Title

The impact of the COVID-19 pandemic on health-related quality of life: a cross-sectional survey of 13 high and low-middle income countries

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Abstract

Background Most research on the COVID-19 health burden has focused on confirmed cases and deaths, rather than consequences for the general population's health-related quality of life (HRQoL). This study aimed to analyse the impact of the COVID-19 pandemic on HRQoL in 13 diverse countries.

Methods and Findings Adults (18+ years) were surveyed online (24 November - 17 December 2020). We used descriptive and regression-based analyses (age-adjusted and stratified by gender) to assess the impact of the pandemic on the general population's HRQoL, measured by the EQ-5D-5L instrument and its domains (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression); and how overall health deterioration was associated with individual-level (socio-economic, clinical, and experiences of COVID-19) and national-level (pandemic severity, government responsiveness, and effectiveness) factors. We also produced country-level Quality-Adjusted- Life Years (QALYs) lost to COVID-19 pandemic related morbidity. We found that overall health deteriorated, on average across countries, for more than one third of the 15,480 participants, the greatest impacts being on anxiety/depression, especially for younger people (<35 years old) and females/other gender. This translated overall into a 0.066 mean 'loss' (95% CI: -0.075, -0.057; p-value<0.001) in the EQ-5D-5L index, representing a reduction of 8% in overall HRQoL. QALYs lost due to morbidity were five to eleven times greater than QALYs lost based on COVID-19 premature mortality.

Conclusions The COVID-19 health burden would be substantially underestimated if based only on mortality. HRQoL measures are important to fully capture morbidity from the pandemic in the general population.

INTRODUCTION

The impact of the ongoing COVID-19 pandemic has proved to be wide and pervasive. From a population health perspective, the impact of COVID-19 has been closely tracked in terms of confirmed cases and deaths.(1, 2) This, however, underestimates the population health burden because it cannot capture the wider, longer term, multi-faceted impact that the COVID-19 pandemic and associated containment measures have on the general population's health-related quality of life (HRQoL).

Collecting and analysing self-reported measures of health during the COVID-19 pandemic should be a priority for the research community,(3) to better understand how multiple factors affect not only those directly infected with COVID-19, but also the wider population. Different regions/countries, population groups, and cultures experience different levels of exposure to COVID-19; different availability of healthcare, economic resources, and governmental containment policies; and different socioeconomic impacts. Documenting differences and/or similarities in HRQoL across countries as the pandemic unfolds and the COVID-19 vaccine/booster rollout proceeds is, therefore, important to inform policy-makers about the most appropriate interventions in multiple settings, health conditions, and populations, and assess their impact.

In this spirit, a growing number of studies have emerged,(4-7) which report how HRQoL has changed during the pandemic compared with pre-pandemic levels using the EQ-5D-5L, a well-validated, preference-based, generic health instrument.(8) Use of EQ-5D-5L across countries provides a standardized approach to measuring health within and across nations. The EQ-5D-5L index, which varies between 0 (dead) and 1 (full health), can be used to estimate quality-adjusted life years (QALYs), a measure of health burden widely used in economic evaluations in health care. In addition, the EQ-5D-5L is also used commonly in studies of population health.

Recent studies using the EQ-5D-5L to quantify the impact of COVID-19 have reported a deterioration of HRQoL, in general and, more specifically, in the anxiety/depression domain.(4-7, 9) However, they mainly focused on high-income countries(5-7) with fewer investigations referring to middle-income countries,(4, 10, 11) and – to our knowledge – none in low-income countries. Previous studies were limited by small sample sizes, use of

convenience sampling methods, restricted clinical populations; or did not include multiple cross-country comparisons.

In this context, the primary aim of our study was to describe and assess the impact of COVID-19 on HRQoL of the general population in 13 countries (Australia, Brazil, Canada, Chile, China, Colombia, France, India, Italy, Spain, Uganda, United States of America (USA), and United Kingdom (UK)) participating, at the end of 2020, in the Covid-19 vAccine preference anD Opinion sURvey (CANDOUR) study.(12) Our pre-specified hypotheses of health deterioration are detailed in the study protocol.(13) Our secondary aim was to use observed changes in the EQ-5D-5L index to estimate QALYs lost due to morbidity at population level by country.

METHODS

Study design, setting and population

This cross-sectional investigation was embedded within the first wave of the CANDOUR study,(12) a longitudinal, web-based, multi-country survey. Anonymous online surveys were completed by adults aged 18 years or more across the 13 participating countries, which are very diverse in their social and economic settings, between 24 November 2020 and 17 December 2020. Except for India and Uganda, where samples represented mainly urban settings, quota sampling was adopted to obtain representative samples in terms of age, education, gender, and geography in each country. For countries where imbalances persisted, a post-stratification weighting was implemented.(14) This study protocol was pre-registered,(13) and approved by the University of Oxford Medical Sciences Interdivisional Research Ethics Committee (ID: R72328/RE001). All participants provided informed consent at the beginning of the survey.

External data sources

We used data from the Oxford COVID-19 Government Response Tracker (OxCGRT) database(1, 15) and 'Worldwide Governance Indicators (WGI)',(16, 17) linked to CANDOUR data, to explore the relationship between national policies/government effectiveness and perceived health of study participants. Population estimates by country and age categories were obtained from the Global Burden of Disease Study 2019.(18)

Procedures

Participants' health was captured by the EQ-5D-5L,[8] which covers five domains: mobility (i.e. walking), self-care (i.e. washing or dressing), usual activities (i.e. work, study, housework, leisure activities), pain/discomfort, and anxiety/depression. Each domain has five ordered levels, from no (1) to extreme (5) problems. Participants rated their health at the time of the survey and retrospectively, thinking to the pre-COVID-19 pandemic period.

We compared the participants' EQ-5D-5L profiles at the time of the survey and pre-COVID-19 pandemic using the Paretian Classification of Health Change (PCHC) approach.[19] The latter defines an EQ-5D-5L health profile as improved (worsened) with respect to another, if it improved (worsened) on at least one dimension and had not worsened (improved) on any other dimension. Each respondent's perceived change in health can be classified into five mutually exclusive categories: improved; worsened; 'mixed' (i.e. health improved in at least one dimension, but worsened in at least one other); unchanged and equal to full health (i.e. all dimensions remained at level 1, indicating no problems); unchanged but different from full health (i.e. at least one dimension had a level higher than 1). EQ-5D-5L indices, measuring HRQoL, were generated using the UK[20] and the US value set[21] in the main and sensitivity analyses, respectively. QALYs lost at population levels were estimated from the UK-valued EQ-5D-5L and external data on population sizes.

All CANDOUR variables included in the analyses are summarised in *Table 1*. Indicators of COVID-19 government responses at national level and government performance included four composite indices from the OxCGRT database: overall Government Response Index (GRI), Containment and Health Index (CHI), Economic Support Index (ESI), Stringency Index (SI); and the Government Effectiveness (GE) indicator from the WGI database (see Supplementary material for Indices definitions). Pandemic severity was proxied by quintiles of incident cases and deaths (seven-day average prior to the survey date).

Statistical analyses

Descriptive analyses were conducted. Continuous variables were reported as mean values and standard deviations and, in the case of differences between variables, 95% confidence intervals. Categorical variables were presented as counts and percentages. Statistical comparisons were made using t-tests to compare mean differences, and equality of proportions tests to compare differences in proportions.

