Title: Psychological wellbeing during the global COVID-19 outbreak

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Abstract:

The COVID-19 pandemic presents a significant challenge to wellbeing for people around the world. Here, we examine which individual and societal factors can predict the extent to which individuals suffer or thrive during the COVID-19 outbreak, with survey data collected from 26,684 participants in 51 countries from 17 April to 15 May 2020. We show that wellbeing is linked to an individual's recent experiences of specific momentary positive and negative emotions, including love, calm, determination, and loneliness. Higher socioeconomic status was associated with better wellbeing. The present study provides a rich map of emotional experiences and wellbeing around the world during the COVID-19 outbreak, and points to calm, connection, and control as central to our wellbeing at this time of collective crisis.

One Sentence Summary: This study maps emotions in 51 countries during COVID-19 and points to calm, connection, and control as central to wellbeing.

Main Text:

The COVID-19 pandemic has changed the lives of billions of people. Around the globe, people are living under the threat of the pandemic and its economic consequences, as well as experiencing curtailed opportunities for sustainable livelihoods and real-world social interactions. These conditions present a significant challenge to wellbeing: Pandemics are linked to deteriorations in wellbeing and mental health (*1*), and reduced social contact is strongly associated with poor psychological outcomes (*2*). It is essential to examine the factors associated with wellbeing during the conditions of this pandemic (*3*), because the virus and amelioration measures may continue to affect large parts of the world's population for months or years to come. Here, we examine which individual and societal factors contribute to individuals' wellbeing during the COVID-19 outbreak using survey data collected from 29,744 participants in 157 countries from 17 April to 15 May 2020.

When making evaluations, including judgments about our own life, we draw upon emotions as a critical source of information (*4*). Indeed, our individual, momentary emotional experiences, such as feelings of loneliness, gratitude, and love, are central to our wellbeing and life satisfaction (*5*). In circumstances of stress, such as during a pandemic, some emotional experiences can play an accentuated role. For example, social relationships are important for wellbeing in general, but even more so at times of threat (*6*). We therefore theorized that experiences of love and loneliness, which reflect social relationships, would be more strongly associated with psychological wellbeing than self-focused emotions like sensory pleasure. Moreover, a sense of agency and positive expectations for the future are essential for psychological recovery following trauma (*7*) and so experiencing emotional states like determination and hope should be associated with enhanced wellbeing during the COVID-19 outbreak.

Besides emotional experiences, psychological wellbeing is also shaped by socio-economic status (SES), which reflects a person's economic and social resources (*8*). Low SES is associated with lower psychological wellbeing (*9*). Studies of the Black Death and the 1918 influenza have shown that SES was a major determinant of mortality risk (*10*). For COVID-19, disproportionately high infection and mortality rates have been documented in lower SES communities (*11, 12*). We therefore predicted that psychological wellbeing would be lower in individuals of lower SES during the COVID-19 outbreak.

The COVID-19 virus is a global threat, but the affected countries vary along dimensions that may be relevant to wellbeing. We considered three domains of societal variation across countries in

examining whether country-level features can predict wellbeing beyond individual-level variables: COVID-19-related measures, global indices, and cultural values. Number of deaths per million per country was used to index the severity of the outbreak. More stringent policies restrict individuals' opportunities to work, study, and socialize, and may therefore be expected to adversely affect wellbeing (*13*), yet laxer policy measures in relation to the COVID-19 outbreak have been found to be associated with higher levels of psychological distress (*14, 15*). We also took into account country-level wealth and inequality, because people in more affluent countries are on average happier than those in poorer countries (16) and economic inequality is generally associated with worse health and wellbeing (17). Finally, we included measures of cultural norms and values: collectivism/individualism (the extent to which the self is primarily seen in relation to the group: *18*) and tightness/looseness (the strength and adherence to social norms: *19*). Cultural norms are associated with wellbeing (20), and can shape people's behavior during pandemics by regulating social coordination (*21*). Therefore, we sought to examine the role of country-level variables relating to COVID-19, wealth and economic inequality, and cultural norms, on psychological wellbeing during the COVID-19 outbreak.

To provide a systematic test of the individual and societal factors that influence wellbeing across countries during a pandemic, we conducted an online survey with participants recruited via snowball sampling. The survey was offered in 50 languages (see Supplementary Materials). Between 17 April and 15 May 2020, 29,744 people from 157 countries participated[1]. In order to ensure reasonable representativeness (*14*), the present analyses include data from the 51 countries in our sample with minimally 200 participants. Of those, 26,684 participants had completed relevant measures and were retained in the analyses. See Table 1 for an overview of the samples and Supplementary Materials for further details. Our recruitment strategy sought to maximize variability of participants by utilizing personal networks, social media, and news media. Participants were between 16 and 101 years old (mean age: 37.28 (14.20)), and there was considerable variation in years of education (range: 0 — 40 years, mean 16.86 (4.05)).

To measure wellbeing, we included two questions measuring eudemonic wellbeing (flourishing), one question measuring satisfaction with life, two questions measuring resilience, and one item each measuring stress, tiredness, depression, mental health, and physical health (see Supplementary Materials). We conducted an exploratory item factor analysis on the wellbeing measures, which yielded a four-factor model, reflecting wellness (eudemonic wellbeing and subjective life

[1] For simplicity, we use "countries" to refer to countries, districts and special regions.

satisfaction), resilience, health (mental and physical), and distress (stressed, tired, and depressed) (see Supplementary Materials).

Emotional experiences were measured using ratings on 7-point Likert scales in response to the question "In the past week, to what extent did you experience the following emotions?" We measured the positive emotions admiration, calm, compassion, determination, feeling moved, gratitude, hope, love, relief, and sensory pleasure, and the negative emotions anger, anxiety/worry, boredom, confusion, disgust, fear, frustration, loneliness, regret, and sadness.

SES was measured with the McArthur ladder task, a subjective SES index that asks respondents to position themselves socioeconomically relative to other people in their society on a ladder (*22*). We included the total number of deaths per million per country, taken from Our World in Data [see link]. As an index of the measures taken in different countries to ameliorate the effects of the COVID-19 virus, we used the Stringency Index (*23*), which includes seven measures of containment and closures, economic policies, and health policies, based on the mean level for the data collection period per country. As an index of country-level wealth, we used gross domestic product per capita (GDP), and as a measure of equality of distribution of resources within each country we used the Gini index; both based on public data from the World Bank. As measures of cultural values, we employed measures of collectivism/individualism (*24*) and tightness/looseness (*19*).

Translations of all materials were done from English by a native speaker and checked by a second native speaker. The study received approval from the University of Amsterdam Department of Psychology Ethics Committee and all participants provided digital informed consent. A copy of the survey and detailed information about the measures are available in the Supplementary Materials.

These data offer a rich, granular map of the emotional experiences and wellbeing of 26,684 participants from 51 countries during the COVID-19 outbreak. The results show that overall, participants' emotional experiences were characterized by love and hope, as well as feelings of anxiety and sadness (Figures 1 and 2). Yet, as can be seen in Figure 3, participants generally experienced more positive emotions than negative ones (positive emotion mean: 3.527 (1.052); negative emotion mean 2.662 (1.354). See Supplementary Materials for results by country.

To examine the individual-level factors that shape wellbeing during a pandemic, we employed multi-level regression models, with individual predictors as fixed effects. A random intercept was

included to model the between-country variation of each outcome. Regressions were done separately for each of the four dependent variables: wellness, resilience, health, and distress.

Each of the wellbeing outcomes was first analyzed with an unconditional model to estimate how much of the total variance was within- vs between-countries. Some variability was found across countries for all four facets of wellbeing (Figure 4), but 93-96% of the variability was explained by variance within countries. This suggests that, although individuals vary greatly in their levels of wellbeing, their wellbeing is not primarily dependent on their country of residence. Consequently, within- and between-country effects were not separated for individual-level variables (see Supplementary Materials).

In the first step of the regression models, the demographic variables age, gender, and education were included as controls. In the second step, we added the 20 emotions, and in the third step, SES. Here, we report results with standardized coefficients of 0.1 or greater; see Supplementary Materials for full statistical details on all steps of the models.

The results show that higher wellness is associated with higher SES (0.175), and recent experiences of feeling determination (0.147), hope (0.143), love (0.132), and calm (0.100). Greater resilience was related to a subset of the same emotions: determination (0.216), hope (0.130), and calm (0.105), as well as by higher SES (0.104). Better perceived health was associated with higher SES (0.108), as well as having had more recent experiences of calm (0.107), and fewer recent experiences of loneliness (-0.100). Finally, distress was associated with feeling anxiety (0.174), frustration (0.158), and sadness (0.105). The variance explained by the fixed effects was 0.488 in the model for wellbeing, 0.332 for resilience, 0.306 for health, and 0.467 for distress. Figure 5 illustrates the extent to which SES and experiences of different types of emotions predict each facet of wellbeing.

Next, we tested whether country-level variables would map onto individual wellbeing beyond individual factors. Country-level measures in the second level comprised (a) features directly relating to the pandemic: number of deaths and stringency of government measures, and global measures: GDP and economic inequality (Gini index); and (b) cultural values: individualism/collectivism and tightness. No significant effects were found for GDP or economic inequality, nor for number of deaths. These results may reflect the fact that most variability in individual wellbeing was found within, rather than between countries. However, living in countries

with more stringent measures in relation to COVID-19 was associated with higher resilience (0.047), and less distress (-0.073).

Data on cultural values was only available for a subset of the countries in our dataset and so the analyses testing for a potential contribution of these features was conducted on that subset (see Supplementary Materials). Cultural values did not account for individuals' wellbeing beyond the variance accounted for by individual factors (see Supplementary Materials).

The present study sought to inform our understanding of the factors that shape wellbeing during a pandemic. The results show considerable consistency in emotional experiences across countries, with frequently reported experiences of love, hope, gratitude, and compassion. Of the negative emotions, anxiety, frustration, and sadness were persistent. In terms of wellbeing, individuals varied greatly, but little systematic variability was found between countries after accounting for individual-level factors. The extent to which individuals suffered or thrived during the COVID-19 outbreak was linked to their position in society (SES), as well as to their recent experiences of momentary negative and positive emotions, including calm, loneliness, and determination. In terms of country-level features, we found that living in a country with more stringent measures in relation to COVID-19 was associated with better wellbeing.

Research on the relationship between emotions and wellbeing has tended to either focus on one emotion at a time, or to collapse across all positive (vs all negative) emotions; research that differentiates between a wide range of specific emotions in relation to wellbeing is scarce. Our findings show that particular kinds of emotional experiences are differentially associated with wellbeing during the COVID-19 outbreak. Specifically, feelings of calm, social connection to others, and a greater sense of subjective control are associated with better wellbeing, pointing to a key triad of positive emotional experiences involved in wellbeing: calm, connection, and control.

Feeling calm is linked to the parasympathetic nervous system, sometimes called the 'rest and digest' arm of the autonomic nervous system (*25*). The benefits of feeling calm appear to be intuitively recognized by people living through the COVID-19 pandemic, as evidenced by the surge in downloads and use of meditation apps during the outbreak (*26*). Research in clinical and positive psychology suggests potential promise for interventions targeting calm to increasing wellbeing (*27, 28*). One route to calm may be to spend time in nature, which is associated with enhanced wellbeing, especially at times of crisis (*29*).

Social connection is key to wellbeing, and our findings show better psychological wellbeing during the COVID-19 outbreak in individuals experiencing more feelings of love. This result aligns with research showing a central role of social relationships in mental and physical health (*30*). Given that social connections are of particular importance during times of threat (*6*), the association between love and wellbeing may be amplified during pandemic conditions. On the flip side, distress was associated with more feelings of loneliness. Loneliness reflects an absence of fulfilling social relationships, which is associated with poorer mental health outcomes (*31, 32*). Thus, love and loneliness, opposite states of social connectedness, appear to play pivotal roles in psychological wellbeing during the COVID-19 pandemic, emphasizing the importance of staying socially connected whilst practicing physical distancing.

Individuals' subjective sense of control is also important for their psychological wellbeing. Our results show that feeling more determination and hope is associated with greater resilience. These emotional states reflect an adaptive mindset that strengthens individuals' sense of autonomy (*33*). Determination also aids perseverance, which can weaken the link between stressful life events - such as a pandemic - and psychological distress (*34*). Recent evidence suggests that interventions can increase perseverance in times of hardship (*35*), and thereby improve psychological wellbeing (*33*, *36*). We also found that emotions associated with a lower sense of psychological control, like anxiety, frustration, and sadness (*37*), were linked to psychological distress. Feelings of sadness and anxiety map onto the symptoms of two prevalent mental health conditions, depression and anxiety disorders. Frequent anxiety or sadness can reflect a risk for developing chronic mental health problems, especially during periods of social distancing (*38*). These findings highlight the particular challenge of pandemic threat, as the nature of the threat itself precludes many social strategies for handling stress (*39*).

Some chronic conditions, like low SES, are associated with a low degree of personal control (*40*). Consistent with research demonstrating increased risk of stress-related negative outcomes in lower SES groups, we found that, during the COVID-19 outbreak, lower SES was associated with lower wellbeing, even after accounting for individuals' emotional experiences during the last week. This finding highlights the stressors relating to both financial and health strains in lower SES communities, especially at times of crisis, and points to the importance of policy makers considering SES when introducing interventions at the societal level (*38*). One way to increase people's sense of control is to provide them with adequate information. Recent findings point to better mental health in people who had received specific, timely, and accurate health information on the local outbreak situation (*2*).

Beyond individual-level factors (emotions and SES), we documented an association between wellbeing and policy stringency. Individuals living in countries with more stringent measures in relation to COVID-19 reported better wellbeing. This is consistent with two recent studies showing that less stringent policy measures in relation to the COVID-19 outbreak are associated with higher population levels of psychological distress (*14, 15*). Other country-level features, including wealth, inequality, cultural values, and death rates, had little predictive effect on wellbeing beyond individual-level factors. Previous research has tended to focus on the relation between country-level variables and country-level wellbeing (*16, 20*), while the present study examined individual-level wellbeing.

Several limitations of the current study are worth noting. The approach taken was correlational, and the findings thus cannot be considered to provide causal evidence. Moreover, no baseline measures were available for many of the included measures, precluding direct comparisons with non-pandemic conditions. Finally, the sample in the present study was recruited with snowball sampling, and is thus not representative of the general populations. We therefore sought to replicate our individual-level findings in a pre-registered replication with two independent, representative samples. The results were consistent across samples. To further test the robustness of our results, we ran structural equation modelling, which yielded consistent findings to those from the regression models. To probe the country-level findings, we re-ran the analyses with half of the participants from each country as a training set, and the other half as a validation set. The estimated parameters and variance explained by the training and validation models were highly consistent. These additional results, reported in the Supplementary Material, indicate that the findings reported are robust.

The present study provides a rich map of the emotional experiences and wellbeing based on 26,684 people from 51 countries during the COVID-19 outbreak. Beyond the questions addressed here, we hope that these data will provide a useful resource for researchers interested in psychology, health, and public policy within and across countries [all data and analysis scripts will be made available upon acceptance].

The present findings emphasize the role of individual-level factors in shaping wellbeing. However, this does not mean that emotions and wellbeing are a personal responsibility (*38, 41*). This is particularly true during the collective strain of a pandemic crisis (*42*); historical evidence shows increased rates of suicide following both the 1918 influenza (*43*) and SARS in 2003 (*44*).

Responding to the collective crisis of the COVID-19 pandemic will require not only individuals, but also organisations and public institutions, to create spaces for positive emotions like calm, love and determination, particularly for those in less privileged positions in society. The implications of the present results can thus be well summarized by a slightly adapted piece of advice in a time of crisis: Keep calm, together, and carry on.

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Besides the first and last authors, all authors are in random order.

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- Jacob Israelashvili: forming conception and design, questionnaire translation, data collection, analysis and interpretation of data, reviewing and editing the draft

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- Kalifa Damani: data collection
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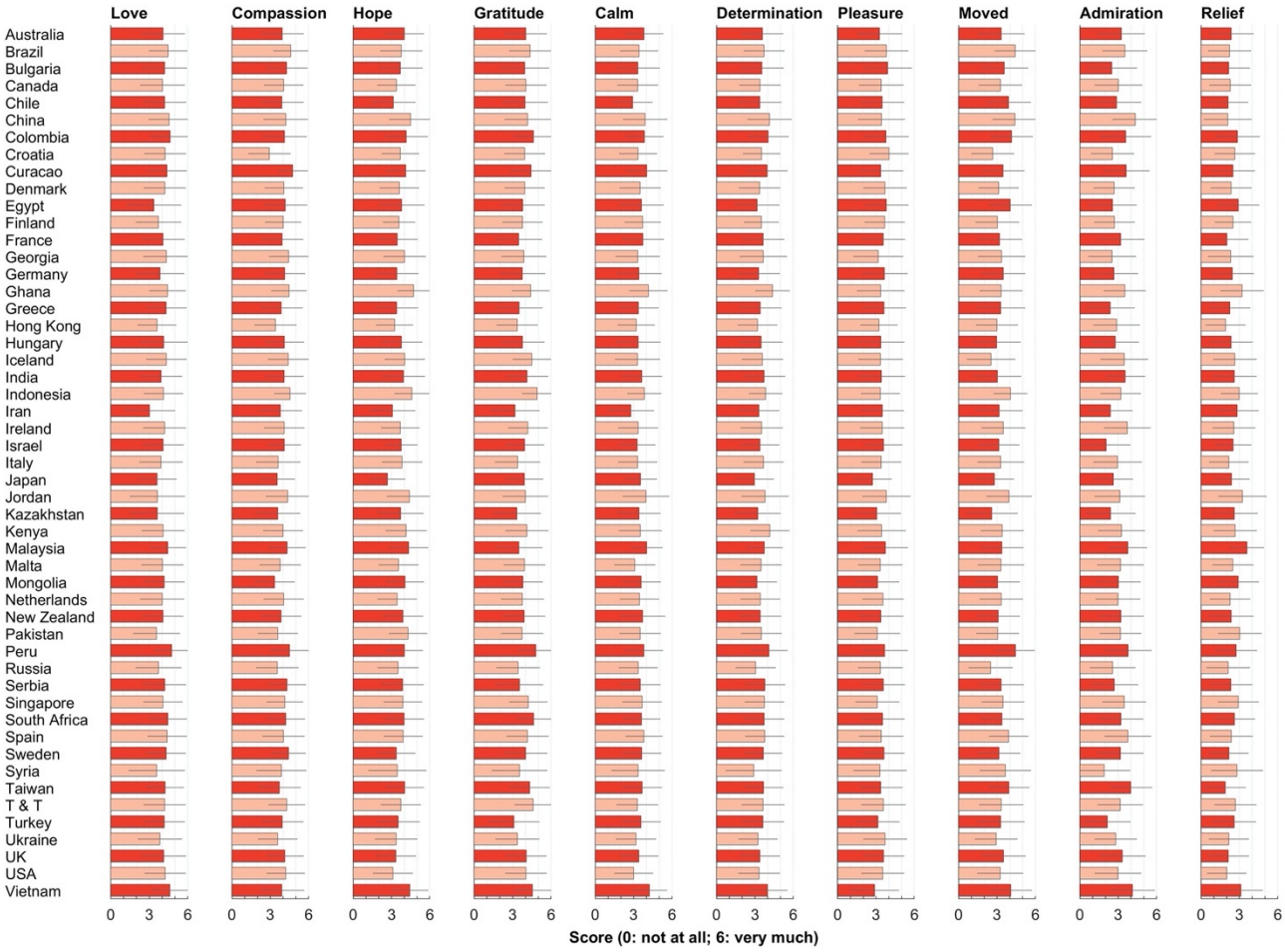
Competing interests: The authors declare no competing interests

Data and materials availability: All data, code, and materials used will be made available on OSF upon acceptance of the manuscript.

Figures and Table

Fig. 1. Emotions experienced during the COVID-19 pandemic in 51 countries. Mean (bars) and standard deviations (error bars) of the positive (A) and negative (B) emotion scores for each county. Abbreviations: T & T, Trinidad and Tobago; UK, United Kingdom; USA, United States of America.

