit back-to-back alongside a technology shock that largely started in between, caused existing patterns to change (Blanchflower and Bryson, 2023a, 2024f). That is why we study patterns in the data in social science.

What lies behind the differential rate of decline in wellbeing by age over the last decade or so? A number of factors may be at play. One is the potential 'scarring' effect of the Great Recession on new cohorts entering the labor market – the wellbeing analogue of the scarring effects of recession on new cohorts' subsequent labor market prospects (Arulumpalam (2001 and Kahn, 2010). These effects impact the employment prospects and wage growth of cohorts of new entrants to the labor market around the time of a severe economic shock, such as the Great Recession of 2008.

Effects are 'scarring' in the sense that they persist for some time and for young people cause permanent scars rather than temporary blemishes (Ellwood, 1982). It is possible that, because the labor market did not recover quickly after the Great Recession – as indicated by real wage

[16] https://worldhappiness.report/

[17] Blanchflower and Bryson (2023a and 2024f) have shown there are a number of reasons for being concerned about the rankings in the World Happiness Report, which are based on Cantril's ladder based on analysis of small country files in the Gallup World Poll data. It turns out that the ranks change sharply depending which measure is used from the GWP (Blanchflower and Bryson 2023). There is also evidence that the rankings change little over time and do not appear to be sensitive to shocks, for example, increasing during the Great Recession, which seems unlikely. Blanchflower and Bryson (2024f) that this in part arises because the GWP survey is collected at various points throughout the year which vary by country which means any short run changes may be missed. For example, in 2020 it was collected in six separate months among the European sample, mostly in September, October and November.27 In 2019 the data were collected in eight quite different months.28 In 2019 Germany was sampled in June and in 2020 in September. Spain was sampled in May 2019 and September 2020.

[18] Blanchflower and Graham (2021).

stagnation – successive cohorts of new entrants may have been impacted in the years following the Great Recession shock. Of course, the Great Recession impacted the labor market prospects and household income for older people too, potentially explaining the deterioration in their wellbeing too. But, as in the case of labor market scarring, effects may be felt most and persist for longest among the young.

Any Great Recession-induced decline in labor market prospects cannot account for the deterioration in adolescent mental health which occurs between age 10 and 16 – a pattern Daly (2022a, 2022b) observed in cross-sectional data for 43 countries and replicated using within-person analysis of the UKHLS. Furthermore, adolescent mental health has been in decline over the last decade or more in the US – see Blanchflower and Bryson (2024b).

For instance, in their analyses of the *Youth Risk Behavior Survey (YRBS) data* the Centers for Disease Prevention and Control (2023) show that in 2021 30% of female high school students had seriously considered suicide, up from 19 percent in 2011, although there was little change among males (14 percent in 2021 and 13 percent in 2011). In England Newlove-Delgado et al (2021) reported that in children ages 7 to 16 those with a 'probable' mental disorder rose from 1 in 9 in 2017 to 1 in 6 in 2020. Marquez et al (2024) recently reported on declines in the life satisfaction of children, especially in North America and Western Europe as well as across other countries using data from three surveys.

1) OECD's Programme for International Student Assessment (PISA) which surveys nationally representative samples of young people aged 15 across 70 countries.
2) Health Behaviour in School-aged Children (HBSC) study which examines the wellbeing of children ages 11, 13, and 15. There are six waves of data that include subjective well-being measurements (2002, 2006, 2010, 2014, 2018, 2022).
3) The Children's Worlds surveys (CW) explore the subjective well-being of children aged 8, 10, and 12 using nationally representative samples of 1000 children in up to 35 countries per wave. There have been three waves of data collection (2011-12, 2013-14, 2017-19), plus a post-COVID-19 wave in 2020-22.

Three other hypotheses might account for the marked decline in wellbeing among the young. The first is the depletion of health care resources available to treat mental health conditions. Ever since the Great Recession monies available for publicly provided health care services have been stretched. There is recognition in both the United States and the United Kingdom that mental health services are acutely underfunded (Case and Deaton, 2020) such that delays in access to treatment may have prolonged the duration of spells of poor mental health which, in cross-sectional data, will be evident in an increase in the 'stock' of individuals suffering from poor mental health.

The second hypothesis relates to the advent of smart phone technologies and the way they have impacted young people's perceptions of themselves and their lives relative to their peers' portrayal of their lives via social media. This new information about the lives others appear to lead may result in greater dissatisfaction with one's own life, in much the same way that new information about the 'pay gap' between one's own pay and that of colleagues' generates increased pay dissatisfaction (Card et al, 2012).

The growth in smart phone usage coincides with the rising trend in ill-being. The iPhone was unveiled in January 2007 and sold 4.7 million phones in Q32008, and the iPad was launched in January 2010.[19] In q12011 Apple sold 18.6 million iPhones, while Samsung sold 17.5m.Sales of smartphones worldwide rose from 122m in 2007; 297m in 2010; 472m in 2011; 690m in 2012; 970m in 2013; 1.2 billion in 2014 and 1.5 billion a year since 2018.[20]

As we noted above, smart devices became increasingly popular in subsequent years as the price of accessing smart phone technology fell, leading to increased reliance on social media outlets as a chief source of information for young people on all matters in their lives including social networking, dating, on-line entertainment and news. Internet use has become more easily accessible also. Instagram was founded in October 2010.

The coincidence in the timing between growing access to smart phone technology and declining wellbeing among the young is insufficient to support a causal inference about the role of social media but studies that randomize restricted access to smart phones identify significant improvements in self-reported wellbeing (Pedersen et al, 2022). Haidt (2024) has argued that the 'great rewiring' is causing the epidemic of mental illness, although his conclusions have been criticized by Odgers (2024) on grounds that correlation doesn't prove causation, although he doesn't provide an alternative explanation.[21] This has led to calls for restrictions on young people's access to smart phone technology and in the regulation of social media content. This has already started in Florida where Governor DeSantis has banned social media accounts for children under 14 and require parental permission for 14- and 15-year-olds.[22]

Much of the recent literature on the deterioration of mental health among the young has focused on the COVID pandemic. Although it cannot account for the decline in mental health among the young going back to the period shortly after the Great Recession, it may have contributed to an increasing rate of deterioration in young people's mental health as discussed in Section One. Our own data provide some support for this proposition since in the UK the increase in despair among the young relative to older age groups has risen since the onset of COVID.

We have shown for both the United States and the United Kingdom that the well-documented U-shaped pattern of wellbeing in age, and the hump-shaped pattern in ill-being, documented in over numerous published papers, including our own no longer holds. We have also seen confirming evidence of declines in youth wellbeing in two other English-speaking countries –for Canada by Garriguet (2021) and Botha et al (2023) for Australia, although they haven't specifically drawn out any potential changes in U-shapes or inverted U-shapes or hump shapes. We have also shown some evidence across many countries suggesting declining wellbeing of the young. This is not universal but seems greater, based on our early analysis of internet and cellphone usage in ten African countries that its spread is associated with a rise in sadness of the young in these countries.

[19] https://www.theguardian.com/technology/2012/jan/24/smartphones-timeline
[20] https://www.sellcell.com/how-many-mobile-phones-are-sold-each-year/
[21] The tobacco industry also used the claim of correlation, not causation (Oreskes and Conway, 2011 and Brandt, 2012)
[22] Kalhan Rosenblatt, 'Florida Gov. Ron DeSantis signs bill that bans children under 14 from having social media accounts', NBC News, March 25, 2024. https://www.nbcnews.com/tech/florida-ron-desantis-signs-bill-social-media-kids-ban-rcna144950

The world appears to have changed in the face of three major shocks – the Great Recession and Covid as well perhaps as a huge technological change – the coming of social media. The former generated high levels of unemployment and underemployment among the young especially and, at least in the UK, the latter particularly impacted the young that were the group with the highest incidence of Covid (Blanchflower and Bryson, 2022). These two shocks appear to have lowered the well-being of those under age forty-five relative to older groups and especially those under twenty-five. This appears to be a phenomenon that has hit females and whites particularly hard. The technology shock involved the rapid rise in smartphones and internet access, starting in 2011. The deterioration in the mental health in English speaking countries appears to be correlated with the rise in screen time (Blanchflower and Bryson, 2024c). Of interest is what has happened to U-shapes in countries that have not had such big rises in cellphone and internet use.

The question is whether this rise in mental illness in the young is a permanent or temporary change and if this change in the relationship between age and well-being has occurred in other countries. The big question then is what to do about it? That is the subject of our ongoing research.

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Figure 1. Suicide rates, ages 15-24, USA. Source: Garnett and Curtin (2023)