Results from the PCHC approach applied to the EQ-5D-5L profile data were reported descriptively, stratified by continent and World Bank income classification group (ICG). For the category 'health worsened', descriptive results were reported by EQ-5D-5L dimension, ICG, and individual-level comorbidities. Univariable and multivariable logistic regressions were conducted to explore the association between perceived worsened health (1: health worsened; 0: otherwise), and three sets of potential predictors. These included: individual-level socio-economic and clinical factors; individual-level experiences of/exposure to COVID-19; and macro-level variables, i.e. national-level government responsiveness to COVID-19, pandemic severity, and government effectiveness. For each set of predictors, we first estimated the unadjusted association with each predictor (Model 1); we then adjusted it by age and country (Model 2); and finally, predictors whose association had a p-value < 0.05, were included in the multivariable logistic regression (Model 3). Model 3 was not performed for national-level variables, as some indicators were nested within each other. Model 4 was derived using backward selection to an initial specification including variables from Models 3, the two national-level indicators GRI and GE, and pandemic severity (cases/deaths). Logistic regression results were reported as odds ratios (ORs) with 95% CIs and stratified by gender. A p-value of < 0.05 was considered statistically significant. All statistical analyses were conducted using Stata 17.0 (StataCorp LP; College Station, TX).

Descriptive statistics by EQ-5D-5L dimension that worsened were also reported by age and gender, with anxiety/depression (the most prevalent) also presented by continent. Mean EQ-5D-5L indices pre-pandemic, and at the time of the survey, and their mean difference were reported by country alongside their 95% CI.

Finally, we estimated QALYs lost to morbidity at population level by country. We first calculated the HRQoL change (UK value set) from pre- to during-pandemic by age and country. Under the simplifying assumption that changes remained stable for a year, we then multiplied them by the total national population in each age group. The resulting country-level QALY loss due to COVID-19 pandemic-related morbidity was then expressed as a ratio of country-level QALY loss due to COVID-19 premature mortality, estimated by multiplying confirmed country-level COVID-19 deaths by current estimates of QALYs lost per death.(22-24)

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RESULTS

Characteristics of study participants

On average 1195 individuals per country participated in the CANDOUR study, a total of 15536 participants. Of these, all completed the EQ-5D-5L descriptive system. We restricted analyses to respondents with complete data on age and gender, which marginally reduced the sample size to 15480 individuals (*Figure S1*). Missing data on other categorical variables was included as an additional category (*Table 1*).

The profile of the overall sample is shown in *Table 1*. Across countries, on average, 43% of respondents incurred loss of income due to COVID-19. On average, less than 20% of respondents had (or believed they had) been infected with COVID-19, while 30 to 42% experienced it through family/friends. There were differences at continent and country-level (*Table 1* and *Table S1*). The average level of Government responsiveness (GRI, CHI, ESI, and SI Indicators) ranged from 65 to 69 (scale 0-100), with Uganda scoring the lowest and Chile and Italy scoring the highest. Severity of pandemic varied depending on the country population and the stage of the pandemic, with Australia and China reporting the lowest mean number of incident cases and deaths (seven-day means), respectively, and the US the highest (*Table S2*).

Paretian Classification of Health Change

Although, on average, health remained unchanged for about 48% of respondents (*Figure 1*, *Tables S3/S4*), it worsened for more than one third (35%). At continent-level, only Asia (32%) and Oceania (25%) had a lower percentage. Worsened health remained prevalent when stratifying results by ICG (*Figure S2*).

Among those who perceived their health as worsened (*n*=5632), the most and the least impacted EQ-5D-5L domains were anxiety/depression (81%) and self-care (16%), respectively (*Figure S3*). Reporting worsened health increased with the number of long-term health conditions (*Figure S4*), and was greatest in lower country income groups (*Figure S5*), except for the anxiety/depression domain.

Factors associated with PCHC category 'health worsened'

The associations between worsened health and participants' socioeconomic and clinical characteristics, adjusted by age and country, were similar across genders (*Figure S6, Table S5*

- *Models 2/3*). For female/other gender, the odds of worsened health were significantly increased by 51% and 200% for those who completed secondary and tertiary education, respectively, compared with those less educated; while for males a lower increase of 30% was found for university graduates. No significant association with employment status was found among those who responded. Income losses due to the pandemic and having long-term conditions were associated, respectively, with significantly higher odds of worsened health for both males (around 60% and 70%) and females/other (about 50% and 67%).

Across genders, the odds of worsened health significantly increased by about 30% for almost all individual-level experiences of/exposure to COVID-19 (*Figure S7*, *Table S6- Models 2/3*). There were no significant associations between worsened health and indicators of government responsiveness to, and severity of, COVID-19 at national levels (*Figure S8*, *Table S7 - Model 2*) for female/other gender. Statistically significant associations existed among male respondents, with odds of worsened health significantly decreasing for higher values of the GRI and ESI indices distribution, and indicators of pandemic severity, but significantly increasing with higher values of the SI index. Male respondents living in countries with higher levels of government effectiveness (*Figure S9*, *Table S8 - Model 2*) were significantly less likely to report worsened health, but the opposite was true for females/others. Associations did not substantially change in Model 4 (*Table S9*).

Deterioration of health by EQ-5D domains
When looking at individual EQ-5D domains, the most and the least impacted were anxiety/depression (33.8%; n=5525) and self-care (10%; n=1553). For anxiety/depression (*Figure 2*), younger generations were most affected, with males and females/others aged 18-24 reporting worsened health 13 and 14 percentage points, respectively, higher than those aged 65+. However, perceived deterioration of mental health was, on average, 4 percentage points higher for females/others than males throughout the age distribution. Similar results held across continents, with Africa (Uganda) and South America (Brazil, Chile, Colombia) being outliers (*Figure S10).* For all other health domains, younger groups remained most impacted, but deterioration in health was, on average, greater for males (*Figure S11).*

HRQoL changes
Responses reporting Level 1 'no problems' decreased significantly during the pandemic across all health domains (*Figure S12* and *Table S10*), with the highest decrease in

anxiety/depression (mean difference; -17%; 95% CI: -16%, -18%; p-value: <0.001).
Conversely, there were significantly more responses reporting Levels 2 to 5 (i.e. slight to extreme problems) during than before the pandemic (*Table S10*).

Placing UK valuations(20) on the EQ-5D-5L health profiles (*Table 2*), we found that mean HRQoL significantly deteriorated by 0.066 (95% CI: - 0.075, -0.057; p-value: <0.001) during the pandemic. Only China showed non-statistically significant changes. Overall, significant decrements pre-during pandemic in mean HRQoL were slightly lower for males (0.063) than for females/others (0.069) (*Tables S11* and *S12*). There were no significant HRQoL changes for males in China, Colombia, and Chile or for females/others in China (*Tables S11* and *S12*). Results remained consistent when using the US value set (*Tables S13-S15*). Higher HRQoL decrements occurred among the younger age groups (*Table S16*).

QALY loss at population-level

After extrapolating mean differences in HRQoL to the population of each country, the median ratio across all countries except China (*Table S16*), of 'QALYs lost due to morbidity / QALYs lost due to COVID-19 mortality' (*Table 3*) was five and eleven using the highest and lowest estimates,(23) respectively, of QALYs lost per death.(22-24)

DISCUSSION

While deaths associated with the COVID-19 pandemic have been widely reported for most countries globally, there has been much less focus on how the pandemic and associated containment measures have affected other aspects of health. Generic quality of life measures, such as the EQ-5D, are now widely used to measure health, and this instrument has been shown to be sensitive to COVD-19 in a number of countries.(4-7) In this study, we explored the impact of the COVID-19 pandemic on HRQoL at the population level, across 13 countries. These countries jointly represent almost half of the adult world population, and diverse social and economic settings. We found that, nine months into the pandemic, more than one third of respondents perceived that their health had deteriorated since the pre-pandemic period. The greatest impact was on anxiety/depression, especially for those <35 and females/others. The perceived deterioration translated overall into a 0.066 mean difference 'loss' in the EQ-5D-5L index, representing an 8% reduction in overall HRQoL. This deterioration is comparable to the impact of myocardial infarction or blindness in one eye in diabetic patients, which were estimated to reduce HRQoL by 0.055 and 0.074,

respectively.(25) We also translated this into country-level QALYs lost, which can be compared with plausible estimates of QALYs lost from premature mortality.(22-24) A key result of our study is that for the median country in our sample (excluding China) the QALYs loss due to morbidity is five (eleven) times greater than QALYs loss due to mortality, when using the highest (lowest) estimates of QALYs lost per COVID-19 death.