(A)



(B)

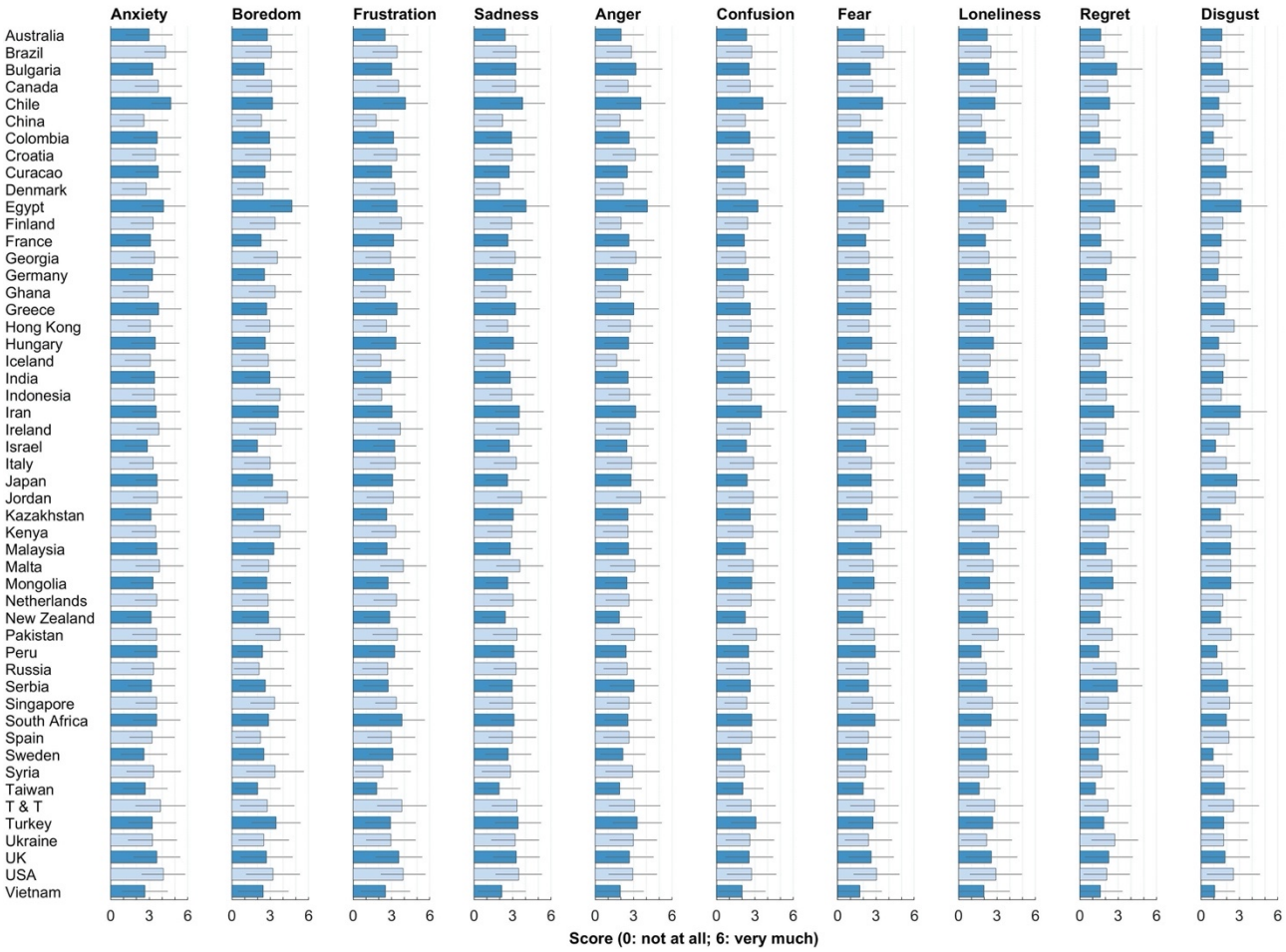

Anxiety
Boredom
Frustration
Sadness
Anger
Confusion
Fear
Loneliness
Regret
Disgust
Australia
Brazil
Bulgaria
Canada
Chile
China
Colombia
Croatia
Curacao
Denmark
Egypt
Finland
France
Georgia
Germany
Ghana
Greece
Hong Kong
Hungary
Iceland
India
Indonesia
Iran
Ireland
Israel
Italy
Japan
Jordan
Kazakhstan
Kenya
Malaysia
Malta
Mongolia
Netherlands
New Zealand
Pakistan
Peru
Russia
Serbia
Singapore
South Africa
Spain
Sweden
Syria
Taiwan
T & T
Turkey
Ukraine
UK
USA
Vietnam
0 3 6
Score (0: not at all; 6: very much)

Fig. 2. Distribution of country mean scores per emotion for the 51 countries used in the regression model. Error bars show standard deviations.

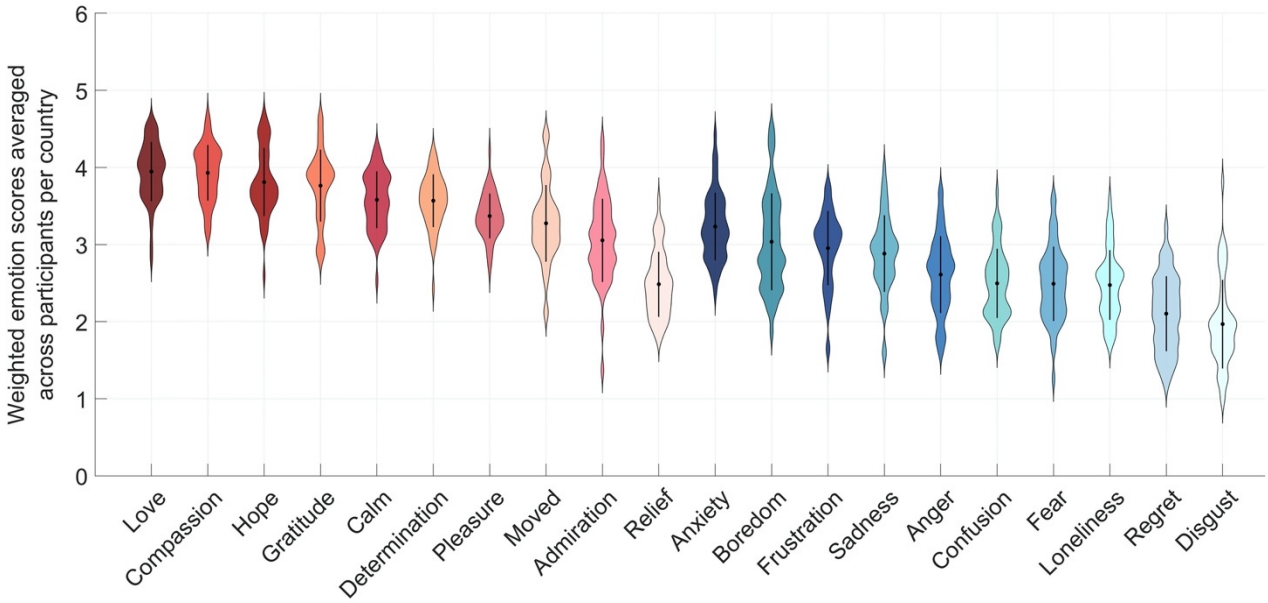


Fig. 3. Average positive (red) and negative (blue) emotions during the COVID-19 pandemic in each country. The scores of the 10 positive/negative emotions were averaged to get a single positive/negative emotion value per participant. Bars show means, and error bars reflect standard deviation across participants per country.

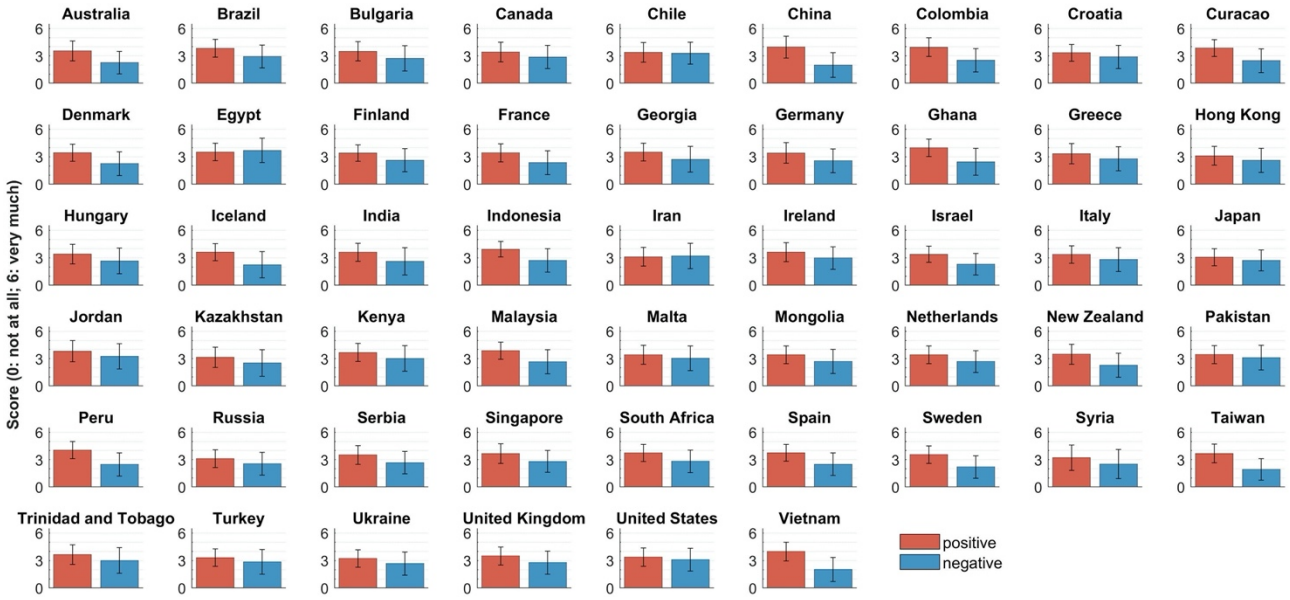


Fig. 4. Facets of wellbeing, showing wellness, resilience, health, and distress for each of the 51 countries included in the main analyses. Filled circles reflect means, and horizontal lines show standard deviation across participants per country. Abbreviations: T & T, Trinidad and Tobago; UK, United Kingdom; USA, United States of America.

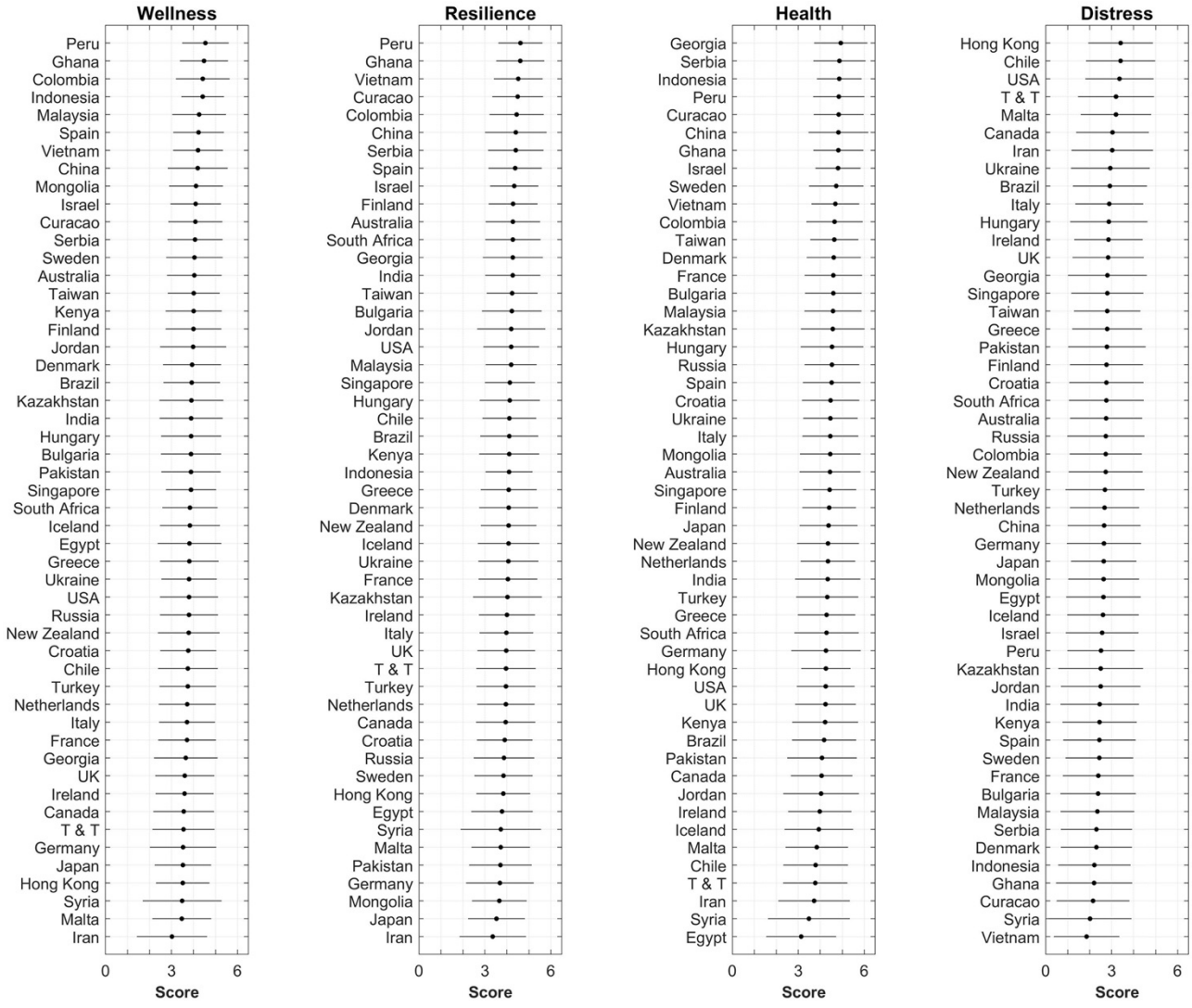


Fig. 5. Radial plots showing standardized coefficients above 0.05 for individual-level factors for each dependent variable. Positive emotions are shown in red and negative emotions in blue. The length of the lines reflects the standardized coefficients according to the radial axis. The left half shows factors that are negative predictors of the dependent variable, and the right half shows factors that are positive predictors of the dependent variable.

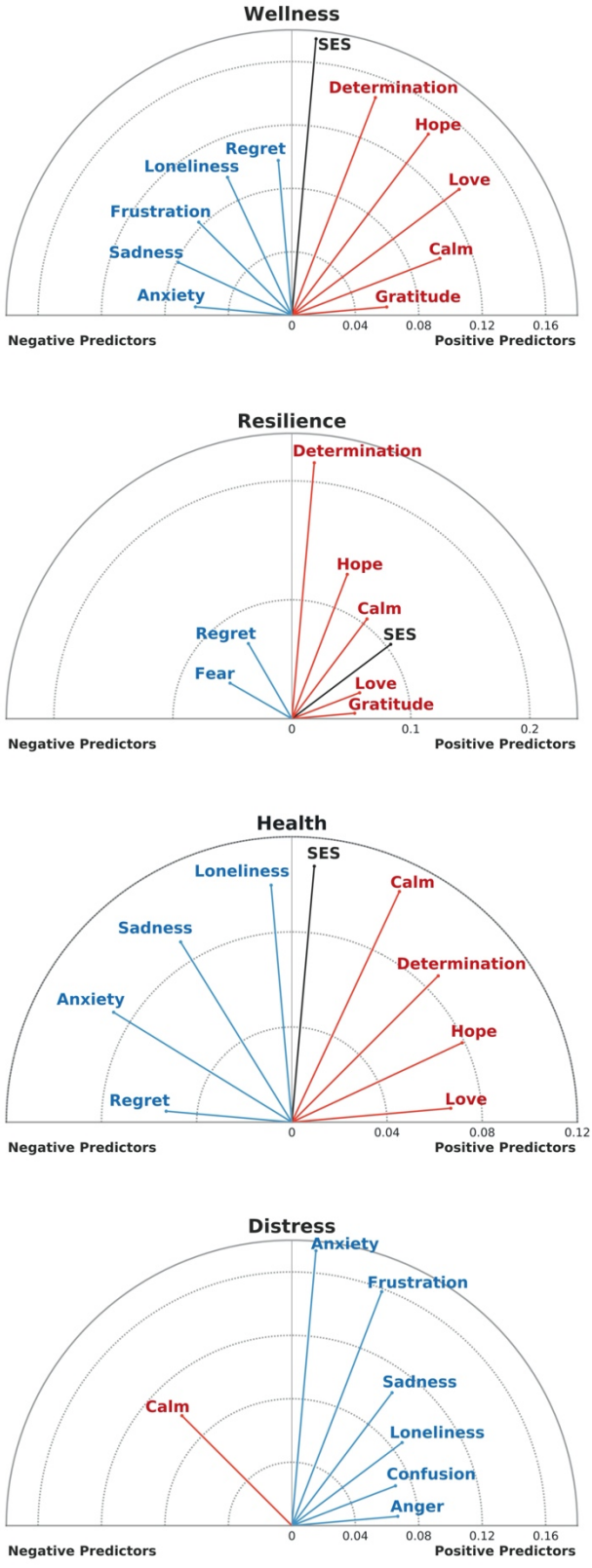


Table 1. Demographic information about the samples.

Country	Number of participants	Mean age (SD)	Mean education (SD)	Percentage female
Australia	429	39.70 (15.76)	16.41 (3.51)	53.85%
Brazil	350	43.96 (15.82)	17.90 (4.98)	61.71%
Bulgaria	307	41.17 (13.01)	17.49 (3.64)	69.06%
Canada	300	37.69 (14.27)	17.71 (4.06)	65.33%
Chile	519	32.95 (12.42)	18.62 (3.49)	70.91%
China	2520	35.73 (13.27)	15.50 (3.52)	45.04%
Colombia	254	41.03 (15.73)	17.83 (3.91)	62.60%
Croatia	564	28.09 (9.60)	15.20 (2.77)	69.86%
Curacao	260	51.63 (13.06)	17.24 (4.34)	68.46%
Denmark	245	45.17 (17.16)	16.24 (4.82)	67.76%
Egypt	910	23.25 (5.85)	14.72 (3.53)	70.11%
Finland	304	38.93 (19.58)	15.01 (4.62)	68.75%
France	390	44.18 (14.35)	15.56 (4.45)	60.77%
Georgia	288	31.40 (8.95)	16.62 (4.21)	59.03%
Germany	610	36.86 (13.59)	17.18 (3.90)	59.02%
Ghana	389	32.34 (9.93)	17.82 (4.84)	38.05%
Greece	283	38.29 (11.95)	17.67 (3.44)	62.19%
Hong Kong	242	32.30 (11.40)	17.17 (3.44)	58.68%
Hungary	502	34.30 (12.22)	17.39 (3.52)	61.75%
Iceland	397	43.63 (14.29)	7.78 (6.50)	74.56%
India	270	34.39 (14.34)	17.87 (3.61)	57.04%
Indonesia	711	31.56 (10.18)	16.70 (3.82)	61.18%
Iran	206	36.56 (9.62)	17.02 (3.37)	50.00%
Ireland	398	34.98 (13.55)	16.59 (3.36)	66.83%
Israel	224	43.43 (14.46)	14.91 (5.55)	61.16%
Italy	495	38.40 (16.18)	16.04 (4.06)	67.27%
Japan	1449	43.04 (12.65)	17.54 (3.48)	48.10%
Jordan	278	35.69 (12.97)	14.84 (4.21)	49.64%
Kazakhstan	309	35.39 (12.99)	15.28 (4.14)	66.99%
Kenya	227	30.79 (11.84)	16.67 (4.18)	39.21%
Malaysia	238	33.05 (8.93)	17.38 (4.59)	60.08%
Malta	1451	38.13 (14.45)	17.85 (5.11)	57.96%
Mongolia	217	33.37 (7.51)	15.95 (3.56)	76.96%
Netherlands	1447	38.62 (13.09)	17.42 (3.83)	66.83%
New Zealand	291	35.58 (13.45)	17.02 (3.92)	65.98%
Pakistan	618	25.04 (9.80)	14.93 (3.39)	44.50%
Peru	389	46.54 (16.52)	18.14 (4.02)	61.95%
Russia	623	36.53 (12.53)	16.76 (3.91)	74.16%
Serbia	389	41.97 (11.19)	15.29 (2.85)	62.21%
Singapore	216	36.35 (13.55)	16.56 (3.17)	56.94%
South Africa	445	37.04 (14.14)	16.66 (3.86)	67.19%

Spain	445	47.83 (16.01)	18.57 (5.18)	66.29%
Sweden	568	49.97 (15.09)	17.22 (4.21)	62.15%
Syria	269	33.70 (11.08)	15.88 (4.01)	62.45%
Taiwan	840	39.25 (13.43)	17.88 (4.12)	60.71%
Trinidad and Tobago	356	35.80 (10.47)	18.51 (3.85)	74.44%
Turkey	373	41.61 (14.71)	16.63 (3.58)	53.08%
Ukraine	756	33.15 (9.89)	15.83 (2.49)	57.67%
United Kingdom	722	38.91 (14.54)	17.91 (3.86)	67.31%
United States of America	1019	37.57 (14.39)	18.44 (3.91)	66.63%
Vietnam	382	33.71 (9.09)	17.17 (3.31)	62.04%

Science
AAAS

Supplementary Materials for

Psychological wellbeing during the global COVID-19 outbreak

Rui Sun, Alisa Balabanova, Claude Julien Bajada, Yang Liu, Mariia Kriuchok, Silja-Riin Voolma, Mirna Đurić, Claude-Hélène Mayer, Maria Constantinou, Mariam Chichua, Chengcheng Li, Ashley Foster-Estwick, Kurt Borg, Carin Hill, Rishabh Kaushal, Ketaki Diwan,Valeria Vitale, Tiarah Engels, Rabiah Amin, Irina Ursu, Tengku Nila Fadhlia, Yi-jung Wu, Lusanda Sekaja, Milad Hadchity, Anita Deak, Shahira Sharaf, Pau Figueras, Anthony Kaziboni, Aoife Whiston, Kalliopi Ioumpa, Alfredo Montelongo, Lisanne Pauw, Gabriela Pavarini, Evgeniya Vedernikova, TuongVan Vu, Lauri Nummenmaa, Yong-Qi Cong, Milica Nikolic, Andrea Olguin, Wai Kai Hou, Jacob Israelashvili, Hyunjin J. Koo, Samaneh Khademi, Chinwendu Genevive Ukachukwu, Damian Omari Juma, Roza G. Kamiloğlu, Akerke Makhmud, Peter Sigurdson Lunga, Carlotta Rieble, Muhammad Rizwan, Mai Helmy, Laura Vuillier, Kunalan Manokara, Enzo Caceres Quezada, Delgermend Tserendamba, Michiko Yoshie, Amy H. Du, Kumba Philip-Joe, Pála Björk Kúld, Kalifa Damani, Annabella Osei-Tutu, Disa Sauter

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Supplementary Text
Figs. S1 to S5
Tables S1 to S18

Materials and Methods

Materials

A. Questionnaire used in the manuscript[1]

- Emotions

In the past week, to what extent did you experience the following emotions? (Not at all = 0; Very much=6)

Admiration, Calm, Compassion, Determination, Feeling moved, Gratitude, Hope, Love, Relief, Sensory pleasure (such as smell, sound, touch etc), Anger, Anxiety/Worry, Boredom, Confusion, Disgust, Fear, Frustration, Loneliness, Regret, Sadness

- Health

At this moment, (Strongly disagree/Strongly agree) (Scale from 0 to 100)

  - I feel physically healthy
  - I feel mentally healthy
  - I feel stressed
  - I feel tired
  - I feel depressed

- Resilience and Eudaimonic wellbeing

At this moment, (Not at all = 0; Very much=6)

  - I have a high capacity to overcome setbacks.
  - I feel that in very difficult situations I am able to respond in positive ways.
  - I feel good about myself.
  - I have the feeling that I lead a purposeful and meaningful life.