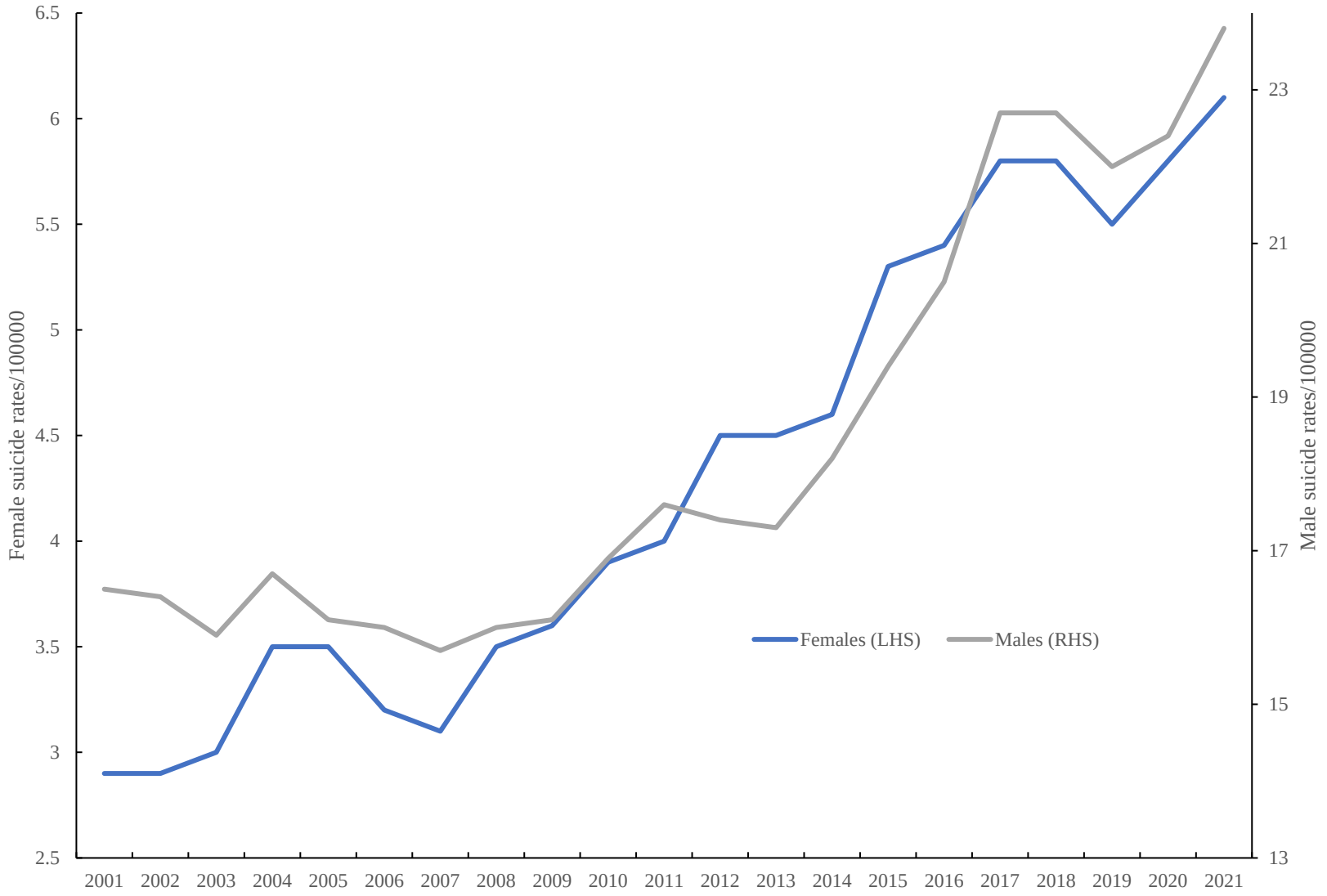

Figure 2. Despair by age, USA, BRFSS, 2009-2022

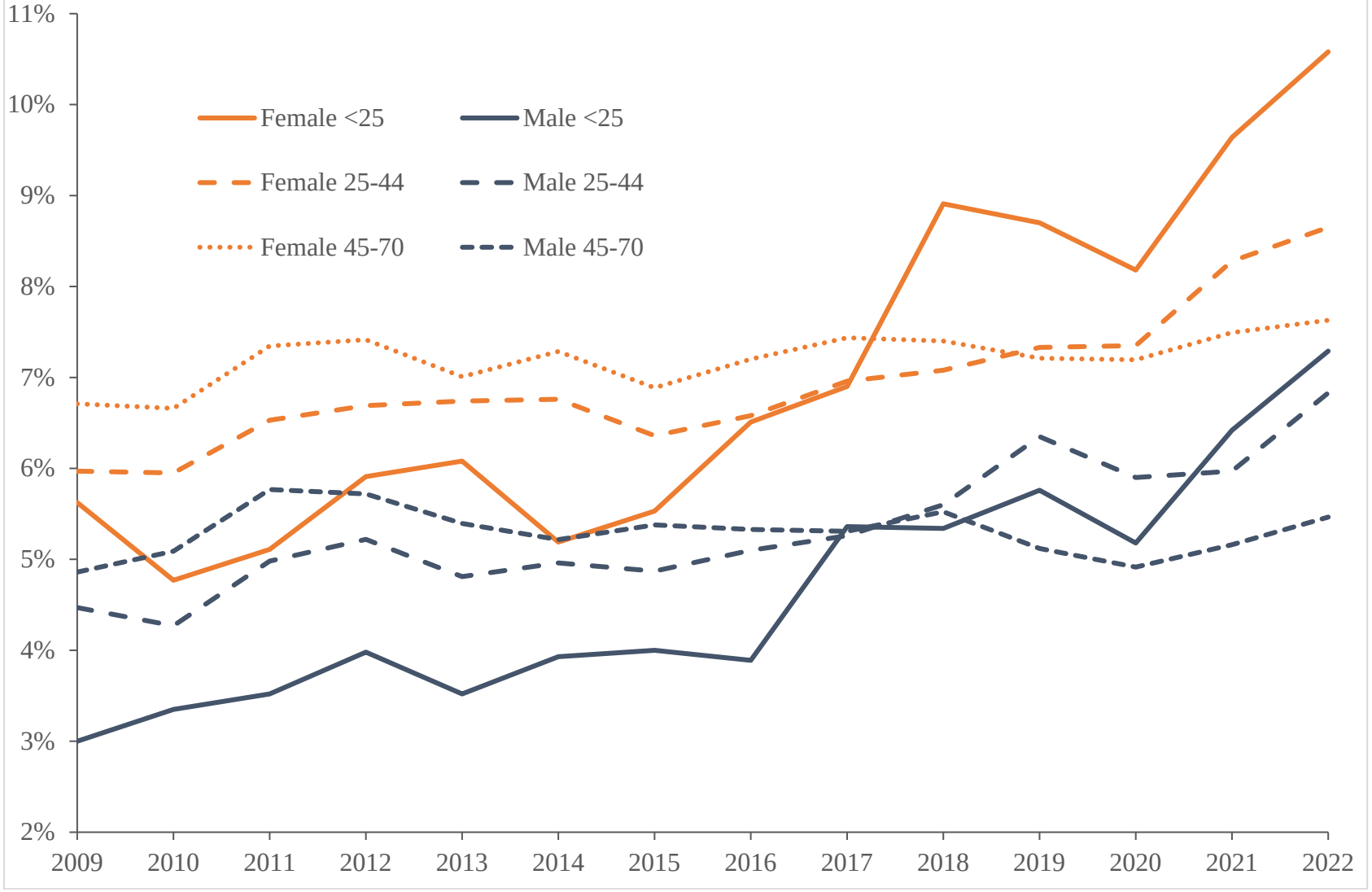

Figure 3. Despair by age, BRFSS, 1993-2022

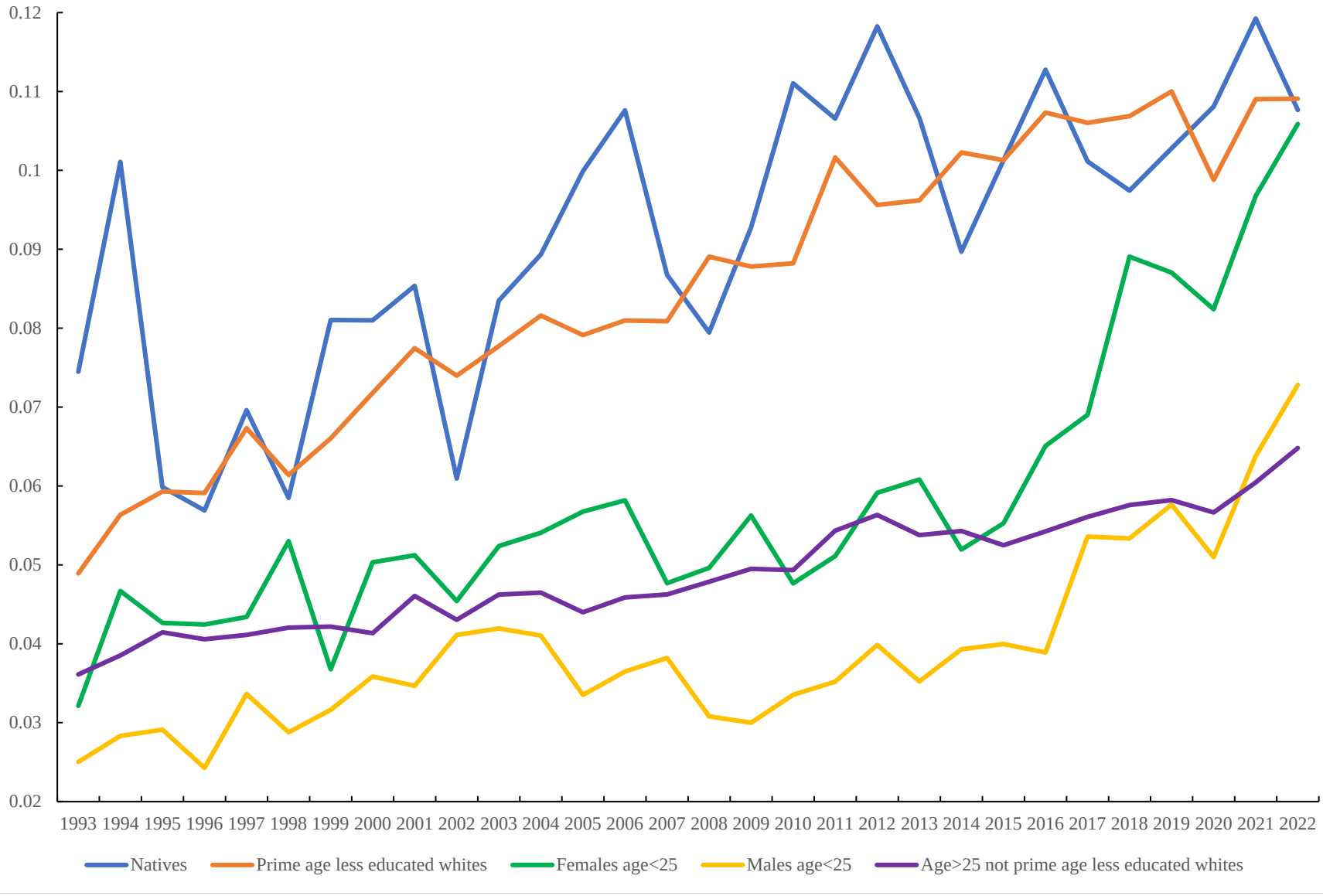

Figure 4. Age profile in despair, USA, BRFSS, 2009-2022

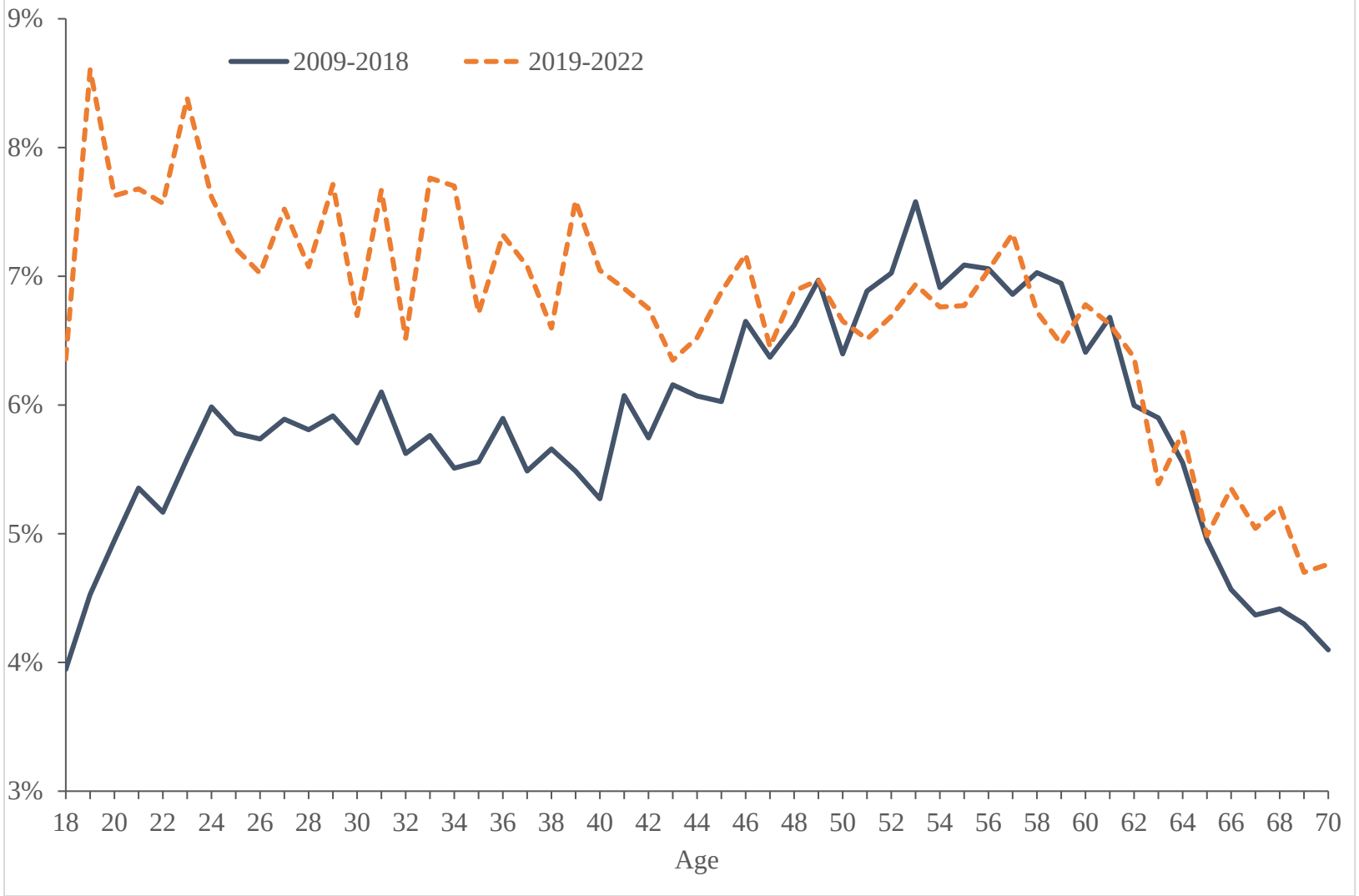

Figure 5. Despair by age UK, 2009-2021

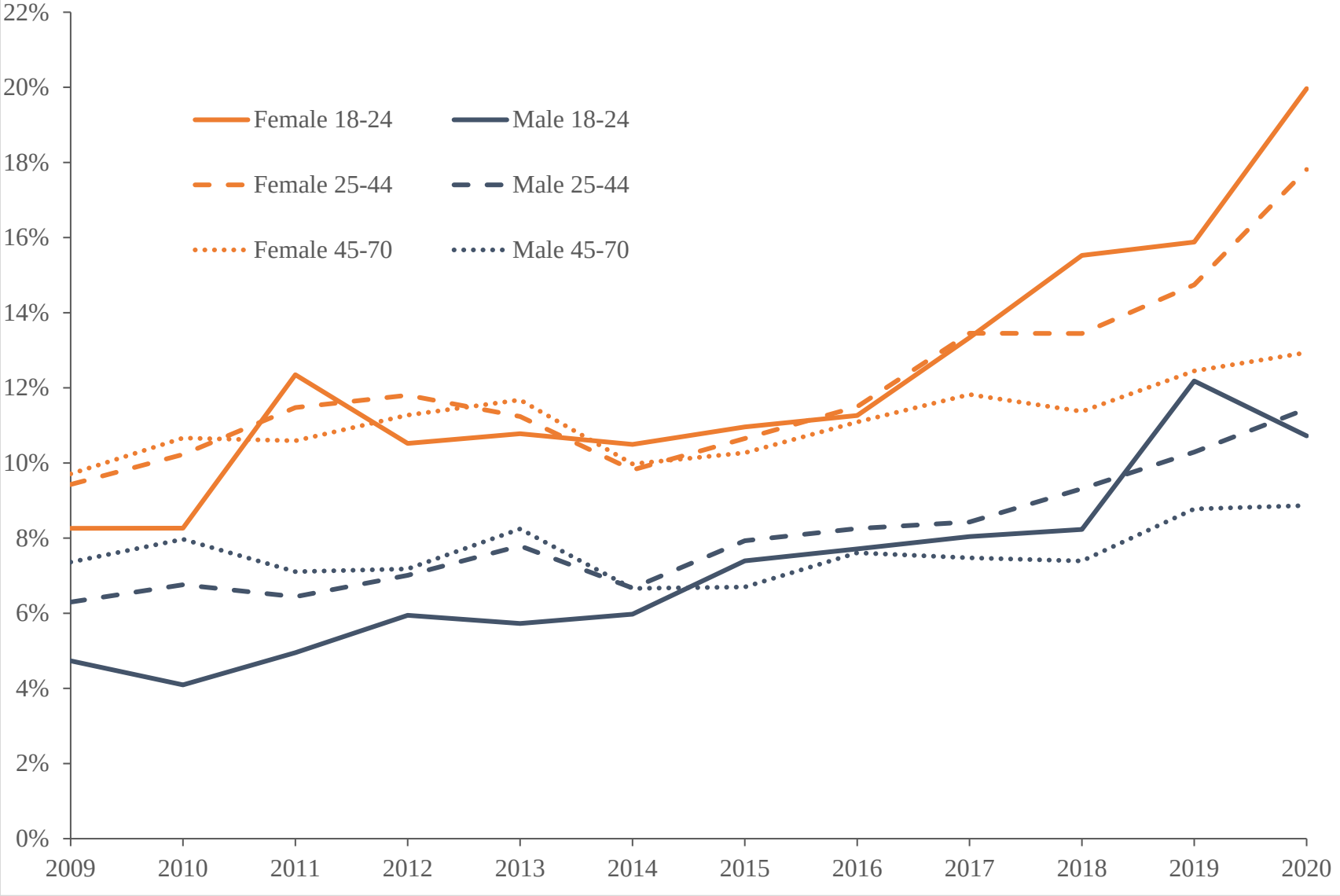

Figure 6. Age profile in despair, UK

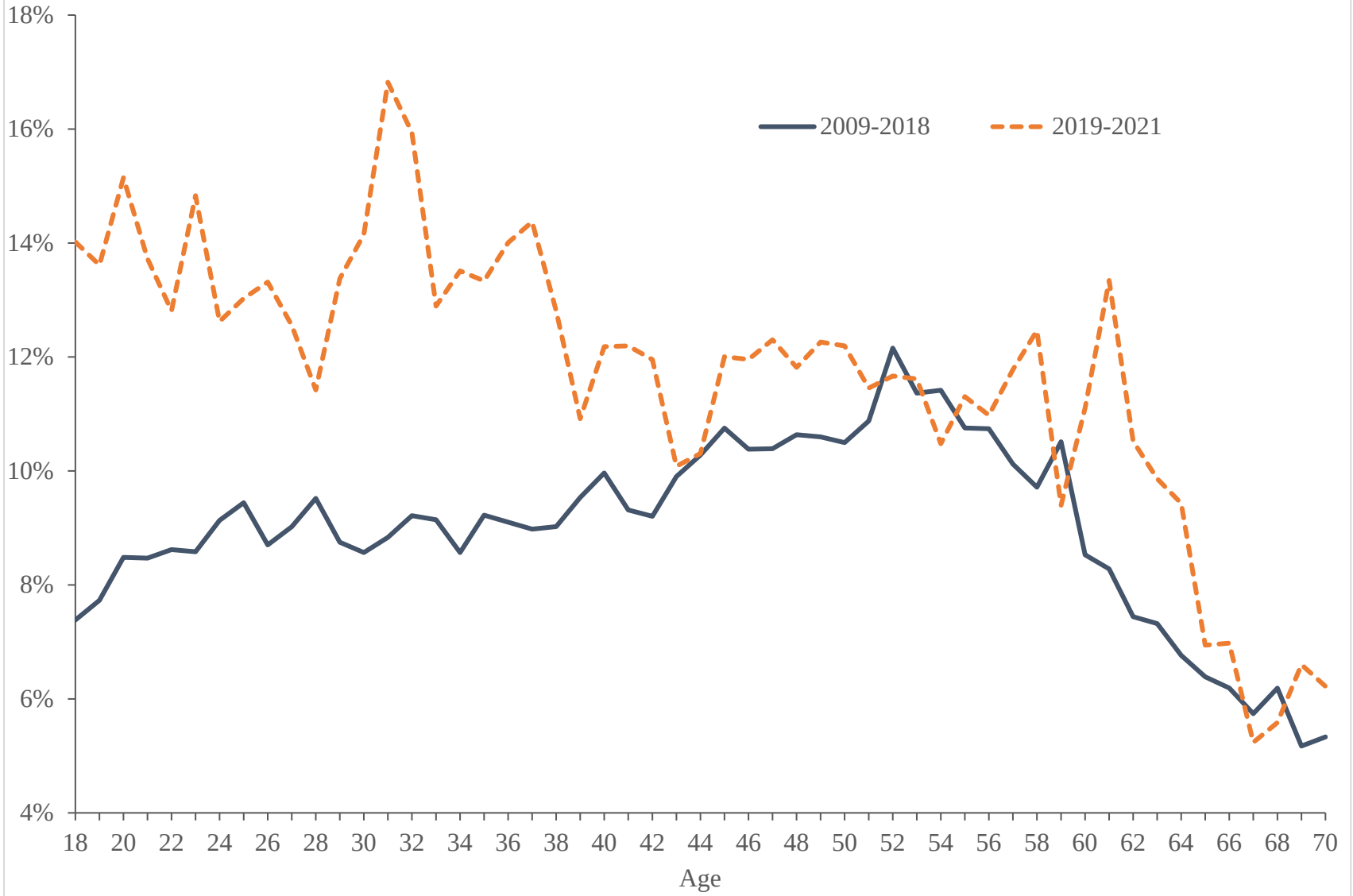

Figure 7: Age profile in anxiety, UK, Annual Population Survey, 2012-2021

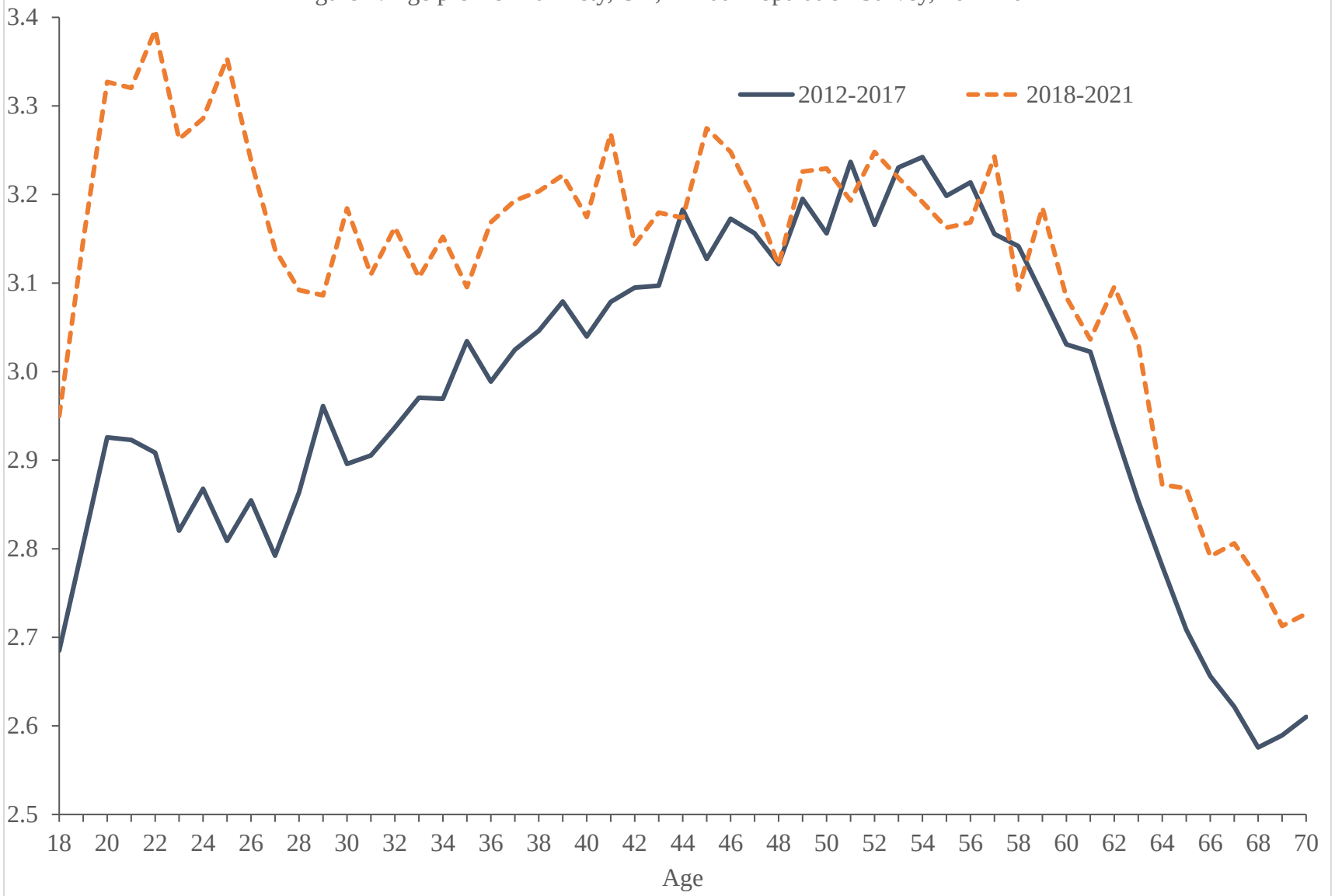

Figure 8. % Canadians saying mental health is 'very good or excellent', 2003-2019
Source: Canadian Community Health Survey

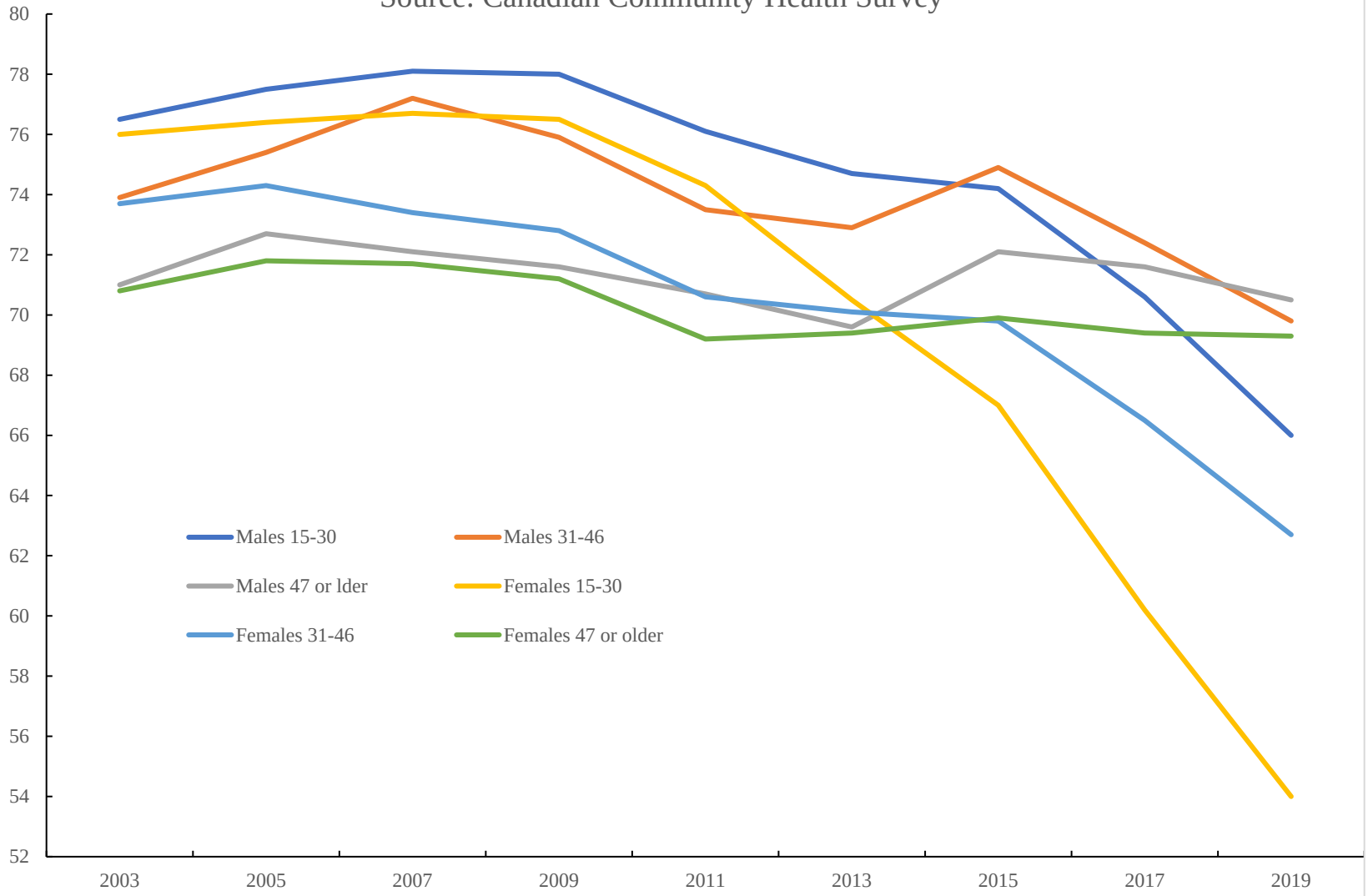

Table 1. Changes in 11-step anxiety in UK, 2012-2021 (weighted).

	All	Male <25	Female <25	White Females <25	Whites	Blacks	Asians
