National Worry and the Psychological Value of the Welfare State

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Abstract

This paper studies worry in industrialized society. The paper begins with data on 280,000 randomly sampled citizens in Western Europe between 2005 and 2022. We show that approximately 40% of these citizens now report high levels of worry. The percentage of people reporting extreme worry has increased at an underlying rate of almost 10 percentage points in the population in the last decade. A gradual secular rise in national worry was visible in the data before COVID, the invasion of Ukraine, and the conflict in Gaza. That finding implies that something foundational, and we believe not widely realised, appears to be happening within western society. In an appendix we extend our European analysis to the whole of the OECD. The paper's main constructive result is that part of the increase in national worry seems to occur when there are cuts in nations' social spending. This is suggestive of -- consistent with some earlier related evidence -- the potential importance of what might be called the psychological value of the welfare state.

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AJO states that LM should be assigned the majority of the credit for this paper.

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"Worry is the stomach's worst poison."

Statement attributed to Alfred Nobel

INTRODUCTION

This paper provides evidence that levels of worry are high and rising rapidly in Western Europe. It attempts to understand both the statistical predictors of worry at the personal level and also what explains aggregate movements in worry at the national level. A particular focus is on what might be termed the psychological value of the welfare state. In its supplementary material, which is available in the online Appendix, the analysis is extended to an examination of 28 OECD countries.

Economists have paid almost no scientific attention to the concept of 'national worry'. Yet we show below, in results that we believe are the first of their kind, that levels of worry seem to be systematically linked to a number of macroeconomic factors – especially the unemployment rate and the level of social spending in an economy. One important prior study should be mentioned here. At the microeconomic level, using German data, there is innovative recent work by Rohrer et al [1]. The authors study different forms of worry and find, among other results, that all kinds of worry seem to increase steadily with a person's age.

Unlike most wellbeing measures, worry has a special and important feature. It is about what might happen in the future. The APA Dictionary of Psychology defines worry "as a state of mental distress or agitation due to concern about an impending or anticipated event, threat, or danger." Thus worry and happiness (or life satisfaction), for example, are not necessarily closely correlated. In later data the Pearson correlation coefficient between happiness and worry within the OECD nations is small at -0.20.

There is a large cross-disciplinary literature on the empirical study of human wellbeing [2-21]. No previous work appears to offer the form of evidence set out later. However, two

important sub-field scientific traditions should be mentioned. One is a long line of work in psychiatry [22] on what would be viewed as a clinically serious level of worry, namely, the mental illness denoted Generalized Anxiety Disorder (GAD). Another is a recent literature on so-called climate anxiety [23-25]. Later analysis will only touch on the issues raised in the first of these two literatures, because the concern in the current paper is with worry in the population rather than with mental illness, but it will overlap with the second.

The paper's analysis is of general worry and is not a study of worry about a particular topic (fear of illness, fear of nuclear war, fear of job loss, etc). Recent work, notably, found that there is no 'finite pool' of worry inside a typical person [26].

The paper uses pooled annual cross-national data from the Gallup Organization, and in particular the question asked of randomly selected individuals is *"Did you experience the following feelings during a lot of the day yesterday?… Worry?"* where respondents could answer *Yes or No*. There will thus be no later use of cardinal scores of the sort in Likert Scales (which are open to some critics' claims that feelings cannot be reliably represented by a numerical scale). Instead, the key variables will be, at the individual level, whether a person answers yes or no to the question above, and, at the societal level, the aggregate percentage of the population who report that they worry. Here, we focus on the 14 Western European nations (N= 173,996).

The determinants of worry in modern society seems a foundational issue if the aim of researchers and policy-makers is to understand human progress and thereby to move decisively beyond information on indirect markers like Gross Domestic Product. As with other data on human feelings, it could be asserted that worry data are subjective and that linguistic usage might change, in a way that could lead to biased inferences, across long periods of time. We will work with data over no more than two decades. The trends in worry will be shown to vary across countries in a way inconsistent with simple claims of linguistic alteration across time.

BACKGROUND

In comparison to the cross-disciplinary literature that uses conventional gauges of wellbeing, such as levels of life satisfaction and happiness, the analysis of worry has not been common. Nevertheless, some prior research with versions of these Gallup data has been done. Jorm and Mulder [27] showed in cross-sectional analysis that worry levels tend to be lower in nations with high human development and effective government. Helliwell and Wang [28] demonstrated that worry levels are lower at weekends. Deaton and Arora [29] established that taller women tend to worry more. Stone et al. [30] and Blanchflower [11] documented a midlife peak in worry. Macchia and Oswald [31] argued that economic worry can lead to physical pain. Using US data, Kobayashi et al. [32] found no statistically significant effects from an expansion in health-care cover. Hagen et al. [33] concluded that high unemployment in a state of the US is associated with greater worry among citizens who live in that state. Kotakorpi and Laamanen [34] demonstrated that, by combining local-level data on public health care and individual-level data on life satisfaction, it is possible to show in data from the United States that relatively high expenditures in health care have a positive effect on individuals' life satisfaction.

Brodeur et al. [37] linked COVID-19 to various troubling behaviors. Other related work is Tay et al. [35], on the potentially harmful comparison effects of living in a rich society; Melios et al. [36], which examined the statistical determinants of exceptionally low wellbeing in 164 nations; and Daly and Macchia [6], which established that a measure of distress in 113 countries is going up through time.

Although worry *per se* is not studied by any of these authors, it is, in all three of the latter articles, a constituent that is bundled within an aggregated measure of misery or negative affect. Tay et al. and Melios et al. include a covariate for Gross Domestic Product (GDP) in

their regression equations, but beyond that neither Tay et al. nor Melios et al., nor Daly and Macchia, attempt to calculate the potential country-level determinants of their chosen aggregate measures of mental ill-being.

The single previous work that is perhaps closest in spirit to the current study -- although it does not use data on worry *per se* -- is recent research by Easterlin and O'Connor [12]. The authors offer evidence that patterns over time in European happiness scores are best explained by the countries' different welfare-state policies.

RESULTS

This section summarizes our findings for the West European nations. For background, a collection of supplementary kinds of material, largely for an OECD sample of countries, is given in the Appendix. Table A1, for example, reports the mean levels of worry for citizens of the rich European nations. Females report slightly higher worry than males, at approximately 35% of all women compared to 31% of men. The gap between the worry proportions for those with low and high education is large, at approximately 42% to 31%. A substantial difference, of six percentage points, is also found between those people who earn low and high income. Differences are comparatively small, however, for the married versus the non-married and for the employed versus the non-employed.

The first substantive result in this paper is depicted in Panel A of Figure 1. It reveals an upward trend in worry levels for this sample of 14 European nations from 2005 to 2022. The vertical axis is a percentage of citizens. Here the unadjusted gradient of the best-fitting line is approximately 0.5, with a small standard error, which implies that every two years another one percentage point of the population converts to the proportion of individuals who answer Yes to a question asking whether they worried for a lot of the time during the previous day. The upward trend line ends just below 40% of the population.

Panel A in Figure 1 may not be completely reliable because it is based on an unbalanced sample of nations (that is, some nations are necessarily missing for certain years) and it includes the presumably exceptional COVID-19 period of 2020-onwards. Panel B in Figure 1 therefore switches to the period 2010-2019. This makes it possible to work with a balanced sample of the same nations each year and it means that the underlying trend can be checked when the COVID-19 years are (deliberately) omitted. This is the time sample used in later regression equations. Panel A in Figure 1's gradient is steeper than in the earlier diagram at approximately 0.9, which implies that in each year just under one percentage point of the population converts to the proportion of individuals who answer Yes to a question asking whether they worried for a lot of the time during the previous day. However, it should be noted that it is not true that every country exhibits an increase in national worry. Table A2 in the Appendix shows that Finland, the Netherlands, Sweden and especially Spain have flat or declining levels through time.

Tables 1-3 provide fixed-effects regression equations that make it possible to explore in a longitudinal country panel the key patterns in the West European sample. The aim is to uncover the micro predictors of personal worry and to attempt at the macro level to probe the possible reasons for the upward trend through time in this group of nations. Initially, the regression equations in the first two columns of Table 1 include covariates for: reported gender, where the base reference category is Female; a set of 9 different age bands, where the base reference category is adults under age 25; employment status, where the base reference category is being full-time employed; the income quintile of the population in which the individual survey respondent's income lies, where the base reference category is being in the lowest quintile; the education level of the individual, where the base reference category is having only elementary education; the marital status of the individual, where the base reference

category is having never been married; a variable for having young children in the household; and a set of country and year dummy variables.

In its first two columns, Table 1 reveals systematic links between greater worry and those who are:

- female
- middle-aged
- unemployed
- employed part-time but wanting a full-time job
- on low income
- having only elementary education
- divorced and separated.

Some of these results are intuitively as expected. The largest estimated effect-sizes are, first, on being unemployed (approximately 15 percentage points) and, second, for the difference between being in the third rather than highest income quintile (approximately 11 percentage points). Having dependent children in Table 1 is associated with a marginally lower level of worry. There is no significant difference in worry between widowers and those who never married.

Could the changes in extreme worry in Europe be the result of movements in the macro-economy? Data are available through time, and across nations, so a longitudinal balanced-panel analysis is feasible here.

The third column of Table 1, which we believe offers the first estimates of their type in the research literature, introduces three variables of an economic kind: the national unemployment rate, GDP, and the rate of inflation. The rate of unemployment enters with a statistically significant positive coefficient of 0.556. That number implies that an increase in the unemployment rate of one percentage point is associated with a half percentage point rise

in those reporting high levels of worry. The GDP variable has a very large standard error. Inflation is positive in the regression equation and on the border of conventional statistical significance. Hence macroeconomic forces, although not GDP, apparently matter for cross-national worry levels. It should be noted that in Table 1 there is evidence -- because the equation includes a variable for personal unemployment -- that the unemployment rate in a country must correlate with citizens' worries in some kind of background or subconscious way. In a labour-market downturn, it is apparently not just the unemployed themselves who worry.

Interestingly, the inclusion in the formal analysis of people's personal characteristics and the three macroeconomic variables does not greatly alter Panel B in Figure 1's time trend (of 0.871) that is found in the raw unadjusted data. The time trend in Panel A in Figure 2, which gives an adjusted time-gradient estimate using the equation in column 3 of Table 1, is 0.736. The fact that this number lies below 0.871 implies that the additional variables have reduced (although only slightly) the extent of the unexplained upward trend in European worry. This is, in part, because unemployment and inflation levels in some countries declined through the decade, so that may have helped to moderate the unadjusted observed trend in worry through time. In passing, it should be mentioned that the secular trend in the reporting of high levels of worry also cannot be explained by the existence of an ageing population (because older people tend in the data to report a comparatively low degree of worry).

As background, it should be recorded that on average in Western Europe (i) GDP has trended upwards over the period, (ii) inflation and unemployment rates have both trended down, and (iii) social spending levels have run approximately flat.

Influenced by sources such as Easterlin and O'Connor [12], which argued that recent differences among European countries in happiness have been due to the differences in the generosity of their welfare states, the specifications in Table 2 explore whether national worry might be associated with the extent of social spending and government-spending policies. One

previous study is potentially consistent with that. Di Tella et al. [9] found in a country panel that the happiness of nations was longitudinally linked to the generosity of a nation's unemployment-benefit system. The current paper also explores whether the growth of the internet could have played a role in the pattern of worry through time -- perhaps by raising stress levels or alternatively in a positive way by improving communication.