- Satisfaction with Life

At this moment, how satisfied are you with your life? (0 = Completely dissatisfied; 10 = (Completely satisfied)

- McArthur ladder task (SES)

Think of this ladder as representing where people stand in your country. At the top of the ladder are the people who are the best off – those who have the most money, the most education, and the most respected jobs. At the bottom are the people who are the worst off – those who have the least money, least education, the least respected jobs, or no job (1). The higher up you are on this ladder, the closer you are to the people at the very top (10); the lower you are, the closer you are to the people at the very bottom. Where would you place yourself on this ladder? (1 – 10)

- Demographics
  - Which year were you born? [Prefer not to say, 2004 - 1919]
  - How many years of education (starting from primary school) have you completed? [Prefer not to say, 0 - 40]
  - What is your gender? Male/Female/Other/Do not want to disclose
  - What is your current employment status? Working full-time/Working part-time/Retired/Student/Unemployed/Not working
  - Did you lose your job due to COVID-19? Yes/No/Do not wish to disclose

[1] In addition to the measures included in the present manuscript, we collected further demographic information, as well as additional measures including on personality and adherence to virus-related policy. These data fall beyond the scope of the current article but are available on OSF.

- Have you experienced any symptoms of COVID-19 recently? No/Yes, and I think I have COVID-19/Yes, but I do not think I have COVID-19/Do not wish to disclose

- Prosociality
  Have you done any of these behaviours in the past week? (No = 0; Yes = 1)
  - Helped someone who needed help related to COVID-19 (e.g., buy groceries for a neighbour).
  - Donated money/materials to a charity or an organisation related to COVID-19.
  - Volunteered your time to your community or an organisation related to COVID-19.
  - Helped someone unrelated to COVID-19.
  - Donated money/materials to a charity/organisation unrelated to COVID-19.
  - Volunteered your time to your community or an organisation unrelated to COVID-19.
- Emotion Regulation
  In the past week, when experiencing NEGATIVE emotions, to what extent did you...(Not at all = 0; Very much=6)
  - … continually think about what was bothering you?
  - … think of other ways to interpret the situation?
  - …try not to show your emotions to others?
  - … talk to others about your emotions?
  - … distract yourself from your emotions?
  - … accept your emotions the way they were?

  In the past week,
  - How much support did you get from others?
  - How connected have you felt to others?
- Empathy
  When you think about an individual who has just tested positive for COVID-19, how does it make you feel? (Not at all = 0; Very much = 6) Sympathetic, Concerned, Overwhelmed, Distressed
- Vulnerability and Connectedness
  In the context of the current COVID-19 pandemic, some people feel more vulnerable than others. For each of the following statements, please indicate the level of vulnerability that is relevant for you: (0 = Not at all; 10 = Extremelly)
  - I feel that I or someone close to me is vulnerable to COVID-19.
  - I feel that my country is vulnerable to the outbreak of COVID-19.

B. Available languages

The questionnaire was available in the following 50 languages: Afrikaans, Arabic, Bahasa Indonesia, Bahasa Malaysia, Brazilian Portuguese, Bulgarian, Cantonese (Traditional Chinese, Hong Kong), Castilian Spanish, Catalan, Croatian, Czech, Danish, Dari, Dutch, English, Estonian, Filipino, Finnish, French, Georgian, German, Greek, Hebrew, Hindi, Hungarian, Icelandic, Italian, Japanese, Kazakh, Korean, Latin American Spanish, Maltese, Mandarin, Marathi, Norwegian, Pashto, Persian, Polish, Portuguese, Romanian, Russian, Serbian, Slovak, Slovenian, Swedish, Thai, Traditional Chinese (Taiwan), Turkish, Ukraine, Vietnamese.

Supplementary Text

Demographic information and data collection information in each country

Country	# Participants	Mean age (SD)	Mean education (SD)	Female%	Students%	First date	Last date	Death/million	Stringency
Australia	429	39.70 (15.76)	16.41 (3.51)	53.85	19.35	18/04	14/05	3.41	64.00
Brazil	350	43.96 (15.82)	17.90 (4.98)	61.71	12.57	21/04	15/05	33.89	77.00
Bulgaria	307	41.17 (13.01)	17.49 (3.64)	69.06	6.51	20/04	15/05	10.15	70.00
Canada	300	37.69 (14.27)	17.71 (4.06)	65.33	18.67	17/04	15/05	86.35	76.00
Chile	519	32.95 (12.42)	18.62 (3.49)	70.91	26.01	19/04	14/05	12.13	73.00
China	2520	35.73 (13.27)	15.50 (3.52)	45.04	19.88	18/04	14/05	3.22	59.00
Colombia	254	41.03 (15.73)	17.83 (3.91)	62.60	12.60	21/04	15/05	6.65	90.08
Croatia	564	28.09 (9.60)	15.20 (2.77)	69.86	45.92	20/04	08/05	15.68	91.95
Curacao	260	51.63 (13.06)	17.24 (4.34)	68.46	0.77	20/04	05/05	6.09	NA
Denmark	245	45.17 (17.16)	16.24 (4.82)	67.76	17.96	19/04	15/05	79.00	78.15
Egypt	910	23.25 (5.85)	14.72 (3.53)	70.11	58.57	18/04	15/05	3.82	94.00
Finland	304	38.93 (19.58)	15.01 (4.62)	68.75	35.53	18/04	15/05	37.11	75.29
France	390	44.18 (14.35)	15.56 (4.45)	60.77	9.49	17/04	15/05	362.86	90.79
Georgia	288	31.40 (8.95)	16.62 (4.21)	59.03	9.72	20/04	10/05	1.71	95.00
Germany	610	36.86 (13.59)	17.18 (3.90)	59.02	22.46	17/04	15/05	73.71	72.34
Ghana	389	32.34 (9.93)	17.82 (4.84)	38.05	25.45	20/04	14/05	0.50	71.00
Greece	283	38.29 (11.95)	17.67 (3.44)	62.19	10.60	20/04	13/05	13.20	81.58
Hong Kong	242	32.30 (11.40)	17.17 (3.44)	58.68	19.01	18/04	15/05	NA	72.00
Hungary	502	34.30 (12.22)	17.39 (3.52)	61.75	37.65	20/04	14/05	34.03	74.28
Iceland	397	43.63 (14.29)	7.78 (6.50)	74.56	7.81	24/04	14/05	29.30	59.00
India	270	34.39 (14.34)	17.87 (3.61)	57.04	25.56	21/04	15/05	1.05	86.32
Indonesia	711	31.56 (10.18)	16.70 (3.82)	61.18	30.66	18/04	10/05	2.75	74.17
Iran	206	36.56 (9.62)	17.02 (3.37)	50.00	11.17	20/04	07/05	69.17	64.00
Ireland	398	34.98 (13.55)	16.59 (3.36)	66.83	16.08	20/04	13/05	234.66	88.75
Israel	224	43.43 (14.46)	14.91 (5.55)	61.16	12.05	21/04	13/05	25.54	84.78
Italy	495	38.40 (16.18)	16.04 (4.06)	67.27	30.30	19/04	14/05	459.95	81.73
Japan	1449	43.04 (12.65)	17.54 (3.48)	48.10	10.35	18/04	14/05	3.39	59.68
Jordan	278	35.69 (12.97)	14.84 (4.21)	49.64	15.11	17/04	14/05	0.78	86.82
Kazakhstan	309	35.39 (12.99)	15.28 (4.14)	66.99	12.62	20/04	13/05	1.39	85.00
Kenya	227	30.79 (11.84)	16.67 (4.18)	39.21	37.89	20/04	12/05	0.38	88.22
Malaysia	238	33.05 (8.93)	17.38 (4.59)	60.08	21.01	18/04	13/05	3.09	78.46
Malta	1451	38.13 (14.45)	17.85 (5.11)	57.96	18.61	28/04	15/05	10.57	NA
Mongolia	217	33.37 (7.51)	15.95 (3.56)	76.96	5.53	11/05	14/05	0	70.00
Netherlands	1447	38.62 (13.09)	17.42 (3.83)	66.83	16.24	17/04	15/05	273.16	84.62
New Zealand	291	35.58 (13.45)	17.02 (3.92)	65.98	25.77	20/04	15/05	3.93	88.73

Pakistan	618	25.04 (9.80)	14.93 (3.39)	44.50	61.49	25/04	15/05	2.28	94.00
Peru	389	46.54 (16.52)	18.14 (4.02)	61.95	3.86	19/04	14/05	34.57	94.69
Russia	623	36.53 (12.53)	16.76 (3.91)	74.16	16.05	19/04	15/05	8.15	92.00
Serbia	389	41.97 (11.19)	15.29 (2.85)	62.21	6.17	20/04	13/05	25.88	94.13
Singapore	216	36.35 (13.55)	16.56 (3.17)	56.94	15.74	19/04	14/05	2.70	86.54
South Africa	445	37.04 (14.14)	16.66 (3.86)	67.19	15.51	20/04	15/05	2.17	88.88
Spain	445	47.83 (16.01)	18.57 (5.18)	66.29	8.09	18/04	14/05	520.09	87.37
Sweden	568	49.97 (15.09)	17.22 (4.21)	62.15	6.51	18/04	12/05	239.42	57.28
Syria	269	33.70 (11.08)	15.88 (4.01)	62.45	18.59	17/04	14/05	0.17	83.86
Taiwan	840	39.25 (13.43)	17.88 (4.12)	60.71	14.17	19/04	15/05	0.26	35.00
Trinidad and Tobago	356	35.80 (10.47)	18.51 (3.85)	74.44	5.90	29/04	12/05	5.72	92.00
Turkey	373	41.61 (14.71)	16.63 (3.58)	53.08	11.80	17/04	14/05	35.55	89.00
Ukraine	756	33.15 (9.89)	15.83 (2.49)	57.67	8.99	21/04	15/05	6.67	94.00
United Kingdom	722	38.91 (14.54)	17.91 (3.86)	67.31	21.47	18/04	15/05	388.10	76.57
United States of America	1019	37.57 (14.39)	18.44 (3.91)	66.63	21.69	17/04	15/05	186.35	70.55
Vietnam	382	33.71 (9.09)	17.17 (3.31)	62.04	8.64	21/04	10/05	0	81.25

Table S1.

Demographic information and data collection information in each country

Notes:

a. Number of participants: participants provided at least have one response in the questionnaire
b. Due to a translation error, education in Iceland was translated as “how many years of education have you finished after primary school”? In Iceland, mandatory education is between the ages of 6 and 16 years, so the mean education reported in Iceland is equivalent to 17.78 years.
c. Deaths per million and stringency both refer to the mean value for each country’s data collection period
d. Data collection was conducted in the year of 2020

Factor structure for well-being

To assess the underlying factor structure of the well-being measure, we conducted exploratory item factor analysis (*45*) using Mplus 8.4 (*46*). Items with less than 10 response categories were treated as ordered categorical variables. Model parameters were estimated by the diagonally weighted least square method (ESTIMATOR = WLSMV). Cluster sampling (i.e., individuals nested within countries) was accounted for in the calculation of asymptotic (co)variances of statistics (TYPE = COMPLEX). Oblique Quartimax rotation (*47*) was performed to encourage simple factor patterns.

Exploratory item factor analysis suggested that the four-factor model attained a sufficiently good fit in the snowball sample (CFI = 0.95, RMSEA = 0.05, SRMR = 0.01). The rotated solution exhibited a clear independent-cluster structure. The four factors, each of which was primarily defined by the items in the subsequent parenthesis, were henceforth labelled wellness (eudemonic item1, eudemonic item2, and satisfaction with life), resilience (resilience item1 and resilience item 2), health (feeling mental and physical healthy), and distress (stressed, tired, and depressed). The magnitude of inter-factor correlations ranged from 0.37 to 0.74.

The 4-factor structure of the well-being measure was validated in the two representative samples (for more details related to the representative samples please see Appendix "representative sample" session). It also outperformed the 2- and 3- factor structures.

Items	Wellness	Resilience	Health	Distress
euda1	**0.57**	0.24	0.10	-0.07
euda2	**0.82**	0.09	-0.03	0.03
swl	**0.66**	-0.08	0.12	-0.10
res1	0.07	**0.76**	0.04	0.02
res2	-0.01	**0.91**	-0.01	-0.03
mental	0.21	0.01	**0.63**	-0.13
physical	-0.07	0.03	**0.80**	0.05
stressed	0.03	-0.03	0.06	**0.85**
tired	0.08	-0.02	-0.09	**0.75**
depressed	-0.22	0.04	-0.03	**0.66**

Factors	Wellness	Resilience	Health	Distress
Wellness	1.00			
Resilience	0.74	1.00		
Health	0.57	0.45	1.00	
Distress	-0.49	-0.37	-0.43	1.00

Table S2.

The 4-factor structure of wellbeing

Model	RMSEA	CFI	SRMR
2-factor	0.057	0.819	0.047
3-factor	0.057	0.876	0.059
4-factor	0.047	0.948	0.011

Table S3.
The 4-factor structure of wellbeing outperformed 2- and 3- factor structures

Intraclass correlation for emotion and wellbeing measures

We calculated the intraclass correlation (ICC) for each emotion and well-being measure respectively under the following random-effects ANOVA model

$$Y_{ij} = \mu + \pi_j + \varepsilon_{ij}, \tag{1}$$

in which Y_{ij} is the outcome variable for person i in country j, π_j is the country-level random effect, and ε_{ij} denotes the person-level error term. π_j and ε_{ij} for all i's and j's are assumed to be mutually independent. ICC is defined as the correlation between two observations sampled from the same country, which further equals to

$$\widehat{\mathrm{ICC}} = \frac{\hat{\sigma}_\pi^2}{\hat{\sigma}_\pi^2 + \hat{\sigma}_\varepsilon^2} \tag{2}$$

in which σ_π^2 and σ_ε^2 are the variances of π_j and ε_{ij}, respectively. In practice, the variance components in Equation 2 can be estimated by restricted maximum likelihood (REML).

Positive emotions	Admiration	Calm	Compassion	Determined	Moved	Gratitude	Hope	Love	Relief	Pleasure
	0.08	0.03	0.05	0.03	0.07	0.06	0.06	0.04	0.04	0.02
Negative emotions	Anger	Anxiety	Boredom	Confusion	Disgust	Fear	Frustration	Lonely	Regret	Sadness
	0.06	0.05	0.07	0.03	0.07	0.05	0.07	0.04	0.06	0.05
Wellbeing	Wellness	Resilience	Health	Distress						
	0.04	0.04	0.07	0.04						

Table S4.