2011	3.13*						
2012	3.03	2.75	2.99	2.95	3.01	3.18	3.20
2013	2.95	2.60	2.95	2.90	2.92	3.14	3.08
2014	2.89	2.54	2.86	2.84	2.87	2.94	2.95
2015	2.85	2.53	2.85	2.84	2.84	2.79	2.92
2016	2.89	2.66	3.17	3.21	2.88	2.85	2.91
2017	2.91	2.71	3.27	3.30	2.89	3.06	2.95
2018	2.85	2.67	3.18	3.20	2.85	2.74	2.80
2019	2.94	2.71	3.57	3.66	2.93	2.85	2.85
2020	3.33	2.96	3.80	3.80	3.32	3.36	3.33
2021	3.12	2.92	3.82	3.86	3.13	2.95	2.94
2022	3.23*						

Notes: * estimates from Personal well-being in the UK: April 2022 to March 2023, ONS, Nov 13, 2024
Source: UK Annual Population Surveys (weighted)

Table 2. Despair OLS regressions in the USA and the UK

A) USA

	Men		Women	
18-24 * Year	.0029 (18.23)	.0029 (11.73)	.0048 (24.83)	.0045 (15.24)
25-44 * Year	.0018 (21.06)	.0019 (14.87)	.0022 (25.04)	.0017 (12.47)
45-70 * Year	-.0002 (3.10)	-.0001 (0.62)	.0003 (4.36)	.0002 (2.17)
18-24 * Covid		.0002 (0.09)		.0029 (1.23)