Table 2 contains a noteworthy result. In the second column of Table 2, a variable for social spending, which is defined here as the proportion of GDP that goes on national spending for social purposes, enters strongly and with a positive sign and small standard error. Here we are using a measure constructed by the OECD. The OECD describes the makeup of the variable in the following way (for precision, the later sentences are taken verbatim from the OECD description): Social expenditure comprises cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes. Benefits may be targeted at low-income households, the elderly, disabled, sick, unemployed, or young persons. To be considered "social", programmes have to involve either redistribution of resources across households or compulsory participation. Social benefits are classified as public when general government (that is central, state, and local governments, including social security funds) controls the relevant financial flows. All social benefits not provided by general government are considered private. Private transfers between households are not considered as "social" and not included. Net total social expenditure includes both public and private expenditure. It also accounts for the effect of the tax system by direct and indirect taxation and by tax breaks for social purposes. This indicator is measured as a percentage of GDP.

Neither government spending nor the variable for the percentage of internet users plays a statistically significant role in Table 2.

The estimate on the coefficient on social spending in the second column of Table 2 is -1.803. That implies a substantial estimated effect-size. A one percentage point rise in the

proportion of GDP going on social spending is associated in the data with a drop of almost two percentage points in the proportion of the population who say they experience a lot of worry.

Such a finding is potentially consistent with the existence of an influential role for the welfare state (that is, social spending may be a force that diminishes citizens' fears in society). To anticipate different possible interpretations of this statistical result, three points are relevant. First, the national unemployment rate is effectively held constant in the regression equations of Table 2, so the coefficient on social spending is not merely erroneously standing in for the role of business-cycle movements. Second, an estimate of -1.803 of this sort cannot easily be ascribed to standard forms of simultaneity bias. If citizens worried a lot as they entered hard times, where they felt they were relying more and more on social spending, then the opposite sign would be expected: worry and social spending would be positively correlated. Third, if the equation is re-estimated and the social spending variable is instead lagged by either one or two years then, encouragingly, it continues to enter with a positive and statistically significant coefficient. Hence reductions in social spending are followed by later worsening levels of worry. This is shown in Table 3.

Are different age-groups in the population affected in the same or in different ways by alterations in social spending? Table 4 offers evidence on that issue. It reveals that older age-groups are more greatly affected -- though the equation for the youngest group in Table 4 continues to have a negative coefficient -- by the amount of social spending in a country. One possibility is that the young depend intrinsically less on the state, and on particular parts of the public sector, including less on healthcare provision.

Panel B in Figure 2 demonstrates that, after adjustment for social spending, the time trend in national worry is 1.101. This can be compared with the trend of 0.736 in Panel A in Figure 2 (adjusted, but not for social spending) and of 0.871 in Panel B in Figure 1 (unadjusted). It may be scientifically prudent to view these cautiously as being all estimates of approximately

a unit gradient of 1.0. That is, as each year passes, on average an additional one percentage point of the population moves into the extreme-worry category.

The social-spending finding therefore does not alter the fact that in an underlying sense there remains an intrinsic upward trend in levels of worry within the rich European nations. If anything, the finding might be said to sharpen that conclusion, because 0.736 lies below 1.101. The difference in estimates is consistent with the idea that social spending has helped to reduce the observed upward trend below the implied raw trend. It acts to ameliorate some of the impact of whatever is driving rich, safe citizens through time to worry about the future.

A further possibility is that climate-change concern is what is increasingly troubling the citizens of Western Europe. The first way to probe that hypothesis is to look at the baseline temperatures in different countries to see if hotter places go on to have an inherently faster incline in the rate of reporting of high levels of worry through time – as they are likely to be worst-affected. Figure A1 in the supplementary material in the Appendix can uncover little empirical support for that idea; the correlation is negligible.

A more complex and appropriate kind of check is offered in Tables A5a, A5b in the Appendix. Here the first key independent variable is the annual temperature 'anomaly', namely, the extent of the size divergence of above normal temperature in that country (we use a measure produced by the University of California, Berkeley). Nevertheless, Table A5a does not find that such a variable, even if lagged and averaged over recent years, works in a statistically persuasive way. There is even a hint of a positive effect-size in the first column of Table A5a. Table A5b is similar in its null implications but uses a hot-days measure as an alternative independent variable. A study of a different kind also recently failed to find clear effects [38].

Finally, Table A6 in the Appendix exploits a little-known survey question that was asked by Gallup in the year 2010 (although not in any other year): *"Temperature rise is a part*

of global warming or climate change. Do you think rising temperatures are: A result of human activities or A result of natural causes or Both?" For the single year of 2010, therefore, it is possible to estimate a worry equation in which answers to this question can be entered as an independent variable. It can be seen in Table A6 that believing in human-made climate change is associated with statistically higher levels of worry. The effect-size is not large (at approximately 2 extra percentage points) but it appears, in the second column of Table A6, to be robust to the inclusion of many other independent variables. Such a finding, which we believe is a new one not known to researchers, has the scientific advantage that the survey worry question is asked first and does not directly 'prime' a survey respondent to think about their potential fears over the altering climate.

CONCLUSIONS

This paper studies 'national worry' and presents new evidence on a potentially important but rarely considered psychological aspect of the welfare state.

The paper begins by showing that large numbers of citizens in Western Europe suffer from high, and apparently steadily rising, levels of worry. These nations are arguably among the most prosperous and safest in history. That makes the phenomenon documented in this paper a perplexing and troubling one. The worry time-trend is substantial and predates the influence of the COVID pandemic period. Similar patterns hold true of the OECD as a whole (those results are given in the Appendix), although the overall rate of increase is slightly slower.

Perhaps the key finding from the regression-analysis section of the paper is that reductions in social spending are a statistical predictor of contemporaneous and future rises in national worry levels. This form of evidence is correlational. Its strengths and weaknesses should therefore be borne carefully in mind. It is consistent, however, with the kinds of arguments put forward by Easterlin and O'Connor [12], and an early article by Di Tella et al. [9], who show in European data that changes in the generosity of welfare state programs help

statistically to explain the observed changes in national happiness. This part of the paper's results might also be viewed as intuitive. The ideas sit naturally with the notion that the welfare state helps reduce background 'fear' among a society's citizens by providing backstop insurance against disability, joblessness, ill health, and threat of crime, among others.

Economic forces matter in other ways. There is a strong connection in our data between extreme worry and the state of the economy. Both the unemployment rate and the inflation rate enter with a positive sign in nations' worry equations. It seems possible that there are also profound links between national worry and national levels of 'hope', as in Carol Graham's recent work [39], but we have been unable to explore them here. The broad vision that lies behind much of this paper's analysis is that -- as proposed in the UK by William Beveridge in the early formation of the modern welfare state and in recent writings in political science such as [40] -- the state can act as an insurer against individual risk.

Despite the discovery of these empirical patterns, it has not been possible to establish what is causing the underlying annual increases in the amount of worry in industrialized countries. We have not found evidence that it is due to concerns over climate change (which had been one hypothesis in our minds), although in Table A6 in the Appendix we document a new and potentially valuable result about a cross-sectional link, in earlier data, between general worry and belief in anthropogenic climate change. Nor could we find discernible evidence of a connection between national worry and the growth of the internet. Nor can the secular trend in extreme worry be explained by an ageing population: the old report comparatively low levels of worry.

These issues are central to the future of modern society. We believe they demand further attention from researchers.

DATA AND METHODS ARE DISCUSSED BELOW

DATA AND METHODS

The Gallup World Poll (GWP) is a nationally representative, cross-sectional dataset with data from 168 countries and territories from years covering 2005 to 2022. This allows the construction of a longitudinal, but unbalanced, panel of nations. To make the comparison of worry across years more robust, we decided not to work with an unbalanced panel of countries in which certain nations appeared in some years and not in others.

Hence, we created a balanced panel with all the countries (14 in the case of Western Europe) that had relevant information in every recent year. For two reasons, the statistical analysis focuses mainly on data from 2010 to 2019. This is because, first, the number of available countries is significantly smaller before 2010 and, second, because the unusual pandemic of COVID-19 struck the world after 2019. Our main dataset for Western Europe is for: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom (N =173,996). These nations have the analytical advantage, for our purpose, that they are fairly homogenous in their economic characteristics and cultures. Nevertheless, the Appendix generalizes the analysis to 28 OECD countries of a more heterogeneous kind from 2010 to 2019 (N = 313,359). The data set used for that is thus larger. It includes the following: Austria, Belgium, Canada, Colombia, Costa Rica, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, South Korea, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, United Kingdom, United States. Gallup interviews around 1,000 individuals in each country every year. In countries where telephone coverage represents at least 80% of the population, telephone surveys are conducted.

In this paper's formal analysis we make particular use of the following variables.

Worry. The GWP asked respondents "Did you experience the following feelings during A LOT OF THE DAY yesterday? How about Worry?" and could answer Yes or No. This variable was multiplied by 100 to represent the percentage of people reporting of worry.

Demographic variables. The GWP also provides respondent's demographic characteristics including age, gender, employment status, level of education, marital status, income quintiles, and number of children under 15 in the household.

Government spending (% of GDP). This variable indicates the size of government across countries by highlighting the variety of countries' approaches to delivering public goods and services and providing social protection. This variable was retrieved from the OECD database (https://data.oecd.org).

Social spending (% of GDP). This variable includes cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes and it was also retrieved from the OECD database (https://data.oecd.org).

Internet users (% of population). This variable indicates the percentage of individuals using the internet in each country and year. This indicator was retrieved from the World Bank database (https://data.worldbank.org).

Macroeconomic indicators. The World Bank database also contains the macroeconomic indicators used in later analyses including the unemployment rate (%), the inflation rate (%) and the log of Gross Domestic Product per capita.

Terrestrial air temperature (°C). A measure of gridded terrestrial air temperature was adapted from Willmott-Matsuura data to represent the average temperature in each country and year: https://climatedataguide.ucar.edu/climate-data/global-land-precipitation-and-temperature-willmott-matsuura-university-delaware. The average temperature in the three years prior to the start of our period of analyses, 2010, was used in later analyses.

Global warming. The GWP asked respondents "Temperature rise is a part of global warming or climate change. Do you think rising temperatures are (1) A result of human activities, (2) A result of natural causes, or (3) Both?" We combined categories 1 and 3 into a single category that represents whether people believed that global warming was caused by humans in whole or in part. The second category, 'A result of natural causes', was the reference category in later analyses.

Temperature anomalies. This variable indicates the size of the air temperature anomaly -- the level reached above the historical average -- in each country and year and was obtained from Berkeley Earth by special request from us (https://berkeleyearth.org/data/). The supplementary Appendix includes a further check using a variable for Number of Hot Days.

We used fixed-effect Ordinary Least Squares (OLS) regressions with, in some specifications, a linear term indicating the survey year as the independent variable. The regressions clustered the standard errors at the year level. Similarly, the link between worry and macroeconomic indicators, social spending, air temperature, temperature anomalies, and the percentage of people using the internet, is studied with standard regression equations. These models also included controls for country and year fixed effects, to account for unobserved country-specific and time-specific aspects that could influence worry, as well as controls for respondents' personal and demographic characteristics.

In the fixed-effect models, which are an equivalent alternative to multi-level modelling, we clustered the standard errors at the country-year level to account for the different level of aggregation between the dependent variable, which is worry as measured for each individual, and the independent variables, as measured in each country in each year. The result is a statistical approach that corresponds to the longitudinal analysis of a panel of nations.

The interrelationship between worry and perceptions about global warming -- using temperature ‘anomaly’ data -- was also examined by estimating OLS regressions with country-year fixed effects and demographic characteristics as covariates.