Intraclass correlation for emotion and wellbeing measures

Country	Admired	Calm	Compassion	Determined	Moved	Gratitude	Hope	Love	Relief	Pleasure	Anger	Anxiety	Boredom	Confusion	Disgust	Fear	Frustrated	Lonely	Regret	Sad	Wellness	Resilience	Health	Distress
Australia	3.24 (1.83)	3.81 (1.51)	3.93 (1.68)	3.59 (1.62)	3.33 (1.81)	4.03 (1.64)	4.00 (1.53)	4.07 (1.70)	2.36 (1.74)	3.26 (1.78)	2.03 (1.76)	2.99 (1.83)	2.77 (1.97)	2.36 (1.73)	1.63 (1.73)	2.08 (1.62)	2.51 (1.83)	2.25 (1.94)	1.64 (1.65)	2.43 (1.81)	4.04 (1.24)	4.27 (1.24)	4.44 (1.38)	2.75 (1.64)
Brazil	3.52 (1.74)	3.42 (1.49)	4.60 (1.36)	3.72 (1.59)	4.42 (1.60)	4.36 (1.63)	3.76 (1.64)	4.47 (1.49)	2.23 (1.68)	3.81 (1.70)	2.83 (1.95)	4.27 (1.65)	3.09 (2.03)	2.76 (2.01)	1.54 (1.86)	3.56 (1.76)	3.44 (1.94)	2.52 (2.06)	1.90 (1.87)	3.28 (1.83)	3.92 (1.29)	4.11 (1.32)	4.17 (1.46)	2.91 (1.69)
Bulgaria	2.49 (1.97)	3.33 (1.72)	4.27 (1.63)	3.55 (1.70)	3.57 (1.87)	3.94 (1.91)	3.69 (1.74)	4.20 (1.74)	2.16 (1.66)	3.90 (1.89)	3.18 (2.06)	3.27 (1.83)	2.52 (2.22)	2.55 (2.10)	1.68 (2.01)	2.55 (1.95)	3.01 (2.08)	2.37 (2.15)	2.89 (2.01)	3.26 (1.93)	3.89 (1.37)	4.22 (1.36)	4.59 (1.28)	2.40 (1.72)
Canada	3.01 (1.85)	3.31 (1.59)	4.04 (1.53)	3.40 (1.62)	3.27 (1.69)	4.03 (1.59)	3.38 (1.49)	4.03 (1.74)	2.29 (1.63)	3.40 (1.74)	2.57 (1.80)	3.71 (1.84)	3.10 (1.99)	2.63 (1.82)	2.17 (1.91)	2.73 (1.80)	3.56 (1.71)	2.93 (2.05)	2.18 (1.84)	3.23 (1.85)	3.55 (1.38)	3.94 (1.35)	4.06 (1.40)	3.04 (1.65)
Chile	2.87 (1.92)	2.92 (1.55)	3.90 (1.70)	3.38 (1.69)	3.90 (1.74)	3.97 (1.78)	3.14 (1.72)	4.20 (1.68)	2.11 (1.57)	3.47 (1.72)	3.57 (1.91)	4.68 (1.50)	3.17 (2.02)	3.62 (1.83)	1.40 (1.73)	3.51 (1.84)	4.09 (1.75)	2.84 (2.06)	2.33 (1.96)	3.78 (1.74)	3.74 (1.36)	4.11 (1.22)	3.79 (1.47)	3.41 (1.57)
China	4.33 (1.78)	3.90 (1.72)	4.21 (1.74)	4.14 (1.73)	4.40 (1.74)	4.17 (1.81)	4.49 (1.68)	4.54 (1.60)	2.09 (1.87)	3.43 (1.83)	1.94 (1.82)	2.59 (1.90)	2.31 (1.96)	2.25 (1.83)	1.73 (1.76)	1.79 (1.74)	1.80 (1.77)	1.79 (1.83)	1.47 (1.71)	2.23 (1.86)	4.19 (1.37)	4.40 (1.41)	4.82 (1.36)	2.66 (1.66)
Colombia	3.58 (1.98)	3.84 (1.50)	4.11 (1.75)	4.03 (1.61)	4.14 (1.66)	4.62 (1.59)	4.14 (1.70)	4.62 (1.56)	2.85 (1.74)	3.77 (1.77)	2.65 (2.00)	3.62 (1.86)	2.95 (2.01)	2.61 (1.95)	0.97 (1.50)	2.74 (1.91)	3.16 (1.98)	2.11 (2.03)	1.56 (1.65)	2.92 (1.98)	4.42 (1.22)	4.44 (1.23)	4.65 (1.28)	2.73 (1.64)
Croatia	2.55 (1.68)	3.34 (1.49)	2.92 (1.66)	3.52 (1.45)	2.67 (1.67)	3.94 (1.59)	3.69 (1.46)	4.24 (1.62)	2.64 (1.57)	4.01 (1.51)	3.14 (1.79)	3.49 (1.82)	3.02 (2.00)	2.88 (1.80)	1.77 (1.80)	2.74 (1.82)	3.41 (1.82)	2.67 (1.96)	2.79 (1.72)	2.99 (1.77)	3.76 (1.28)	3.90 (1.27)	4.47 (1.30)	2.76 (1.69)
Curacao	3.62 (1.82)	4.02 (1.61)	4.75 (1.19)	3.96 (1.59)	3.47 (1.67)	4.44 (1.67)	4.11 (1.54)	4.38 (1.55)	2.50 (1.71)	3.36 (1.75)	2.51 (1.94)	3.70 (1.77)	2.60 (2.09)	2.18 (1.84)	1.97 (2.03)	2.52 (1.93)	3.01 (1.95)	1.98 (1.96)	1.50 (1.71)	2.74 (1.98)	4.08 (1.23)	4.49 (1.15)	4.84 (1.14)	2.15 (1.65)
Denmark	2.68 (1.61)	3.50 (1.61)	4.06 (1.49)	3.36 (1.61)	3.13 (1.57)	3.94 (1.57)	3.61 (1.54)	4.21 (1.63)	2.35 (1.60)	3.70 (1.70)	2.19 (1.82)	2.77 (1.88)	2.44 (2.02)	2.27 (1.83)	1.51 (1.76)	2.03 (1.76)	3.24 (1.89)	2.33 (1.98)	1.64 (1.68)	2.00 (1.87)	3.94 (1.32)	4.09 (1.34)	4.62 (1.23)	2.30 (1.61)
Egypt	2.56 (1.89)	3.61 (1.74)	4.17 (1.71)	3.18 (1.73)	4.03 (1.69)	3.79 (1.71)	3.79 (1.78)	3.36 (2.12)	2.91 (1.64)	3.80 (1.73)	4.07 (1.74)	4.12 (1.71)	4.69 (1.69)	3.24 (1.94)	3.12 (2.06)	3.58 (1.95)	3.43 (2.00)	3.71 (2.14)	2.73 (2.13)	4.05 (1.81)	3.82 (1.45)	3.78 (1.40)	3.13 (1.59)	2.63 (1.69)
Finland	2.70 (1.59)	3.71 (1.41)	4.01 (1.41)	3.51 (1.35)	3.03 (1.71)	3.77 (1.57)	3.58 (1.26)	3.72 (1.76)	2.50 (1.42)	3.67 (1.57)	2.01 (1.71)	3.30 (1.75)	3.38 (1.98)	2.44 (1.82)	1.72 (1.69)	2.46 (1.62)	3.77 (1.74)	2.69 (1.93)	1.58 (1.59)	2.93 (1.69)	4.00 (1.27)	4.28 (1.11)	4.40 (1.22)	2.77 (1.66)
France	3.19 (1.85)	3.72 (1.64)	3.92 (1.65)	3.65 (1.65)	3.20 (1.76)	3.47 (1.82)	3.45 (1.59)	4.07 (1.69)	2.01 (1.69)	3.56 (1.70)	2.64 (1.97)	3.10 (1.92)	2.28 (2.05)	2.18 (1.90)	1.58 (1.94)	2.19 (1.88)	3.17 (1.91)	2.10 (2.01)	1.65 (1.78)	2.65 (1.94)	3.70 (1.31)	4.05 (1.34)	4.59 (1.31)	2.39 (1.61)
Georgia	2.52 (1.87)	3.32 (1.73)	4.43 (1.54)	3.66 (1.84)	3.36 (1.84)	3.87 (1.75)	4.02 (1.66)	4.33 (1.80)	2.32 (1.77)	3.17 (1.95)	3.18 (2.00)	3.41 (1.86)	3.55 (1.87)	2.27 (1.91)	1.40 (1.82)	2.45 (1.89)	2.92 (1.96)	2.38 (2.13)	2.45 (1.94)	3.21 (1.99)	3.65 (1.44)	4.27 (1.37)	4.93 (1.21)	2.81 (1.79)
Germany	2.66 (1.88)	3.41 (1.78)	4.13 (1.59)	3.29 (1.65)	3.48 (1.72)	3.76 (1.78)	3.42 (1.69)	3.84 (1.88)	2.44 (1.69)	3.65 (1.82)	2.55 (1.85)	3.26 (1.82)	2.55 (2.10)	2.50 (1.98)	1.34 (1.68)	2.47 (1.84)	3.20 (1.94)	2.50 (2.08)	2.08 (1.84)	3.00 (1.85)	3.52 (1.51)	3.68 (1.54)	4.25 (1.58)	2.65 (1.69)
Ghana	3.52 (1.64)	4.15 (1.49)	4.46 (1.38)	4.37 (1.35)	3.32 (1.68)	4.41 (1.46)	4.72 (1.25)	4.43 (1.42)	3.21 (1.69)	3.36 (1.85)	1.98 (1.82)	2.93 (1.98)	3.38 (2.07)	2.12 (1.92)	1.95 (1.80)	2.59 (2.02)	2.53 (1.98)	2.60 (2.11)	1.80 (1.81)	2.50 (1.98)	4.48 (1.09)	4.61 (1.09)	4.82 (1.14)	2.20 (1.73)
Greece	2.38 (1.90)	3.37 (1.59)	3.85 (1.68)	3.42 (1.67)	3.29 (1.91)	3.50 (1.83)	3.40 (1.69)	4.31 (1.59)	2.25 (1.60)	3.62 (1.71)	3.01 (1.96)	3.73 (1.77)	2.72 (2.00)	2.65 (1.96)	1.82 (2.07)	2.62 (1.96)	3.44 (1.74)	2.58 (2.06)	1.89 (1.89)	3.23 (1.88)	3.81 (1.33)	4.08 (1.27)	4.27 (1.32)	2.81 (1.59)
Hong Kong	2.87 (1.81)	3.20 (1.44)	3.40 (1.65)	3.21 (1.53)	2.99 (1.65)	3.36 (1.61)	3.24 (1.44)	3.60 (1.51)	1.92 (1.55)	3.23 (1.45)	2.74 (1.77)	3.08 (1.77)	2.97 (1.91)	2.69 (1.73)	2.59 (1.85)	2.45 (1.70)	2.61 (1.83)	2.44 (1.93)	1.95 (1.74)	2.63 (1.71)	3.51 (1.21)	3.84 (1.22)	4.25 (1.12)	3.41 (1.47)
Hungary	2.77 (1.84)	3.35 (1.75)	4.10 (1.54)	3.48 (1.69)	2.97 (1.87)	3.77 (1.72)	3.77 (1.63)	4.12 (1.89)	2.35 (1.69)	3.37 (1.84)	2.61 (1.92)	3.47 (1.88)	2.61 (2.27)	2.51 (2.01)	1.38 (1.75)	2.67 (1.94)	3.34 (1.93)	2.73 (2.21)	2.14 (1.88)	3.07 (1.89)	3.89 (1.36)	4.13 (1.37)	4.54 (1.42)	2.87 (1.75)
Iceland	3.47 (1.86)	3.30 (1.76)	4.40 (1.59)	3.58 (1.61)	2.53 (1.89)	4.50 (1.49)	4.03 (1.57)	4.33 (1.58)	2.64 (1.70)	3.35 (1.74)	1.68 (1.80)	3.08 (1.98)	2.85 (2.12)	2.22 (1.94)	1.82 (1.93)	2.25 (1.88)	2.17 (1.90)	2.47 (2.17)	1.55 (1.79)	2.39 (1.97)	3.84 (1.36)	4.08 (1.40)	3.93 (1.56)	2.61 (1.63)
India	3.54 (1.56)	3.63 (1.59)	4.08 (1.51)	3.72 (1.66)	3.03 (1.86)	4.12 (1.64)	3.94 (1.67)	3.92 (1.65)	2.60 (1.73)	3.41 (1.86)	2.57 (1.89)	3.42 (1.88)	2.97 (1.97)	2.57 (2.01)	1.73 (1.87)	2.72 (1.90)	2.95 (2.09)	2.32 (2.12)	2.07 (2.06)	2.83 (1.99)	3.89 (1.43)	4.27 (1.25)	4.34 (1.48)	2.46 (1.78)
Indonesia	3.20 (1.58)	3.84 (1.33)	4.54 (1.24)	3.83 (1.31)	4.05 (1.32)	4.91 (1.16)	4.59 (1.36)	4.11 (1.52)	2.98 (1.43)	3.34 (1.53)	2.68 (1.64)	3.40 (1.74)	3.76 (1.89)	2.72 (1.82)	1.59 (1.57)	3.13 (1.75)	2.23 (1.87)	2.55 (1.98)	2.08 (1.65)	2.93 (1.74)	4.42 (0.97)	4.10 (1.07)	4.86 (1.02)	2.22 (1.65)
Iran	2.39 (1.73)	2.78 (1.80)	3.78 (1.69)	3.31 (1.58)	3.17 (1.83)	3.19 (1.91)	3.07 (1.78)	3.02 (1.99)	2.82 (1.68)	3.48 (1.68)	3.16 (1.88)	3.54 (1.87)	3.63 (2.03)	3.52 (1.96)	3.07 (2.08)	2.98 (1.93)	3.04 (1.92)	2.93 (2.05)	2.65 (1.99)	3.53 (1.89)	3.02 (1.59)	3.35 (1.51)	3.70 (1.64)	3.01 (1.86)
Ireland	3.71 (1.81)	3.35 (1.56)	4.09 (1.58)	3.52 (1.65)	3.48 (1.72)	4.19 (1.54)	3.68 (1.51)	4.20 (1.66)	2.56 (1.68)	3.48 (1.72)	2.70 (1.88)	3.75 (1.74)	3.42 (2.07)	2.64 (1.86)	2.19 (1.88)	2.88 (1.86)	3.69 (1.76)	2.96 (2.05)	2.03 (1.78)	3.48 (1.79)	3.59 (1.32)	4.00 (1.27)	3.98 (1.44)	2.86 (1.55)
Israel	2.06 (1.90)	3.27 (1.43)	4.09 (1.30)	3.40 (1.51)	3.15 (1.61)	3.93 (1.51)	3.75 (1.29)	4.08 (1.61)	2.51 (1.43)	3.58 (1.47)	2.48 (1.70)	2.86 (1.77)	2.00 (1.90)	2.34 (1.92)	1.14 (1.52)	2.21 (1.78)	3.25 (1.69)	2.11 (1.76)	1.82 (1.66)	2.75 (1.75)	4.10 (1.15)	4.33 (1.10)	4.81 (1.02)	2.57 (1.65)
Italy	2.95 (1.89)	3.31 (1.53)	3.61 (1.73)	3.67 (1.57)	3.29 (1.83)	3.39 (1.76)	3.82 (1.58)	3.91 (1.70)	2.17 (1.53)	3.40 (1.56)	2.85 (1.95)	3.31 (1.86)	2.99 (2.03)	2.89 (1.87)	1.97 (1.90)	2.64 (1.81)	3.29 (1.97)	2.52 (1.97)	2.37 (1.91)	3.30 (1.76)	3.70 (1.27)	3.97 (1.22)	4.46 (1.27)	2.89 (1.54)
Japan	2.62 (1.53)	3.54 (1.28)	3.54 (1.38)	2.96 (1.52)	2.79 (1.53)	3.92 (1.46)	2.68 (1.39)	3.61 (1.52)	2.38 (1.41)	2.73 (1.49)	2.80 (1.76)	3.61 (1.67)	3.18 (1.94)	2.40 (1.75)	2.81 (1.76)	2.63 (1.74)	3.09 (1.74)	2.05 (1.83)	1.98 (1.63)	2.61 (1.71)	3.52 (1.28)	3.53 (1.29)	4.38 (1.32)	2.64 (1.49)
Jordan	3.12 (1.97)	3.96 (1.82)	4.35 (1.72)	3.79 (1.84)	3.93 (1.78)	3.99 (1.76)	4.40 (1.76)	3.63 (2.15)	3.23 (1.89)	3.80 (1.88)	3.56 (1.93)	3.65 (1.92)	4.34 (1.83)	2.87 (1.94)	2.69 (2.21)	2.69 (2.03)	3.14 (2.09)	3.34 (2.16)	2.54 (2.23)	3.72 (1.92)	3.98 (1.50)	4.20 (1.55)	4.04 (1.72)	2.50 (1.81)
Kazakhstan	2.40 (1.95)	3.42 (1.68)	3.58 (1.74)	3.23 (1.79)	2.59 (2.03)	3.33 (1.87)	3.71 (1.79)	3.63 (2.08)	2.60 (1.82)	3.05 (1.89)	2.56 (1.99)	3.14 (2.03)	2.49 (2.13)	2.64 (2.03)	1.52 (1.84)	2.32 (2.00)	2.63 (2.07)	2.06 (2.17)	2.78 (2.02)	3.06 (1.93)	3.90 (1.45)	4.03 (1.57)	4.57 (1.45)	2.50 (1.92)

Kenya	3.25 (1.84)	3.52 (1.68)	4.00 (1.57)	4.17 (1.52)	3.40 (1.68)	4.11 (1.67)	4.14 (1.60)	4.08 (1.66)	2.67 (1.68)	3.43 (1.88)	2.56 (1.94)	3.51 (1.87)	3.76 (2.07)	2.84 (1.98)	2.36 (1.99)	3.38 (2.05)	3.33 (1.90)	3.11 (2.08)	2.24 (2.03)	2.94 (1.90)	4.01 (1.27)	4.11 (1.36)	4.22 (1.50)	2.45 (1.69)
Malaysia	3.75 (1.50)	4.01 (1.24)	4.31 (1.44)	3.74 (1.44)	3.38 (1.68)	3.49 (1.82)	4.33 (1.54)	4.44 (1.43)	3.58 (1.34)	3.73 (1.75)	2.60 (1.81)	3.59 (1.67)	3.28 (2.05)	2.25 (1.81)	2.30 (1.95)	2.65 (1.84)	2.65 (1.79)	2.41 (2.13)	2.04 (1.75)	2.82 (1.74)	4.26 (1.22)	4.19 (1.16)	4.58 (1.30)	2.35 (1.68)
Malta	3.19 (1.82)	3.09 (1.60)	3.77 (1.62)	3.48 (1.61)	3.30 (1.81)	3.92 (1.62)	3.55 (1.55)	4.03 (1.64)	2.48 (1.60)	3.33 (1.73)	3.11 (1.94)	3.80 (1.86)	2.88 (2.16)	2.86 (1.97)	2.33 (1.95)	2.78 (1.90)	3.92 (1.80)	2.68 (2.05)	2.50 (1.96)	3.56 (1.83)	3.47 (1.34)	3.72 (1.33)	3.84 (1.42)	3.20 (1.60)
Mongolia	3.01 (1.73)	3.59 (1.53)	3.33 (1.58)	3.16 (1.55)	3.05 (1.73)	3.80 (1.55)	4.05 (1.48)	4.16 (1.59)	2.90 (1.61)	3.12 (1.70)	2.48 (1.71)	3.30 (1.74)	2.73 (1.89)	2.76 (1.82)	2.33 (1.76)	2.85 (1.70)	2.73 (1.70)	2.43 (1.95)	2.59 (1.82)	2.63 (1.70)	4.11 (1.22)	3.66 (1.24)	4.45 (1.38)	2.64 (1.61)
Netherlands	2.97 (1.74)	3.46 (1.53)	4.05 (1.57)	3.42 (1.55)	3.34 (1.69)	3.76 (1.67)	3.44 (1.54)	4.01 (1.71)	2.27 (1.58)	3.54 (1.61)	2.64 (1.83)	3.58 (1.71)	2.83 (2.01)	2.70 (1.88)	1.71 (1.84)	2.59 (1.78)	3.39 (1.79)	2.64 (1.98)	1.74 (1.72)	3.05 (1.81)	3.71 (1.30)	3.95 (1.30)	4.35 (1.24)	2.68 (1.57)
New Zealand	3.21 (1.79)	3.70 (1.76)	3.84 (1.59)	3.42 (1.64)	3.10 (1.69)	3.90 (1.64)	3.89 (1.58)	4.07 (1.58)	2.36 (1.75)	3.38 (1.76)	1.89 (1.77)	3.15 (1.89)	2.87 (2.08)	2.25 (1.81)	1.53 (1.65)	1.96 (1.80)	2.86 (2.03)	2.26 (2.07)	1.57 (1.68)	2.43 (1.83)	3.78 (1.40)	4.08 (1.26)	4.35 (1.41)	2.73 (1.68)
Pakistan	3.17 (1.62)	3.50 (1.61)	3.58 (1.57)	3.51 (1.59)	3.05 (1.67)	3.74 (1.65)	4.29 (1.50)	3.56 (1.83)	3.02 (1.70)	3.09 (1.79)	3.08 (1.84)	3.58 (1.90)	3.76 (1.92)	3.13 (1.86)	2.35 (1.81)	2.87 (1.90)	3.45 (1.94)	3.09 (2.06)	2.54 (1.99)	3.35 (1.88)	3.89 (1.35)	3.71 (1.43)	4.07 (1.59)	2.78 (1.76)
Peru	3.77 (1.83)	3.80 (1.50)	4.50 (1.51)	4.10 (1.45)	4.44 (1.51)	4.80 (1.41)	4.00 (1.46)	4.75 (1.32)	2.74 (1.63)	3.67 (1.80)	2.41 (2.00)	3.60 (1.77)	2.39 (1.97)	2.52 (1.98)	1.25 (1.68)	2.94 (1.92)	3.24 (2.01)	1.77 (1.81)	1.49 (1.62)	3.11 (1.82)	4.54 (1.06)	4.62 (1.00)	4.84 (1.16)	2.52 (1.53)
Russia	2.56 (1.78)	3.35 (1.52)	3.55 (1.66)	3.05 (1.57)	2.50 (1.72)	3.43 (1.70)	3.51 (1.61)	3.72 (1.78)	2.12 (1.70)	3.34 (1.75)	2.50 (1.85)	3.34 (1.75)	2.13 (1.97)	2.56 (1.82)	1.65 (1.83)	2.38 (1.77)	2.70 (1.98)	2.16 (2.04)	2.83 (1.82)	3.27 (1.75)	3.79 (1.32)	3.87 (1.38)	4.53 (1.24)	2.73 (1.76)
Serbia	2.69 (1.85)	3.52 (1.58)	4.30 (1.48)	3.78 (1.58)	3.32 (1.78)	3.54 (1.85)	3.86 (1.65)	4.21 (1.66)	2.33 (1.68)	3.57 (1.68)	3.03 (1.91)	3.17 (1.83)	2.61 (2.03)	2.64 (1.87)	2.10 (1.97)	2.41 (1.79)	2.74 (1.95)	2.20 (2.01)	2.94 (1.94)	2.97 (1.82)	4.06 (1.27)	4.40 (1.25)	4.88 (1.18)	2.30 (1.62)
Singapore	3.46 (1.71)	3.67 (1.53)	4.13 (1.43)	3.74 (1.54)	3.46 (1.67)	4.22 (1.49)	3.88 (1.51)	4.07 (1.52)	2.91 (1.60)	3.10 (1.72)	2.65 (1.74)	3.57 (1.62)	3.34 (1.89)	2.37 (1.75)	2.24 (1.75)	2.73 (1.69)	3.37 (1.65)	2.64 (2.01)	2.23 (1.79)	2.99 (1.81)	3.89 (1.14)	4.14 (1.14)	4.43 (1.21)	2.80 (1.64)
South Africa	3.21 (1.74)	3.61 (1.46)	4.21 (1.51)	3.72 (1.57)	3.38 (1.71)	4.64 (1.38)	3.98 (1.55)	4.45 (1.49)	2.61 (1.61)	3.50 (1.72)	2.55 (1.85)	3.58 (1.84)	2.87 (2.14)	2.76 (1.94)	1.98 (1.82)	2.92 (1.92)	3.82 (1.78)	2.53 (2.11)	2.05 (1.86)	3.12 (1.80)	3.84 (1.25)	4.27 (1.25)	4.28 (1.46)	2.76 (1.70)
Spain	3.75 (1.82)	3.80 (1.45)	4.03 (1.64)	3.77 (1.53)	3.90 (1.55)	4.16 (1.64)	3.91 (1.52)	4.39 (1.54)	2.37 (1.68)	3.40 (1.73)	2.64 (2.01)	3.22 (1.76)	2.23 (1.95)	2.75 (1.89)	2.18 (2.00)	2.40 (1.79)	2.98 (1.87)	2.08 (1.93)	1.50 (1.68)	2.98 (1.84)	4.23 (1.15)	4.38 (1.21)	4.52 (1.31)	2.45 (1.65)
Sweden	3.17 (1.80)	3.63 (1.52)	4.42 (1.34)	3.66 (1.46)	3.15 (1.66)	4.01 (1.69)	3.37 (1.49)	4.32 (1.53)	2.18 (1.53)	3.61 (1.60)	2.17 (1.77)	2.60 (1.81)	2.50 (1.96)	1.92 (1.89)	0.95 (1.49)	2.30 (1.70)	3.11 (1.86)	2.18 (2.00)	1.45 (1.62)	2.66 (1.79)	4.04 (1.28)	3.85 (1.32)	4.72 (1.24)	2.44 (1.54)
Syria	1.90 (2.04)	3.35 (2.08)	3.87 (1.95)	2.91 (2.18)	3.65 (2.00)	3.54 (2.16)	3.45 (2.26)	3.58 (2.19)	2.81 (2.02)	3.30 (2.08)	2.92 (2.12)	3.35 (2.11)	3.37 (2.25)	2.18 (1.98)	1.76 (1.95)	2.18 (2.06)	2.33 (2.18)	2.36 (2.30)	1.72 (2.03)	2.84 (2.23)	3.49 (1.79)	3.73 (1.83)	3.49 (1.86)	2.03 (1.89)
Taiwan	3.98 (1.67)	3.67 (1.56)	3.71 (1.65)	3.68 (1.54)	3.92 (1.60)	4.33 (1.56)	4.03 (1.51)	4.23 (1.46)	1.89 (1.61)	3.37 (1.71)	1.91 (1.72)	2.69 (1.74)	2.01 (1.79)	2.06 (1.61)	1.83 (1.63)	2.00 (1.64)	1.85 (1.64)	1.62 (1.66)	1.22 (1.47)	1.95 (1.66)	4.01 (1.18)	4.24 (1.16)	4.64 (1.09)	2.80 (1.51)
T&T	3.16 (1.78)	3.29 (1.63)	4.29 (1.43)	3.64 (1.68)	3.33 (1.73)	4.59 (1.46)	3.73 (1.56)	4.20 (1.64)	2.69 (1.64)	3.57 (1.73)	3.07 (2.01)	3.87 (1.95)	2.76 (2.12)	2.69 (1.93)	2.54 (1.99)	2.88 (1.89)	3.81 (1.93)	2.82 (2.22)	2.19 (1.85)	3.35 (1.97)	3.54 (1.41)	3.96 (1.35)	3.77 (1.46)	3.20 (1.72)
Turkey	2.15 (1.82)	3.57 (1.55)	3.93 (1.66)	3.62 (1.65)	3.28 (1.87)	3.10 (1.97)	3.52 (1.69)	4.17 (1.60)	2.59 (1.70)	3.14 (1.69)	3.28 (1.92)	3.24 (1.86)	3.45 (1.91)	3.09 (1.94)	1.78 (1.96)	2.77 (1.94)	2.92 (1.98)	2.66 (2.09)	1.88 (1.91)	3.43 (1.79)	3.74 (1.28)	3.96 (1.34)	4.32 (1.41)	2.70 (1.79)
Ukraine	2.81 (1.65)	3.18 (1.57)	3.57 (1.55)	3.24 (1.53)	2.93 (1.68)	3.37 (1.71)	3.36 (1.67)	3.83 (1.72)	2.17 (1.57)	3.71 (1.71)	2.98 (1.85)	3.25 (1.91)	2.49 (1.97)	2.61 (1.89)	1.77 (1.86)	2.41 (1.84)	2.95 (1.94)	2.19 (1.98)	2.73 (1.82)	3.20 (1.86)	3.80 (1.26)	4.07 (1.37)	4.46 (1.24)	2.93 (1.79)
UK	3.32 (1.82)	3.40 (1.53)	4.14 (1.47)	3.39 (1.56)	3.50 (1.73)	4.07 (1.56)	3.34 (1.57)	4.13 (1.73)	2.12 (1.63)	3.58 (1.60)	2.67 (1.88)	3.59 (1.83)	2.70 (2.04)	2.55 (1.87)	1.89 (1.93)	2.62 (1.77)	3.57 (1.82)	2.56 (2.02)	2.27 (1.87)	3.29 (1.82)	3.60 (1.34)	3.97 (1.31)	4.24 (1.38)	2.84 (1.62)
USA	2.98 (1.82)	3.00 (1.51)	4.20 (1.49)	3.32 (1.63)	3.25 (1.79)	4.04 (1.61)	3.11 (1.55)	4.24 (1.60)	2.01 (1.53)	3.52 (1.67)	2.93 (1.89)	4.10 (1.70)	3.21 (2.10)	2.74 (1.93)	2.53 (2.07)	3.04 (1.80)	3.91 (1.75)	2.92 (2.04)	2.11 (1.81)	3.48 (1.80)	3.79 (1.32)	4.20 (1.27)	4.25 (1.31)	3.36 (1.55)
Vietnam	4.11 (1.75)	4.23 (1.37)	3.90 (1.75)	3.99 (1.55)	4.07 (1.65)	4.54 (1.51)	4.43 (1.45)	4.61 (1.45)	3.11 (1.71)	2.88 (1.91)	1.96 (1.83)	2.66 (1.78)	2.44 (1.98)	2.01 (1.82)	1.07 (1.59)	1.74 (1.71)	2.53 (1.92)	1.98 (2.01)	1.61 (1.73)	2.17 (1.86)	4.20 (1.13)	4.52 (1.11)	4.69 (1.09)	1.86 (1.49)

Table S5.