25-44 * Covid		.0018 (1.78)		.0056 (4.97)
45-70 * Covid		-.0014 (1.88)		.0007 (0.98)
25-44	2.3459 (6.45)	1.9541 (6.45)	5.2217 (12.17)	5.7018 (8.66)
45-70	6.2512 (18.19)	5.9619 (11.25)	9.1623 (22.44)	8.7373 (13.97)
Constant	5.8347	5.7999	-9.6175	-9.0605
Adjusted R^2	.0005	.0005	.0006	.0006
N	1,899,520	1,899,520	2,335,810	2,335,815

B) UK

	Men		Women	
18-24 * Year	.0061 (11.21)	.0046 (6.60)	.0079 (13.26)	.0059 (7.74)
25-44 * Year	.0039 (11.75)	.0030 (7.09)	.0049 (14.13)	.0032 (7.23)
45-70 * Year	.0007 (2.84)	-.0003 (0.75)	.0019 (6.61)	.0012 (3.28)
18-24 * Covid		.0249 (3.57)		.0311 (4.09)
25-44 * Covid		.0160 (3.66)		.0301 (6.52)
45-70 * Covid		.0161 (4.74)		.0111 (3.03)
25-44	.0235 (5.35	.0210 (4.37)	.0173 (3.60)	.0163 (3.10)
45-70	.0393 (9.22)	.0375 (8.02)	.0274 (5.88)	.0226 (4.41)
Constant	.0316	.0376	.0714	.0791
Adjusted R^2	.0018	.0021	.0022	.0025
N	158,899	158,899	203,175	203,175