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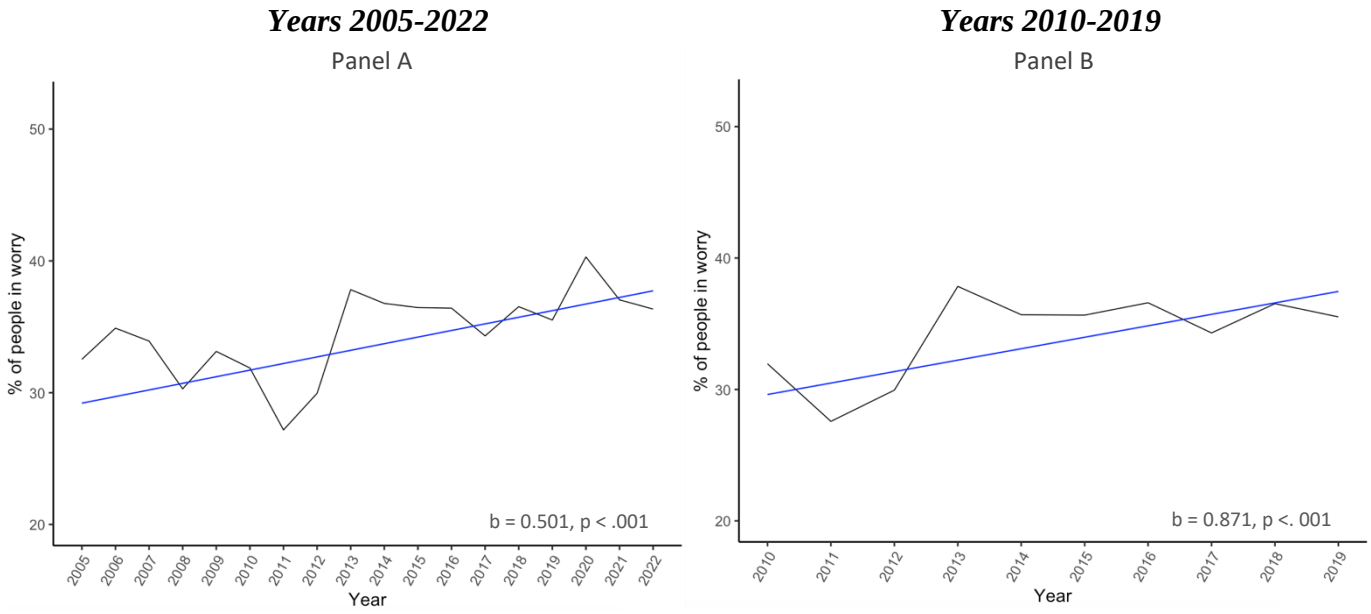
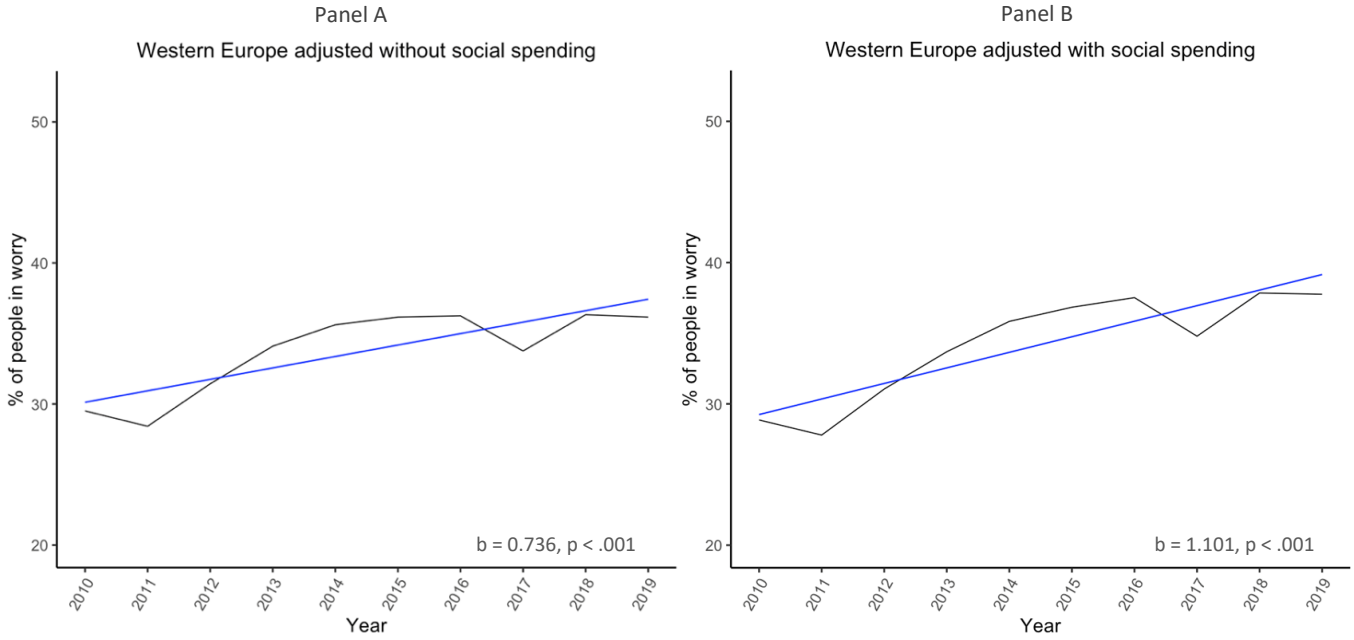
Data and materials availability: The Gallup World Poll data belong to Gallup, Inc. For more information, see: https://www.gallup.com/analytics/318875/global-research.aspx. Scripts for analyses are available through the Open Science Framework (OSF) https://osf.io/ac596/?view_only=087bd96ac9d54123a83936e97d47c820

Figure 1. The Upward Trend in Extreme Levels of Worry, Western Europe, 2005-2022 (Panel A) and 2010-2019 (Panel B).



Panel A: Sample size was 288,262. Panel B: Sample size was 173,996. These are simple plots of the raw means in the data set. Standard errors were clustered at the year level (as there is only a single variable). Wording of the worry question: *Did you experience the following ... during A LOT OF THE DAY yesterday? How about ... Worry? Yes/no.* This measure was multiplied by 100 to represent the percentage of people reporting high levels of worry. 14 Western European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

Figure 2. Extreme-Worry Trend after Adjustment for Macroeconomic Variables (Panel A), and for Macroeconomic Variables and Social Spending (Panel B), Western Europe, both panels here are for 2010-2019.



Panel A: Sample size was 173,996. The graph depicts the time trend adjusted for gender, age bands, employment status, income quintiles, level of education, marital status, number of children under 15 in the household, log of GDP per capita, unemployment rate, inflation rate, and country fixed effects. Standard errors were clustered at the country-year level (as there are multiple independent variables). This is based on regression 3 in Table 1. Panel B: 173,996. The graph depicts the time trend adjusted for gender, age bands, employment status, income quintiles, level of education, marital status, number of children under 15 in the household, Social Spending, log of GDP per capita, unemployment rate, inflation rate, and country fixed effects. Standard errors were clustered at the country-year level (as there are multiple independent variables). This is based on regression 2 in Table 2. Wording of the worry question: *Did you experience the following ... during A LOT OF THE DAY yesterday? How about ... Worry? Yes/no*. This measure was multiplied by 100 to represent the percentage of people reporting high levels of worry. 14 Western European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom. This is based on regression 3 in Table 2.

It is not possible to do this calculation for the full period 2005-2022.

TABLE 1. Extreme-Worry Equations, Western Europe, 2010-2019.

	Dependent variable: % of people reporting high levels of worry		
	(1)	(2)	(3)
Unemployment rate	-	-	0.556**
			(0.267)
Log of GDP per capita	-	-	4.771
			(8.744)
Inflation rate	-	-	1.142*
			(0.588)
Male	-4.560***	-3.616***	-3.629***
	(0.221)	(0.225)	(0.301)
Age band *(Ref.: 15-24 years old)*			
25-34	4.068***	7.734***	7.702***
	(0.474)	(0.502)	(0.585)
35-44	4.526***	8.870***	8.846***
	(0.449)	(0.511)	(0.638)
45-54	4.593***	8.759***	8.729***
	(0.439)	(0.507)	(0.700)
55-64	0.856*	4.693***	4.650***
	(0.442)	(0.519)	(0.806)
65-74	-3.750***	-1.111**	-1.168
	(0.458)	(0.557)	(1.042)
75-84	-3.321***	-1.593**	-1.657
	(0.565)	(0.668)	(1.139)
85-94	-4.338***	-3.047***	-3.077**
	(1.082)	(1.154)	(1.481)
95-100	-0.006	2.536	2.497
	(1.731)	(1.736)	(1.930)
Employment Status *(Ref.: Employed full-time for an employer)*			
Employed full-time for self	-	3.631***	3.652***
		(0.466)	(0.542)
Employed part-time want full-time	-	7.270***	7.289***
		(0.534)	(0.624)
Employed part-time do not want full-time	-	0.405	0.428
		(0.423)	(0.604)
Unemployed	-	15.085***	15.002***
		(0.576)	(0.731)
Out of workforce	-	3.931***	3.945***
		(0.320)	(0.436)
Income quintile *(Ref.: Bottom 20%)*			
Second 20%	-	4.062***	3.903**
		(1.413)	(1.768)
Third 20%	-	6.085***	5.947***
		(1.069)	(1.180)
Fourth 20%	-	1.533	1.536
		(0.993)	(1.189)

Top 20%	-	-5.182***	-5.157***
		(0.981)	(1.286)
Level of education *(Ref.: Elementary)*			
Secondary		-1.973***	-1.927***
	-	(0.399)	(0.510)
Tertiary		-1.948***	-1.888***
	-	(0.439)	(0.592)
Marital status *(Ref.: Single/never married)*			
Domestic partner	-	-0.046	-0.023
		(0.460)	(0.540)
Married	-	-2.165***	-2.171***
		(0.334)	(0.442)
Separated	-	7.769***	7.756***
		(0.809)	(0.908)
Divorced	-	4.211***	4.232***
		(0.504)	(0.480)
Widowed	-	0.559	0.557
		(0.535)	(0.706)
Children under 15 in the household	-	-0.508***	-0.509***
		(0.150)	(0.193)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	22.128***	21.585***	-35.455
	(0.653)	(1.235)	(95.595)
N	173,996	173,996	173,996
R^2	0.053	0.067	0.068

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. These are fixed-effects equations that exploit the longitudinal structure of the country panel. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses.
Mean (sd) % of people reporting high levels of worry = 32.98 (47.02).
14 Western European countries included in all models.
Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

TABLE 2. Extreme Worry, Government Spending, Social Spending, and Internet Users Percent, Western Europe, 2010-2019.

	Dependent variable: % of people reporting high levels of worry		
	(1)	(2)	(3)
Government spending	-0.241	-	-
	(0.282)		
Social spending	-	-1.803***	-
		(0.600)	
Internet users	-	-	0.132
			(0.122)
Unemployment rate	0.631*	0.639**	0.719**
	(0.336)	(0.322)	(0.318)
Log of GDP per capita	-3.407	-36.850	7.003
	(36.912)	(37.271)	(9.096)
Inflation rate	1.313*	1.241**	1.281**
	(0.676)	(0.614)	(0.597)
Personal characteristics	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	65.531	466.655	-70.886
	(408.946)	(416.035)	(102.190)
N	164,127	164,127	173,996
R^2	0.070	0.070	0.068

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.

Personal characteristics: Gender, age bands, employment status, income quintiles, level of education, marital status, number of children under 15 in the household. Full models can be found in Table A3.

Mean (sd) % of people reporting high levels of worry = 32.98 (47.02).

Columns 1 and 2 include the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

Column 3 includes all 14 Western countries.

Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

Government spending (% of GDP) indicates the size of government across countries by highlighting the variety of countries' approaches to delivering public goods and services and providing social protection. Mean= 48.32, Std. Dev.= 4.76.

Social spending (% of GDP) includes cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes. Mean= 25.33, Std. Dev.= 3.53.

Internet users indicates the percentage of individuals using the internet in each country and year. Mean= 83.13, Std. Dev.= 10.14.

TABLE 3. Worry and Lags of Social Spending, Western Europe, 2010-2019.