Mean (SD) of emotions and wellbeing by country

Notes:

a. T&T: Trinidad and Tobago

b. An interactive visualisation of the data is available here https://covidemotions.shinyapps.io/shinymap/

Multilevel analysis results

We ran separate multi-level analyses for each of the four wellbeing outcomes, with individual predictors in level 1 as fixed effects and country as random effect. For continuous variables, we created a grand-z score for each item. Gender, covid symptoms and employment were recoded to categorical variables with 0 = female, 1= male; 0 = no covid symptoms, 1 = had covid symptoms; 0 = unemployed, 1 = student, work-part time, work full-time, retired, and other. For each model, in the first step, we put demographic variables (age, gender, and education) as predictors; in the second step, we put all 20 emotions on top of age, gender and education; in the third step, besides the 23 predictors in the first two steps, we added subjective SES. Results are reported in Table S6. In a separate model, to verify that a set of potentially confounding variables would not change the pattern of results, we further added empathy (empathic concern and personal distress), emotion regulation, feelings of individual and country-level vulnerability, pro-sociality, employment and COVID-19 symptoms as control variable into the model. Across all four wellbeing outcomes, adding these variables did not change the patters reported. These results are reported in Table S7.

Next, we examined country-level factors' relationships to each of the wellbeing outcomes, after accounting for emotions and SES. We added deaths per million, stringency, GDP and Gini index in the second level as fixed effect predictors, and country as random effect. As the exact dates of data collection varied somewhat between countries, we averaged deaths per million and stringency for the period of data collection per country. Due to the right skewness of deaths per million, we log transformed these data before standardisation. Country-level data were standardised across the 51 countries before they were entered into the models. Across all four wellbeing measures, no significant effects were found for number of deaths, GDP or economic inequality. However, those living in countries with more stringent measures in relation to COVID-19 reported higher resilience and less distress. These results are reported in Table S8.

We also examined whether cultural norms and values (individualism/collectivism and tightness/looseness) would relate to wellbeing beyond individuals' emotions and SES. Country-level data for these measures were only available for a subset of the countries in our model, and this analysis was therefore run separately to the other country-level analysis. Country-level tightness/looseness, individualism, institutional collectivism, and ingroup collectivism were added, but none of them were significant as predictors for any of the facets on wellbeing. These results are reported in Table S9.

	Dependent variable											
	Wellness			Resilence			Health			Distress		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Age	0.199***	0.033***	0.018**	0.165***	0.036***	0.027***	0.169***	0.052***	0.043***	−0.221***	−0.069***	−0.066***
	(0.007)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)
Gender	0.055***	0.051***	0.058***	0.092***	0.073***	0.076***	0.100***	0.042***	0.044***	−0.185***	−0.047***	−0.049***
	(0.014)	(0.011)	(0.011)	(0.014)	(0.013)	(0.012)	(0.014)	(0.013)	(0.013)	(0.014)	(0.011)	(0.011)
Education	0.053***	0.037***	0.012*	0.050***	0.037***	0.022***	0.035***	0.023***	0.007	0.007	0.018***	0.023***
	(0.007)	(0.005)	(0.005)	(0.007)	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)	(0.007)	(0.005)	(0.005)
Determination		0.152***	0.147***		0.219***	0.216***		0.090***	0.087***		−0.030***	−0.029***
		(0.006)	(0.006)		(0.007)	(0.007)		(0.007)	(0.007)		(0.006)	(0.006)
Calm		0.106***	0.100***		0.108***	0.105***		0.111***	0.107***		−0.099***	−0.098***
		(0.006)	(0.006)		(0.007)	(0.007)		(0.007)	(0.007)		(0.006)	(0.006)
Hope		0.144***	0.143***		0.130***	0.130***		0.081***	0.079***		−0.036***	−0.035***
		(0.007)	(0.006)		(0.007)	(0.007)		(0.007)	(0.007)		(0.007)	(0.007)
Love		0.142***	0.132***		0.068***	0.061***		0.074***	0.067***		−0.018**	−0.016*
		(0.006)	(0.006)		(0.007)	(0.007)		(0.007)	(0.007)		(0.006)	(0.006)
Relief		0.047***	0.043***		0.003	0.001		0.031***	0.028***		−0.034***	−0.032***
		(0.006)	(0.006)		(0.006)	(0.006)		(0.006)	(0.006)		(0.006)	(0.006)
Pleasure		0.037***	0.033***		0.035***	0.033***		0.030***	0.028***		−0.027***	−0.027***
		(0.006)	(0.006)		(0.006)	(0.006)		(0.006)	(0.006)		(0.006)	(0.006)
Admiration		0.013*	0.011		0.002	0.0001		0.011	0.011		−0.018**	−0.018**
		(0.006)	(0.006)		(0.007)	(0.007)		(0.007)	(0.007)		(0.006)	(0.006)

Compassion	0.014^{*}	0.014^{*}	0.044^{***}	0.045^{***}	0.017^{*}	0.017^{*}	0.008	0.008
	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.006)
Moved	0.007	0.008	0.003	0.003	-0.007	-0.007	0.001	0.001
	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.006)
Gratitude	0.065^{***}	0.060^{***}	0.055^{***}	0.053^{***}	0.017^{*}	0.016^{*}	-0.011	-0.011
	(0.007)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Anger	-0.014^{*}	-0.016^{*}	-0.0001	-0.002	-0.017^{*}	-0.019^{*}	0.067^{***}	0.067^{***}
	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.007)
Boredom	-0.029^{***}	-0.026^{***}	-0.008	-0.007	0.020^{**}	0.023^{***}	0.031^{***}	0.030^{***}
	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.006)
Confusion	-0.007	-0.006	-0.036^{***}	-0.035^{***}	-0.025^{***}	-0.025^{***}	0.070^{***}	0.070^{***}
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Disgust	-0.009	-0.001	0.013	0.018^{**}	-0.022^{**}	-0.017^{*}	0.017^{**}	0.015^{*}
	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.006)
Fear	0.016^{*}	0.018^{**}	-0.061^{***}	-0.060^{***}	-0.021^{**}	-0.020^{*}	0.031^{***}	0.031^{***}
	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.007)
Frustration	-0.073^{***}	-0.083^{***}	-0.023^{**}	-0.028^{***}	-0.039^{***}	-0.044^{***}	0.157^{***}	0.158^{***}
	(0.008)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Loneliness	-0.099^{***}	-0.096^{***}	-0.023^{**}	-0.021^{**}	-0.102^{***}	-0.100^{***}	0.087^{***}	0.087^{***}
	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Regret	-0.104^{***}	-0.098^{***}	-0.076^{***}	-0.073^{***}	-0.057^{***}	-0.053^{***}	0.047^{***}	0.046^{***}
	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.006)

Sadness		−0.085*** (0.007)	−0.079*** (0.007)		−0.041*** (0.008)	−0.037*** (0.008)		−0.092*** (0.008)	−0.089*** (0.008)		0.107*** (0.007)	0.105*** (0.007)
Anxiety		−0.068*** (0.008)	−0.061*** (0.008)		−0.037*** (0.009)	−0.033*** (0.009)		−0.091*** (0.009)	−0.088*** (0.008)		0.176*** (0.008)	0.174*** (0.008)
SES			0.175*** (0.005)			0.104*** (0.006)			0.108*** (0.006)			−0.035*** (0.005)
Observations	21301	20790	20697	21283	20785	20693	21270	20770	20678	21210	20727	20635
Log Likelihood	−29257.03	−22753.18	−22128.53	−29300.78	−25005.41	−24763.32	−28836.20	−24883.33	−24599.40	−29169.53	−22726.23	−22602.76
Akaike Inf. Crit.	58524.05	45556.36	44309.06	58611.55	50060.82	49578.64	57682.40	49816.65	49250.80	58349.06	45502.46	45257.52
Bayesian Inf. Crit.	58563.88	45754.89	44515.41	58651.38	50259.34	49784.99	57722.23	50015.16	49457.13	58388.87	45700.91	45463.79
Variance explained by fixed effects	0.046	0.462	0.488	0.035	0.323	0.332	0.035	0.295	0.306	0.057	0.467	0.467
Variance explained by total effects	0.091	0.480	0.503	0.071	0.339	0.348	0.096	0.333	0.342	0.092	0.494	0.494

Note: * p<0.05; ** p<0.01; *** p<0.001

Table S6.
Level 1 multilevel analysis

	Dependent variable			
	Wellness	Resilience	Health	Distress
Age	0.007	0.021**	0.036***	−0.053***
	(0.006)	(0.007)	(0.007)	(0.006)
Gender	0.067***	0.089***	0.046***	−0.039***
	(0.011)	(0.013)	(0.013)	(0.012)
Education	0.005	0.014*	0.006	0.027***
	(0.005)	(0.006)	(0.006)	(0.005)
Empathic concern	0.048***	0.063***	0.045***	−0.0004
	(0.007)	(0.007)	(0.007)	(0.007)
Personal distress	0.009	−0.042***	−0.034***	0.050***
	(0.007)	(0.007)	(0.007)	(0.007)
Covid-prosocial	0.009	0.023***	0.013*	−0.003
	(0.006)	(0.006)	(0.006)	(0.006)
General-prosocial	0.020***	0.023***	−0.023***	−0.003
	(0.006)	(0.006)	(0.006)	(0.006)
ER-rumination	−0.097***	−0.078***	−0.094***	0.131***
	(0.007)	(0.008)	(0.008)	(0.007)
ER-reappraisal	0.036***	0.079***	0.028***	−0.033***
	(0.006)	(0.007)	(0.007)	(0.006)
ER-suppression	−0.033***	−0.003	−0.021**	0.040***
	(0.006)	(0.007)	(0.007)	(0.006)
ER-social sharing	0.037***	−0.0003	0.029***	−0.004
	(0.006)	(0.006)	(0.006)	(0.006)
ER-distraction	−0.006	0.022***	−0.010	0.035***
	(0.006)	(0.006)	(0.006)	(0.006)
ER-acceptance	0.096***	0.130***	0.066***	−0.025***
	(0.005)	(0.006)	(0.006)	(0.006)
Self_vulnerable	−0.017**	−0.010	−0.046***	0.038***
	(0.006)	(0.007)	(0.007)	(0.006)
Country_vulnerable	0.003	0.004	0.006	0.019**
	(0.006)	(0.007)	(0.007)	(0.007)
Employment	0.080***	0.013	0.093***	0.018
	(0.014)	(0.014)	(0.016)	(0.015)
Covidsymptom	−0.059***	−0.012	−0.233***	0.081***
	(0.014)	(0.016)	(0.016)	(0.014)
Determination	0.133***	0.191***	0.076***	−0.025***
	(0.006)	(0.007)	(0.007)	(0.006)
Calm	0.082***	0.080***	0.091***	−0.089***
	(0.006)	(0.007)	(0.007)	(0.006)
Hope	0.132***	0.117***	0.072***	−0.033***
	(0.006)	(0.007)	(0.007)	(0.007)
Love	0.117***	0.055***	0.058***	−0.010
	(0.006)	(0.007)	(0.007)	(0.006)
Relief	0.044***	−0.001	0.029***	−0.031***
	(0.006)	(0.006)	(0.006)	(0.006)
Pleasure	0.027***	0.024***	0.025***	−0.029***
	(0.006)	(0.006)	(0.006)	(0.006)
Admiration	0.007	−0.006	0.011	−0.019**
	(0.006)	(0.007)	(0.007)	(0.006)

Compassion	−0.002	0.021**	0.010	0.001
	(0.006)	(0.007)	(0.007)	(0.006)
Moved	0.002	−0.002	−0.009	−0.004
	(0.006)	(0.007)	(0.007)	(0.006)
Gratitude	0.049***	0.038***	0.011	−0.013*
	(0.006)	(0.007)	(0.007)	(0.007)
Anger	−0.011	0.002	−0.011	0.058***
	(0.007)	(0.008)	(0.007)	(0.007)
Boredom	−0.020**	0.001	0.027***	0.022***
	(0.006)	(0.007)	(0.007)	(0.006)
Confusion	−0.003	−0.033***	−0.021**	0.060***
	(0.007)	(0.007)	(0.007)	(0.007)
Disgust	−0.002	0.015*	−0.016*	0.015*
	(0.006)	(0.007)	(0.007)	(0.006)
Fear	0.021**	−0.049***	−0.002	0.0004
	(0.007)	(0.008)	(0.008)	(0.007)
Frustration	−0.076***	−0.030***	−0.036***	0.139***
	(0.007)	(0.008)	(0.008)	(0.008)
Loneliness	−0.088***	−0.021**	−0.093***	0.077***
	(0.007)	(0.007)	(0.007)	(0.007)
Regret	−0.086***	−0.061***	−0.036***	0.028***
	(0.006)	(0.007)	(0.007)	(0.006)
Sadness	−0.074***	−0.038***	−0.078***	0.089***
	(0.007)	(0.008)	(0.008)	(0.007)
Anxiety	−0.046***	−0.030***	−0.065***	0.136***
	(0.008)	(0.009)	(0.009)	(0.008)
SES	0.164***	0.097***	0.098***	−0.034***
	(0.005)	(0.006)	(0.006)	(0.005)
Observations	20,191	20,187	20,174	20,137
Log Likelihood	−21,178.900	−23,744.520	−23,664.870	−21,666.990
Akaike Inf. Crit.	42,437.810	47,569.040	47,409.750	43,413.980
Bayesian Inf. Crit.	42,754.250	47,885.480	47,726.160	43,730.310
Variance explained by fixed effects	0.505	0.358	0.329	0.491
Variance explained by total model	0.526	0.374	0.368	0.523

* p<0.05; ** p<0.01; *** p<0.001

Table S7.
Level 1 multilevel analysis with extra control variables

	Dependent variable			
	Wellness	Resilience	Health	Distress
Age	0.018^{**}	0.028^{***}	0.036^{***}	-0.063^{***}
	(0.006)	(0.007)	(0.007)	(0.006)
Gender	0.053^{***}	0.077^{***}	0.036^{**}	-0.057^{***}
	(0.012)	(0.013)	(0.013)	(0.012)
Education	0.015^{**}	0.025^{***}	0.010	0.024^{***}
	(0.006)	(0.006)	(0.006)	(0.006)
Determination	0.143^{***}	0.211^{***}	0.085^{***}	-0.027^{***}
	(0.006)	(0.007)	(0.007)	(0.007)
Calm	0.101^{***}	0.106^{***}	0.106^{***}	-0.102^{***}
	(0.007)	(0.007)	(0.007)	(0.007)
Hope	0.137^{***}	0.129^{***}	0.080^{***}	-0.038^{***}
	(0.007)	(0.008)	(0.008)	(0.007)
Love	0.131^{***}	0.059^{***}	0.067^{***}	-0.014^{*}
	(0.007)	(0.007)	(0.007)	(0.007)
Relief	0.043^{***}	0.004	0.026^{***}	-0.034^{***}
	(0.006)	(0.007)	(0.007)	(0.006)
Pleasure	0.035^{***}	0.033^{***}	0.029^{***}	-0.030^{***}
	(0.006)	(0.007)	(0.007)	(0.006)
Admiration	0.016^{*}	0.006	0.014	-0.020^{**}
	(0.007)	(0.007)	(0.007)	(0.007)
Compassion	0.017^{**}	0.046^{***}	0.017^{*}	0.007
	(0.006)	(0.007)	(0.007)	(0.007)
Moved	0.004	0.002	−0.012	0.005
	(0.007)	(0.007)	(0.007)	(0.007)
Gratitude	0.063^{***}	0.056^{***}	0.016^{*}	−0.008
	(0.007)	(0.008)	(0.008)	(0.007)
Anger	-0.018^{*}	−0.006	-0.018^{*}	0.066^{***}
	(0.007)	(0.008)	(0.008)	(0.007)
Boredom	-0.024^{***}	−0.004	0.018^{*}	0.034^{***}
	(0.006)	(0.007)	(0.007)	(0.007)
Confusion	−0.008	-0.037^{***}	-0.028^{***}	0.074^{***}
	(0.007)	(0.008)	(0.008)	(0.007)
Disgust	−0.001	0.020^{**}	−0.013	0.015^{*}
	(0.006)	(0.007)	(0.007)	(0.007)
Fear	0.017^{*}	-0.061^{***}	-0.017^{*}	0.026^{***}
	(0.007)	(0.008)	(0.008)	(0.008)
Frustration	-0.085^{***}	-0.033^{***}	-0.044^{***}	0.160^{***}
	(0.008)	(0.009)	(0.009)	(0.008)
Loneliness	-0.094^{***}	-0.019^{*}	-0.101^{***}	0.087^{***}
	(0.007)	(0.008)	(0.008)	(0.007)
Regret	-0.101^{***}	-0.077^{***}	-0.057^{***}	0.050^{***}
	(0.006)	(0.007)	(0.007)	(0.007)
Sadness	-0.075^{***}	-0.036^{***}	-0.086^{***}	0.106^{***}
	(0.008)	(0.009)	(0.009)	(0.008)
Anxiety	-0.061^{***}	-0.030^{***}	-0.089^{***}	0.171^{***}
	(0.008)	(0.009)	(0.009)	(0.008)
SES	0.175^{***}	0.105^{***}	0.115^{***}	-0.034^{***}
	(0.006)	(0.006)	(0.006)	(0.006)

GDP	−0.056	0.002	−0.046	0.055
	(0.030)	(0.033)	(0.048)	(0.033)
Gini	−0.015	0.033	−0.015	0.021
	(0.020)	(0.022)	(0.032)	(0.022)
Deaths per million	−0.009	−0.002	0.024	0.001
	(0.023)	(0.026)	(0.037)	(0.026)
Stringency	0.029	0.047*	0.002	−0.073**
	(0.020)	(0.022)	(0.032)	(0.022)
Observations	18,577	18,573	18,560	18,522
Log Likelihood	−19,869.000	−22,179.150	−22,028.550	−20,352.450
Akaike Inf. Crit.	39,798.000	44,418.290	44,117.100	40,764.900
Bayesian Inf. Crit.	40,032.840	44,653.130	44,351.920	40,999.650
Variance explained by fixed effects	0.487	0.333	0.303	0.469
Variance explained by total model	0.499	0.348	0.339	0.484

* p<0.05; ** p<0.01; *** p<0.001

Table S8.
Level 1+ Level 2 multilevel analysis with deaths per million, stringency, GDP and Gini Index