T-statistics in parentheses

Source: BRFSS 1993-2022 and UKHLS

Table 3 OLS Despair equations for all, USA, 1993-2022

	1993-1999	2000-2010	2011-2015	2016-2022
Female	.0141 (30.53)	.0137 (54.65)	.0114 (38.24)	.0143 (53.21)
25-34	.0071 (7.70)	.0093 (14.06)	.0129 (15.77)	.0015 (2.16)
35-44	.0125 (13.63)	.0116 (17.97)	.0130 (16.06)	-.0022 (3.12)
45-54	.0136 (14.12)	.0145 (22.54)	.0127 (16.22)	-.0097 (13.89)
55-64	-.0019 (1.80)	-.0003 (0.50)	.0002 (0.30)	-.0250 (36.30)
65-74	-.0117 (9.27)	-.0193 (26.67)	-.0171 (20.21)	-.0382 (51.49)
75+	-.0110 (7.85)	-.0259 (33.85)	-.0269 (30.10)	-.0499 (63.01)
Grades 1-8	.0181 (5.34)	-.0029 (0.99)	.0058 (1.43)	.0079 (2.20)
Grades 9-11	.0078 (2.35)	-.0040 (1.38)	.0091 (2.28)	.0166 (4.68)
HS Graduate	-.0076 (2.34)	-.0238 (8.14)	-.0102 (2.56)	-.0026 (0.76)
1-3 yr College	-.0093 (2.86)	-.0262 (8.94)	-.0119 (2.99)	-.0027 (0.79)
4yr College+	-.0227 (6.94)	-.0440 (15.02)	-.0298 (7.47)	-.0240 (6.83)
Self-employed	.0031 (3.81)	.0049 (11.20)	.0055 (10.04)	.0054 (11.02)
Unemployed >1yr	.0706 (38.31)	.0925 (106.21)	.0862 (96.32)	.0883 (94.51)
Unemployed<1yr	.0497 (32.07)	.0636 (83.14)	.0597 (62.76)	.0631 (70.72)
Homemaker	.0034 (3.93)	.0083 (17.28)	.0092 (14.49)	.0081 (12.41)
Student	.0038 (2.85)	.0103 (11.48)	.0092 (8.97)	.0002 (0.24)
Retired	.0140 (14.44)	.0205 (47.77)	.0217 (44.27)	.0204 (45.60)
Unable to work	.1701 (132.65)	.1904 (354.43)	.1854 (305.87)	.1719 (301.74)
Black	-.0037 (4.38)	-.0100 (21.19)	-.0146 (25.87)	-.0142 (27.39)
Asian	-.0094 (5.46)	-.0113 (12.17)	-.0157 (14.87)	-.0192 (21.83)
Native	.0113 (5.44)	.0140 (13.84)	.0109 (8.99)	.0122 (11.63)
Other race	.0153 (5.28)	.0208 (25.27)	.0221 (23.16)	.0219 (27.12)
Hispanic	.0010 (1.08)	-.0087 (16.27)	-.0085 (13.26)	-.0140 (25.67)
_cons	.0260	.0498	.0497	.0622
Adjusted R^2	.0332	.0544	.0585	.0476
N	873,911	3,412,943	2,317,981	3,028,739

Notes: excluded categories age 18, never attended school, Alabama, employee, white non-Hispanic. Equations also include samples and controls for Puerto Rico, Guam and Virgin Islands and refusal variables for education, race and labor force status, results not reported. Equations also include year and state dummies. T-statistics in parentheses. Source: BRFSS 1993-2022

Table 4. Despair equations for age<25, USA

	1993-1999	2000-2010	2011-2015	2016-2022
Female	.0158 (11.42)	.0196 (18.04)	.0199 (16.24)	.0349 (28.93)
19	.0112 (4.11)	.0123 (5.89)	.0148 (6.19)	.0159 (6.82)
20	.0165 (5.95)	.0206 (9.66)	.0201 (8.29)	.0160 (6.78)
21	.0151 (5.65)	.0243 (11.77)	.0231 (9.66)	.0163 (6.97)
22	.0167 (6.18)	.0271 (12.95)	.0258 (10.58)	.0177 (7.39)
23	.0227 (8.41)	.0297 (14.24)	.0284 (11.53)	.0236 (9.71)
24	.0216 (7.96)	.0284 (13.59)	.0297 (11.96)	.0221 (9.00)
Grades 1-8	.0351 (2.75)	.0235 (1.62)	.0527 (2.39)	-.0012 (0.06)
Grades 9-11	.0309 (2.79)	.0339 (2.43)	.0607 (2.86)	.0279 (1.51)
HS Graduate	.0131 (1.20)	.0109 (0.79)	.0347 (1.64)	.0024 (0.13)
1-3 yr College	.0033 (0.30)	.0006 (0.05)	.0227 (1.07)	-.0130 (0.71)
4yr College+	-.0107 (0.97)	-.0265 (1.90)	.0011 (0.05)	-.0464 (2.54)
Self-employed	.0132 (3.48)	.0118 (4.29)	.0094 (2.93)	.0062 (2.14)
Unemployed >1yr	.0161 (3.37)	.0384 (11.84)	.0265 (8.24)	.0264 (6.93)
Unemployed<1yr	.0245 (7.74)	.0259 (12.28)	.0232 (9.63)	.0291 (11.14)
Homemaker	.0007 (0.24)	.0019 (0.81)	.0011 (0.32)	-.0134 (2.94)
Student	-.0032 (1.85)	-.0072 (5.31)	-.0078 (5.30)	-.0181 (12.54)
Retired	-.0112 (0.44)	.0273 (1.63)	.0374 (2.14)	.0537 (3.36)
Unable to work	.1108 (16.51)	.1124 (28.58)	.1337 (28.74)	.1015 (22.26)
Black	.0000 (0.01)	-.0081 (4.43)	.0099 (4.48)	-.0148 (6.62)
Asian	.0012 (0.31)	-.0059 (1.82)	.0141 (4.68)	-.0185 (7.09)
Native	.0097 (1.76)	-.0069 (1.94)	.0051 (1.21)	-.0012 (0.27)
Other race	.0061 (0.85)	.0186 (6.16)	.0122 (4.06)	.0172 (5.95)
Hispanic	-.0001 (0.07)	-.0145 (8.31)	.0134 (6.94)	-.0151 (8.66)
_cons	-.0040	.0086	.0033	.0426
Adjusted R^2	.0122	.0188	.0200	.0199
N	80,572	167,400	120,947	180,169

Notes: excluded categories age 18, never attended school, Alabama, employee, white non-Hispanic. Equations also include samples and controls for Puerto Rico, Guam and Virgin Islands and refusal variables for education, race and labor force status, results not reported. Equations also include year dummies. T-statistics in parentheses.

Source: BRFSS 1993-2022

Table 5. Anxiety in the UK, 2012-2021

	2012-2017	2018-2021	Age <25 2012-2017	Age <25 2018-2021
20-24	.3057 (10.13)	.4596 (8.36)		
25-29	.3947 (12.51)	.4442 (7.81)		
30-34	.5078 (16.21)	.4415 (7.85)		
35-39	.6048 (19.34)	.4777 (8.52)		
40-44	.7044 (22.67)	.5158 (9.18)		
45-49	.7784 (25.20)	.5445 (9.75)		
50-54	.8316 (26.95)	.5644 (10.16)		
55-59	.6994 (22.60)	.4443 (8.01)		
60-64	.2920 (9.38)	.1796 (3.23)		
65-69	-.1349 (4.30)	-.3164 (5.64)		
70-74	-.0099 (0.25)	-.1178 (1.80)		
75+	-.0239 (0.59)	-.1316 (1.99)		
17			.1478 (1.85)	.3725 (2.58)
18			.2239 (2.92)	.6059 (4.30)
19			.3204 (4.31)	.6505 (4.87)
20			.4289 (5.93)	.8424 (6.44)
21			.4917 (6.78)	.8872 (6.81)
22			.5162 (7.01)	.9675 (7.31)
23			.4796 (6.48)	.8440 (6.31)
24			.5531 (7.47)	.8846 (6.62)
Female	.2714 (45.67)	.4063 (43.15)	.3707 (5.01)	.6637 (14.71)
North-West	.0122 (0.83)	-.0586 (2.49)	.1037 (1.72)	-.2329 (2.05)
Merseyside	.1159 (5.46)	-.0066 (0.19)	.1352 (1.45)	-.1487 (0.83)
Yorks & Humber	.0319 (2.09)	.0082 (0.34)	.0578 (0.97)	.0941 (0.81)
East Midlands	-.0398 (2.27)	-.0260 (0.93)	.0784 (1.17)	.0434 (0.35)
West Midlands	-.1627 (10.47)	-.0607 (2.48)	-.2394 (3.78)	-.3052 (2.60)
Eastern	-.0230 (1.41)	-.0787 (3.06)	.1290 (1.85)	-.0833 (0.66)
London	.1931 (12.26)	.2003 (7.81)	.2650 (4.27)	.0239 (0.21)
South-East	-.0064 (0.46)	.0368 (1.62)	.2209 (3.80)	.2413 (2.21)
South-West	-.0335 (2.21)	-.0193 (0.81)	.1668 (2.68)	.0022 (0.02)
Wales	.0348 (2.46)	.0133 (0.59)	-.0070 (0.12)	-.0580 (0.53)
Scotland	-.1102 (8.01)	-.0866 (3.96)	.0383 (0.67)	-.0462 (0.44)
Northern Ireland	-.1904 (7.63)	-.1085 (3.41)	-.0335 (0.32)	-.2335 (1.51)
ALS 16 to 19	-.2653 (27.00)	-.2530 (14.03)	-.0852 (1.29)	-.1816 (1.26)
ALS 20 to 24	-.1993 (17.59)	-.1843 (9.28)	.0973 (1.36)	.0569 (0.37)
ALS 25 to 29	-.0621 (2.79)	.0000 (0.00)		
ALS 30+	-.1044 (1.90)	.0666 (0.94)		
Still in educ/never had	-.0504 (1.83)	-.0441 (0.91)	.2790 (4.08)	.1515 (1.04)
Not apply no answer	-.3234 (11.17)	-.5044 (12.23)	-.2053 (0.68)	-.2541 (0.60)
Employee	-.5324 (63.15)	-.6275 (45.45)	-.2736 (9.21)	-.4192 (7.63)
Self-employed	-.5090 (40.81)	-.6350 (31.79)	-.0597 (0.76)	-.4091 (2.93)
Government training	.4584 (6.96)	.4263 (2.43)	.2894 (2.03)	-.3065 (0.78)
Unpaid family worker	-.3011 (5.62)	-.2384 (2.78)	.2987 (1.13)	.3971 (0.94)
ILO unemployed	.0780 (4.43)	.0621 (1.81)	.0687 (1.64)	-.0302 (0.35)
Mixed	.1702 (4.60)	.1847 (3.31)	.2020 (2.18)	.0677 (0.43)
Indian	.0701 (3.06)	-.1292 (3.50)	-.1145 (1.36)	-.1567 (0.99)
Pakistani	.0215 (0.72)	-.1522 (3.26)	-.1069 (1.19)	-.2812 (1.87)
Bangladeshi	-.1087 (2.20)	-.4575 (5.76)	-.1056 (0.83)	-.8053 (3.75)
Chinese	-.2109 (4.36)	-.2768 (3.54)	-.1291 (1.30)	-.3147 (1.58)
Other Asian	-.0231 (0.64)	-.2362 (4.17)	-.1893 (1.73)	-.1974 (1.08)
Black	-.0930 (4.27)	-.2566 (7.45)	-.2220 (2.95)	-.5040 (3.94)
Other ethnic group	.0857 (2.92)	.0110 (0.24)	-.0036 (0.04)	-.0610 (0.39)
_con	2.8960	3.102	2.1807	2.3031
Adjusted R^2	.0158	.0188	.0123	.0266
N	960,297	378,582	52258	15,553