	Dependent variable: % of people reporting high levels of worry		
	(1)	(2)	(3)
Social spending at t	-	-	-1.537*
			(0.859)
Social spending at t-1	-1.465**	-	-0.224
	(0.602)		(1.200)
Social spending at t-2	-	-0.851*	-0.170
		(0.475)	(0.750)
Unemployment rate	0.799**	0.690**	0.684**
	(0.319)	(0.324)	(0.330)
Log of GDP per capita	-17.010	-2.896	-35.674
	(36.173)	(34.215)	(37.310)
Inflation rate	0.963	0.978	1.151*
	(0.655)	(0.665)	(0.624)
Personal characteristics	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	241.447	69.527	457.033
	(402.338)	(376.830)	(417.303)
N	164,127	164,127	164,127
R^2	0.070	0.070	0.070

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.

Personal characteristics: Gender, age bands, employment status, income quintiles, level of education, marital status, number of children under 15 in the household. Full models can be found in Table A4.

Mean (sd) % of people reporting high levels of worry = 33.15 (47.07).

Models include the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

Social spending (% of GDP) includes cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes.

TABLE 4. Worry and Social Spending in Age Subsamples, Western Europe, 2010-2019.

	Dependent variable: % of people reporting high levels of worry		
	Age under 40	40 to 60	Over 60
	(1)	(2)	(3)
Social spending at t	-1.055	-1.306**	-2.798***
	(0.660)	(0.633)	(0.944)
Unemployment rate	0.885**	0.430	0.542
	(0.399)	(0.431)	(0.424)
Log of GDP per capita	18.110	-55.212	-65.952
	(43.016)	(39.127)	(45.837)
Inflation rate	0.657	1.816**	1.025
	(0.760)	(0.786)	(0.780)
Personal characteristics	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	-150.074	658.464	817.130
	(480.699)	(435.465)	(514.228)
N	47,892	61,771	54,464
R^2	0.050	0.075	0.079

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.
Personal characteristics: Gender, employment status, income quintiles, level of education, marital status, number of children under 15 in the household. Full models can be found in Table A4.
Models include the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.
Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*
Social spending (% of GDP) includes cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes.

APPENDIX WITH SUPPLEMENTARY INFORMATION – FOR ONLINE ONLY

Lucía Macchia, Andrew J Oswald

Tables and Figures

APPENDIX TABLES

TABLE A1. Means of Extreme Worry Across Demographic Groups, Western Europe, 2010-2019.

	% of people reporting high levels of worry
Men	30.56
Women	35.06
Low education	41.71
High education	30.71
Bottom income quintile	35.29
Top income quintile	28.63
Employed	32.56
Unemployed	33.55
Married	32.19
Non-married	34.12

Note: Low education: Elementary education. High education: Tertiary education. Employed: Employed full time for an employer, employed full time for self, employed part time want full time, employed part time do not want full time. Unemployed: Unemployed and out of workforce. Married: Domestic partner, married. Non-married: Single/never been married, separated, divorced, widowed.

Wording of the worry question: *Did you experience the following ... during A LOT OF THE DAY yesterday? How about ... Worry? Yes/no.* This measure was multiplied by 100 to represent the percentage of people reporting high levels of worry. 14 Western European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

TABLE A2. Time trend reporting high levels of worry by country, Western Europe, 2010-2019.

Country	Worry trend
Austria	0.755
Belgium	0.809
Denmark	0.487
Finland	-0.520
France	0.566
Germany	0.946
Ireland	0.321
Italy	0.273
Luxembourg	0.349
Netherlands	-0.365
Portugal	0.770
Spain	-1.143
Sweden	-0.107
United Kingdom	1.564

TABLE A3. Extreme Worry, Government Spending, Social Spending, and Internet Users Percent, Western Europe, 2010-2019. Full models.

	Dependent variable: % of people reporting high levels of worry		
	(1)	(2)	(3)
Government spending	-0.241	-	-
	(0.282)		
Social spending	-	-1.803***	-
		(0.600)	
Internet users	-	-	0.132
			(0.122)
Unemployment rate	0.631*	0.639**	0.719**
	(0.336)	(0.322)	(0.318)
Log of GDP per capita	-3.407	-36.850	7.003
	(36.912)	(37.271)	(9.096)
Inflation rate	1.313*	1.241**	1.281**
	(0.676)	(0.614)	(0.597)
Male	-3.718***	-3.707***	-3.633***
	(0.317)	(0.316)	(0.302)
Age band *(Ref.: 15-24 years old)*			
25-34	7.703***	7.717***	7.709***
	(0.609)	(0.610)	(0.586)
35-44	9.053***	9.086***	8.844***
	(0.668)	(0.671)	(0.637)
45-54	8.837***	8.887***	8.723***
	(0.737)	(0.742)	(0.699)
55-64	4.798***	4.854***	4.642***
	(0.848)	(0.850)	(0.805)
65-74	-0.936	-0.841	-1.161
	(1.101)	(1.103)	(1.040)
75-84	-1.406	-1.293	-1.645
	(1.188)	(1.182)	(1.137)
85-94	-2.902*	-2.777*	-3.046**
	(1.515)	(1.513)	(1.486)
95-100	2.237	2.520	2.546
	(2.054)	(2.050)	(1.916)
Employment Status *(Ref.: Employed full-time for an employer)*			
Employed full-time for self	3.743***	3.714***	3.654***
	(0.578)	(0.576)	(0.543)
Employed part-time want full-time	7.187***	7.157***	7.273***
	(0.663)	(0.662)	(0.624)
Employed part-time do not want full-time	0.554	0.581	0.433
	(0.637)	(0.633)	(0.606)
Unemployed	14.899***	14.872***	15.000***
	(0.763)	(0.763)	(0.731)
Out of workforce	3.832***	3.817***	3.960***
	(0.453)	(0.451)	(0.437)

Income quintile *(Ref.: Bottom 20%)*			
Second 20%	3.189*	3.144*	3.928**
	(1.858)	(1.850)	(1.773)
Third 20%	5.642***	5.581***	5.990***
	(1.254)	(1.257)	(1.180)
Fourth 20%	1.205	1.121	1.558
	(1.277)	(1.278)	(1.192)
Top 20%	-5.418***	-5.511***	-5.142***
	(1.394)	(1.394)	(1.288)
Level of education *(Ref.: Elementary)*			
Secondary	-1.959***	-1.915***	-1.962***
	(0.523)	(0.524)	(0.510)
Tertiary	-1.894***	-1.900***	-1.916***
	(0.607)	(0.609)	(0.593)
Marital status *(Ref.: Single/never married)*			
Domestic partner	-0.028	-0.005	-0.033
	(0.555)	(0.555)	(0.541)
Married	-2.241***	-2.258***	-2.171***
	(0.465)	(0.465)	(0.442)
Separated	7.984***	7.972***	7.746***
	(0.951)	(0.951)	(0.910)
Divorced	4.161***	4.184***	4.215***
	(0.494)	(0.491)	(0.479)
Widowed	0.471	0.480	0.548
	(0.735)	(0.736)	(0.706)
Children under 15 in the household	-0.639***	-0.624***	-0.512***
	(0.206)	(0.206)	(0.192)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	65.531	466.655	-70.886
	(408.946)	(416.035)	(102.190)
N	164,127	164,127	173,996
R^2	0.070	0.070	0.068

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.

Mean (sd) % of people reporting high levels of worry = 32.98 (47.02).

Columns 1 and 2 include the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

Column 3 includes all 14 Western countries.

Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

Government spending (% of GDP) indicates the size of government across countries by highlighting the variety of countries' approaches to delivering public goods and services and providing social protection. Mean= 48.32, Std. Dev.= 4.76.

Social spending (% of GDP) includes cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes. Mean= 25.33, Std. Dev.= 3.53.

Internet users indicates the percentage of individuals using the internet in each country and year. Mean= 83.13, Std. Dev.= 10.14.

TABLE A4. Worry and lags of social spending, Western Europe, 2010-2019. Full models.

	Dependent variable: % of people reporting high levels of worry		
	(1)	(2)	(3)
Social spending at t	-	-	-1.537*
			(0.859)
Social spending at t-1	-1.465**	-	-0.224
	(0.602)		(1.200)
Social spending at t-2	-	-0.851*	-0.170
		(0.475)	(0.750)
Unemployment rate	0.799**	0.690**	0.684**
	(0.319)	(0.324)	(0.330)
Log of GDP per capita	-17.010	-2.896	-35.674
	(36.173)	(34.215)	(37.310)
Inflation rate	0.963	0.978	1.151*
	(0.655)	(0.665)	(0.624)
Male	-3.710***	-3.713***	-3.707***
	(0.318)	(0.317)	(0.317)
Age band *(Ref.: 15-24 years old)*			
25-34	7.694***	7.695***	7.713***
	(0.609)	(0.609)	(0.610)
35-44	9.074***	9.073***	9.088***
	(0.672)	(0.672)	(0.671)
45-54	8.881***	8.873***	8.893***
	(0.745)	(0.743)	(0.743)
55-64	4.850***	4.839***	4.860***
	(0.854)	(0.853)	(0.853)
65-74	-0.840	-0.847	-0.824
	(1.110)	(1.111)	(1.107)
75-84	-1.293	-1.316	-1.274
	(1.189)	(1.195)	(1.188)
85-94	-2.782*	-2.797*	-2.756*
	(1.525)	(1.524)	(1.516)
95-100	2.394	2.254	2.515
	(2.055)	(2.064)	(2.050)
Employment Status *(Ref.: Employed full-time for an employer)*			
Employed full-time for self	3.710***	3.715***	3.709***
	(0.578)	(0.578)	(0.577)
Employed part-time want full-time	7.182***	7.181***	7.157***
	(0.663)	(0.665)	(0.663)
Employed part-time do not want full-time	0.560	0.552	0.578
	(0.635)	(0.637)	(0.633)
Unemployed	14.882***	14.887***	14.871***
	(0.763)	(0.765)	(0.763)
Out of workforce	3.814***	3.814***	3.813***

	(0.452)	(0.454)	(0.452)
Income quintile *(Ref.: Bottom 20%)*			
Second 20%	3.225*	3.199*	3.156*
	(1.864)	(1.861)	(1.855)
Third 20%	5.652***	5.630***	5.589***
	(1.250)	(1.251)	(1.258)
Fourth 20%	1.211	1.198	1.132
	(1.272)	(1.277)	(1.281)
Top 20%	-5.412***	-5.423***	-5.499***
	(1.387)	(1.394)	(1.396)
Level of education *(Ref.: Elementary)*			
Secondary	-1.909***	-1.915***	-1.908***
	(0.526)	(0.525)	(0.524)
Tertiary	-1.878***	-1.861***	-1.894***
	(0.611)	(0.609)	(0.608)
Marital status *(Ref.: Single/never married)*			
Domestic partner	-0.033	-0.053	-0.014
	(0.553)	(0.552)	(0.554)
Married	-2.278***	-2.282***	-2.267***
	(0.464)	(0.463)	(0.464)
Separated	7.914***	7.908***	7.951***
	(0.952)	(0.951)	(0.952)
Divorced	4.172***	4.151***	4.180***
	(0.492)	(0.494)	(0.491)
Widowed	0.453	0.433	0.470
	(0.735)	(0.735)	(0.734)
Children under 15 in the household	-0.613***	-0.616***	-0.618***
	(0.205)	(0.205)	(0.205)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	241.447	69.527	457.033
	(402.338)	(376.830)	(417.303)
N	164,127	164,127	164,127
R^2	0.070	0.070	0.070

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.

Mean (sd) % of people reporting high levels of worry = 33.15 (47.07).

Models include the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

Social spending (% of GDP) includes cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes.

TABLE A5a. Worry and temperature anomalies, Western Europe, 2010-2019.