	Dependent variable															
	Wellness				Resilence				Health				Distress			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Age	0.005	0.028***	0.027***	0.027***	0.015	0.030***	0.022**	0.022**	0.036***	0.040***	0.027**	0.028**	−0.064***	−0.070***	−0.071***	−0.071***
	(0.009)	(0.007)	(0.008)	(0.008)	(0.010)	(0.008)	(0.008)	(0.008)	(0.010)	(0.008)	(0.008)	(0.008)	(0.009)	(0.007)	(0.008)	(0.008)
Gender	0.074***	0.083***	0.082***	0.082***	0.078***	0.071***	0.083***	0.083***	0.059**	0.059***	0.063***	0.062***	−0.062***	−0.042**	−0.045**	−0.045**
	(0.018)	(0.013)	(0.015)	(0.015)	(0.020)	(0.015)	(0.017)	(0.017)	(0.020)	(0.015)	(0.017)	(0.017)	(0.019)	(0.014)	(0.016)	(0.016)
Education	0.019*	0.017**	0.024***	0.024***	0.013	0.024***	0.025**	0.025**	0.022*	0.008	0.021**	0.021**	0.013	0.013*	0.012	0.012
	(0.009)	(0.006)	(0.007)	(0.007)	(0.010)	(0.007)	(0.008)	(0.008)	(0.010)	(0.007)	(0.008)	(0.008)	(0.009)	(0.007)	(0.008)	(0.008)
Determination	0.151***	0.149***	0.144***	0.144***	0.219***	0.222***	0.212***	0.212***	0.105***	0.102***	0.095***	0.094***	−0.021*	−0.029***	−0.025**	−0.025**
	(0.010)	(0.007)	(0.008)	(0.008)	(0.011)	(0.008)	(0.009)	(0.009)	(0.011)	(0.008)	(0.009)	(0.009)	(0.010)	(0.008)	(0.009)	(0.009)
Calm	0.089***	0.103***	0.105***	0.105***	0.095***	0.116***	0.110***	0.110***	0.122***	0.109***	0.105***	0.105***	−0.107***	−0.099***	−0.097***	−0.097***
	(0.010)	(0.008)	(0.008)	(0.008)	(0.011)	(0.009)	(0.010)	(0.010)	(0.011)	(0.009)	(0.009)	(0.009)	(0.010)	(0.008)	(0.009)	(0.009)
Hope	0.155***	0.148***	0.146***	0.145***	0.132***	0.122***	0.130***	0.129***	0.077***	0.085***	0.078***	0.078***	−0.035***	−0.042***	−0.043***	−0.043***
	(0.010)	(0.008)	(0.009)	(0.009)	(0.012)	(0.009)	(0.010)	(0.010)	(0.012)	(0.009)	(0.010)	(0.010)	(0.011)	(0.008)	(0.009)	(0.009)
Love	0.127***	0.127***	0.128***	0.128***	0.063***	0.056***	0.058***	0.058***	0.065***	0.057***	0.062***	0.062***	−0.009	−0.012	−0.016	−0.016
	(0.010)	(0.008)	(0.009)	(0.009)	(0.011)	(0.009)	(0.010)	(0.010)	(0.011)	(0.009)	(0.010)	(0.010)	(0.010)	(0.008)	(0.009)	(0.009)
Relief	0.049***	0.039***	0.040***	0.040***	−0.002	−0.005	0.004	0.004	0.007	0.010	0.014	0.014	−0.040***	−0.034***	−0.038***	−0.038***
	(0.009)	(0.007)	(0.007)	(0.007)	(0.011)	(0.008)	(0.008)	(0.008)	(0.011)	(0.008)	(0.008)	(0.008)	(0.010)	(0.007)	(0.008)	(0.008)
Pleasure	0.033***	0.037***	0.034***	0.034***	0.033**	0.031***	0.023**	0.024**	0.032**	0.028***	0.036***	0.036***	−0.037***	−0.028***	−0.034***	−0.034***
	(0.009)	(0.007)	(0.008)	(0.008)	(0.010)	(0.008)	(0.009)	(0.009)	(0.010)	(0.008)	(0.009)	(0.009)	(0.009)	(0.007)	(0.008)	(0.008)
Admiration	0.003	0.005	0.003	0.003	−0.0003	0.003	0.010	0.010	0.003	0.014	0.019*	0.019*	−0.023*	−0.022**	−0.014	−0.014
	(0.010)	(0.008)	(0.009)	(0.009)	(0.011)	(0.009)	(0.010)	(0.010)	(0.011)	(0.009)	(0.010)	(0.010)	(0.010)	(0.008)	(0.009)	(0.009)
Compassion	−0.004	0.004	0.009	0.009	0.036**	0.031***	0.036***	0.036***	0.017	0.021*	0.028**	0.028**	0.011	0.010	0.005	0.005
	(0.010)	(0.007)	(0.008)	(0.008)	(0.011)	(0.008)	(0.009)	(0.009)	(0.011)	(0.008)	(0.009)	(0.009)	(0.010)	(0.008)	(0.009)	(0.009)
Moved	0.020*	0.009	0.003	0.003	0.002	0.004	0.004	0.003	−0.0002	−0.004	−0.014	−0.014	0.010	0.001	0.016	0.016
	(0.010)	(0.007)	(0.008)	(0.008)	(0.011)	(0.009)	(0.010)	(0.010)	(0.011)	(0.008)	(0.010)	(0.010)	(0.010)	(0.008)	(0.009)	(0.009)

Gratitude	0.068***	0.064***	0.074***	0.074***	0.045***	0.057***	0.060***	0.060***	0.016	0.016	0.015	0.015	−0.009	−0.013	−0.013	−0.013
	(0.010)	(0.008)	(0.009)	(0.009)	(0.012)	(0.009)	(0.010)	(0.010)	(0.012)	(0.009)	(0.010)	(0.010)	(0.011)	(0.008)	(0.009)	(0.009)
Anger	−0.022*	−0.016*	−0.024**	−0.024**	−0.016	−0.008	−0.015	−0.015	−0.010	−0.014	−0.029**	−0.029**	0.091***	0.066***	0.070***	0.070***
	(0.011)	(0.008)	(0.009)	(0.009)	(0.012)	(0.009)	(0.010)	(0.010)	(0.012)	(0.009)	(0.010)	(0.010)	(0.011)	(0.008)	(0.010)	(0.010)
Boredom	−0.020*	−0.025***	−0.034***	−0.034***	−0.026*	−0.015	−0.023*	−0.023*	0.014	0.035***	0.028**	0.028**	0.038***	0.026***	0.028**	0.028**
	(0.010)	(0.007)	(0.008)	(0.008)	(0.011)	(0.008)	(0.009)	(0.009)	(0.011)	(0.008)	(0.009)	(0.009)	(0.010)	(0.008)	(0.009)	(0.009)
Confusion	−0.007	0.003	−0.002	−0.002	−0.032**	−0.023*	−0.024*	−0.024*	−0.010	−0.008	−0.003	−0.003	0.067***	0.064***	0.068***	0.068***
	(0.010)	(0.008)	(0.009)	(0.009)	(0.012)	(0.009)	(0.010)	(0.010)	(0.012)	(0.009)	(0.010)	(0.010)	(0.011)	(0.008)	(0.009)	(0.009)
Disgust	0.002	−0.002	−0.002	−0.003	0.005	0.013	0.014	0.014	−0.014	−0.015	−0.004	−0.005	−0.002	0.009	0.013	0.013
	(0.009)	(0.007)	(0.008)	(0.008)	(0.011)	(0.008)	(0.009)	(0.009)	(0.011)	(0.008)	(0.009)	(0.009)	(0.010)	(0.008)	(0.009)	(0.009)
Fear	0.004	0.017*	0.016	0.016	−0.081***	−0.063***	−0.065***	−0.065***	−0.042***	−0.027**	−0.032**	−0.033**	0.034**	0.022*	0.021*	0.021*
	(0.011)	(0.009)	(0.010)	(0.010)	(0.013)	(0.010)	(0.011)	(0.011)	(0.013)	(0.010)	(0.011)	(0.011)	(0.012)	(0.009)	(0.010)	(0.010)
Frustration	−0.075***	−0.076***	−0.083***	−0.083***	−0.008	−0.017	−0.023	−0.022	−0.029*	−0.048***	−0.035**	−0.034**	0.130***	0.160***	0.170***	0.170***
	(0.012)	(0.009)	(0.010)	(0.010)	(0.014)	(0.010)	(0.012)	(0.012)	(0.013)	(0.010)	(0.012)	(0.012)	(0.012)	(0.010)	(0.011)	(0.011)
Loneliness	−0.096***	−0.095***	−0.085***	−0.085***	−0.013	−0.022*	−0.011	−0.011	−0.096***	−0.102***	−0.092***	−0.092***	0.075***	0.093***	0.089***	0.089***
	(0.010)	(0.008)	(0.009)	(0.009)	(0.012)	(0.009)	(0.010)	(0.010)	(0.012)	(0.009)	(0.010)	(0.010)	(0.011)	(0.008)	(0.010)	(0.010)
Regret	−0.099***	−0.104***	−0.106***	−0.106***	−0.072***	−0.070***	−0.085***	−0.085***	−0.066***	−0.062***	−0.078***	−0.078***	0.063***	0.051***	0.061***	0.061***
	(0.010)	(0.007)	(0.008)	(0.008)	(0.011)	(0.008)	(0.010)	(0.010)	(0.011)	(0.008)	(0.010)	(0.010)	(0.010)	(0.008)	(0.009)	(0.009)
Sadness	−0.098***	−0.084***	−0.082***	−0.082***	−0.052***	−0.039***	−0.045***	−0.045***	−0.095***	−0.081***	−0.077***	−0.077***	0.105***	0.103***	0.083***	0.083***
	(0.012)	(0.009)	(0.010)	(0.010)	(0.013)	(0.010)	(0.011)	(0.011)	(0.013)	(0.010)	(0.011)	(0.011)	(0.012)	(0.009)	(0.010)	(0.010)
Anxiety	−0.074***	−0.056***	−0.052***	−0.052***	−0.036**	−0.024*	−0.022	−0.021	−0.098***	−0.088***	−0.090***	−0.089***	0.202***	0.169***	0.168***	0.168***
	(0.012)	(0.009)	(0.010)	(0.010)	(0.014)	(0.010)	(0.011)	(0.011)	(0.014)	(0.010)	(0.011)	(0.011)	(0.013)	(0.009)	(0.011)	(0.011)
SES	0.153***	0.160***	0.154***	0.154***	0.091***	0.087***	0.088***	0.088***	0.111***	0.108***	0.098***	0.098***	−0.026**	−0.034***	−0.035***	−0.035***
	(0.008)	(0.006)	(0.007)	(0.007)	(0.010)	(0.007)	(0.008)	(0.008)	(0.010)	(0.007)	(0.008)	(0.008)	(0.009)	(0.007)	(0.008)	(0.008)
Tightness	0.002				−0.040				−0.043				−0.044			
	(0.027)				(0.028)				(0.036)				(0.033)			
Individualism		−0.013				−0.008				0.003				0.032		
		(0.023)				(0.025)				(0.030)				(0.032)		

Ingroup collectivism			0.032				0.014				−0.014				−0.006	
			(0.025)				(0.026)				(0.033)				(0.037)	
Institutional collectivism				−0.036				−0.051				−0.062				0.006
				(0.025)				(0.025)				(0.031)				(0.037)
Observations	7706	13574	10724	10724	7705	13572	10722	10722	7698	13560	10710	10710	7683	13526	10684	10684
Log Likelihood	−8147.57	−14098.00	−11172.05	−11171.81	−9126.44	−15834.69	−12476.82	−12475.02	−9039.63	−15745.75	−12425.56	−12423.79	−8350.61	−14674.52	−11741.76	−11741.76
Akaike Inf. Crit.	16349.15	28250.01	22398.10	22397.62	18306.87	31723.38	25007.65	25004.04	18133.26	31545.51	24905.12	24901.58	16755.21	29403.04	23537.53	23537.51
Bayesian Inf. Crit.	16536.70	28452.89	22594.61	22594.12	18494.42	31926.26	25204.14	25200.53	18320.78	31748.36	25101.58	25098.05	16942.69	29,605.820	23733.93	23733.92
Variance explained by fixed effects	0.491	0.502	0.505	0.505	0.328	0.339	0.351	0.355	0.325	0.319	0.308	0.316	0.481	0.475	0.461	0.461
Variance explained by total model	0.504	0.517	0.520	0.519	0.342	0.357	0.367	0.369	0.350	0.347	0.337	0.340	0.499	0.502	0.493	0.492

Note: * p<0.05; ** p<0.01; *** p<0.001

Table S9.
Level 1+ Level 2 multilevel analysis with cultural variables

Testing model fit for the models involving country-level factors

To validate the model fit for the models involving country-level factors, we randomly divided the data in to a "training" set and a "validation" set, with half of the participants from each country in each set. We fit the model built in the "training" set into the "validation" set. The estimated parameters and variance explained by the training and validation models were consistent. Please see Figs S1-S5 for illustration. R2m refers to the variance explained by fixed effect in the model, and R2c refers to the variance explained by the total model.

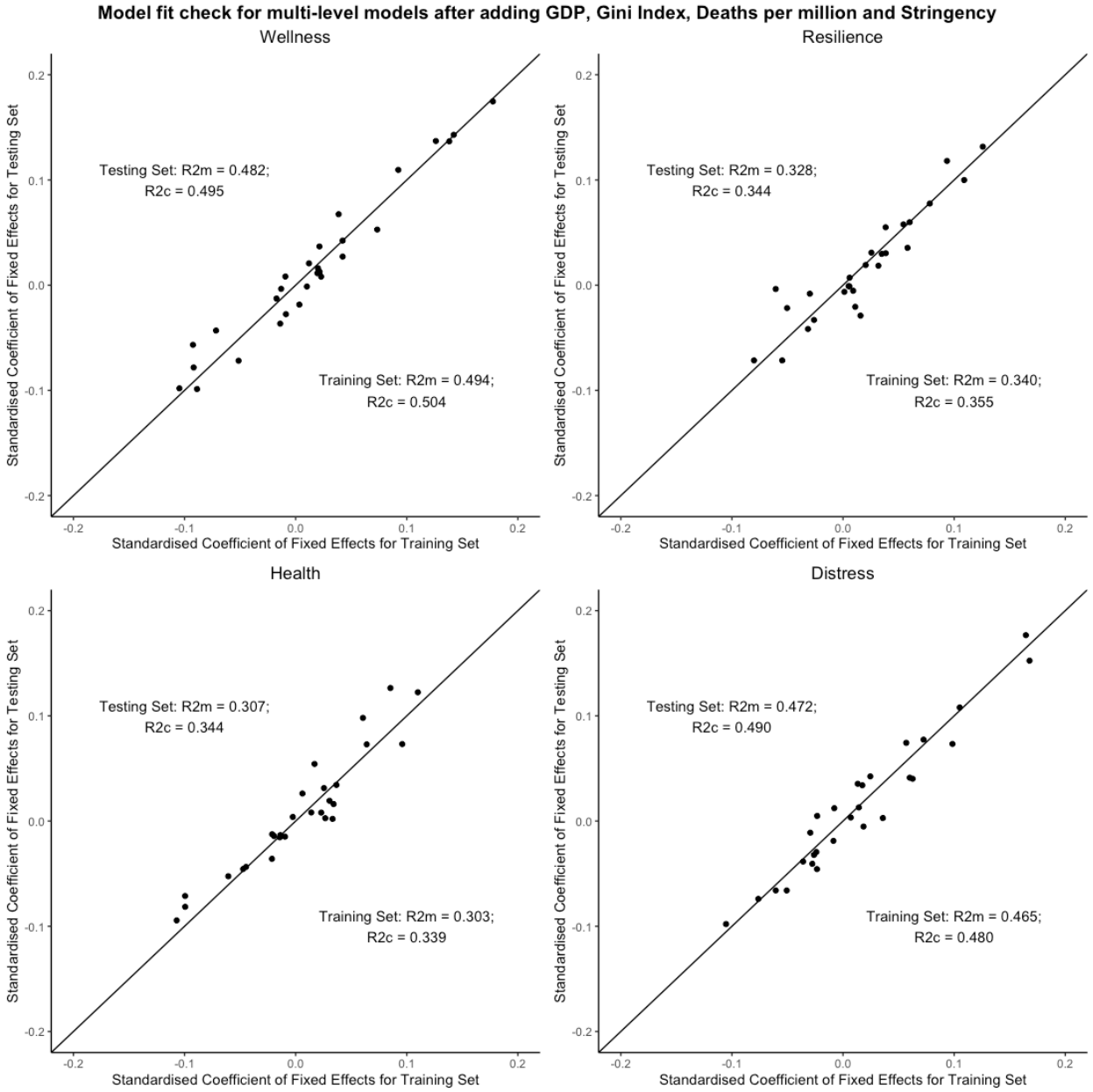

Fig. S1.

Model fit for multi-level analysis with GDP, Gini Index, deaths per million and stringency in second level

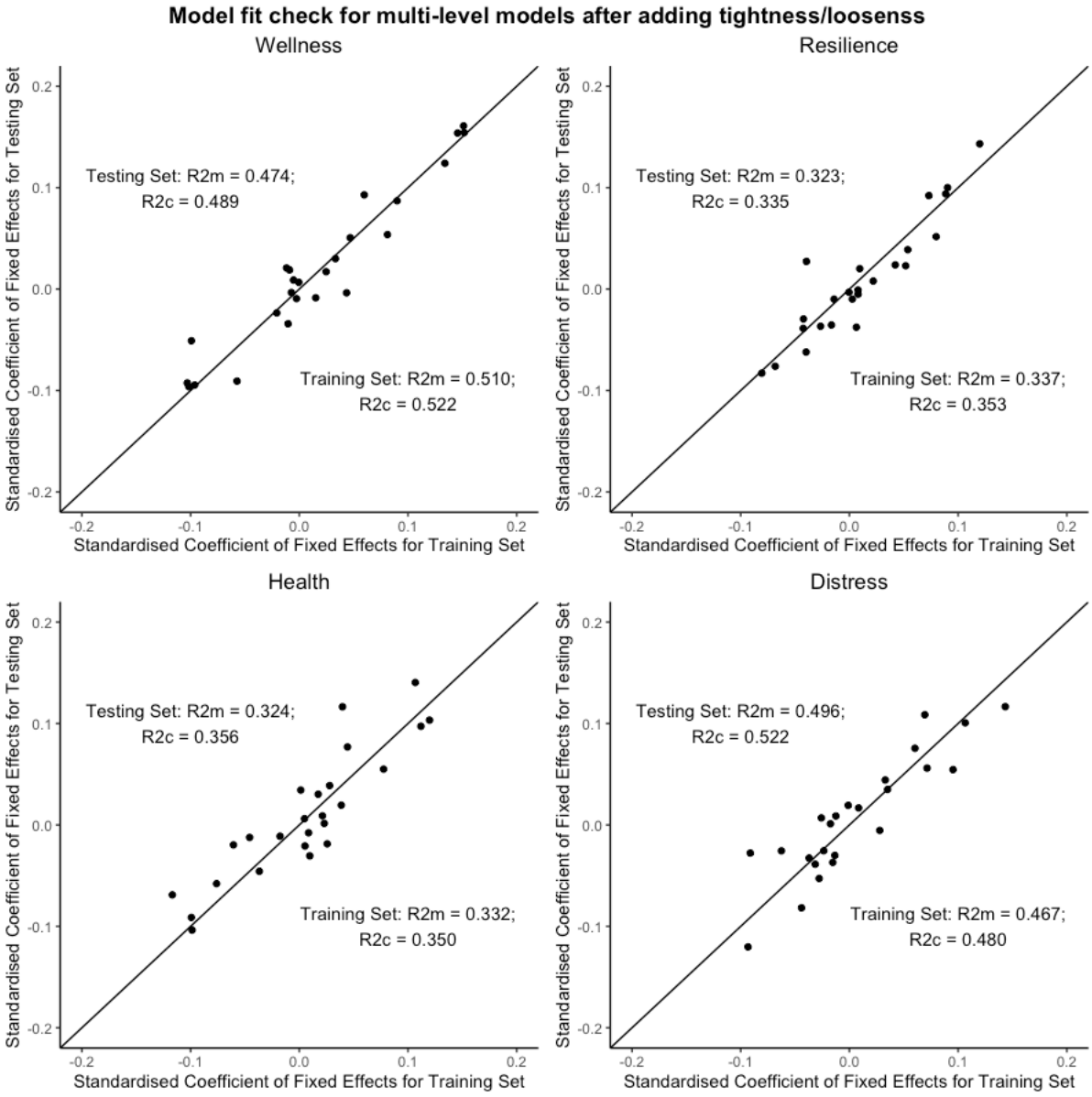

Fig. S2.

Model fit for multi-level analysis with tightness/looseness in second level

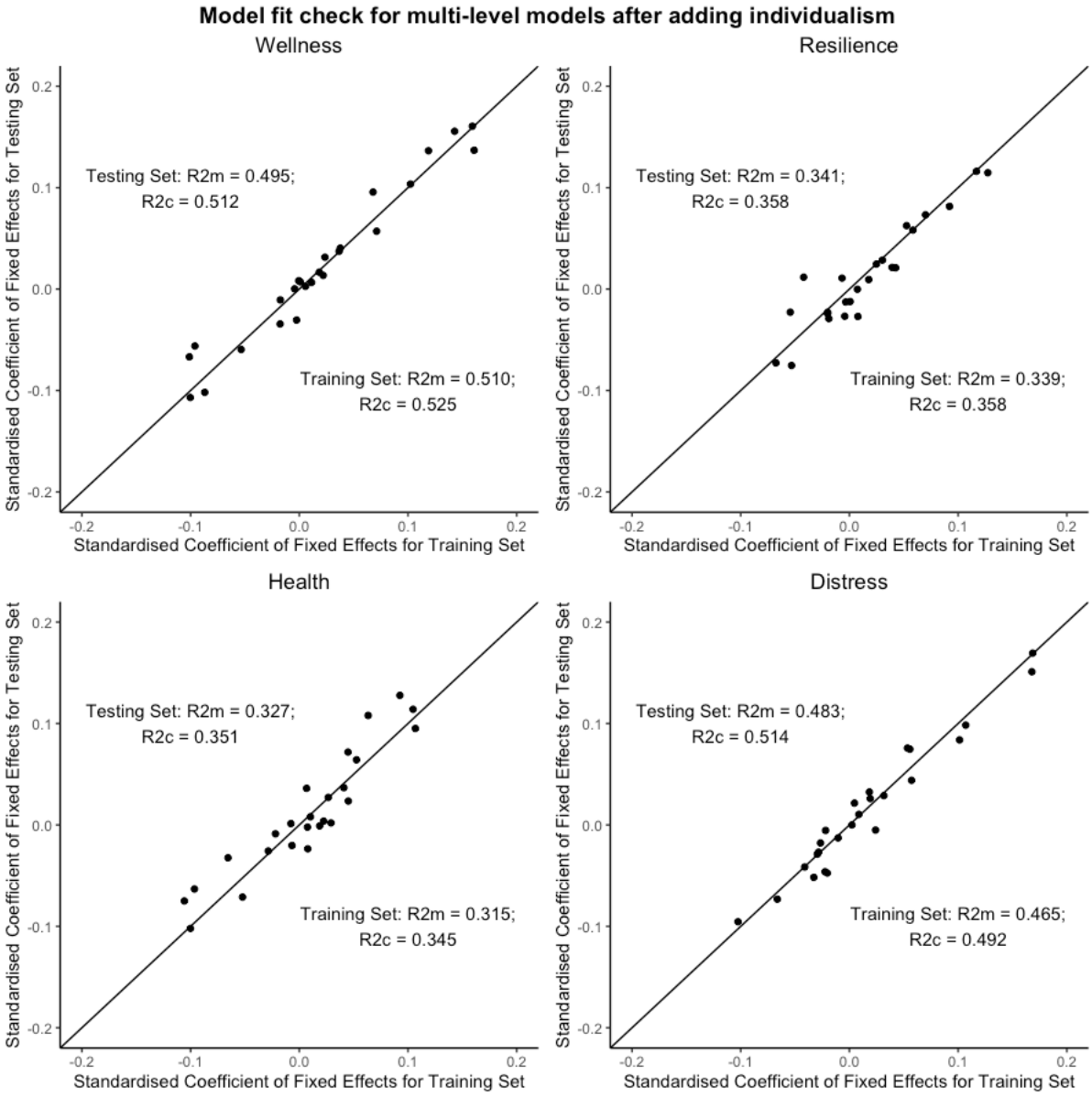

Fig. S3.