Notes: excluded 16-19 and 16 in columns 3-4; North East; Age left school 15 and under, white and out of the labor force.
Source: UK Annual Population Surveys

Table 6. Age distribution of % 'Distressed & struggling" across 34 countries, from the Global Mind Database

	Australia	Canada	France	Germany	India	Italy	NZ	Spain	UK	USA
18-24	.539	.499	.563	.532	.526	.291	.566	.514	.570	.475
25-34	.429	.419	.309	.319	.450	.144	.431	.408	.481	.357
35-44	.379	.334	.275	.309	.300	.155	.336	.345	.431	.305
45-54	.333	.273	.216	.295	.172	.173	.265	.249	.384	.276
55-64	.254	.187	.142	.258	.111	.131	.174	.158	.304	.185
65-74	.137	.090	.098	.132	.084	.095	.102	.081	.165	.091
75-84	.073	.046	.074	.112	.078	.072	.058	.065	.091	.046
85+	.058	.037	.081	.143	.045	.039	.067	.076	.108	.035
All	.307	.230	.210	.276	.315	.121	.241	.290	.355	.213

	Algeria	Angola	Argentina	Brazil	Chile	Colombia	Ecuador	Egypt	Guatemala	Iraq	Jordan	Mexico
18-24	.426	.401	.501	.618	.536	.522	.558	.485	.498	.465	.397	.539
25-34	.298	.261	.348	.434	.362	.360	.336	.381	.330	.328	.292	.396
35-44	.228	.202	.236	.367	.274	.255	.229	.276	.200	.239	.227	.258
45-54	.182	.198	.169	.287	.214	.165	.133	.191	.133	.161	.158	.160
55-64	.134	.157	.114	.193	.152	.118	.085	.131	.082	.122	.108	.093
65-74	.101	.125	.077	.124	.099	.079	.073	.093	.066	.102	.079	.076
75-84	.104	.273	.066	.105	.076	.070	.060	.075	.031	.156	.099	.075
85+	.235	.429	.089	.169	.075	.143	.231	.219	.056	.500	.083	.154
All	.243	.292	.190	.307	.180	.324	.237	.285	.213	.283	.212	.323

	Morocco	Nigeria	Pakistan	Paraguay	Peru	Philippines	SArabia	SAfrica	Tunisia	Uruguay	Venezuela	Yemen
18-24	.396	.403	.465	.452	.555	.370	.498	.564	.387	.432	.404	.360
25-34	.313	.218	.381	.318	.396	.311	.320	.438	.324	.279	.273	.300
35-44	.231	.139	.240	.193	.224	.201	.242	.339	.256	.181	.182	.227
45-54	.181	.095	.149	.145	.115	.109	.151	.288	.199	.148	.107	.158
55-64	.138	.078	.103	.100	.088	.074	.117	.200	.125	.122	.071	.146
65-74	.099	.077	.090	.079	.051	.062	.097	.115	.087	.086	.064	.085
75-84	.048	.093	.080	.080	.064	.079	.063	.069	.079	.085	.060	.077
85+	.105	.250	.108	.000	.200	.120	.143	.033	.034	.036	.125	.600
All	.230	.147	.238	.222	.285	.150	.251	.312	.206	.143	.175	.277

Table 7. Despair, fear and suicidality by gender for the young age<25 by 34 countries.

	Despair		Fear		Suicidality	
	Male	Female	Male	Female	Male	Female
Algeria	4.94	5.83	5.52	6.16	2.96	3.06
Angola	3.57	5.54	5.05	6.39	2.53	3.75
Argentina	4.94	6.20	5.53	6.62	3.82	4.88
Australia	5.68	6.70	5.86	6.85	4.17	5.06
Brazil	5.14	6.46	6.14	7.24	4.07	5.41
Canada	5.57	6.62	5.95	6.84	4.13	4.62
Chile	5.36	6.26	5.64	6.76	4.21	5.34
Colombia	5.07	6.36	5.68	6.69	4.13	4.97
Ecuador	4.96	6.34	5.73	6.74	4.22	5.24
Egypt	5.33	6.29	5.72	6.60	3.10	3.55
France	5.13	6.44	5.52	6.94	3.99	5.05
Germany	5.43	6.58	5.58	6.83	4.11	5.01
Guatemala	5.02	6.23	5.89	6.72	3.73	4.71
India	5.74	6.80	5.98	6.79	3.88	4.55
Iraq	5.24	6.12	5.51	6.34	3.23	3.52
Italy	4.73	5.79	5.41	6.54	2.75	3.20
Jordan	5.09	5.90	5.58	6.23	3.05	3.24
Mexico	5.07	6.20	5.64	6.66	3.97	5.02
Morocco	4.80	5.91	5.40	6.21	2.74	3.04
NewZealand	5.93	6.90	6.04	6.95	4.46	5.21
Nigeria	5.09	5.96	5.81	6.37	3.07	3.58
Pakistan	5.40	6.26	5.76	6.39	3.46	3.76
Paraguay	4.74	6.23	5.45	6.73	3.63	4.75
Peru	5.22	6.42	5.69	6.56	3.98	5.22
Philippines	4.91	5.72	5.62	6.20	3.63	4.19
SaudiArabia	5.02	5.99	5.47	6.14	2.97	3.70
SouthAfrica	5.86	7.01	6.21	7.15	4.11	4.91
Spain	5.07	6.45	5.46	6.87	3.48	4.51
Tunisia	4.89	5.75	5.53	6.09	2.82	3.29
nitedKingdom	5.83	6.88	5.97	6.87	4.44	5.14
UnitedStates	5.45	6.26	5.76	6.80	4.03	4.51
Uruguay	4.73	5.96	5.33	6.43	3.51	4.45
Venezuela	4.67	6.00	5.30	6.41	3.49	4.25
Yemen	4.75	5.90	5.43	6.13	2.51	2.86

Table 8. Negative affect regressions from Global Minds Database

	MHQ score	Distressed or struggling	Overwhelming feelings	Fear and Anxiety	Suicidal thoughts or intentions
Female	-9.1908 (73.84)	.0428 (54.68)	.6763 (134.40)	.5583 (120.47)	.1099 (24.06)
25-34	13.2437 (52.25)	-.0834 (52.27)	-.3510 (34.25)	-.1773 (18.80)	-.7287 (78.28)
35-44	31.4096 (121.10)	-.1755 (107.45)	-.9816 (93.61)	-.6452 (66.81)	-1.3150 (138.04)
45-54	47.7145 (186.07)	-.2487 (154.00)	-1.4906 (143.79)	-1.0481 (109.77)	-1.6334 (173.42)
55-64	62.2841 (239.69)	-.3071 (187.66)	-1.9587 (186.45)	-1.3927 (143.95)	-1.9044 (199.53)
65-74	73.9808 (235.56)	-.3550 (179.47)	-2.3507 (185.14)	-1.6886 (144.40)	-2.1341 (185.01)
75-84	84.3329 (208.44)	-.3924 (154.02)	-2.7536 (168.34)	-2.0205 (134.12)	-2.3550 (158.47)
85+	89.7413 (108.80)	-.4072 (78.39)	-3.0577 (91.69)	-2.2692 (73.89)	-2.5009 (82.55)
Primary	6.9196 (23.22)	-.0320 (17.10)	-.1175 (9.75)	-.0172 (1.56)	-.1556 (14.22)
Some high school	-6.0335 (20.22)	.0299 (15.91)	.1627 (13.49)	.1871 (16.84)	.0937 (8.55)
High school	8.7445 (11.86)	-.0353 (7.61)	-.1546 (5.19)	-.0647 (2.36)	-.1422 (5.25)
Vocational cert	14.1764 (17.71)	-.0430 (8.55)	-.3350 (10.35)	-.3275 (10.99)	-.0990 (3.37)
Bachelor’s	14.0395 (43.00)	-.0537 (26.16)	-.3027 (22.94)	-.1931 (15.89)	-.1975 (16.48)
Master’s	-1.8757 (4.91)	.0102 (4.26)	.0606 (3.92)	.1446 (10.16)	-.0090 (0.64)
JD	18.2981 (40.43)	-.0595 (20.88)	-.4143 (22.65)	-.3187 (18.91)	-.1906 (11.47)
MD	-12.6254 (27.69)	.0744 (25.93)	.2605 (14.14)	.2420 (14.26)	.4391 (26.23)
PHD	-20.5839 (43.58)	.1043 (35.07)	.4479 (23.46)	.3658 (20.80)	.3180 (18.33)
Other	-16.2951 (44.83)	.0820 (35.86)	.3771 (25.66)	.3128 (23.11)	.3094 (23.18)
Prefer not say	-.1430 (0.39)	.0037 (1.63)	.0453 (3.08)	.0784 (5.79)	-.0268 (2.01)
Homemaker	-7.7614 (34.13)	.0302 (21.11)	.2650 (28.83)	.1387 (16.38)	.0412 (4.94)
Unable to work	-49.1271 (118.71)	.2688 (103.14)	1.3017 (77.81)	.8871 (57.58)	1.2003 (78.97)
Retired	-3.7104 (16.70)	.0164 (11.75)	.0873 (9.72)	.0189 (2.29)	.0833 (10.22)
Student	-7.1063 (28.85)	.0350 (22.59)	.2404 (24.15)	.1343 14.64)	.2582 (28.54)
Unemployed	-22.1033 (97.20)	.1185 (82.77)	.7712 (83.90)	.4294 (50.72)	.6408 (76.73)
Angola	11.3471 (4.57)	-.0189 (-1.21)	-.9673 (9.64)	-.1407 (1.52)	.0619 (0.68)
Argentina	15.3753 (5.98)	-.0163 (1.01)	-.2956 (2.84)	-.0548 (0.57)	.5219 (5.53)
Australia	-4.5837 (1.77)	.0744 (4.56)	.2506 (2.39)	.3476 (3.60)	1.2224 (12.85)
Brazil	-4.0139 (1.56)	.0827 (5.10)	-.1171 (1.13)	.5341 (5.57)	.7542 (7.98)
Canada	3.5492 (1.37)	.0310 (1.91)	.0163 (0.16)	.3016 (3.14)	.9027 (9.51)
Chile	12.5844 (4.81)	.0060 (0.37)	-.2716 (2.57)	.0065 (0.07)	.6692 (6.97)