	Dependent variable: % of people reporting high levels of worry		
	(1)	(2)	(3)
Temperature anomaly at t	-0.499*	-	-
	(0.261)		
Average of temperature anomaly at t and t-1	-	-0.562	
		(0.426)	
Average of temperature anomaly at t, t-1, and t-2	-	-	0.089
			(0.647)
Unemployment rate	0.604**	0.604**	0.550**
	(0.263)	(0.268)	(0.270)
Log of GDP per capita	4.929	4.623	4.796
	(8.969)	(8.991)	(8.716)
Inflation rate	1.204**	1.186**	1.145*
	(0.575)	(0.580)	(0.587)
Male	-3.626***	-3.629***	-3.629***
	(0.301)	(0.301)	(0.301)
Age band *(Ref.: 15-24 years old)*			
25-34	7.697***	7.705***	7.702***
	(0.586)	(0.586)	(0.585)
35-44	8.846***	8.853***	8.846***
	(0.639)	(0.639)	(0.638)
45-54	8.727***	8.735***	8.729***
	(0.700)	(0.701)	(0.700)
55-64	4.647***	4.651***	4.650***
	(0.806)	(0.806)	(0.806)
65-74	-1.163	-1.160	-1.168
	(1.042)	(1.043)	(1.042)
75-84	-1.660	-1.646	-1.658
	(1.138)	(1.137)	(1.139)
85-94	-3.095**	-3.073**	-3.078**
	(1.481)	(1.481)	(1.482)
95-100	2.486	2.490	2.500
	(1.934)	(1.933)	(1.929)
Employment Status *(Ref.: Employed full-time for an employer)*			
Employed full-time for self	3.640***	3.641***	3.653***
	(0.543)	(0.543)	(0.542)
Employed part-time want full-time	7.280***	7.284***	7.289***
	(0.624)	(0.624)	(0.625)
Employed part-time do not want full-time	0.435	0.430	0.428
	(0.604)	(0.605)	(0.604)

Unemployed	15.004***	15.004***	15.002***
	(0.731)	(0.731)	(0.731)
Out of workforce	3.949***	3.945***	3.945***
	(0.436)	(0.437)	(0.436)
Income quintile *(Ref.: Bottom 20%)*			
Second 20%	3.888**	3.889**	3.903**
	(1.766)	(1.764)	(1.768)
Third 20%	5.932***	5.933***	5.948***
	(1.179)	(1.175)	(1.180)
Fourth 20%	1.521	1.516	1.537
	(1.189)	(1.184)	(1.189)
Top 20%	-5.176***	-5.180***	-5.157***
	(1.285)	(1.279)	(1.285)
Level of education *(Ref.: Elementary)*			
Secondary	-1.933***	-1.924***	-1.927***
	(0.511)	(0.512)	(0.510)
Tertiary	-1.897***	-1.887***	-1.889***
	(0.593)	(0.593)	(0.592)
Marital status *(Ref.: Single/never married)*			
Domestic partner	-0.014	-0.019	-0.023
	(0.540)	(0.540)	(0.540)
Married	-2.168***	-2.171***	-2.171***
	(0.442)	(0.442)	(0.442)
Separated	7.766***	7.755***	7.756***
	(0.908)	(0.908)	(0.907)
Divorced	4.236***	4.233***	4.231***
	(0.479)	(0.479)	(0.479)
Widowed	0.569	0.566	0.556
	(0.706)	(0.705)	(0.706)
Children under 15 in the household	-0.509***	-0.513***	-0.509***
	(0.193)	(0.193)	(0.193)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	-35.974	-32.252	-36.004
	(98.084)	(98.456)	(95.465)
N	173,996	173,996	173,996
R^2	0.068	0.068	0.068

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.
Mean (sd) % of people reporting high levels of worry = 32.98 (47.02).
14 Western European countries included in all models.
Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*
Temperature anomaly represents the positive difference from the historical average air temperature in each country and year.

Table A5b: Worry and number of hot days, Western Europe, 2010-2019

	Dependent variable: % of people in Worry				
	(1)	(2)	(3)	(4)	(5)
More than 8 weeks hot days	-1.431***	-	-	-	-
	(0.426)				
Between 6 and 8 weeks	-	1.426	-	-	-
		(0.889)			
Between 4 and 6 weeks	-	-	-0.503***	-	-
			(0.171)		
Between 2 and 4 weeks	-	-	-	0.269	-
				(0.238)	
Less than 2 weeks	-	-	-	-	0.015
					(0.016)
Male	-3.611***	-3.616***	-3.606***	-3.614***	-3.612***
	(0.301)	(0.301)	(0.302)	(0.301)	(0.301)
Age band *(Ref.: 15-24 years old)*					
25-34	7.750***	7.733***	7.751***	7.745***	7.719***
	(0.582)	(0.582)	(0.582)	(0.581)	(0.581)
35-44	8.869***	8.855***	8.862***	8.875***	8.857***
	(0.642)	(0.639)	(0.638)	(0.641)	(0.638)
45-54	8.746***	8.761***	8.761***	8.765***	8.748***
	(0.700)	(0.700)	(0.700)	(0.700)	(0.697)
55-64	4.681***	4.691***	4.695***	4.700***	4.681***
	(0.807)	(0.806)	(0.806)	(0.807)	(0.805)
65-74	-1.111	-1.123	-1.116	-1.098	-1.122
	(1.042)	(1.040)	(1.040)	(1.042)	(1.040)
75-84	-1.610	-1.607	-1.620	-1.584	-1.607
	(1.139)	(1.138)	(1.135)	(1.139)	(1.139)
85-94	-3.067**	-3.049**	-3.049**	-3.037**	-3.062**
	(1.478)	(1.478)	(1.477)	(1.478)	(1.475)
95-100	2.584	2.553	2.575	2.580	2.519
	(1.960)	(1.960)	(1.960)	(1.958)	(1.965)
Employment Status *(Ref.: Employed full-time for an employer)*					
Employed full-time for self	3.639***	3.634***	3.657***	3.624***	3.629***
	(0.543)	(0.540)	(0.543)	(0.542)	(0.541)
Employed part-time want full-time	7.323***	7.282***	7.329***	7.275***	7.282***
	(0.622)	(0.632)	(0.624)	(0.627)	(0.630)
Employed part-time do not want full-time	0.436	0.414	0.436	0.419	0.399
	(0.602)	(0.605)	(0.603)	(0.604)	(0.605)
Unemployed	15.080***	15.045***	15.042***	15.078***	15.082***
	(0.742)	(0.729)	(0.732)	(0.739)	(0.736)
Out of workforce	3.927***	3.937***	3.938***	3.926***	3.928***
	(0.436)	(0.435)	(0.435)	(0.436)	(0.435)
Income quintile *(Ref.: Bottom 20%)*					

Second 20%	3.975**	4.082**	4.003**	3.949**	4.078**
	(1.779)	(1.786)	(1.784)	(1.769)	(1.792)
Third 20%	6.059***	6.019***	6.048***	6.006***	6.098***
	(1.193)	(1.195)	(1.191)	(1.195)	(1.200)
Fourth 20%	1.549	1.515	1.550	1.471	1.547
	(1.197)	(1.201)	(1.195)	(1.202)	(1.201)
Top 20%	-5.162***	-5.183***	-5.149***	-5.236***	-5.169***
	(1.293)	(1.299)	(1.291)	(1.300)	(1.299)
Level of education *(Ref.: Elementary)*					
Secondary	-1.972***	-1.956***	-1.953***	-1.954***	-1.960***
	(0.514)	(0.514)	(0.515)	(0.514)	(0.516)
Tertiary	-1.940***	-1.936***	-1.945***	-1.936***	-1.930***
	(0.595)	(0.595)	(0.594)	(0.596)	(0.598)
Marital status *(Ref.: Single/never married)*					
Domestic partner	-0.020	-0.052	-0.036	-0.041	-0.041
	(0.542)	(0.540)	(0.541)	(0.541)	(0.541)
Married	-2.162***	-2.161***	-2.157***	-2.166***	-2.158***
	(0.444)	(0.443)	(0.444)	(0.443)	(0.442)
Separated	7.768***	7.769***	7.781***	7.759***	7.766***
	(0.912)	(0.912)	(0.913)	(0.912)	(0.913)
Divorced	4.220***	4.217***	4.226***	4.217***	4.218***
	(0.479)	(0.479)	(0.480)	(0.479)	(0.479)
Widowed	0.569	0.567	0.572	0.564	0.570
	(0.710)	(0.710)	(0.710)	(0.710)	(0.708)
Children under 15 in the household	-0.507***	-0.505**	-0.506**	-0.503**	-0.507***
	(0.194)	(0.194)	(0.194)	(0.194)	(0.194)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Constant	21.574***	21.499***	21.424***	21.481***	21.276***
	(1.964)	(2.014)	(1.966)	(2.008)	(2.102)
N	173996	173996	173996	173996	173996
R^2	0.068	0.068	0.068	0.068	0.067

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses.
Mean (sd) % of people in worry = 32.98 (47.02).
14 Western European countries included in all models.
Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

Note
These data were retrieved from the OECD database https://www.oecd.org/climate-action/ipac/dashboard?country=AUT Data info from website.

Monitoring population exposure to extreme heat helps understand the possible risks of extreme temperatures for the population. This indicator presents the annual percentage of population exposed to hot summer days, measured as days where the maximum daily temperature exceeds 35°C. Data are expressed in percentages.

Measuring hot summer days based on an absolute temperature threshold of 35°C is mentioned as an approach in the Intergovernmental Panel on Climate Change (IPCC) Working Group I contribution to the Sixth Assessment Report called "Climate Change 2021: The Physical Science Basis" (p. 1522).
Further Notes: Population exposure to hot summer days can show considerable differences between countries depending on a country's geographical location.
The share of population exposed to zero days of hot summer days is not included in this graph.
This indicator is developed in collaboration with the International Energy Agency.
Source: Maes, M. J. A., et al. (2022), 'Monitoring exposure to climate-related hazards: Indicator methodology and key results'
https://doi.org/10.1787/da074cb6-en

So the variables used in these regressions show the percentage of the population in each country and year that was exposed to hot summer days, measured as days where the maximum daily temperature exceeds 35°C.

TABLE A6. Worry and climate-change beliefs, Western Europe, 2010.

	Dependent variable: % of people reporting high levels of worry	
	(1)	(2)
Temperature rise results from human activities and natural causes *(Ref.: Natural causes only)*	1.888*	2.159**
	(1.063)	(1.064)
Male	-5.628***	-4.988***
	(0.836)	(0.863)
Age band *(Ref.: 15-24 years old)*		
25-34	4.281**	8.021***
	(1.907)	(2.040)
35-44	2.785	6.912***
	(1.726)	(2.005)
45-54	4.529***	8.905***
	(1.697)	(1.981)
55-64	-1.023	3.529*
	(1.715)	(2.047)
65-74	-3.319*	0.372
	(1.850)	(2.248)
75-84	-4.161*	-0.752
	(2.275)	(2.680)
85-94	-5.972	-2.628
	(4.668)	(4.928)
95-100	7.482	11.635**
	(4.961)	(5.014)
Employment Status *(Ref.: Employed full-time for an employer)*		
Employed full-time for self	-	5.664***
		(1.909)
Employed part-time want full-time	-	7.973***
		(2.151)
Employed part-time do not want full-time	-	0.582
		(1.584)
Unemployed	-	15.958***
		(2.206)
Out of workforce	-	4.326***
		(1.185)
Income quintile *(Ref.: Bottom 20%)*		
Second 20%	-	6.208
		(5.682)
Third 20%	-	0.850
		(4.315)
Fourth 20%	-	0.517
		(4.049)
Top 20%	-	-5.044

		(4.017)
Level of education *(Ref.: Elementary)*		
Secondary	-	-0.943
		(1.459)
Tertiary	-	-0.357
		(1.640)
Marital status *(Ref.: Single/never married)*		
Domestic partner	-	-0.975
		(1.770)
Married	-	-3.217**
		(1.292)
Separated	-	11.943***
		(3.327)
Divorced	-	4.400**
		(1.954)
Widowed	-	-2.065
		(2.031)
Children under 15 in the household	-	0.500
		(0.593)
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Constant	20.915***	19.174***
	(2.323)	(4.864)
N	12,259	12,259
R^2	0.035	0.049

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.
Mean (sd) % of people reporting high levels of worry = 32.98 (47.02).
14 Western European countries included in all models.
Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

TABLE A7. Mean levels of worry across demographic groups, OECD, 2010-2019.