Model fit for multi-level analysis with Individualism in second level

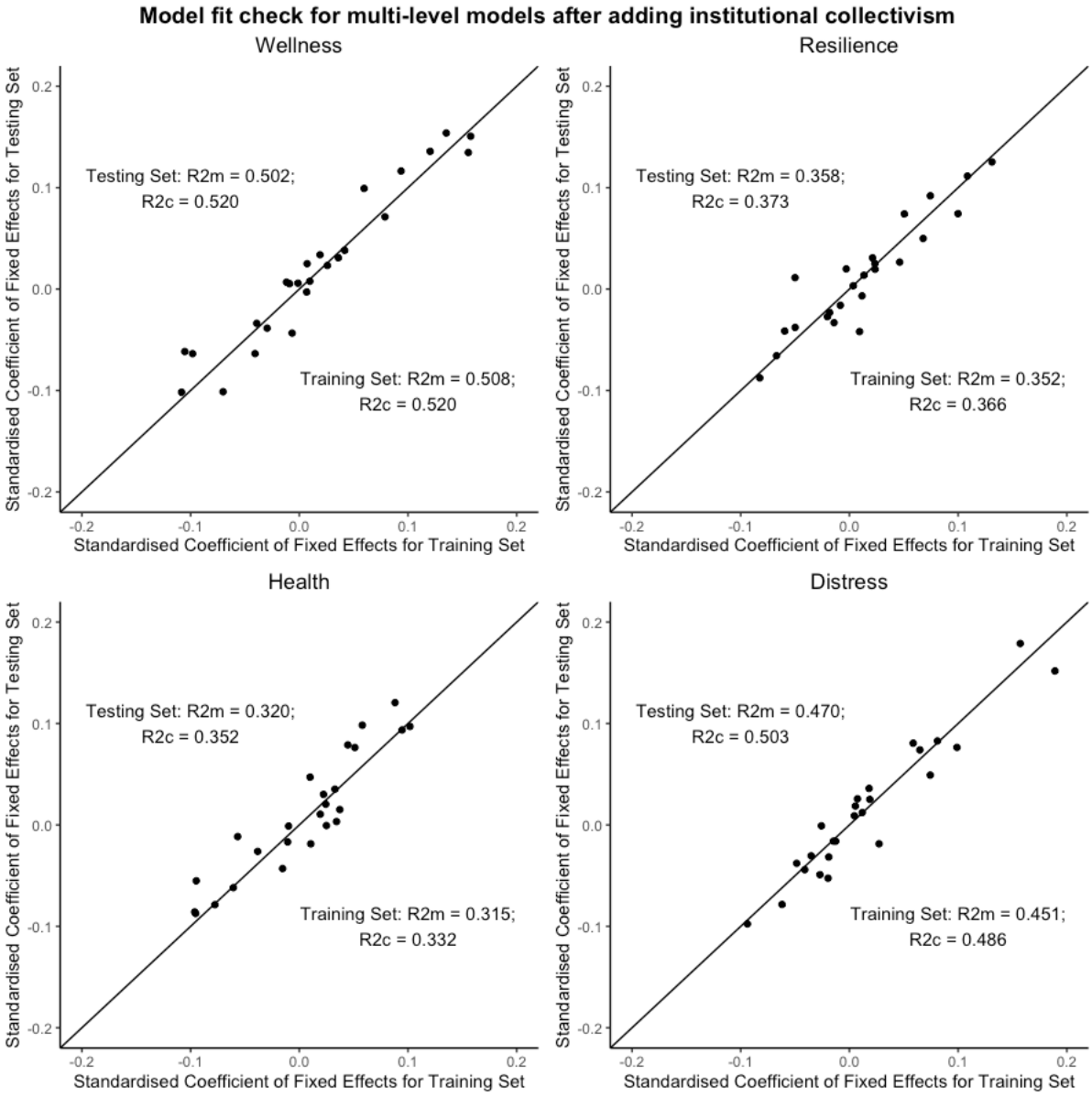

Fig. S4.

Model fit for multi-level analysis with institutional collectivism in second level

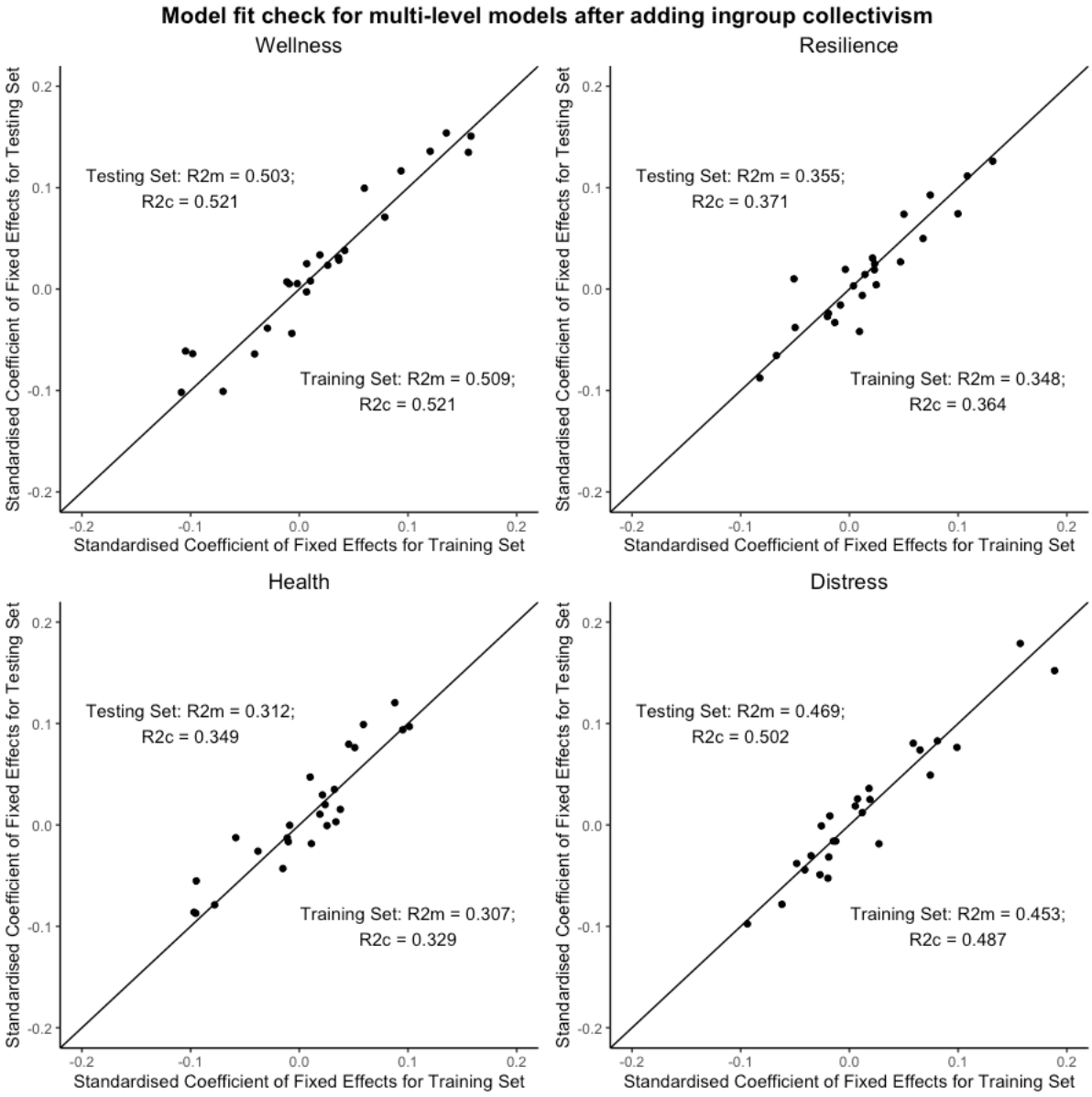

Fig. S5.

Model fit for multi-level analysis with ingroup collectivism in second level

Verifying the individual-level analysis using two representative samples

To test the robustness of our findings, we recruited two age- and gender- representative samples, one from the United Kingdom and one from the United States. Demographic information for these samples is shown in Table S10.

	Mean age (SD)	Mean education (SD)	Female%	Students%
UK	46.63 (15.77)	15.37 (3.49)	51.70%	6.80%
US	45.91 (16.30)	15.78 (2.93)	51.40%	6.90%

Table S10.
Demographic information for the two representative samples

Following our pre-registered analysis plan, we first explored the wellbeing factor structure. Parameter estimation was configured in a fashion similar to that in the main analysis, except that no adjustment for cluster sampling is needed. Contrary to our pre-registered 2-factor structure, the same 4-factor structure was found in the UK representative sample (CFI = 0.99, RMSEA = 0.08, SRMR = 0.01) and US representative sample (CFI = 0.99, RMSEA = 0.07, SRMR = 0.01) as in the main sample. The estimated factor loadings and inter-factor correlations are tabulated in Table S11, factor loadings greater than 0.4 are highlighted in bold. These results show that the construct of well-being fits a four-factor independent-cluster structure in all three samples, which justifies our decision to use four respective sub-scores as outcome variables in the multilevel regression analysis. Similar to the main analysis, in the two representative samples, 4-factor wellbeing structure outperformed 2- and 3- factors, displayed in Table S12.

UK representative sample				US representative sample			
Wellness	Resilience	Health	Distress	Wellness	Resilience	Health	Distress
0.62	0.18	0.11	-0.12	**0.66**	0.21	0.08	-0.06
0.90	0.07	-0.03	0.04	**0.94**	0.06	-0.06	0.04
0.78	-0.08	0.06	-0.05	**0.75**	-0.14	0.13	-0.11
0.03	**0.88**	0.00	0.01	0.06	**0.84**	0.04	0.02
-0.01	**0.95**	0.01	-0.01	-0.01	**0.90**	0.00	-0.04
0.18	0.14	**0.48**	-0.26	0.05	0.17	**0.55**	-0.24
-0.01	-0.01	**0.79**	0.05	0.05	0.01	**0.71**	0.06
0.06	-0.04	0.03	**0.91**	0.01	0.00	0.08	**0.92**
0.03	0.02	-0.11	**0.66**	0.01	-0.02	-0.12	**0.69**
-0.29	0.02	-0.01	**0.65**	-0.11	-0.03	-0.10	**0.69**

Wellness	Resilience	Health	Distress	Wellness	Resilience	Health	Distress
1.00				1.00			
0.72	1.00			0.78	1.00		
0.62	0.47	1.00		0.65	0.53	1.00	
-0.58	-0.48	-0.50	1.00	-0.60	-0.50	-0.56	1.00

Table S11.

Factor analysis of wellbeing for the two representative samples

	UK representative sample			US representative sample		
Model	RMSEA	CFI	SRMR	RMSEA	CFI	SRMR
2-factor	0.155	0.926	0.05	0.17	0.923	0.049
3-factor	0.122	0.969	0.022	0.129	0.97	0.022
4-factor	0.079	0.992	0.01	0.074	0.994	0.009

Table S12.

Factor structure comparison for the two representative samples

We ran hierarchical linear regression models to test whether individual emotions and SES would be associated with wellbeing. For each wellbeing outcome, in the first step, we put demographic variables (age, gender, and education) as predictors; in the second step, we put all 20 emotions on top of age, gender and education; in the third step, besides the 23 predictors in the first two steps, we added subjective SES. Similar to the multilevel analysis, to verify that a set of potentially confounding variables would not change the pattern of results, we further added empathy (empathic concern and personal distress), emotion regulation, feelings of individual and country-level vulnerability, pro-sociality, employment and COVID-19 symptoms as control variables into the model. Across all four wellbeing outcomes, adding these variables in the last step did not change the patters reported. Stardardized coefficients that were above 0.1 were summarised in Table S13; detailed results were reported in Tables S14-17.

We also pre-registered testing how general positive affect (average levels of all 10 positive emotions) and general negative affect (average levels of all 10 negative emotions) were related to wellbeing. The regression coefficients estimated in the multilevel model are partial effects that quantify the unique contribution of individual predictors above and beyond the shared contribution with other predictors in the model. In particular, the partial effect of an individual emotion should be understood as the additional predictive power thereof after controlling for that of overall positive and negative emotions. It is worth noting that solely entering the average scores of positive and negative motions leads to a constrained version of the reported model, in which the contribution of positive/negative emotions are forced to be equal.

	Determination		Calm		Hope		Love		Compassion		Gratitude		SES	
	UK	US	UK	US	UK	US	UK	US	UK	US	UK	US	UK	US
Wellness	0.188	0.122	0.178		0.130	0.177		0.147					0.227	0.203
Resilience	0.230	0.244	0.266			0.192								0.100
Health	0.136		0.161	0.178						-0.110		-0.133	0.187	0.147
Distress			-0.143	-0.109										

	Regret		Anxiety		Fear		Frustration		Loneliness		Sadness	
	UK	US	UK	US	UK	US	UK	US	UK	US	UK	US
Wellness	-0.137	-0.202		-0.141					-0.116			-0.190
Resilience		-0.145	-0.144	-0.163								-0.143
Health		-0.125		-0.122	-0.100				-0.122			-0.141
Distress			0.273	0.300			0.100		0.124			0.219

Table S13.

Summary of hierarchical linear regression model results for UK and US representative samples, stardardized coefficients above 0.1 are reported

	Dependent variable											
	Wellness			Resilence			Health			Distress		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Age	0.191***	−0.019	−0.026	0.197***	0.016	0.014	0.212***	0.029	0.023	−0.271***	−0.040	−0.039
	(0.031)	(0.024)	(0.022)	(0.031)	(0.028)	(0.027)	(0.031)	(0.028)	(0.027)	(0.031)	(0.023)	(0.023)
Gender	0.046	0.005	−0.001	0.061	0.002	−0.0005	0.082	0.010	0.005	−0.179***	−0.050	−0.049
	(0.045)	(0.031)	(0.030)	(0.045)	(0.036)	(0.036)	(0.045)	(0.037)	(0.036)	(0.044)	(0.031)	(0.031)
Education	0.129***	0.050*	−0.002	0.111***	0.034	0.013	0.091**	0.023	−0.020	−0.036	0.033	0.040
	(0.032)	(0.021)	(0.021)	(0.032)	(0.025)	(0.025)	(0.031)	(0.025)	(0.026)	(0.031)	(0.021)	(0.021)
Determination		0.189***	0.188***		0.231***	0.230***		0.137***	0.136***		−0.003	−0.003
		(0.027)	(0.026)		(0.032)	(0.031)		(0.032)	(0.032)		(0.027)	(0.027)
Calm		0.204***	0.178***		0.276***	0.266***		0.182***	0.161***		−0.146***	−0.143***
		(0.028)	(0.027)		(0.033)	(0.033)		(0.034)	(0.033)		(0.028)	(0.028)
Hope		0.131***	0.130***		0.057	0.056		0.063	0.062		−0.078**	−0.078**
		(0.029)	(0.028)		(0.034)	(0.034)		(0.035)	(0.034)		(0.028)	(0.028)
Love		0.106***	0.090***		0.045	0.039		0.048	0.035		0.004	0.006
		(0.027)	(0.026)		(0.032)	(0.032)		(0.032)	(0.032)		(0.027)	(0.027)
Relief		0.041	0.031		0.017	0.013		0.004	−0.004		0.016	0.017
		(0.024)	(0.023)		(0.028)	(0.028)		(0.029)	(0.028)		(0.023)	(0.023)
Pleasure		0.024	0.022		0.038	0.037		0.043	0.041		−0.043	−0.043
		(0.024)	(0.022)		(0.027)	(0.027)		(0.028)	(0.027)		(0.023)	(0.023)
Admiration		0.029	0.011		0.063	0.056		0.050	0.035		−0.040	−0.038
		(0.028)	(0.027)		(0.033)	(0.033)		(0.034)	(0.033)		(0.028)	(0.028)

Compassion	−0.050	−0.025	−0.021	−0.011	−0.050	−0.029	0.027	0.024
	(0.029)	(0.028)	(0.034)	(0.034)	(0.035)	(0.034)	(0.029)	(0.029)
Moved	0.039	0.009	0.030	0.018	0.009	−0.016	−0.034	−0.030
	(0.028)	(0.027)	(0.033)	(0.033)	(0.033)	(0.033)	(0.027)	(0.028)
Gratitude	0.056	0.056*	0.023	0.023	0.032	0.032	−0.003	−0.003
	(0.029)	(0.028)	(0.034)	(0.034)	(0.035)	(0.034)	(0.028)	(0.028)
Anger	0.040	0.027	0.005	−0.0001	0.008	−0.002	0.070*	0.072*
	(0.030)	(0.028)	(0.035)	(0.035)	(0.035)	(0.035)	(0.029)	(0.029)
Boredom	−0.039	−0.050*	−0.011	−0.016	−0.024	−0.032	0.079**	0.080**
	(0.026)	(0.025)	(0.031)	(0.031)	(0.031)	(0.031)	(0.026)	(0.026)
Confusion	0.034	0.024	−0.022	−0.026	0.009	0.002	−0.008	−0.007
	(0.027)	(0.025)	(0.031)	(0.031)	(0.032)	(0.031)	(0.026)	(0.026)
Disgust	−0.020	−0.010	−0.004	0.0001	−0.002	0.006	0.024	0.023
	(0.026)	(0.024)	(0.030)	(0.030)	(0.031)	(0.030)	(0.025)	(0.025)
Fear	0.041	0.038	−0.019	−0.019	−0.098**	−0.100**	0.016	0.016
	(0.032)	(0.030)	(0.037)	(0.037)	(0.038)	(0.037)	(0.031)	(0.031)
Frustration	−0.059	−0.077**	0.045	0.038	−0.083*	−0.098**	0.097**	0.100***
	(0.031)	(0.029)	(0.036)	(0.036)	(0.037)	(0.036)	(0.030)	(0.030)
Loneliness	−0.153***	−0.116***	−0.048	−0.034	−0.152***	−0.122***	0.128***	0.124***
	(0.028)	(0.027)	(0.033)	(0.033)	(0.034)	(0.033)	(0.028)	(0.028)
Regret	−0.151***	−0.137***	−0.003	0.002	−0.044	−0.032	0.064*	0.062*
	(0.026)	(0.025)	(0.030)	(0.030)	(0.031)	(0.030)	(0.025)	(0.025)

Sadness		−0.080*	−0.069*		−0.049	−0.044		−0.040	−0.031		0.096**	0.094**
		(0.032)	(0.030)		(0.037)	(0.037)		(0.038)	(0.037)		(0.031)	(0.031)
Anxiety		−0.106**	−0.080*		−0.154***	−0.144***		−0.063	−0.042		0.276***	0.273***
		(0.036)	(0.034)		(0.042)	(0.042)		(0.043)	(0.042)		(0.035)	(0.035)
SES			0.227***			0.090***			0.187***			−0.029
			(0.022)			(0.027)			(0.027)			(0.023)
Observations	983	983	983	983	983	983	983	983	983	983	983	983
R^2	0.048	0.588	0.629	0.047	0.440	0.447	0.052	0.405	0.434	0.087	0.604	0.604
Adjusted R^2	0.045	0.578	0.620	0.044	0.427	0.433	0.049	0.391	0.420	0.084	0.594	0.594
Residual Std. Error	0.979	0.651	0.618	0.979	0.758	0.754	0.968	0.774	0.756	0.956	0.637	0.636
	(df=980)	(df=960)	(df=959)	(df=980)	(df=960)	(df=959)	(df=980)	(df=960)	(df=959)	(df=980)	(df=960)	(df=959)
F Statistic	16.308***	59.495***	67.745***	16.030***	32.841***	32.288***	17.827***	28.437***	30.622***	31.105***	63.570***	61.027***
	(df=3;980)	(df=23;902)	(df=24;959)	(df=3;980)	(df=23;960)	(df=24;959)	(df=3;980)	(df=23;960)	(df=24;959)	(df=3;980)	(df=23;960)	(df=24;959)