Colombia	14.0332 (4.43)	.0208 (1.04)	-.4147 (3.24)	-.0017 (0.01)	.8130 (6.99)
Ecuador	17.0121 (5.24)	.0107 (0.53)	-.5935 (4.52)	-.0207 (0.17)	.6648 (5.58)
Egypt	-3.7294 (1.17)	.0585 (2.91)	.1604 (1.24)	.2982 (2.51)	.1392 (1.19)
France	-5.1043 (1.59)	.0473 (2.34)	.0521 (0.40)	.4492 (3.77)	1.0799 (9.18)
Germany	-8.6927 (2.70)	.0781 (3.85)	.2310 (1.78)	.4978 (4.15)	.9719 (8.22)
Guatemala	21.2067 (6.57)	-.0169 (0.83)	-.7389 (5.66)	-.1182 (0.98)	.3612 (3.04)
India	-5.6772 (1.78)	.0890 (4.43)	.2904 (2.25)	.4630 (3.90)	.9475 (8.09)
Iraq	2.6455 (0.82)	.0195 (0.97)	-.0405 (0.31)	.0628 (0.53)	.0198 (0.17)
Italy	7.2453 (2.25)	.0004 (0.02)	-.2014 (1.55)	.4348 (3.62)	.4695 (3.97)
Jordan	12.1475 (3.78)	-.0097 (0.48)	-.2640 (2.03)	.0690 (0.58)	-.0626 (0.53)
Mexico	10.0830 (3.12)	.0510 (2.51)	-.5034 (3.85)	.0239 (0.20)	.7938 (6.68)
Morocco	5.1979 (1.59)	.0096 (0.47)	-.2189 (1.66)	.1035 (0.85)	-.0222 (0.19)
New Zealand	-.1151 (0.03)	.0543 (2.61)	.0256 (0.19)	.2921 (2.37)	1.0699 (8.82)
Nigeria	21.6766 (6.62)	-.0321 (1.56)	-.8825 (6.67)	-.1760 (1.44)	.1508 (1.25)
Pakistan	-3.2273 (0.99)	.0556 (2.71)	.1382 (1.05)	.2940 (2.42)	.5034 (4.20)
Paraguay	18.5107 (5.60)	-.0123 (0.59)	-.6544 (4.89)	-.1821 (1.48)	.5027 (4.14)
Peru	13.2277 (4.04)	.0235 (1.14)	-.4452 (3.36)	-.0406 (0.33)	.6891 (5.73)
Philippines	18.2206 (5.56)	-.0139 (0.68)	-.5112 (3.86)	.1254 (1.03)	.6480 (5.38)
Saudi	9.5631 (2.90)	.0096 (0.47)	-.3520 (2.64)	.0344 (0.28)	-.0310 (0.26)
South Africa	-5.3997 (1.65)	.0916 (4.46)	.3072 (2.33)	.6092 (5.01)	1.1682 (9.74)
Spain	1.1416 (0.35)	.0492 (2.40)	-.0311 (0.24)	.3611 (2.97)	.7109 (5.93)
Tunisia	-4.7080 (1.44)	.0463 (2.24)	-.0083 (0.06)	.2640 (2.16)	.3331 (2.77)
UK	-15.5786 (4.78)	.1342 (6.54)	.5925 (4.50)	.6919 (5.70)	1.3320 (11.13)
USA	6.1010 (1.87)	.0379 (1.85)	-.1271 (0.97)	.2355 (1.94)	.7355 (6.15)
Uruguay	20.2537 (6.07)	-.0346 (1.65)	-.5817 (4.31)	-.2465 (1.98)	.4206 (3.43)
Venezuela	24.1862 (7.36)	-.0392 (1.90)	-.6902 (5.20)	-.1305 (1.07)	.3201 (2.65)
Yemen	10.1733 (3.09)	-.0229 (1.11)	-.4495 (3.37)	-.0613 (0.50)	-.2990 (2.47)
_cons	35.9395	.3832	5.0947	5.6236	3.1199
Adjusted R^2	.2241	.1435	.1644	.1100	.1482
N	1203,932	1,203,932	1,203,931	1,203,931	1,203,931

Excluded: Algeria, 18-24, Associate degree, employed.

"Being scared or worried and experiencing feelings and sensations of nervousness or panic in your mind or body". "Thinking or feeling like you want to kill or physically harm yourself" "Experiencing overwhelming feelings of unhappiness, sorrow and hopelessness, or having spells of uncontrollable crying". 1 to 9 scale: 1 never causes me any problems: 5 sometimes causes me difficulties or distress but I can manage; 9=has a constant and severe impact on my ability to function

Table 9. Rankings of countries using Global Minds and World Happiness Report 2024 rankings

	MHR	Struggle	Despair	Fear	Suicidal	All	WHR
Algeria	22	10	23	11	5	15	24
Argentina	8	6	13	7	16	7	16
Australia	27	28	30	25	32	29	1
Brazil	26	30	19	31	23	27	15
Canada	19	19	24	24	26	23	3
Chile	11	12	14	12	19	13	12
Colombia	9	17	11	10	25	16	21
Ecuador	7	15	5	9	18	8	20
Egypt	25	27	28	23	7	22	32
France	29	22	26	28	30	28	9
Germany	32	29	29	30	28	30	6
Guatemala	3	5	2	5	11	4	14
India	31	31	31	29	27	31	31
Iraq	20	16	20	15	6	17	25
Italy	16	11	17	27	13	19	13
Jordan	12	9	15	16	2	9	30
Mexico	14	24	8	13	24	18	7
Morocco	18	13	16	17	4	14	27
New Zealand	23	25	25	21	29	26	2
Nigeria	2	3	1	3	8	1	26
Pakistan	24	26	27	22	15	25	28
Paraguay	5	8	4	2	14	5	18
Peru	10	18	10	8	20	12	19
Philippines	6	7	7	18	17	10	17
Saudi Arabia	15	14	12	14	3	11	10
South Africa	30	32	32	32	31	32	23
Spain	21	23	21	26	21	24	11
Tunisia	28	21	22	20	10	21	29
UK	33	33	33	33	33	33	4
Uruguay	17	20	18	19	22	20	8
USA	4	2	6	1	12	3	5
Venezuela	1	1	3	4	9	2	22
Yemen	13	4	9	6	1	6	33

Based on coefficients in Table 8 and WHR value is the ranking from Figure 2.1 in the 2024 Word Happiness Report

Appendix Table 1. Country observations in the Global Minds database by year

Country	2020	2021	2022	2023	2024	Total
Algeria	45,666					45,666
Angola	694	10,725				11,419
Argentina		60,234				60,234
Australia		24,665				24,665
Brazil		48,249				48,249
Canada		31,318				31,318
Chile		13,931				13,931
Colombia		1,206	41,046			42,252
Ecuador			10,278			10,278
Egypt			74,124			74,124
France			33,732			33,732
Germany			18,787			18,787
Guatemala			13,872			13,872
India			145,596			145,596
Iraq			25,773			25,773
Italy			16,770			16,770
Jordan			22,318			22,318
Mexico			12,570	65,951		78,521
Morocco				30,490		30,490
New Zealand				11,153		11,153
Nigeria				23,036		23,036
Pakistan				37,404		37,404
Paraguay				10,106		10,106
Peru				22,168		22,168
Philippines				19,996		19,996
Saudi Arabia				12,764		12,764
South Africa				33,350		33,350
Spain				37,377		37,377
Tunisia				19,161		19,161
UK				55,273		55,273
USA				62,620	35,501	98,121
Uruguay					10,061	10,061
Venezuela					53,170	53,170
Yemen					27,527	27,527
Total	46,360	190,328	414,866	440,849	126,259	1,218,662

Appendix Table 2. Age distribution of negative affect scores across 34 countries, from the Global Mind Database

a) MHQ score

	Australia	Canada	France	Germany	India	Italy	NZ	Spain	UK	USA
18-24	12	19	9	16	17	56	10	16	8	24
25-34	30	32	48	48	29	79	0	34	22	45
35-44	41	47	56	48	57	78	9	46	31	57
45-54	51	59	67	53	82	81	9	67	39	65
55-64	67	80	84	62	98	88	9	86	55	83
65-74	94	104	93	89	104	100	2	104	86	106
75-84	113	119	96	94	103	104	12	107	105	122
85+	122	119	94	85	108	108	11	99	103	127
All	58	74		60	92		70	60	48	80

	Algeria	Angola	Argentina	Brazil	Chile	Colombia	Ecuador	Egypt	Guatemala	Iraq	Jordan	Mexico
18-24	30	36	20	12	14	18	13	21	21	23	35	15
25-34	50	62	46	30	41	49	50	37	53	45	53	42
35-44	66	77	69	41	61	72	77	55	79	63	68	70
45-54	77	84	84	51	78	94	99	73	97	77	84	97
55-64	86	91	99	67	93	107	112	88	113	88	99	116
65-74	87	92	109	94	106	115	118	100	120	96	110	121
75-84	89	83	112	113	107	112	116	105	117	89	101	118
85+	63	79	107	122	112	97	68	70	99	40	79	106
All	64	58	83	62	87	60	79	56	81	56	73	62

	Morocco	Nigeria	Pakistan	Paraguay	Peru	Philippines	SArabia	SAfrica	Tunisia	Uruguay	Venezuela	Yemen
18-24	35	36	24	29	12	44	21	9	35	33	36	40
25-34	50	71	40	56	41	52	50	31	46	61	61	51
35-44	66	91	64	80	73	78	65	48	59	80	85	66
45-54	76	105	82	93	100	100	85	58	71	89	105	81
55-64	86	112	95	105	112	110	97	79	89	98	117	85
65-74	93	114	99	113	118	115	101	98	95	108	118	93
75-84	102	105	102	109	114	113	107	111	93	110	114	97
85+	75	85	92	90	96	100	96	118	106	118	98	31
All	66	92	67	77	67	92	66	56	70	93	89	56

b) Experience of distress

	Australia	Canada	France	Germany	India	Italy	NZ	Spain	UK	USA
18-24	6.39	6.27	6.14	6.22	6.42	5.30	6.57	6.05	6.52	6.03
25-34	5.67	5.81	4.93	5.17	5.98	4.40	5.73	5.68	6.10	5.36
35-44	5.26	5.25	4.65	4.90	4.95	4.15	4.94	5.23	5.72	4.88
45-54	4.92	4.79	4.38	4.78	4.12	3.94	4.70	4.55	5.41	4.62
55-64	4.45	4.07	3.89	4.47	3.53	3.78	4.00	3.84	4.86	4.03
65-74	3.68	3.30	3.64	3.68	3.21	3.34	3.27	3.28	3.92	3.27
75-84	3.08	2.74	3.39	3.46	3.14	3.16	3.08	3.09	3.31	2.68
85+	2.51	2.53	3.21	3.67	2.95	2.90	3.16	3.26	3.32	2.42
All	4.79	4.33	4.24	4.62	4.98	3.65	4.38	4.72	5.17	4.12