	% of people reporting high levels of worry
Men	32.18
Women	37.29
Low education	43.44
High education	31.54
Bottom income quintile	44.88
Top income quintile	29.15
Employed	34.03
Unemployed	36.16
Married	34.15
Non-married	36.09

Note: Low education: Elementary education. High education: Tertiary education. Employed: Employed full time for an employer, employed full time for self, employed part time want full time, employed part time do not want full time. Unemployed: Unemployed and out of workforce. Married: Domestic partner, married. Non-married: Single/never been married, separated, divorced, widowed.

TABLE A8. Time trend reporting high levels of worry by country, OECD, 2010-2019.

Country	Worry trend
Austria	0.755
Belgium	0.809
Canada	0.402
Colombia	0.912
Costa Rica	1.540
Denmark	0.487
Finland	-0.520
France	0.566
Germany	0.946
Greece	-0.885
Hungary	-1.555
Ireland	0.321
Italy	0.273
Japan	0.094
Lithuania	-0.844
Luxembourg	0.349
Mexico	-0.166
Netherlands	-0.365
New Zealand	-0.848
Poland	-1.117
Portugal	0.770
Slovakia	-0.464
Slovenia	-0.579
South Korea	0.887
Spain	-1.143
Sweden	-0.107
United Kingdom	1.564
United States	0.089

TABLE A9. Worry equations, OECD, 2010-2019.

	Dependent variable: % of people reporting high levels of worry		
	(1)	(2)	(3)
Unemployment rate	-	-	0.837***
			(0.174)
Log of GDP per capita	-	-	8.931
			(7.056)
Inflation rate	-	-	0.033
			(0.207)
Male	-4.916***	-3.852***	-3.873***
	(0.168)	(0.172)	(0.228)
Age band *(Ref.: 15-24 years old)*			
25-34	5.487***	8.399***	8.340***
	(0.345)	(0.367)	(0.448)
35-44	6.502***	9.709***	9.658***
	(0.331)	(0.378)	(0.467)
45-54	7.062***	10.390***	10.338***
	(0.325)	(0.378)	(0.551)
55-64	4.219***	7.376***	7.294***
	(0.326)	(0.386)	(0.650)
65-74	0.317	2.509***	2.417***
	(0.339)	(0.414)	(0.851)
75-84	0.771*	1.585***	1.483*
	(0.414)	(0.494)	(0.895)
85-94	-0.803	-0.812	-0.923
	(0.787)	(0.842)	(1.167)
95-100	1.781	3.886***	3.832***
	(1.327)	(1.328)	(1.418)
Employment Status *(Ref.: Employed full-time for an employer)*			
Employed full-time for self	-	3.442***	3.430***
		(0.342)	(0.401)
Employed part-time want full-time	-	7.814***	7.728***
		(0.408)	(0.479)
Employed part-time do not want full-time	-	-0.506	-0.506
		(0.335)	(0.461)
Unemployed	-	16.189***	16.003***
		(0.426)	(0.537)
Out of workforce	-	2.520***	2.544***
		(0.239)	(0.382)
Income quintile *(Ref.: Bottom 20%)*			
Second 20%	-	-0.227	-0.263
		(0.650)	(1.045)
Third 20%	-	-1.791***	-1.933
		(0.584)	(1.229)
Fourth 20%	-	-6.047***	-5.999***
		(0.572)	(1.219)

Top 20%	-	-12.917***	-12.831***
		(0.579)	(1.284)
Level of education *(Ref.: Elementary)*			
Secondary		-3.814***	-3.771***
	-	(0.274)	(0.401)
Tertiary		-3.934***	-3.906***
	-	(0.317)	(0.473)
Marital status *(Ref.: Single/never married)*			
Domestic partner	-	1.324***	1.342***
		(0.359)	(0.478)
Married	-	-2.118***	-2.104***
		(0.257)	(0.340)
Separated	-	6.182***	6.183***
		(0.597)	(0.695)
Divorced	-	3.977***	3.985***
		(0.393)	(0.368)
Widowed	-	2.578***	2.570***
		(0.397)	(0.596)
Children under 15 in the household	-	-0.088	-0.075
		(0.109)	(0.133)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	20.400***	29.854***	-71.800
	(0.570)	(0.845)	(76.881)
N	313,359	313,359	313,359
R^2	0.043	0.059	0.060

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.
Mean (sd) % of people reporting high levels of worry = 34.96 (47.68).
28 OECD countries included in all models.
Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

TABLE A10. Worry, government spending, social spending, and internet users, OECD, 2010-2019.

	Dependent variable: % of people reporting high levels of worry		
	(1)	(2)	(3)
Government spending	0.023	-	-
	(0.141)		
Social spending	-	-0.563	-
		(0.415)	-0.050
Internet users	-	-	(0.053)
Unemployment rate	0.741***	0.908***	0.853***
	(0.194)	(0.222)	(0.174)
Log of GDP per capita	-0.760	1.395	9.805
	(9.617)	(10.023)	(7.163)
Inflation rate	0.240	0.303	0.014
	(0.224)	(0.231)	(0.203)
Male	-3.968***	-3.963***	-3.879***
	(0.249)	(0.250)	(0.227)
Age band *(Ref.: 15-24 years old)*			
25-34	8.721***	8.732***	8.342***
	(0.493)	(0.494)	(0.447)
35-44	9.966***	9.977***	9.671***
	(0.531)	(0.532)	(0.468)
45-54	10.775***	10.791***	10.356***
	(0.630)	(0.632)	(0.552)
55-64	7.625***	7.650***	7.318***
	(0.734)	(0.734)	(0.653)
65-74	3.045***	3.068***	2.432***
	(0.955)	(0.954)	(0.853)
75-84	2.296**	2.323**	1.500*
	(0.993)	(0.988)	(0.897)
85-94	0.223	0.253	-0.907
	(1.301)	(1.296)	(1.169)
95-100	4.320***	4.388***	3.866***
	(1.647)	(1.652)	(1.421)
Employment Status *(Ref.: Employed full-time for an employer)*			
Employed full-time for self	3.421***	3.408***	3.441***
	(0.424)	(0.425)	(0.398)
Employed part-time want full-time	7.980***	7.976***	7.745***
	(0.548)	(0.548)	(0.477)
Employed part-time do not want full-time	-0.166	-0.164	-0.501
	(0.520)	(0.519)	(0.461)
Unemployed	16.140***	16.125***	16.002***
	(0.582)	(0.583)	(0.537)
Out of workforce	3.053***	3.034***	2.541***
	(0.364)	(0.364)	(0.382)

Income quintile *(Ref.: Bottom 20%)*			
Second 20%	0.557	0.549	-0.283
	(1.166)	(1.165)	(1.046)
Third 20%	-0.562	-0.564	-1.930
	(1.304)	(1.304)	(1.228)
Fourth 20%	-5.113***	-5.111***	-5.990***
	(1.314)	(1.313)	(1.216)
Top 20%	-11.919***	-11.916***	-12.824***
	(1.405)	(1.404)	(1.282)
Level of education *(Ref.: Elementary)*			
Secondary	-3.598***	-3.591***	-3.765***
	(0.410)	(0.412)	(0.400)
Tertiary	-3.643***	-3.651***	-3.904***
	(0.491)	(0.495)	(0.473)
Marital status *(Ref.: Single/never married)*			
Domestic partner	0.882*	0.876*	1.341***
	(0.492)	(0.492)	(0.478)
Married	-2.092***	-2.095***	-2.117***
	(0.383)	(0.383)	(0.339)
Separated	6.766***	6.775***	6.175***
	(0.766)	(0.766)	(0.694)
Divorced	4.097***	4.115***	3.984***
	(0.399)	(0.398)	(0.368)
Widowed	2.684***	2.694***	2.561***
	(0.659)	(0.659)	(0.596)
Children under 15 in the household	-0.264*	-0.261*	-0.072
	(0.151)	(0.151)	(0.133)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	30.515	23.061	-77.619
	(104.580)	(106.928)	(77.338)
N	272,221	272,221	313,359
R^2	0.063	0.063	0.060

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.

Mean (sd) % of people reporting high levels of worry = 34.96 (47.68).

Columns 1 and 2 include the following countries: Austria, Belgium, Colombia, Costa Rica, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Japan, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, United Kingdom, United States.

Column 3 includes all 28 OECD countries.

Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

Government spending (% of GDP) indicates the size of government across countries by highlighting the variety of countries' approaches to delivering public goods and services and providing social protection.

Social spending (% of GDP) includes cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes.

Internet users indicates the percentage of individuals using the internet in each country and year.

TABLE A11. Worry and temperature anomalies, OECD, 2010-2019.

	Dependent variable: % of people reporting high levels of worry		
	(1)	(2)	(3)
Temperature anomaly at t	-0.612***	-	-
	(0.215)		
Average of temperature anomaly at t and t-1	-	-0.866***	
		(0.325)	
Average of temperature anomaly at t, t-1, and t-2	-	-	-0.851*
			(0.437)
Unemployment rate	0.826***	0.808***	0.809***
	(0.175)	(0.178)	(0.178)
Log of GDP per capita	9.106	8.589	8.362
	(7.094)	(7.106)	(7.167)
Inflation rate	0.012	0.021	0.013
	(0.205)	(0.203)	(0.207)
Male	-3.869***	-3.872***	-3.873***
	(0.228)	(0.228)	(0.228)
Age band *(Ref.: 15-24 years old)*			
25-34	8.336***	8.338***	8.337***
	(0.448)	(0.448)	(0.448)
35-44	9.661***	9.663***	9.658***
	(0.468)	(0.468)	(0.467)
45-54	10.343***	10.343***	10.336***
	(0.551)	(0.551)	(0.551)
55-64	7.297***	7.297***	7.293***
	(0.649)	(0.650)	(0.650)
65-74	2.424***	2.430***	2.419***
	(0.850)	(0.850)	(0.851)
75-84	1.479*	1.496*	1.488*
	(0.894)	(0.893)	(0.895)
85-94	-0.936	-0.921	-0.933
	(1.166)	(1.166)	(1.166)
95-100	3.828***	3.819***	3.824***
	(1.422)	(1.425)	(1.421)
Employment Status *(Ref.: Employed full-time for an employer)*			
Employed full-time for self	3.415***	3.415***	3.422***
	(0.400)	(0.400)	(0.400)
Employed part-time want full-time	7.716***	7.714***	7.725***
	(0.479)	(0.479)	(0.479)
Employed part-time do not want full-time	-0.511	-0.513	-0.511
	(0.461)	(0.462)	(0.461)
Unemployed	16.006***	16.003***	16.008***
	(0.537)	(0.537)	(0.537)
Out of workforce	2.551***	2.543***	2.546***

	(0.382)	(0.381)	(0.381)
Income quintile *(Ref.: Bottom 20%)*			
Second 20%	-0.272	-0.271	-0.269
	(1.044)	(1.044)	(1.044)
Third 20%	-1.955	-1.956	-1.944
	(1.229)	(1.227)	(1.229)
Fourth 20%	-6.012***	-6.014***	-6.001***
	(1.219)	(1.217)	(1.218)
Top 20%	-12.846***	-12.841***	-12.823***
	(1.284)	(1.282)	(1.284)
Level of education *(Ref.: Elementary)*			
Secondary	-3.772***	-3.771***	-3.775***
	(0.401)	(0.401)	(0.401)
Tertiary	-3.915***	-3.916***	-3.917***
	(0.473)	(0.473)	(0.473)
Marital status *(Ref.: Single/never married)*			
Domestic partner	1.347***	1.342***	1.341***
	(0.478)	(0.478)	(0.478)
Married	-2.097***	-2.103***	-2.100***
	(0.339)	(0.339)	(0.340)
Separated	6.205***	6.193***	6.193***
	(0.695)	(0.694)	(0.694)
Divorced	3.994***	3.991***	3.988***
	(0.368)	(0.368)	(0.368)
Widowed	2.582***	2.578***	2.574***
	(0.596)	(0.596)	(0.596)
Children under 15 in the household	-0.069	-0.070	-0.071
	(0.133)	(0.133)	(0.133)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	-71.500	-64.831	-62.423
	(77.309)	(77.588)	(78.245)
N	313,359	313,359	313,359
R^2	0.060	0.060	0.060

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.