Our results may be biased by the fact that subjects were asked to complete the health questionnaire retrospectively and, therefore, responses may be subject to 'recall bias'. While literature on recall accuracy using the EQ-5D is limited, and studies tend to be for specific populations and conditions,(26-28) there seem to be no major disagreements at an aggregate level.(26, 27) Furthermore, retrospective EQ-5D has been used previously in surveys for both COVID-19(29, 30) and other diseases.(31) Additionally, when compared with some pre-pandemic norms,(6) our retrospective HRQoL are relatively low, which may help to mitigate any upward bias in our estimates of HRQoL fall. Another note of caution is about the representativeness of our sample. While samples are generally representative on key socio-demographic/geographical factors in the included high-income countries, the same cannot be claimed for low/middle-income countries, with India and Uganda, for example, being primarily sampled from urban populations. Another potential source of bias is the restriction to participants with internet access. Despite quota sampling and post-stratification weighting, online samples may be different from their populations on important unobservable characteristics. Online surveys, however, have been the predominant means of data collection during the COVID-19 pandemic.

Notwithstanding the above considerations, deterioration of perceived health/HRQoL during the first year of the COVID-19 pandemic is consistent with previous online survey–based studies, of which a limited number collected EQ-5D data in the general adult population,(4-7) and compared them to pre-pandemic convenience samples. In Portugal,(5) only a few weeks into the pandemic (29 March to19 April 2020), HRQoL had deteriorated by 3% in the interviewed adult population quarantined at home (*n*=904); in Morocco,(4) a couple of months into the first lockdown (2 to 30 May 2020), perceived HRQoL deteriorated by 5.5% for the interviewed sample (*n*=537). In the US,(6) in mid-2020, changes of perceived overall health, varied with respondents' age (*n*=2746), with the largest negative impact experienced by younger adults. Specifically, the perceived health of participants aged 18-24 deteriorated by 10% compared with a pre-COVID-19 online survey (*n*= 2028), and by 18% compared to a

face-to-face pre-COVID-19 survey (*n*=1134). The first eight weeks of lockdown worsened perceived overall health of Belgian (*n*=2099) and Dutch (*n*=2058) adults by 4% and 1%, respectively, compared with pre-pandemic norms.(7) The magnitude of these perceived changes in overall health, as measured by the EQ-5D, varied across studies in the first year of the pandemic, becoming generally larger as the pandemic unfolded, with the direction of changes fairly consistent and in line with our findings. Only in China did perceived overall health not significantly change in our sample. A similar result was reported in another study using the EQ-5D,(10) and attributed to different cultural perceptions of health, overall health status, age, and gender structures, as well as pandemic stages.

Anxiety/depression was the EQ-5D domain most impacted by the COVID-19 pandemic. The mental health impact is consistent across the whole COVID-19 empirical literature, and was consistently reported in studies on HRQoL using the EQ-5D, both in the general population,(4-7, 10, 11, 29) and in specific clinical sub-populations.(9) The most impacted sub-groups were female/other gender, and younger people, which is consistent with other published results.(5, 6, 29) Importantly, the deterioration of mental health was prevalent across all countries regardless of the level of economic development, while for other EQ-5D health domains (*Figure S5*) there was a clear inverse country income-health gradient.

Perceived deterioration of health was significantly associated with higher educational level, the largest odds found for females/others. Higher educated women are more likely to work, but the prolonged COVID-19 lockdowns have increased the burden of unpaid care, which usually disproportionally falls on women.(32) This, in turn, may have negatively affected their mental health and, therefore, their overall perceived health. Our study – similar to others(5, 29) - has shown that mental health deterioration was more prevalent in women. We found significantly increased odds of health deterioration across genders when income losses due to COVID-19 occurred, although no association with employment status. This may suggest that it is the immediate and unexpected loss of income that impacts perceived health most, especially for those with poor job security.(9, 11, 33, 34) Those with chronic diseases were more likely to report deterioration in HRQoL, which is a consistent finding in COVID-19 studies. Direct and/or indirect (through family/friends) experience of/exposure to COVID-19 at the individual level significantly increased the likelihood of reporting deterioration in health, in line with similar findings in recent community-based studies in Hong Kong(35) and Germany.(29) Government responsiveness to the COVID-19 crisis at national levels was not

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significantly associated with worsened health for females/others, but was associated with reduced odds of worsened health for males. In previous studies of the effect of the COVID-19 pandemic on the HRQoL of the general population, macro-level indicators of government responsiveness were not generally included, with only a few studies indirectly exploring the impact of lockdown, either in the general population(4) or in clinical sub-groups(9). Pandemic severity, proxied by new COVID-19 cases and deaths, and perceived government effectiveness were associated with reduced odds of health deterioration for the male population. As the severity of the virus spread so did the containment measures adopted by governments, which may have therefore confounded these results. Interestingly, higher levels of government effectiveness were associated with reduced likelihood of reporting deterioration of health for males, but the opposite for females/others. Individual-level trust in governmental actions to face COVID-19 was also found to improve ED-5D-derived HRQoL and mental health in a German study,(29) but results were not stratified by gender.

Our findings show that, when translated into QALYs, the COVID-19 pandemic-related burden from morbidity is substantial compared with plausible QALY loss due to COVID-19 premature death. The advantage of using QALYs to assess the burden of the pandemic, in addition to simpler metrics like confirmed COVID-19 cases/deaths, is that the latter are unable to capture broader pandemic impacts. Those are not only due to decreased access to healthcare and short/long-term deterioration in mental health for non-COVID-19 patients, but also the severity and length of morbidity from COVID-19 itself, including long COVID-19.(36) As the EQ-5D-5L index can be used to derive QALYs, multi-country longitudinal studies have the potential to capture changes in the general population health profile as the pandemic unfolds, and the vaccine/booster rollout programme expands globally. This information can provide benchmark evidence for countries at different stages of the pandemic to learn from each other, as well as inform how public health measures and economic policies may be best targeted in the event of other future health shocks.

Ethics Approval

This study was approved by the University of Oxford Medical Sciences Interdivisional Research Ethics Committee (Approval ID: R72328/RE001).

Contributors

MV and PC acquired funds, conceived, and designed the study and methodology. RD and MFB curated the data and software. MV was responsible for the project administration and supervision. MV, JP, PC, RD, MFB vouch for the accuracy and completeness of data. JP and MV conducted the formal data analyses. JP was responsible for data visualization. All authors contributed to the interpretation of the data analysed. MV wrote the first draft of the manuscript. All authors critically reviewed and edited the manuscript, and read and approved its final version.

Declaration of interests

AL is a Board member of the EuroQol Group which is responsible for licensing the EQ-5D. The EQ-5D was used in the present study. Other authors declare no competing interests.