Note: * p<0.05; ** p<0.01; *** p<0.001

Table S14.
UK representative sample hierarchical regression analysis results

	Dependent variable			
	Wellness	Resilience	Health	Distress
Age	−0.034	0.018	0.008	−0.017
	(0.023)	(0.028)	(0.028)	(0.023)
Gender	−0.022	0.003	−0.017	−0.099*
	(0.041)	(0.050)	(0.051)	(0.042)
Education	−0.010	−0.001	−0.030	0.037
	(0.021)	(0.025)	(0.026)	(0.021)
Empathic Concern	0.020	0.033	0.105**	−0.110***
	(0.028)	(0.034)	(0.035)	(0.029)
Personal Distress	0.001	−0.051	−0.006	0.111***
	(0.028)	(0.034)	(0.035)	(0.028)
Covid-prosocial	−0.007	0.017	−0.020	0.004
	(0.021)	(0.026)	(0.026)	(0.022)
General-prosocial	−0.020	−0.010	−0.008	0.024
	(0.021)	(0.026)	(0.027)	(0.022)
ER-rumination	−0.116***	−0.151***	−0.070*	0.153***
	(0.029)	(0.035)	(0.036)	(0.029)
ER-reappraisal	0.029	0.103***	0.045	0.010
	(0.024)	(0.029)	(0.029)	(0.024)
ER-suppression	−0.048*	0.003	0.014	0.070**
	(0.024)	(0.029)	(0.030)	(0.025)
ER-social sharing	0.069**	0.053	0.049	−0.013
	(0.023)	(0.029)	(0.029)	(0.024)
ER-distraction	0.004	0.063*	−0.031	−0.019
	(0.024)	(0.029)	(0.030)	(0.025)
ER-acceptance	0.082***	0.101***	0.046	−0.046*
	(0.021)	(0.025)	(0.026)	(0.021)
Self_vulnerable	0.009	0.013	−0.044	0.005
	(0.023)	(0.028)	(0.028)	(0.023)
Country_vulnerable	−0.017	0.032	0.028	0.002
	(0.024)	(0.029)	(0.030)	(0.024)
Employment	0.015	−0.013	0.041	0.040
	(0.030)	(0.036)	(0.037)	(0.030)
Covidsymptom	0.071	0.105	−0.068	0.134*
	(0.060)	(0.073)	(0.075)	(0.061)
Determination	0.181***	0.213***	0.126***	−0.008
	(0.025)	(0.031)	(0.031)	(0.026)
Calm	0.160***	0.229***	0.146***	−0.117***
	(0.027)	(0.033)	(0.034)	(0.028)
Hope	0.119***	0.036	0.061	−0.068*
	(0.027)	(0.033)	(0.034)	(0.028)
Love	0.065*	0.031	0.026	0.017
	(0.026)	(0.032)	(0.033)	(0.027)
Relief	0.029	0.006	−0.005	0.007
	(0.023)	(0.027)	(0.028)	(0.023)
Pleasure	0.023	0.021	0.040	−0.041
	(0.022)	(0.027)	(0.027)	(0.022)
Admiration	0.023	0.052	0.039	−0.043
	(0.027)	(0.032)	(0.033)	(0.027)

Compassion	−0.031	−0.024	−0.055	0.029
	(0.028)	(0.034)	(0.035)	(0.028)
Moved	0.003	0.008	−0.032	−0.030
	(0.026)	(0.032)	(0.033)	(0.027)
Gratitude	0.050	0.011	0.010	−0.007
	(0.027)	(0.033)	(0.034)	(0.028)
Anger	0.030	0.006	0.004	0.064*
	(0.028)	(0.034)	(0.035)	(0.028)
Boredom	−0.034	0.005	−0.032	0.072**
	(0.025)	(0.030)	(0.031)	(0.025)
Confusion	0.024	−0.037	−0.00001	−0.022
	(0.025)	(0.030)	(0.031)	(0.025)
Disgust	−0.024	−0.015	0.004	0.028
	(0.024)	(0.029)	(0.030)	(0.024)
Fear	0.026	−0.028	−0.113**	−0.003
	(0.031)	(0.037)	(0.038)	(0.031)
Frustration	−0.072*	0.034	−0.096**	0.076*
	(0.029)	(0.035)	(0.036)	(0.030)
Loneliness	−0.109***	−0.020	−0.111***	0.109***
	(0.027)	(0.033)	(0.034)	(0.027)
Regret	−0.114***	0.017	−0.028	0.041
	(0.024)	(0.030)	(0.030)	(0.025)
Sadness	−0.058*	−0.041	−0.028	0.074*
	(0.029)	(0.036)	(0.037)	(0.030)
Anxiety	−0.045	−0.133**	−0.037	0.215***
	(0.035)	(0.043)	(0.044)	(0.036)
SES	0.217***	0.081**	0.181***	−0.028
	(0.022)	(0.027)	(0.027)	(0.022)
Observations	977	977	977	977
R^2	0.656	0.492	0.456	0.641
Adjusted R^2	0.642	0.471	0.435	0.627
Residual Std.Error (df = 939)	0.600	0.729	0.746	0.611
F Statistic (df = 38; 939)	47.132***	23.914***	20.755***	44.169***

* p<0.05; ** p<0.01; *** p<0.001

Table S15.
UK representative sample with extra control variables

	Dependent variable											
	Wellness			Resilence			Health			Distress		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Age	0.185***	−0.037	−0.033	0.223***	0.034	0.036	0.204***	0.044	0.047	−0.209***	−0.008	−0.008
	(0.031)	(0.024)	(0.023)	(0.031)	(0.027)	(0.027)	(0.031)	(0.028)	(0.028)	(0.031)	(0.021)	(0.021)
Gender	−0.035	−0.005	−0.024	0.060	0.061	0.051	0.034	0.015	0.001	−0.107*	−0.032	−0.029
	(0.045)	(0.031)	(0.030)	(0.045)	(0.036)	(0.036)	(0.045)	(0.037)	(0.037)	(0.045)	(0.027)	(0.028)
Education	0.067*	0.059**	−0.003	0.053	0.060*	0.030	0.066*	0.069**	0.025	−0.011	−0.019	−0.010
	(0.031)	(0.021)	(0.022)	(0.031)	(0.024)	(0.026)	(0.031)	(0.025)	(0.026)	(0.031)	(0.019)	(0.020)
Determination		0.118***	0.122***		0.242***	0.244***		0.095**	0.098**		−0.016	−0.017
		(0.028)	(0.027)		(0.032)	(0.032)		(0.033)	(0.033)		(0.025)	(0.025)
Calm		0.066*	0.060*		0.066	0.063		0.182***	0.178***		−0.109***	−0.109***
		(0.030)	(0.029)		(0.034)	(0.034)		(0.036)	(0.035)		(0.026)	(0.026)
Hope		0.187***	0.177***		0.197***	0.192***		0.088*	0.080*		−0.051	−0.050
		(0.031)	(0.030)		(0.036)	(0.036)		(0.037)	(0.036)		(0.028)	(0.028)
Love		0.176***	0.147***		0.053	0.039		0.103**	0.082*		−0.002	0.002
		(0.028)	(0.027)		(0.032)	(0.032)		(0.033)	(0.033)		(0.024)	(0.025)
Relief		0.001	0.002		−0.043	−0.042		−0.020	−0.020		0.003	0.003
		(0.026)	(0.025)		(0.030)	(0.029)		(0.031)	(0.030)		(0.023)	(0.023)
Pleasure		−0.002	−0.002		0.041	0.041		0.041	0.041		−0.032	−0.032
		(0.024)	(0.023)		(0.028)	(0.028)		(0.029)	(0.028)		(0.021)	(0.021)
Admiration		−0.010	−0.011		−0.052	−0.052		−0.049	−0.050		−0.011	−0.011
		(0.028)	(0.027)		(0.032)	(0.032)		(0.033)	(0.033)		(0.025)	(0.025)

Compassion	0.015	0.015	0.043	0.043	−0.109**	−0.110**	0.009	0.009
	(0.030)	(0.029)	(0.034)	(0.034)	(0.036)	(0.035)	(0.026)	(0.026)
Moved	0.020	0.012	0.042	0.038	0.040	0.034	−0.009	−0.008
	(0.029)	(0.028)	(0.033)	(0.033)	(0.034)	(0.034)	(0.025)	(0.025)
Gratitude	0.094**	0.086**	−0.010	−0.014	0.138***	0.133***	−0.041	−0.040
	(0.030)	(0.029)	(0.035)	(0.035)	(0.036)	(0.035)	(0.027)	(0.027)
Anger	0.050	0.042	0.026	0.022	0.090*	0.084*	0.019	0.021
	(0.034)	(0.033)	(0.039)	(0.039)	(0.040)	(0.039)	(0.030)	(0.030)
Boredom	−0.016	−0.034	0.064*	0.055	0.005	−0.008	0.061**	0.064**
	(0.026)	(0.025)	(0.030)	(0.030)	(0.031)	(0.031)	(0.023)	(0.023)
Confusion	0.022	−0.001	−0.052	−0.063*	−0.064	−0.080*	0.030	0.033
	(0.028)	(0.027)	(0.032)	(0.032)	(0.033)	(0.033)	(0.025)	(0.025)
Disgust	−0.009	0.002	0.022	0.027	−0.037	−0.029	0.008	0.006
	(0.030)	(0.029)	(0.035)	(0.034)	(0.036)	(0.035)	(0.027)	(0.027)
Fear	0.079*	0.096**	0.066	0.074	0.006	0.019	0.032	0.029
	(0.035)	(0.033)	(0.039)	(0.039)	(0.041)	(0.040)	(0.030)	(0.030)
Frustration	−0.047	−0.033	0.048	0.054	−0.003	0.007	0.063*	0.061
	(0.036)	(0.034)	(0.041)	(0.041)	(0.042)	(0.042)	(0.031)	(0.031)
Loneliness	−0.054	−0.047	−0.074*	−0.070*	−0.013	−0.008	0.051*	0.050
	(0.029)	(0.028)	(0.034)	(0.033)	(0.035)	(0.034)	(0.026)	(0.026)
Regret	−0.198***	−0.202***	−0.143***	−0.145***	−0.121***	−0.125***	0.097***	0.098***
	(0.027)	(0.026)	(0.031)	(0.031)	(0.032)	(0.032)	(0.024)	(0.024)

Sadness		-0.196^{***}	-0.190^{***}		-0.146^{***}	-0.143^{***}		-0.145^{***}	-0.141^{***}		0.220^{***}	0.219^{***}
		(0.034)	(0.033)		(0.039)	(0.039)		(0.041)	(0.040)		(0.030)	(0.030)
Anxiety		-0.143^{***}	-0.141^{***}		-0.164^{***}	-0.163^{***}		-0.124^{**}	-0.122^{**}		0.300^{***}	0.300^{***}
		(0.040)	(0.038)		(0.046)	(0.045)		(0.047)	(0.046)		(0.035)	(0.035)
SES			0.205^{***}			0.100^{***}			0.147^{***}			-0.030
			(0.022)			(0.026)			(0.027)			(0.020)
Observations	985	985	985	985	985	985	985	985	985	985	985	985
R^2	0.041	0.576	0.610	0.055	0.444	0.452	0.047	0.413	0.431	0.049	0.673	0.673
Adjusted R^2	0.038	0.566	0.600	0.052	0.431	0.439	0.044	0.399	0.416	0.046	0.665	0.665
Residual Std. Error	0.981	0.659	0.632	0.972	0.753	0.748	0.980	0.778	0.766	0.976	0.578	0.578
	(df=982)	(df=962)	(df=961)	(df=982)	(df=962)	(df=961)	(df=982)	(df=962)	(df=961)	(df=982)	(df=962)	(df=961)
F Statistic	13.988^{***}	56.744^{***}	62.662^{***}	19.077^{***}	33.435^{***}	33.088^{***}	16.196^{***}	29.424^{***}	30.272^{***}	16.792^{***}	85.930^{***}	82.543^{***}
	(df=3;982)	(df=23;962)	(df=24;961)	(df=3;982)	(df=23;962)	(df=24;961)	(df=3;982)	(df=23;962)	(df=24;961)	(df=3;982)	(df=23;962)	(df=24;961)

Note: * p<0.05; ** p<0.01; *** p<0.001

Table S16.
US representative sample hierarchical regression analysis results

	Dependent variable			
	Wellness	Resilience	Health	Distress
Age	-0.051^{*}	0.015	0.034	0.017
	(0.023)	(0.027)	(0.028)	(0.021)
Gender	-0.074	0.054	0.006	-0.081^{*}
	(0.040)	(0.047)	(0.050)	(0.037)
Education	-0.006	0.018	0.020	-0.009
	(0.021)	(0.025)	(0.026)	(0.019)
Empathic concern	0.007	0.011	0.031	-0.081^{**}
	(0.028)	(0.033)	(0.035)	(0.026)
Personal distress	-0.011	-0.082^{*}	-0.045	0.102^{***}
	(0.028)	(0.033)	(0.035)	(0.026)
Covid-prosocial	0.011	0.031	-0.023	-0.007
	(0.022)	(0.026)	(0.027)	(0.020)
General-prosocial	-0.025	0.059^{*}	-0.001	0.030
	(0.022)	(0.026)	(0.027)	(0.020)
ER-rumination	-0.084^{**}	-0.139^{***}	-0.068	0.093^{***}
	(0.029)	(0.034)	(0.035)	(0.026)
ER-reappraisal	0.062^{**}	0.134^{***}	0.036	-0.027
	(0.023)	(0.028)	(0.029)	(0.021)
ER-suppression	-0.071^{**}	-0.001	0.0002	-0.004
	(0.024)	(0.028)	(0.030)	(0.022)
ER-social sharing	0.014	-0.040	0.017	0.009
	(0.023)	(0.027)	(0.029)	(0.021)
ER-distraction	0.017	0.016	-0.016	0.030
	(0.023)	(0.027)	(0.029)	(0.021)
ER-acceptance	0.102^{***}	0.086^{***}	0.049	-0.036
	(0.022)	(0.026)	(0.027)	(0.020)
Self_vulnerable	0.056^{*}	0.011	-0.011	0.017
	(0.026)	(0.030)	(0.032)	(0.024)
Country_vulnerable	-0.009	0.043	0.009	-0.069^{**}
	(0.027)	(0.031)	(0.033)	(0.024)
Employment	0.058	-0.005	0.039	0.033
	(0.030)	(0.035)	(0.037)	(0.027)
Covidsymptom	0.027	-0.034	-0.309^{***}	0.158^{*}
	(0.069)	(0.081)	(0.085)	(0.063)
Determination	0.100^{***}	0.214^{***}	0.083^{*}	-0.003
	(0.027)	(0.031)	(0.033)	(0.024)
Calm	0.036	0.025	0.159^{***}	-0.072^{**}
	(0.029)	(0.034)	(0.036)	(0.027)
Hope	0.177^{***}	0.187^{***}	0.082^{*}	-0.044
	(0.030)	(0.035)	(0.037)	(0.027)
Love	0.136^{***}	0.041	0.074^{*}	-0.00005
	(0.027)	(0.031)	(0.033)	(0.024)
Relief	0.011	-0.048	-0.013	-0.015
	(0.025)	(0.029)	(0.030)	(0.023)
Pleasure	-0.004	0.027	0.043	-0.042^{*}
	(0.023)	(0.027)	(0.029)	(0.021)
Admiration	0.001	-0.055	-0.051	-0.015
	(0.027)	(0.032)	(0.033)	(0.025)

Compassion	0.003	0.031	−0.113**	0.023
	(0.029)	(0.034)	(0.036)	(0.026)
Moved	−0.009	0.029	0.028	−0.008
	(0.027)	(0.032)	(0.034)	(0.025)
Gratitude	0.083**	−0.012	0.134***	−0.042
	(0.029)	(0.034)	(0.036)	(0.026)
Anger	0.040	0.028	0.078*	0.015
	(0.032)	(0.038)	(0.039)	(0.029)
Boredom	−0.026	0.072*	0.001	0.057*
	(0.025)	(0.029)	(0.031)	(0.023)
Confusion	0.003	−0.056	−0.077*	0.020
	(0.027)	(0.031)	(0.033)	(0.024)
Disgust	0.005	0.014	−0.026	0.014
	(0.029)	(0.034)	(0.036)	(0.026)
Fear	0.078*	0.080*	0.027	0.025
	(0.033)	(0.039)	(0.041)	(0.030)
Frustration	−0.017	0.068	0.016	0.044
	(0.034)	(0.040)	(0.042)	(0.031)
Loneliness	−0.029	−0.076*	−0.001	0.036
	(0.028)	(0.033)	(0.035)	(0.026)
Regret	−0.193***	−0.140***	−0.119***	0.095***
	(0.026)	(0.030)	(0.032)	(0.023)
Sadness	−0.179***	−0.113**	−0.119**	0.194***
	(0.033)	(0.038)	(0.040)	(0.030)
Anxiety	−0.123**	−0.128**	−0.091	0.274***
	(0.039)	(0.046)	(0.048)	(0.036)
SES	0.208***	0.094***	0.146***	−0.035
	(0.022)	(0.026)	(0.027)	(0.020)
Observations	983	983	983	983
R^2	0.636	0.493	0.447	0.694
Adjusted R^2	0.621	0.473	0.425	0.682
Residual Std.Error (df = 945)	0.616	0.725	0.761	0.564
F Statistic (df = 38; 945)	43.389***	24.210***	20.105***	56.442***

* p<0.05; ** p<0.01; *** p<0.001

Table S17.
US representative sample with extra control variables

Exploratory structural equation modeling (ESEM) for the main sample

In addition to multilevel regression analyses (reported in the main text), we also estimated a latent regression model of well-being on emotions via exploratory structural equation modelling (ESEM; *48*). The same weighted least square estimator, adjustment for cluster sampling, and rotation method as described earlier was adopted in the ESEM analysis. The number of common factors extracted for well-being was fixed at four while that for emotions ranged from four to nine. The eight-factor solution for emotions was considered optimal because 1) the model fit was excellent (CFI = 0.98, RMSEA = 0.01, SRMR = 0.01), and 2) each factor has at least two loadings greater than 0.25. The estimated factor loadings are summarized in Table S18 (A).

The standardized regression coefficients are summarized in Table S18 (B). It is remarked that most coefficients are significant as the sample size is large; we therefore base our interpretation solely on the effect size estimates. It is observed that the second emotion factor, which is mainly measured by determination and hope, is the strongest predictor of resilience, wellness, and health; it, however, does not have a substantial effect on distress. Emotion factor 8, which is indicated by negative emotions loneliness, regret, and sadness, has a negative partial effect on wellness and a positive partial effect on distress. The other two factors that predict distress are factors 3 (anxiety, confusion, fear, and lack of calm) and 6 (calm and relief). The ESEM results are largely consistent with the reported multilevel regression analysis in that latent factors with large effects in the ESEM are mostly represented by emotions with large effects in the multilevel model.

A

Items	Emotion							
	1	2	3	4	5	6	7	8
Admiration	**0.65**	-0.01	-0.10	0.05	-0.04	0.10	0.01	-0.03
Calm	0.02	**0.29**	**-0.29**	-0.06	0.07	**0.28**	0.10	-0.03
Compass	**0.51**	0.15	0.10	-0.03	0.01	-0.06	0.06	0.04
Determination	0.02	**0.69**	-0.01	0.08	-0.08	-0.01	0.03	0.02
Moved	**0.68**	0.02	0.01	0.06	0.01	-0.09	0.01	0.06
Gratitude	**0.55**	0.10	0.07	-0.11	-0.02	0.13	0.08	-0.03
Hope	0.15	**0.51**	0.04	-0.12	0.05	0.14	-0.01	-0.03
Love	**0.30**	0.08	0.04	-0.09	-0.02	0.01	**0.49**	-0.10
Relief	0.05	0.13	0.05	0.02	0.02	**0.55**	0.05	0.02
Pleasure	0.04	0.10	-0.10	0.05	-0.03	0.23	**0.38**	0.12
Anger	-0.07	0.03	0.09	**0.63**	0.05	-0.07	0.10	0.10
Anxiety	0.00	-0.02	**0.66**	0.03	0.07	-0.11	0.06	0.12
Boredom	-0.02	-0.03	0.00	0.03	**0.83**	0.01	0.02	-0.04
Confusion	0.02	-0.05	**0.45**	0.19	0.07	0.03	0.02	0.13
Disgust	0.06	0.00	0.00	**0.76**	0.04	0.05	-0.08	-0.07
Fear	0.00	0.01	**0.88**	0.01	0.00	0.05	-0.02	-0.05
Frustration	-0.04	-0.07	0.19	**0.28**	0.15	-0.14	0.16	**0.30**
Loneliness	0.03	0.01	0.08	0.00	**0.42**	-0.02	-0.18	**0.41**
Regret	0.06	-0.15	0.21	0.24	-0.03	0.19	-0.04	**0.34**
Sadness	0.11	-0.02	**0.27**	0.14	0.10	-0.11	-0.03	**0.39**

Items	Well-being			
	Wellness	Resilience	Health	Distress
euda1	**0.44**	0.39	0.12	-0.10
euda2	**0.61**	0.34	0.01	0.03
swl	**0.66**	0.02	0.12	-0.11
res1	0.05	**0.78**	0.05	0.00
res2	-0.01	**0.89**	0.00	-0.04
mental	0.31	-0.04	**0.59**	-0.14
physical	-0.10	0.06	**0.80**	0.04
stressed	0.02	-0.02	0.06	**0.84**
tired	0.12	-0.05	-0.06	**0.76**
depressed	-0.25	0.05	-0.06	**0.64**

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	emo1	emo2	emo3	emo4	emo5	emo6	emo7	emo8
Wellness	-0.13	**0.51**	0.15	-0.07	-0.09	0.10	0.17	**-0.36**
Resilience	-0.18	**0.85**	-0.12	0.00	0.00	-0.17	0.08	-0.05
Health	-0.11	**0.35**	-0.12	-0.08	-0.01	0.02	0.13	-0.19
Distress	0.06	-0.11	**0.25**	0.16	0.07	**-0.23**	0.00	**0.23**

Table S18.

Exploratory structural equation modelling results