Mean (sd) % of people reporting high levels of worry = 34.96 (47.68).

28 OECD countries included in all models.

Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

Temperature anomaly represents the positive difference from the historical average air temperature in each country and year.

TABLE A12. Worry and climate-change beliefs, OECD, 2010.

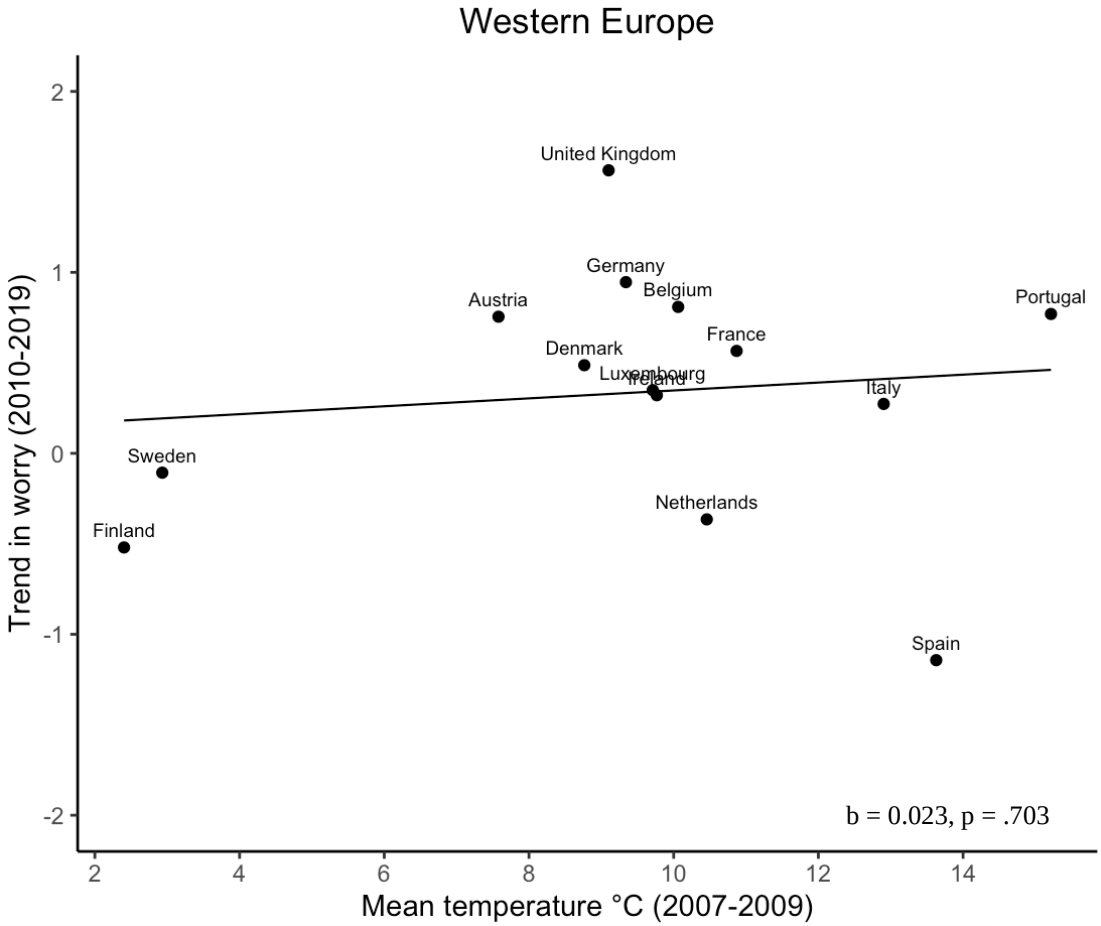
	Dependent variable: % of people reporting high levels of worry	
	(1)	(2)
Temperature rise results from human activities and natural causes *(Ref.: Natural causes only)*	2.224***	2.549***
	(0.774)	(0.772)
Male	-5.649***	-4.977***
	(0.595)	(0.615)
Age band *(Ref.: 15-24 years old)*		
25-34	6.177***	9.565***
	(1.212)	(1.321)
35-44	6.376***	10.149***
	(1.139)	(1.346)
45-54	7.845***	11.844***
	(1.117)	(1.339)
55-64	2.532**	6.612***
	(1.142)	(1.390)
65-74	-0.155	3.271**
	(1.229)	(1.519)
75-84	1.858	4.617**
	(1.542)	(1.836)
85-94	0.448	2.714
	(3.272)	(3.442)
95-100	9.477**	13.004***
	(3.909)	(3.935)
Employment Status *(Ref.: Employed full-time for an employer)*		
Employed full-time for self	-	4.684***
		(1.274)
Employed part-time want full-time	-	9.425***
		(1.529)
Employed part-time do not want full-time	-	0.098
		(1.192)
Unemployed	-	18.601***
		(1.455)
Out of workforce	-	3.549***
		(0.829)
Income quintile *(Ref.: Bottom 20%)*		
Second 20%	-	3.654
		(2.466)
Third 20%	-	1.996
		(2.235)
Fourth 20%	-	0.397
		(2.179)
Top 20%	-	-5.189**
		(2.212)
Level of education *(Ref.: Elementary)*		

Secondary	-	-1.950**
		(0.950)
Tertiary	-	-2.396**
		(1.111)
Marital status *(Ref.: Single/never married)*		
Domestic partner	-	0.756
		(1.364)
Married	-	-3.030***
		(0.933)
Separated	-	8.826***
		(2.238)
Divorced	-	3.280**
		(1.448)
Widowed	-	-0.343
		(1.448)
Children under 15 in the household	-	0.376
		(0.399)
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Constant	17.430***	17.425***
	(1.930)	(3.076)
N	24,760	24,760
R^2	0.033	0.048

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models show unstandardized OLS coefficients, with standard errors clustered by country-year in parentheses. These are fixed-effects equations that exploit the longitudinal structure of the country panel.
Mean (sd) % of people reporting high levels of worry = 34.96 (47.68).
28 OECD countries included in all models.
Wording of the worry question: *Did you experience the following … during A LOT OF THE DAY yesterday? How about … Worry? Yes/no.*

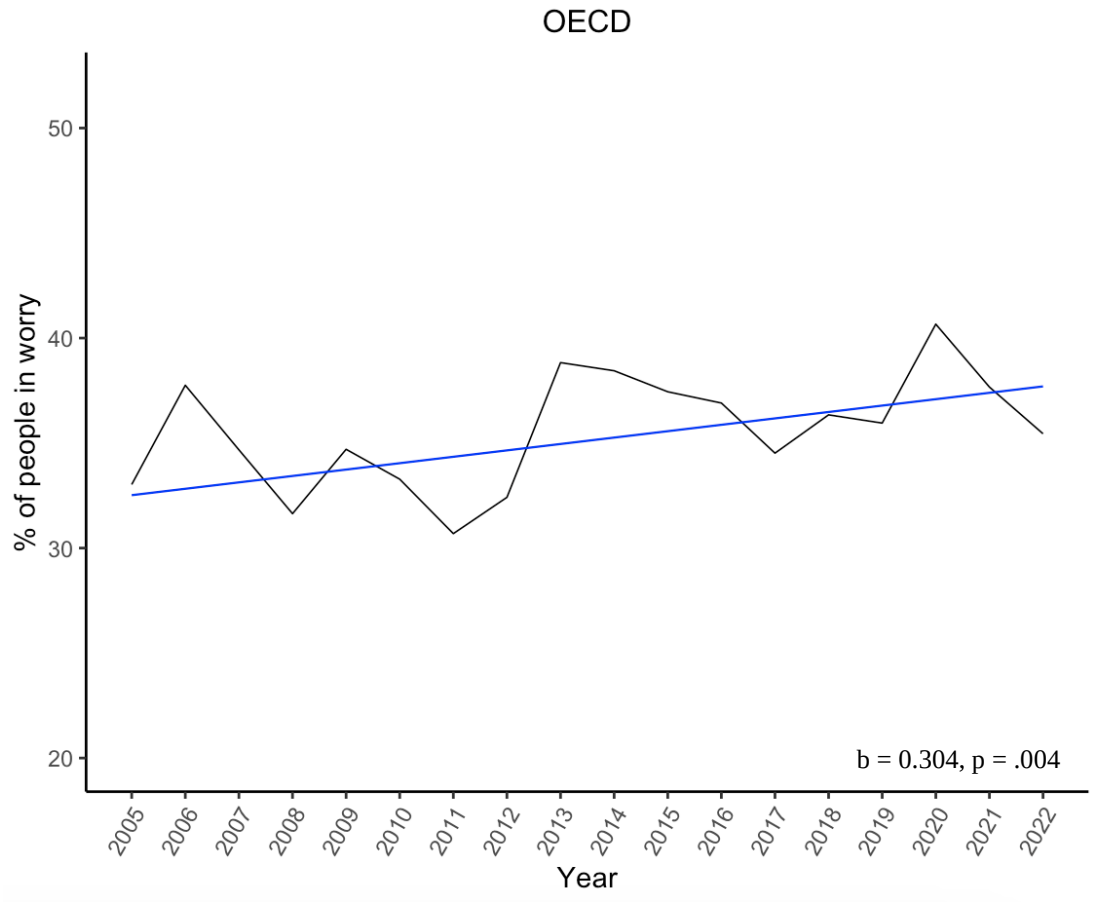
APPENDIX FIGURES

FIGURE A1. Plot of the worry trend for each country against the average of the mean temperature in the three years prior to 2010, Western Europe.