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Table 1: Socio-demographic and clinical characteristics, overall and by continent

	Overall sample	Africa	Asia	Europe	North America	Oceania	South America
No. sampled – N (%)	15,480 (100.00)	1,038 (6.71)	2,481 (16.03)	4,537 (29.31)	2,294 (14.82)	1,358 (8.77)	3,772 (24.37)
Gender - N (%)							
Male	7,973 (51.49)	762 (73.41)	1,403 (60.99)	2,307 (48.19)	1,197 (51.28)	642 (46.01)	1,662 (45.27)
Female & Other	7,507 (48.51)	276 (26.59)	1,078 (39.01)	2,230 (51.81)	1,097 (48.72)	716 (53.99)	2,110 (54.73)
Missing	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
Age (years) - Mean (SD)	44.14 (16.49)	29.11 (7.02)	42.00 (16.04)	48.16 (15.94)	46.68 (17.11)	46.01 (17.47)	42.63 (15.72)
Education - N (%)							
Primary or less	1,855 (23.56)	40 (3.85)	618 (52.10)	410 (9.46)	101 (4.48)	242 (25.67)	444 (38.00)
Secondary	6,061 (41.27)	331 (31.89)	471 (17.99)	2,340 (51.41)	1,070 (55.58)	525 (46.35)	1,324 (36.45)
University	7,246 (33.22)	653 (62.91)	1,370 (29.04)	1,712 (37.57)	1,099 (38.90)	572 (26.60)	1,840 (21.49)
Missing	318 (1.95)	14 (1.35)	22 (0.87)	75 (1.56)	24 (1.04)	19 (1.37)	164 (4.05)
Employment - N (%)							
Employed	7,955 (47.08)	447 (43.06)	1,738 (57.51)	1,967 (42.59)	1,300 (53.02)	681 (45.62)	1,822 (43.66)
Unemployed	1,448 (9.71)	280 (26.97)	86 (3.58)	360 (7.81)	147 (7.50)	102 (8.29)	473 (13.11)
Pension/capital income	1,473 (11.87)	2 (0.19)	241 (18.75)	560 (12.20)	441 (19.80)	0 (0.00)	229 (9.61)
Other	2,850 (19.60)	57 (5.49)	401 (19.55)	416 (10.00)	368 (17.94)	513 (40.77)	1,095 (28.43)
Missing	1,754 (11.74)	252 (24.28)	15 (0.60)	1,234 (27.40)*	38 (1.74)	62 (5.32)	153 (5.18)
Loss of income due to COVID-19 - N (%)							
Yes	6,589 (43.07)	921 (88.73)	974 (42.43)	1,309 (28.45)	753 (31.29)	413 (27.15)	2,219 (61.40)
No	8,191 (52.28)	93 (8.96)	1,421 (54.75)	2,993 (66.32)	1,447 (64.25)	887 (68.49)	1,350 (32.57)
Don't know	337 (2.36)	5 (0.48)	50 (1.58)	135 (2.96)	50 (2.62)	26 (1.81)	71 (2.71)
Missing	363 (2.29)	19 (1.83)	36 (1.24)	100 (2.27)	44 (1.83)	32 (2.55)	132 (3.31)
Believed to have had COVID-19 - N (%)							
Yes	2,571 (15.98)	195 (18.79)	575 (23.67)	561 (12.75)	306 (12.07)	180 (9.93)	754 (18.60)
No	10,618 (69.42)	645 (62.14)	1,819 (72.80)	3,187 (70.01)	1,727 (76.26)	1,097 (84.44)	2,143 (58.93)
Don't know	1,690 (10.75)	198 (19.08)	10 (0.43)	465 (10.29)	142 (6.19)	0 (0.00)	875 (22.47)
Missing	601 (3.84)	0 (0.00)	77 (3.10)	324 (6.95)	119 (5.48)	81 (5.63)	0 (0.00)
Tested positive for COVID-19 - N (%)							
Yes	1,658 (10.53)	67 (6.45)	495 (20.44)	344 (7.41)	185 (7.00)	148 (8.54)	419 (11.76)
No	13,547 (87.65)	962 (92.68)	1,946 (78.01)	4,105 (90.63)	2,059 (90.66)	1,176 (89.13)	3,299 (86.67)

Don't know	132 (0.87)	9 (0.87)	14 (0.51)	40 (0.85)	15 (0.65)	0 (0.00)	54 (1.57)
Missing	143 (0.95)	0 (0.00)	26 (1.05)	48 (1.11)	35 (1.69)	34 (2.33)	0 (0.00)
Relative infected with COVID-19 - N (%)							
Yes	4,664 (30.07)	296 (28.52)	749 (31.27)	1,193 (26.56)	546 (22.07)	187 (11.00)	1,693 (45.66)
No	10,059 (64.92)	643 (61.95)	1,666 (66.08)	3,128 (68.62)	1,632 (72.57)	1,118 (85.62)	1,872 (48.40)
Don't know	504 (3.37)	99 (9.54)	25 (1.00)	119 (2.64)	54 (2.35)	0 (0.00)	207 (5.94)
Missing	253 (1.65)	0 (0.00)	41 (1.65)	97 (2.18)	62 (3.01)	53 (3.39)	0 (0.00)
Friend/colleague infected with COVID-19 - N (%)							
Yes	6,766 (42.37)	524 (50.48)	806 (32.67)	2,071 (46.05)	744 (31.09)	221 (13.18)	2,400 (59.47)
No	7,813 (51.75)	428 (41.23)	1,606 (64.67)	2,178 (47.61)	1,409 (62.28)	1,077 (82.88)	1,115 (33.50)
Don't know	606 (3.93)	86 (8.29)	28 (1.01)	162 (3.52)	73 (3.18)	0 (0.00)	257 (7.03)
Missing	295 (1.95)	0 (0.00)	41 (1.65)	126 (2.82)	68 (3.45)	60 (3.94)	0 (0.00)
Know of someone dead from COVID-19 - N (%)							
Yes	5,813 (37.02)	725 (69.85)	789 (32.37)	1,425 (31.34)	540 (21.20)	214 (12.66)	2,120 (56.25)
No	9,161 (59.77)	286 (27.55)	1,608 (64.83)	2,943 (64.92)	1,672 (74.72)	1,102 (84.63)	1,550 (41.08)
Don't know	259 (1.58)	27 (2.60)	28 (0.55)	76 (1.70)	26 (1.13)	0 (0.00)	102 (2.67)
Missing	247 (1.64)	0 (0.00)	56 (2.26)	93 (2.04)	56 (2.95)	42 (2.71)	0 (0.00)
Comorbidities - N (%)							
Diabetes	1,658 (11.73)	18 (1.82)	421 (17.51)	395 (8.69)	352 (14.69)	196 (13.98)	276 (11.65)
Hypertension	2,564 (18.94)	43 (4.34)	381 (18.76)	776 (17.62)	542 (25.20)	303 (23.72)	519 (19.10)
Heart disease	641 (4.50)	16 (1.61)	180 (7.88)	178 (3.99)	107 (5.03)	75 (5.48)	85 (2.98)
Asthma	1,214 (8.44)	44 (4.44)	133 (6.63)	364 (8.32)	267 (12.54)	183 (15.41)	223 (5.84)
Allergies	2,798 (18.17)	264 (26.64)	337 (13.67)	631 (14.52)	566 (25.88)	244 (18.68)	756 (18.43)
Kidney disease	273 (2.16)	11 (1.11)	82 (4.08)	52 (1.22)	50 (2.15)	23 (1.65)	55 (2.50)
Other condition	1,300 (9.01)	43 (4.34)	88 (3.33)	439 (9.97)	271 (13.01)	187 (16.02)	272 (7.93)
No comorbidity	7,712 (49.55)	620 (62.56)	1,397 (53.53)	2,299 (52.28)	930 (42.15)	598 (43.85)	1,868 (46.61)

N=actual sample size; %=weighted percentage; Mean=weighted mean; SD=weighted standard deviation. [*] Employment variable missing for all French respondents.