	Algeria	Angola	Argentina	Brazil	Chile	Colombia	Ecuador	Egypt	Guatemala	Iraq	Jordan	Mexico
18-24	5.55	4.75	5.74	5.96	5.92	5.90	5.91	5.97	5.71	5.83	5.66	5.81
25-34	5.04	4.14	5.24	5.35	5.32	5.19	5.02	5.51	4.85	5.33	5.22	5.09
35-44	4.47	3.72	4.59	4.95	4.62	4.48	4.15	4.94	4.08	4.80	4.63	4.25
45-54	4.11	3.45	4.15	4.39	4.31	3.77	3.55	4.48	3.50	4.26	4.15	3.50
55-64	3.84	3.33	3.70	3.75	3.77	3.29	3.10	3.92	3.00	3.91	3.55	2.89
65-74	3.60	3.23	3.33	3.20	3.31	2.97	2.84	3.49	2.70	3.66	3.23	2.69
75-84	3.41	3.55	3.15	2.99	3.18	2.96	2.74	3.23	2.83	3.67	3.02	2.70
85+	4.15	3.71	3.30	2.82	2.85	2.98	4.27	3.94	2.56	5.80	3.42	2.93
All	4.53	4.19	4.13	4.35	3.92	4.74	4.06	4.93	3.98	4.92	4.47	4.47

	Morocco	Nigeria	Pakistan	Paraguay	Peru	Philippines	SArabia	SAfrica	Tunisia	Uruguay	Venezuela	Yemen
18-24	5.57	5.71	6.07	5.50	6.01	5.49	5.79	6.67	5.50	5.40	5.43	5.39
25-34	5.12	4.57	5.71	4.86	5.27	5.38	5.05	5.96	5.12	4.63	4.95	4.98
35-44	4.53	3.67	4.78	4.06	4.45	4.46	4.53	5.24	4.69	4.05	4.09	4.32
45-54	4.17	3.07	4.10	3.56	3.55	3.64	3.96	4.83	4.24	3.82	3.43	3.78
55-64	3.82	2.72	3.58	3.23	3.16	3.13	3.51	4.18	3.71	3.53	3.01	3.59
65-74	3.43	2.55	3.28	2.93	2.85	2.82	3.31	3.55	3.38	3.16	2.87	3.20
75-84	3.12	2.56	3.20	2.92	2.98	2.60	3.21	3.11	3.19	2.83	2.89	3.38
85+	5.00	3.83	3.29	2.60	3.47	3.40	3.29	2.46	2.76	2.78	3.43	6.00
All	4.49	3.59	4.61	4.12	4.44	3.84	4.48	4.98	4.28	3.65	3.89	4.75

c) Fear and anxiety

	Australia	Canada	France	Germany	India	Italy	NZ	Spain	UK	USA
18-24	6.54	6.54	6.60	6.44	6.49	5.99	6.62	6.45	6.56	6.46
25-34	6.23	6.38	5.94	5.77	6.21	5.37	6.27	6.28	6.47	6.12
35-44	5.96	5.93	5.69	5.74	5.55	5.28	5.86	5.89	6.19	5.77
45-54	5.62	5.61	5.28	5.59	5.06	5.15	5.43	5.37	5.94	5.48
55-64	5.22	5.07	4.85	5.35	4.67	5.03	4.91	4.88	5.46	4.94
65-74	4.52	4.41	4.75	4.67	4.46	4.75	4.28	4.34	4.80	4.25
75-84	3.97	4.06	4.63	4.45	4.41	4.56	3.99	4.16	4.28	3.74
85+	3.59	3.92	0.50	4.82	4.46	4.40	4.10	4.26	4.48	3.53
All	5.42	5.21	5.20	5.41	5.58	4.93	5.13	5.49	5.70	4.98

	Algeria	Angola	Argentina	Brazil	Chile	Colombia	Ecuador	Egypt	Guatemala	Iraq	Jordan	Mexico
18-24	5.95	5.86	6.22	6.81	6.29	6.33	6.42	6.31	6.39	6.07	6.02	6.31
25-34	5.82	5.45	5.90	6.34	6.11	5.75	5.82	6.07	5.72	5.84	5.79	5.81
35-44	5.23	4.94	5.35	6.01	5.61	5.24	5.16	5.58	5.16	5.30	5.45	5.21
45-54	4.89	4.57	4.95	5.62	5.07	4.72	4.62	5.08	4.63	4.91	5.03	4.61
55-64	4.84	4.51	4.59	5.09	4.70	4.44	4.35	4.61	4.25	4.59	4.48	4.12
65-74	4.77	4.29	4.31	4.68	4.36	4.29	4.21	4.19	4.11	4.18	4.19	4.00
75-84	4.64	4.39	4.17	4.59	4.40	4.41	4.36	4.41	4.06	4.74	4.39	4.08
85+	4.91	4.86	4.08	5.01	4.13	4.69	5.46	4.84	4.56	4.30	4.17	4.21
All	5.30	5.38	4.95	5.56	4.84	5.47	5.07	5.50	5.04	5.40	5.25	5.33

	Morocco	Nigeria	Pakistan	Paraguay	Peru	Philippines	SArabia	SAfrica	Tunisia	Uruguay	Venezuela	Yemen
18-24	5.97	6.21	6.25	6.11	6.26	6.01	6.02	6.87	5.92	5.94	5.93	5.82
25-34	5.78	5.50	6.00	5.53	5.79	6.03	5.75	6.40	5.77	5.45	5.59	5.58
35-44	5.21	4.91	5.34	4.94	5.18	5.35	5.40	6.01	5.35	4.93	5.09	5.09
45-54	4.91	4.41	4.88	4.62	4.63	4.87	4.85	5.64	4.97	4.57	4.52	4.72
55-64	4.71	4.08	4.50	4.24	4.25	4.48	4.51	5.11	4.58	4.35	4.24	4.46
65-74	4.61	3.90	4.24	4.02	4.11	4.32	4.23	4.60	4.55	4.03	4.12	4.47
75-84	4.26	4.26	4.18	4.10	4.17	4.31	4.04	4.18	4.57	4.10	4.04	4.15
85+	4.37	3.75	4.74	3.80	4.22	5.12	2.71	3.97	4.62	3.65	4.62	4.60
All	5.22	4.78	5.23	4.99	5.19	4.98	5.24	5.70	5.06	4.49	4.86	5.39

d) Suicidal thoughts or intentions

	Australia	Canada	France	Germany	India	Italy	NZ	Spain	UK	USA
18-24	4.89	4.54	4.87	4.77	4.31	3.00	5.03	4.26	4.96	4.44
25-34	3.82	3.75	3.21	3.13	3.81	2.22	4.09	3.26	4.01	3.36
35-44	3.37	3.15	2.93	2.80	2.99	2.05	3.29	2.98	3.64	2.90
45-54	3.23	2.87	2.81	2.75	2.35	2.20	3.12	2.62	3.44	2.72
55-64	2.92	2.46	2.47	2.62	2.02	1.96	2.55	2.21	3.03	2.32
65-74	2.34	1.99	2.26	2.20	1.89	1.83	2.08	1.90	2.34	1.85
75-84	1.91	1.64	2.16	2.22	1.92	1.76	1.86	1.75	1.90	1.58
85+	1.68	1.59	2.12	2.20	1.72	1.42	1.81	1.94	1.89	1.45
All	3.26	2.75	2.84	2.87	3.13	1.96	2.95	2.90	3.39	2.57

	Algeria	Angola	Argentina	Brazil	Chile	Colombia	Ecuador	Egypt	Guatemala	Iraq	Jordan	Mexico
18-24	3.04	3.26	4.52	4.96	4.92	4.70	4.94	3.40	4.30	3.43	3.20	4.69
25-34	2.22	2.43	3.32	3.34	3.45	3.52	3.44	2.64	3.02	2.52	2.34	3.52
35-44	1.80	2.07	2.49	2.80	2.71	2.80	2.51	2.00	2.29	1.89	1.85	2.65
45-54	1.72	2.10	2.13	2.45	2.40	2.28	2.14	1.73	1.95	1.64	1.60	2.14
55-64	1.69	2.19	1.89	2.06	2.11	2.00	1.79	1.59	1.66	1.58	1.57	1.77
65-74	1.82	2.22	1.71	1.84	1.88	1.81	1.63	1.50	1.52	1.56	1.55	1.68
75-84	1.92	2.70	1.69	1.81	1.78	1.80	1.70	1.54	1.60	1.73	1.73	1.69
85+	1.82	2.14	1.87	2.09	1.88	2.07	3.12	2.34	1.83	4.00	2.83	2.06
All	2.05	2.65	2.37	2.63	2.32	3.35	2.77	2.21	2.43	2.34	1.95	3.21

	Morocco	Nigeria	Pakistan	Paraguay	Peru	Philippines	SArabia	SAfrica	Tunisia	Uruguay	Venezuela	Yemen
18-24	2.96	3.44	3.70	4.21	4.82	4.05	3.57	4.70	3.16	4.07	3.95	2.71
25-34	2.25	2.32	3.18	3.22	3.57	3.51	2.26	3.78	2.55	3.36	2.93	2.23
35-44	1.89	1.92	2.31	2.39	2.54	2.68	1.91	3.23	2.06	2.90	2.21	1.88
45-54	1.76	1.76	1.92	2.08	1.95	2.15	1.61	3.04	2.00	2.72	1.81	1.66
55-64	1.76	1.67	1.74	1.87	1.73	1.93	1.60	2.70	1.84	2.32	1.67	1.61
65-74	1.75	1.73	1.75	1.69	1.61	1.84	1.72	2.28	1.77	1.85	1.65	1.82
75-84	1.79	1.94	1.70	1.67	1.61	1.84	1.44	1.94	1.99	1.58	1.67	2.08
85+	2.63	3.17	1.77	1.80	2.44	2.56	1.57	1.62	1.52	1.45	2.32	4.00
All	2.03	2.01	2.42	2.62	3.03	2.43	2.13	3.22	2.09	2.14	2.32	2.18