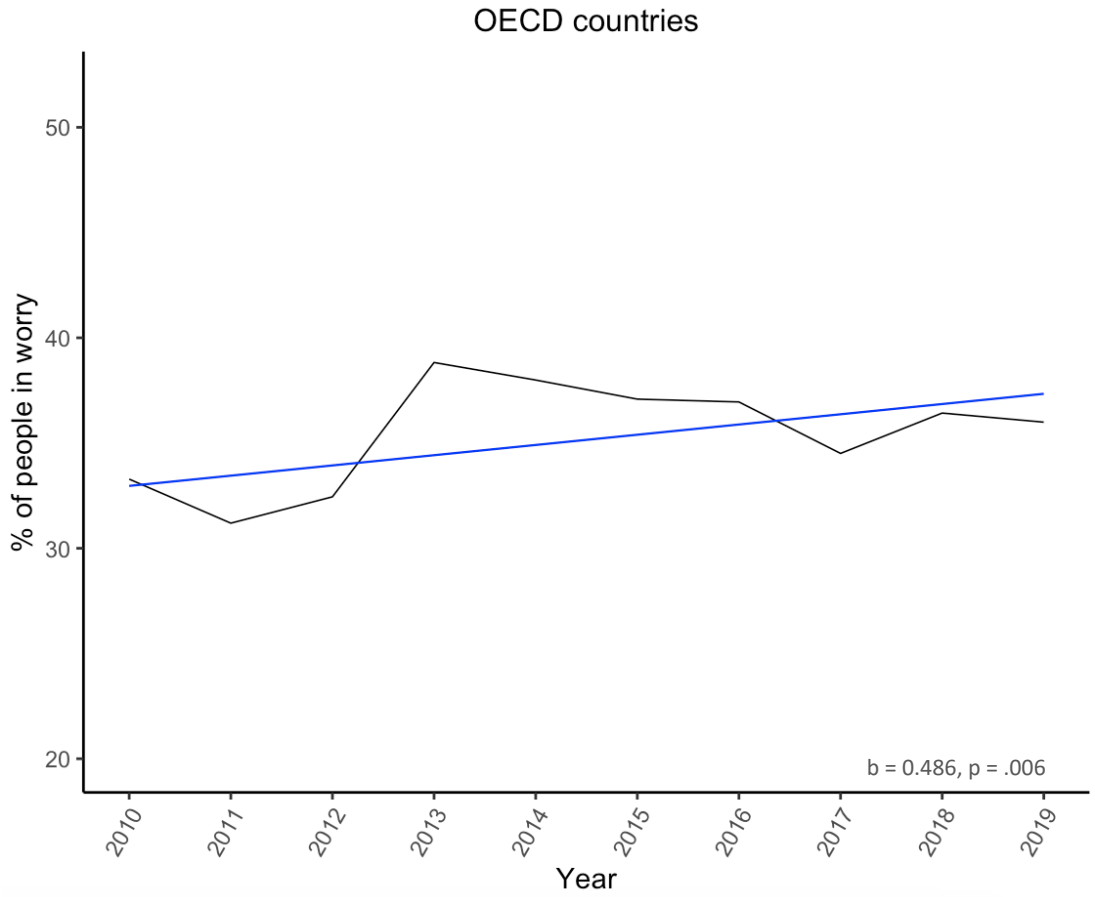
Note: Sample size was 173,996. Wording of the worry question: Did you experience the following ... during A LOT OF THE DAY yesterday? How about ... Worry? Yes/no. this measure was multiplied by 100 to represent the percentage of people reporting high levels of worry. The trend in the percentage of people reporting high levels of worry between 2010 and 2019 in each country is depicted in the vertical axis. Mean temperature in each country in 2007, 2008, and 2009 was averaged to create the mean temperature variable depicted in horizontal axis. 14 Western European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

Figure A2. Unadjusted trend reporting high levels of worry, OECD, 2005-2022.



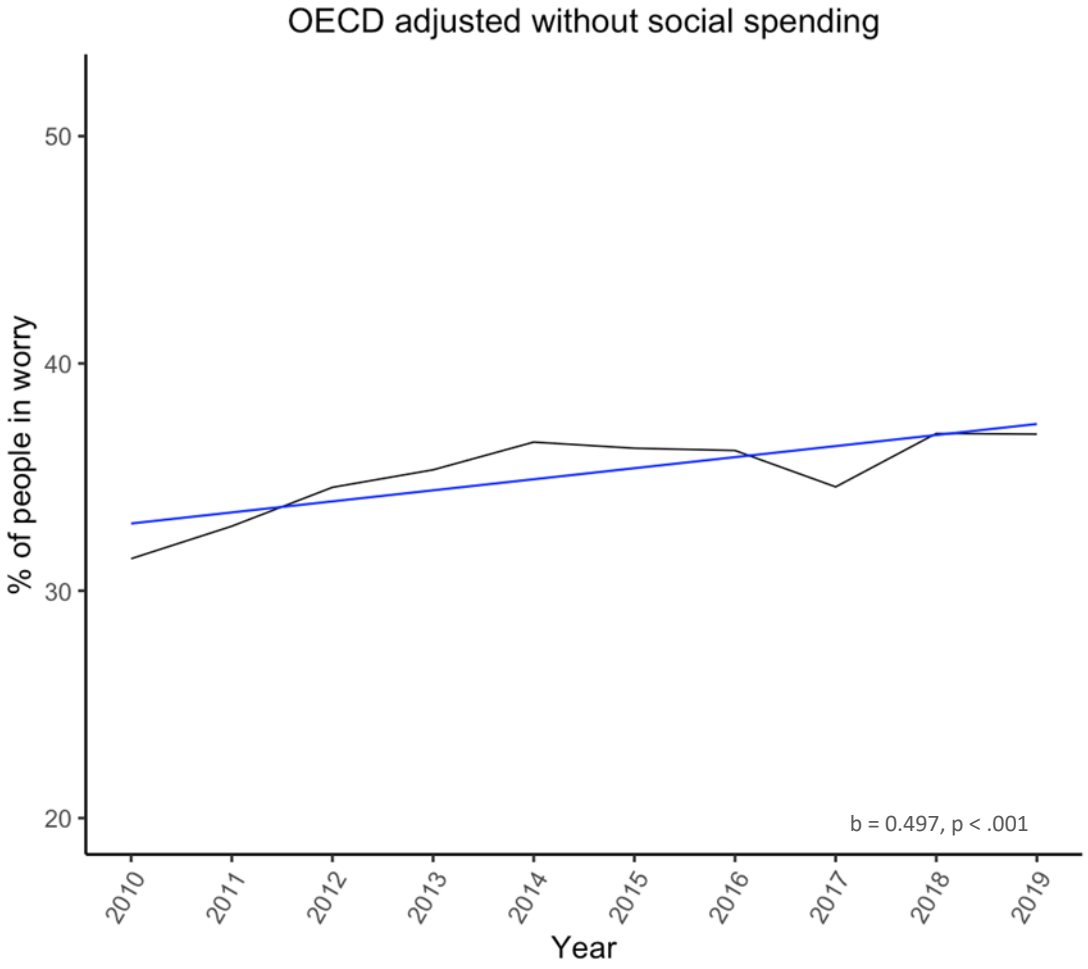
Note: Sample size was 530,874. This is a simple plot of the raw means in the data set. Standard errors were clustered at the year level. Wording of the worry question: Did you experience the following ... during A LOT OF THE DAY yesterday? How about ... Worry? Yes/no. This measure was multiplied by 100 to represent the percentage of people reporting high levels of worry. 28 OECD countries: Austria, Belgium, Canada, Colombia, Costa Rica, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, United Kingdom, United States.

Figure A3. Unadjusted trend reporting high levels of worry, OECD, 2010-2019.



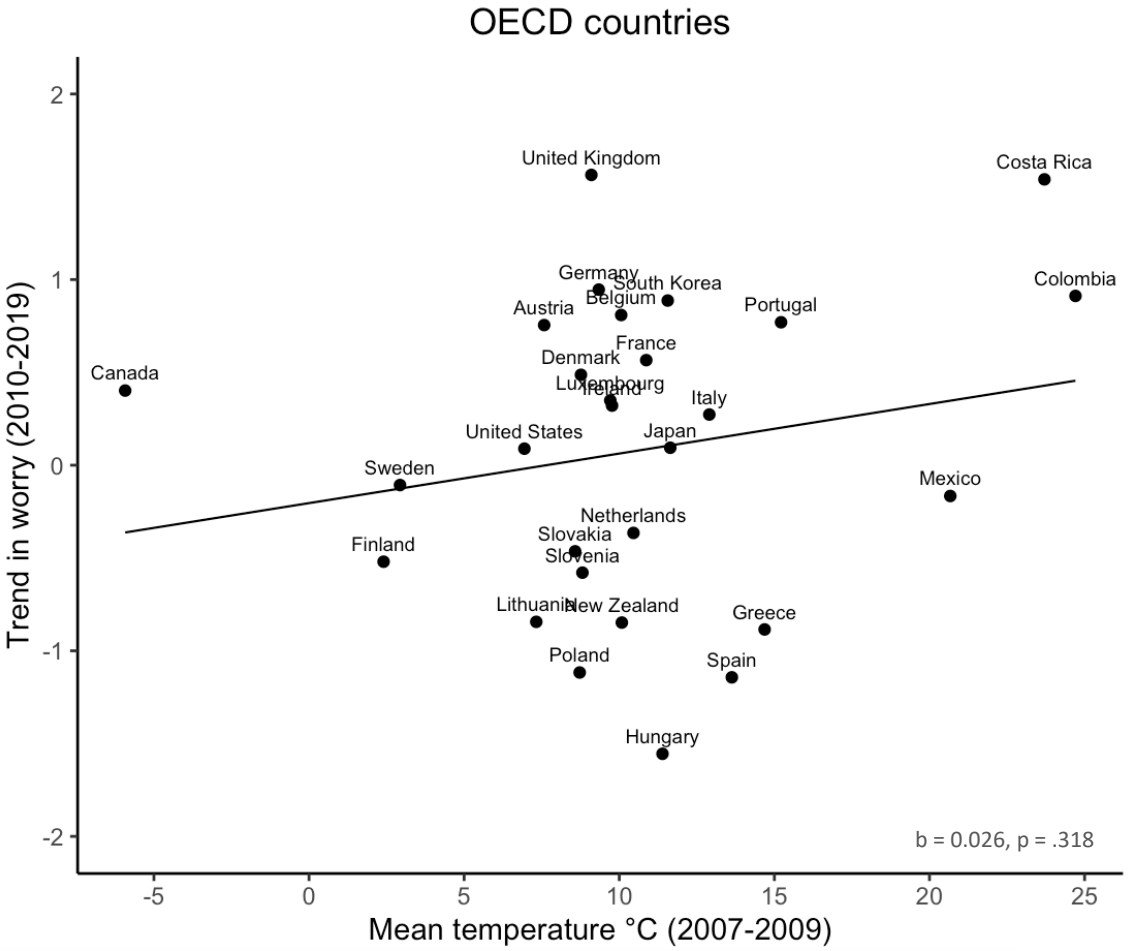
Note: Sample size was 313,359. This is a simple plot of the raw means in the data set. Standard errors were clustered at the year level. Wording of the worry question: Did you experience the following ... during A LOT OF THE DAY yesterday? How about ... Worry? Yes/no. this measure was multiplied by 100 to represent the percentage of people reporting high levels of worry. 28 OECD countries: Austria, Belgium, Canada, Colombia, Costa Rica, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, United Kingdom, United States.

Figure A4. Adjusted trend reporting high levels of worry, OECD, 2010-2019.



Note: Sample size was 313,359. Graph depicts time trend adjusted for gender, age bands, employment status, income quintiles, level of education, marital status, number of children under 15 in the household, log of GDP per capita, unemployment rate, inflation rate, and country fixed effects. Standard errors were clustered at the country-year level. Wording of the worry question: Did you experience the following ... during A LOT OF THE DAY yesterday? How about ... Worry? Yes/no. This measure was multiplied by 100 to represent the percentage of people reporting high levels of worry. 28 OECD countries: Austria, Belgium, Canada, Colombia, Costa Rica, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, United Kingdom, United States.

FIGURE A5. Plot of the worry trend for each country against the average of the mean temperature in the three years prior to 2010, OECD.



Note: Sample size was 313,359. Wording of the worry question: Did you experience the following ... during A LOT OF THE DAY yesterday? How about ... Worry? Yes/no. this measure was multiplied by 100 to represent the percentage of people reporting high levels of worry. The trend in the percentage of people reporting high levels of worry between 2010 and 2019 in each country is depicted in the vertical axis. Mean temperature in each country in 2007, 2008, and 2009 was averaged to create the mean temperature variable depicted in horizontal axis. 28 OECD countries: Austria, Belgium, Canada, Colombia, Costa Rica, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, United Kingdom, United States.

List of variables from the Gallup World Poll

Worry: Did you experience the following feelings during A LOT OF THE DAY yesterday? … How about Worry? Yes/no.

Age:
Respondent's age.

Gender:
Respondent's gender.

Employment status:
Respondent's employment status.

- Employed full time for an employer
- Employed full time for self
- Employed part time want full time
- Employed part time do not want full time
- Unemployed
- Out of workforce

Personal income quintiles:
Respondent's income quintile

- Bottom 20%
- Second 20%
- Third 20%
- Fourth 20%
- Top 20%

Level of education:
Respondent's level of education

- Elementary education or less
- Completed high school/college degree
- Completed secondary - tertiary School

Marital status:
What is your current marital status?

- Single/never married
- Married
- Separated
- Divorced
- Widowed

Number of children under 15 in household:
How many children under 15 years of age are now living in your household.