Figure 1: Paretian Classification of Health Change (PCHC), overall and by continent

Paretian Classification of Health Change by continent
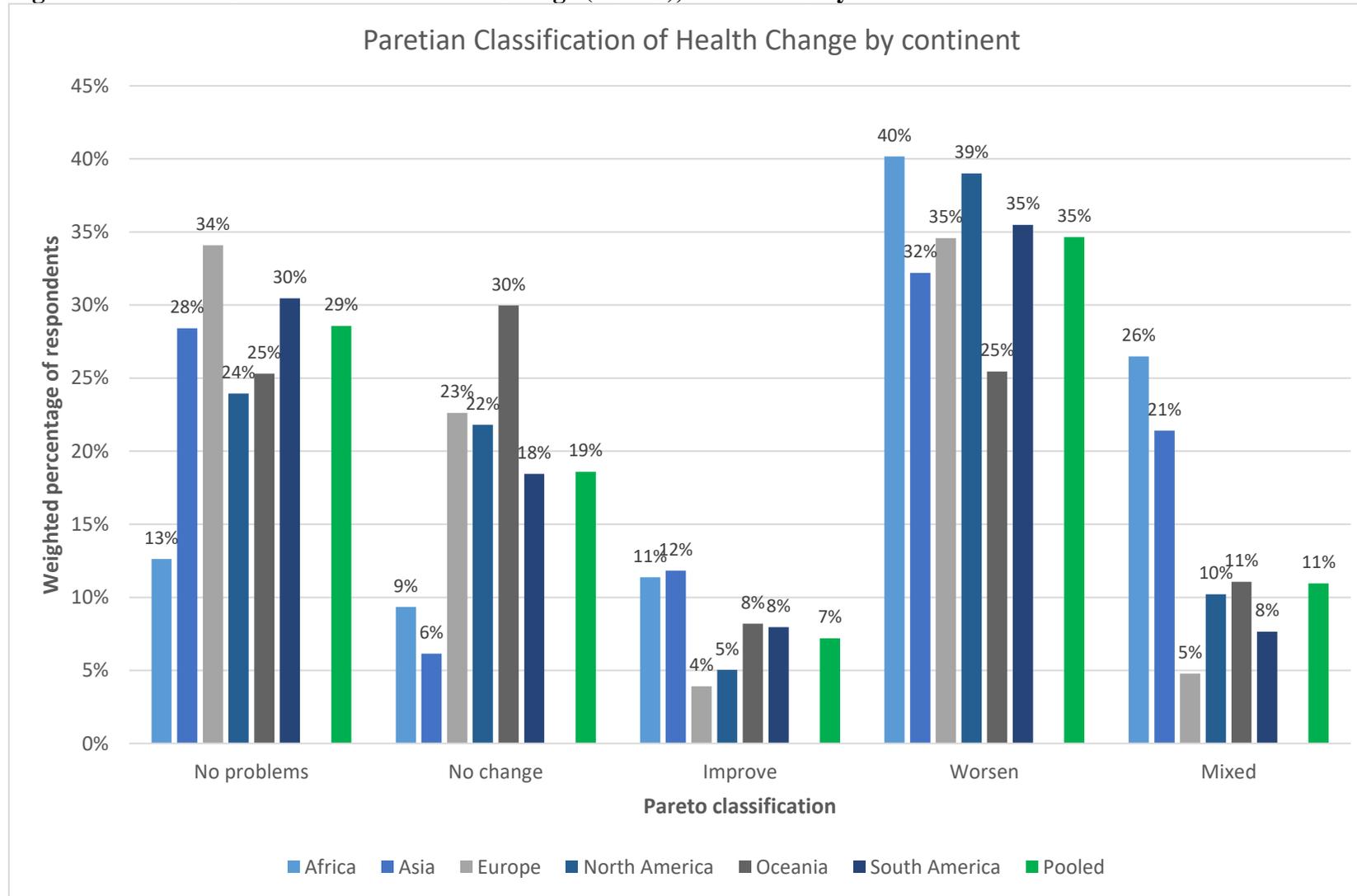
Figure 2: Percentage of each age group reporting 'Worsened' anxiety/depression, by gender
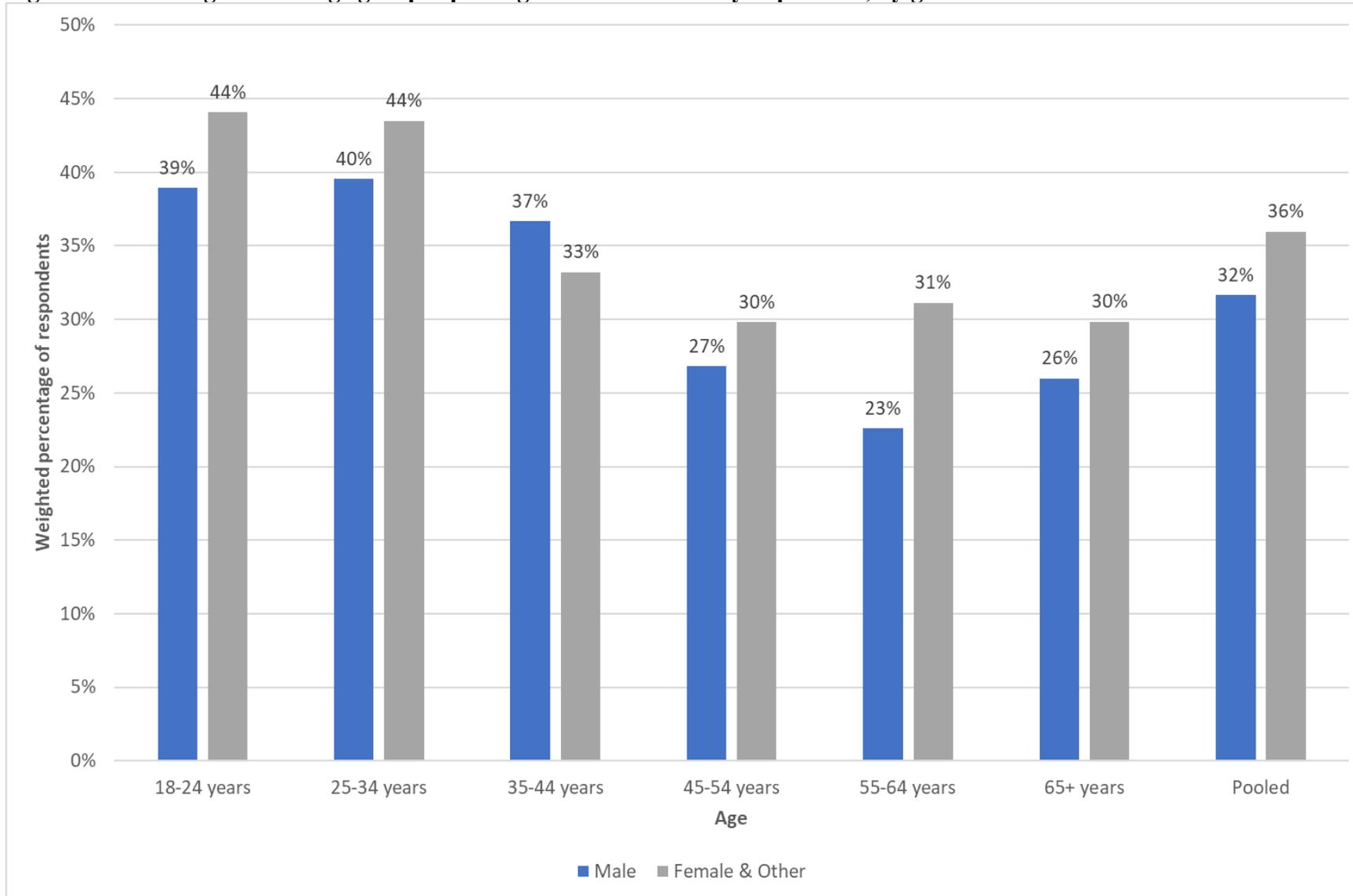
Table 2: Mean difference in EQ-5D-5L index (utility) pre-COVID-19 and at time of survey, UK value set

Country	Utility pre-COVID-19			Utility at survey			Utility difference		
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value
Australia	1,358	0.772	0.261	1,358	0.718	0.293	-0.053	(-0.076, -0.030)	<0.001
Brazil	1,421	0.832	0.234	1,421	0.771	0.270	-0.061	(-0.085, -0.037)	<0.001
Canada	1,148	0.813	0.231	1,148	0.731	0.278	-0.081	(-0.102, -0.061)	<0.001
Chile	1,120	0.855	0.221	1,120	0.747	0.278	-0.108	(-0.186, -0.031)	0.006
China	1,291	0.879	0.196	1,291	0.876	0.180	-0.003	(-0.032, 0.027)	0.852
Colombia	1,231	0.859	0.245	1,231	0.830	0.239	-0.030	(-0.059, -0.000)	0.048
France	1,142	0.845	0.233	1,142	0.800	0.249	-0.046	(-0.067, -0.024)	<0.001
India	1,190	0.708	0.353	1,190	0.600	0.358	-0.108	(-0.137, -0.080)	<0.001
Italy	1,080	0.858	0.198	1,080	0.808	0.239	-0.051	(-0.070, -0.031)	<0.001
Spain	1,152	0.902	0.175	1,152	0.851	0.192	-0.050	(-0.066, -0.035)	<0.001
UK	1,163	0.804	0.265	1,163	0.751	0.281	-0.053	(-0.076, -0.030)	<0.001
US	1,146	0.754	0.286	1,146	0.677	0.328	-0.077	(-0.107, -0.048)	<0.001
Uganda	1,038	0.730	0.357	1,038	0.570	0.405	-0.160	(-0.193, -0.127)	<0.001
Overall	15,480	0.817	0.261	15,480	0.751	0.294	-0.066	(-0.075, -0.057)	<0.001

N=actual sample size; Mean=weighted mean; SD=weighted standard deviation; CI=confidence interval.

Table 3 – QALYs loss due to premature mortality and to morbidity a year into the COVID-19 pandemic

QALYs loss due to premature mortality and to morbidity a year into the COVID-19 pandemic – absolute values					
		QALYs lost due to COVID-19 premature mortality		QALYs lost due to morbidity	Ratio of QALYs lost due to morbidity QALY lost to death	
Country	Cumulative deaths up to 23/03/2021[*]	Using lower death value: 3.2 QALYs lost per death[+]	Using upper death value: 6.5 QALYs lost per death[+]	Using data CANDOUR study - QALYs	Ratio QALYs lost (morbidity/death) - death lower value	Ratio QALYs lost (morbidity/death) death - upper value
US	543,452	1,739,046	3,532,438	18,861,848	11	5
Brazil	299,073	957,034	1,943,975	10,096,118	11	5
India	160,441	513,411	1,042,867	101,179,443	197	97
UK	126,370	404,384	821,405	2,863,851	7	3
Italy	105,879	338,813	688,214	2,439,259	7	4
France	92,921	297,347	603,987	2,421,390	8	4
Spain	73,744	235,981	479,336	1,893,951	8	4
Colombia	62,274	199,277	404,781	1,068,056	5	3
Canada	22,736	72,755	147,784	2,259,626	31	15
Chile	22,384	71,629	145,496	1,616,874	23	11
Australia	909	2,909	5,909	1,028,664	354	174
Uganda	334	1,069	2,171	3,027,621	2,833	1,395
Median	*83,333*	*266,664*	*541,661*	*2,430,325*	*11*	*5*
QALYs loss due to premature mortality and to morbidity a year into the COVID-19 pandemic – values per million people					
		QALYs lost due to COVID-19 premature mortality per million people		QALYs lost due to morbidity per million people	Ratio of QALYs lost due to morbidity QALY lost to death	
Country	Cumulative deaths up to 23/03/2021[*]	Using lower death value: 3.2 QALYs lost per death[+]	Using upper death value: 6.5 QALYs lost per death[+]	Using data CANDOUR study - QALYs	Ratio QALYs lost (morbidity/death) - death lower value	Ratio QALYs lost (morbidity/death) death - upper value
US	543,452	6,821	13,855	73,983	11	5
Brazil	299,073	6,012	12,212	63,423	11	5
India	160,441	550	1,117	108,363	197	97
UK	126,370	7,605	15,448	53,861	7	3
Italy	105,879	6,690	13,589	48,162	7	4
France	92,921	5,726	11,631	46,630	8	4
Spain	73,744	6,231	12,656	50,006	8	4
Colombia	62,274	5,796	11,773	31,063	5	3
Canada	22,736	2,491	5,060	77,360	31	15
Chile	22,384	5,174	10,509	116,785	23	11
Australia	909	152	309	53,780	354	174
Uganda	334	56	114	159,179	2,833	1,395
Median	*83,333*	*5,761*	*11,702*	*58,642*	*11*	*5*

[*]*Source:* Our world in data (https://ourworldindata.org/covid-deaths); [+]*Source:* Hernando et al. 2020

Optional Supplementary material

Manuscript: The impact of the COVID-19 pandemic on health-related quality of life: a cross-sectional survey of 13 high and low-middle income countries

Figure S1: Flow chart of study population

CANDOUR survey respondents:
n=15,536

↓

Respondents excluded due to missing data on
Age: n=8
Gender: n=48

↓

Final CANDOUR sample:
n=15,480
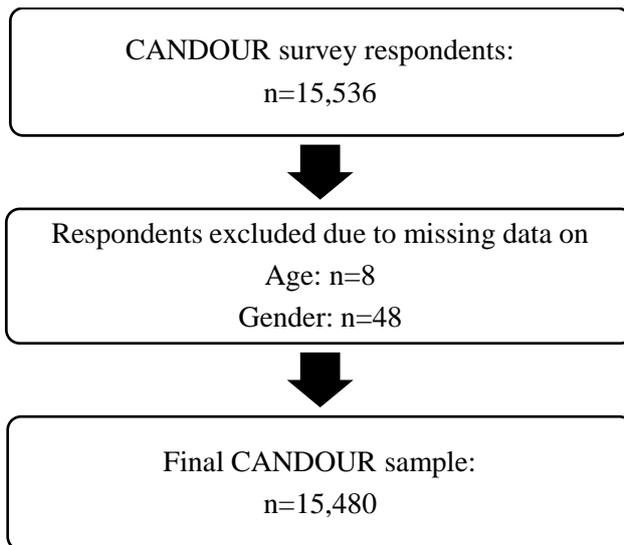
Table S1A: Socio-demographic and clinical characteristics, overall and by country (Australia – France)

	Pooled	Australia	Brazil	Canada	Chile	China	Colombia	France
No. sampled - N	15,480	1,358	1,421	1,148	1,120	1,291	1,231	1,142
Gender - N (%)								
Male	7,973 (51.49)	642 (46.01)	706 (49.23)	617 (53.75)	436 (41.92)	683 (61.44)	520 (43.75)	634 (47.41)
Female & Other	7,507 (48.51)	716 (53.99)	715 (50.77)	531 (46.25)	684 (58.08)	608 (38.56)	711 (56.25)	508 (52.59)
Missing	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
Age (years) - Mean (SD)	44.14 (16.49)	46.01 (17.47)	42.19 (15.34)	46.43 (17.20)	43.04 (15.95)	50.06 (15.34)	42.78 (15.93)	48.28 (16.71)
Education - N (%)								
Primary or less	1,855 (23.56)	242 (25.67)	248 (43.00)	58 (5.05)	12 (23.67)	290 (74.70)	184 (45.27)	131 (16.69)
Secondary	6,061 (41.27)	525 (46.35)	423 (35.00)	548 (47.74)	383 (43.66)	202 (13.74)	518 (31.57)	535 (31.51)
University	7,246 (33.22)	572 (26.60)	637 (14.71)	530 (46.17)	689 (29.57)	777 (9.90)	514 (21.97)	456 (50.08)
Missing	318 (1.95)	19 (1.37)	113 (7.29)	12 (1.05)	36 (3.10)	22 (1.67)	15 (1.19)	20 (1.71)
Employment - N (%)								
Employed	7,955 (47.08)	681 (45.62)	783 (46.27)	609 (53.05)	316 (29.62)	872 (43.46)	723 (53.41)	0 (0.00)
Unemployed	1,448 (9.71)	102 (8.29)	203 (17.82)	81 (7.06)	111 (7.41)	22 (1.93)	159 (12.87)	0 (0.00)
Pension/capital income	1,473 (11.87)	0 (0.00)	161 (13.07)	252 (21.95)	40 (10.15)	217 (34.15)	28 (5.12)	0 (0.00)
Other	2,850 (19.60)	513 (40.77)	205 (17.20)	188 (16.38)	614 (47.57)	180 (20.46)	276 (23.99)	0 (0.00)
Missing	1,754 (11.74)	62 (5.32)	69 (5.64)	18 (1.57)	39 (5.24)	0 (0.00)	45 (4.61)	1,142 (100.00)
Loss of income due to COVID-19 - N (%)								
Yes	6,589 (43.07)	413 (27.15)	702 (50.70)	379 (33.01)	675 (65.64)	257 (26.02)	842 (69.91)	209 (18.52)
No	8,191 (52.28)	887 (68.49)	635 (42.43)	731 (63.68)	384 (28.12)	1,001 (72.67)	331 (25.24)	883 (77.21)
Don't know	337 (2.36)	26 (1.81)	36 (3.02)	17 (1.48)	15 (3.42)	25 (1.10)	20 (1.70)	26 (2.18)
Missing	363 (2.29)	32 (2.55)	48 (3.85)	21 (1.83)	46 (2.82)	8 (0.21)	38 (3.15)	24 (2.09)
Believed to have had COVID-19 - N (%)								
Yes	2,571 (15.98)	180 (9.93)	325 (23.52)	93 (8.10)	150 (9.51)	56 (5.31)	279 (21.20)	141 (12.83)
No	10,618 (69.42)	1,097 (84.44)	716 (50.03)	913 (79.53)	761 (71.96)	1,225 (93.87)	666 (57.34)	913 (79.60)
Don't know	1,690 (10.75)	0 (0.00)	380 (26.45)	142 (12.37)	209 (18.52)	10 (0.82)	286 (21.46)	0 (0.00)
Missing	601 (3.84)	81 (5.63)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	88 (7.58)
Tested positive for COVID-19 - N (%)								
Yes	1,658 (10.53)	148 (8.54)	217 (14.42)	43 (3.75)	76 (8.13)	64 (5.92)	126 (11.98)	108 (9.20)
No	13,547 (87.65)	1,176 (89.13)	1,181 (83.44)	1,090 (94.95)	1,034 (91.22)	1,213 (93.11)	1,084 (86.27)	1,014 (88.93)
Don't know	132 (0.87)	0 (0.00)	23 (2.13)	15 (1.31)	10 (0.65)	14 (0.97)	21 (1.75)	0 (0.00)

Missing	143 (0.95)	34 (2.33)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	20 (1.87)
Relative infected with COVID-19 - N (%)								
Yes	4,664 (30.07)	187 (11.00)	737 (47.92)	177 (15.42)	415 (41.51)	60 (6.76)	541 (46.83)	306 (27.22)
No	10,059 (64.92)	1,118 (85.62)	595 (44.86)	917 (79.88)	674 (54.93)	1,206 (91.32)	603 (46.56)	795 (69.00)
Don't know	504 (3.37)	0 (0.00)	89 (7.22)	54 (4.70)	31 (3.57)	25 (1.92)	87 (6.61)	0 (0.00)
Missing	253 (1.65)	53 (3.39)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	41 (3.79)
Friend/colleague infected with COVID-19 - N (%)								
Yes	6,766 (42.37)	221 (13.18)	1,121 (74.14)	251 (21.86)	578 (47.77)	61 (5.11)	701 (53.16)	456 (41.08)
No	7,813 (51.75)	1,077 (82.88)	224 (19.61)	824 (71.78)	466 (46.03)	1,202 (92.95)	425 (38.14)	631 (54.10)
Don't know	606 (3.93)	0 (0.00)	76 (6.25)	73 (6.36)	76 (6.19)	28 (1.94)	105 (8.70)	0 (0.00)
Missing	295 (1.95)	60 (3.94)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	55 (4.81)
Know of someone dead from COVID-19 - N (%)								
Yes	5,813 (37.02)	214 (12.66)	899 (60.48)	182 (15.85)	501 (49.23)	68 (6.39)	720 (57.76)	212 (18.31)
No	9,161 (59.77)	1,102 (84.63)	480 (36.07)	940 (81.88)	593 (48.96)	1,195 (92.56)	477 (39.68)	892 (78.30)
Don't know	259 (1.58)	0 (0.00)	42 (3.44)	26 (2.26)	26 (1.81)	28 (1.06)	34 (2.56)	0 (0.00)
Missing	247 (1.64)	42 (2.71)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	38 (3.38)
Comorbidities - N (%)								
Diabetes	1,658 (11.73)	196 (13.98)	133 (11.41)	128 (11.60)	86 (15.78)	62 (5.03)	57 (8.18)	111 (9.22)
Hypertension	2,564 (18.94)	303 (23.72)	215 (18.54)	230 (20.85)	169 (23.27)	159 (18.21)	135 (15.96)	156 (13.97)
Heart disease	641 (4.50)	75 (5.48)	23 (2.51)	38 (3.45)	34 (3.42)	25 (2.78)	28 (3.10)	32 (2.62)
Asthma	1,214 (8.44)	183 (15.41)	84 (5.32)	117 (10.61)	83 (6.33)	32 (4.66)	56 (5.99)	62 (5.84)
Allergies	2,798 (18.17)	244 (18.68)	222 (15.04)	266 (24.12)	303 (20.93)	164 (12.38)	231 (19.94)	85 (7.88)
Kidney disease	273 (2.16)	23 (1.65)	13 (1.85)	16 (1.45)	21 (3.87)	16 (2.57)	21 (2.00)	3 (0.22)
Other condition	1,300 (9.01)	187 (16.02)	55 (3.39)	113 (10.24)	151 (17.02)	28 (1.61)	66 (4.78)	69 (6.40)
No comorbidity	7,712 (49.55)	598 (43.85)	609 (41.94)	534 (48.41)	502 (38.69)	892 (62.07)	757 (58.99)	580 (53.85)

N=sample size; %=weighted percentage; Mean=weighted mean; SD=weighted standard deviation.

Table S1B: Socio-demographic and clinical characteristics, overall and by country (India – Uganda)

	Pooled	India	Italy	Spain	UK	US	Uganda
No. sampled - N	15,480	1,190	1,080	1,152	1,163	1,146	1,038
Gender - N (%)							
Male	7,973 (51.49)	720 (60.50)	488 (46.45)	560 (48.61)	625 (50.15)	580 (48.81)	762 (73.41)
Female & Other	7,507 (48.51)	470 (39.50)	592 (53.55)	592 (51.39)	538 (49.85)	566 (51.19)	276 (26.59)
Missing	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
Age (years) - Mean (SD)	44.14 (16.49)	33.24 (11.59)	49.05 (15.65)	47.51 (14.50)	47.85 (16.75)	46.93 (17.01)	29.11 (7.02)
Education - N (%)							
Primary or less	1,855 (23.56)	328 (27.56)	27 (3.71)	110 (9.55)	142 (7.59)	43 (3.91)	40 (3.85)
Secondary	6,061 (41.27)	269 (22.61)	740 (76.03)	460 (39.93)	605 (59.45)	522 (63.44)	331 (31.89)
University	7,246 (33.22)	593 (49.83)	290 (18.43)	569 (49.39)	397 (31.36)	569 (31.62)	653 (62.91)
Missing	318 (1.95)	0 (0.00)	23 (1.83)	13 (1.13)	19 (1.60)	12 (1.03)	14 (1.35)
Employment - N (%)							
Employed	7,955 (47.08)	866 (72.77)	638 (54.19)	691 (59.98)	638 (56.39)	691 (52.99)	447 (43.06)
Unemployed	1,448 (9.71)	64 (5.38)	125 (11.14)	157 (13.63)	78 (6.61)	66 (7.95)	280 (26.97)
Pension/capital income	1,473 (11.87)	24 (2.02)	81 (9.59)	195 (16.93)	284 (21.93)	189 (17.64)	2 (0.19)
Other	2,850 (19.60)	221 (18.57)	174 (18.47)	93 (8.07)	149 (13.86)	180 (19.50)	57 (5.49)
Missing	1,754 (11.74)	15 (1.26)	62 (6.60)	16 (1.39)	14 (1.20)	20 (1.92)	252 (24.28)
Loss of income due to COVID-19 - N (%)							
Yes	6,589 (43.07)	717 (60.25)	374 (32.11)	419 (36.37)	307 (26.95)	374 (29.57)	921 (88.73)
No	8,191 (52.28)	420 (35.29)	615 (59.39)	671 (58.25)	824 (70.05)	716 (64.82)	93 (8.96)
Don't know	337 (2.36)	25 (2.10)	64 (5.81)	32 (2.78)	13 (1.25)	33 (3.77)	5 (0.48)
Missing	363 (2.29)	28 (2.35)	27 (2.69)	30 (2.60)	19 (1.74)	23 (1.84)	19 (1.83)
Believed to have had COVID-19 - N (%)							
Yes	2,571 (15.98)	519 (43.61)	115 (10.51)	147 (12.76)	158 (14.76)	213 (16.04)	195 (18.79)
No	10,618 (69.42)	594 (49.92)	729 (68.30)	733 (63.63)	812 (68.50)	814 (72.99)	645 (62.14)
Don't know	1,690 (10.75)	0 (0.00)	0 (0.00)	272 (23.61)	193 (16.74)	0 (0.00)	198 (19.08)
Missing	601 (3.84)	77 (6.47)	236 (21.19)	0 (0.00)	0 (0.00)	119 (10.97)	0 (0.00)
Tested positive for COVID-19 - N (%)							
Yes	1,658 (10.53)	431 (36.22)	91 (7.89)	93 (8.07)	52 (4.57)	142 (10.26)	67 (6.45)
No	13,547 (87.65)	733 (61.60)	961 (89.44)	1,045 (90.71)	1,085 (93.31)	969 (86.36)	962 (92.68)
Don't know	132 (0.87)	0 (0.00)	0 (0.00)	14 (1.22)	26 (2.12)	0 (0.00)	9 (0.87)

Missing	143 (0.95)	26 (2.18)	28 (2.67)	0 (0.00)	0 (0.00)	35 (3.38)	0 (0.00)
Relative infected with COVID-19 - N (%)							
Yes	4,664 (30.07)	689 (57.90)	230 (20.96)	380 (32.99)	277 (24.74)	369 (28.74)	296 (28.52)
No	10,059 (64.92)	460 (38.66)	794 (73.88)	720 (62.50)	819 (69.44)	715 (65.25)	643 (61.95)
Don't know	504 (3.37)	0 (0.00)	0 (0.00)	52 (4.51)	67 (5.83)	0 (0.00)	99 (9.54)
Missing	253 (1.65)	41 (3.45)	56 (5.16)	0 (0.00)	0 (0.00)	62 (6.02)	0 (0.00)
Friend/colleague infected with COVID-19 - N (%)							
Yes	6,766 (42.37)	745 (62.61)	524 (46.98)	633 (54.95)	458 (41.24)	493 (40.34)	524 (50.48)
No	7,813 (51.75)	404 (33.95)	485 (46.27)	432 (37.50)	630 (52.49)	585 (52.76)	428 (41.23)
Don't know	606 (3.93)	0 (0.00)	0 (0.00)	87 (7.55)	75 (6.27)	0 (0.00)	86 (8.29)
Missing	295 (1.95)	41 (3.45)	71 (6.75)	0 (0.00)	0 (0.00)	68 (6.90)	0 (0.00)
Know of someone dead from COVID-19 - N (%)							
Yes	5,813 (37.02)	721 (60.59)	376 (34.42)	552 (47.92)	285 (24.87)	358 (26.56)	725 (69.85)
No	9,161 (59.77)	413 (34.71)	649 (60.57)	573 (49.74)	829 (70.84)	732 (67.54)	286 (27.55)
Don't know	259 (1.58)	0 (0.00)	0 (0.00)	27 (2.34)	49 (4.29)	0 (0.00)	27 (2.60)
Missing	247 (1.64)	56 (4.71)	55 (5.01)	0 (0.00)	0 (0.00)	56 (5.90)	0 (0.00)
Comorbidities - N (%)							
Diabetes	1,658 (11.73)	359 (31.33)	73 (8.40)	83 (7.35)	128 (9.78)	224 (17.79)	18 (1.82)
Hypertension	2,564 (18.94)	222 (19.37)	194 (21.21)	184 (16.30)	242 (19.19)	312 (29.56)	43 (4.34)
Heart disease	641 (4.50)	155 (13.53)	44 (4.77)	43 (3.81)	59 (4.79)	69 (6.63)	16 (1.61)
Asthma	1,214 (8.44)	101 (8.81)	61 (5.95)	94 (8.33)	147 (12.91)	150 (14.47)	44 (4.44)
Allergies	2,798 (18.17)	173 (15.10)	171 (16.32)	225 (19.93)	150 (13.90)	300 (27.65)	264 (26.64)
Kidney disease	273 (2.16)	66 (5.76)	15 (1.74)	21 (1.86)	13 (1.06)	34 (2.85)	11 (1.11)
Other condition	1,300 (9.01)	60 (5.24)	97 (9.81)	136 (12.05)	137 (11.49)	158 (15.80)	43 (4.34)
No comorbidity	7,712 (49.55)	505 (44.07)	569 (51.68)	560 (49.60)	590 (53.98)	396 (35.86)	620 (62.56)

N=sample size; %=weighted percentage; Mean=weighted mean; SD=weighted standard deviation.

Table S2: Indicators of Government responsiveness and perceived effectiveness by country, mean (standard deviation)

Country	Stringency	Government Response	Containment Health	Economic Support	Daily cases	Daily deaths	Government Effectiveness
Australia	52.65 (4.92)	54.63 (2.67)	51.72 (3.05)	75 (0)	10.92 (2.24)	0.04 (0.06)	1.57 (0)
Brazil	58.13 (3.12)	57.7 (1.75)	58.8 (2)	50 (0)	35356.36 (4592.04)	534.77 (65.9)	-0.19 (0)
Canada	70.83 (0)	64.06 (0)	64.29 (0)	62.5 (0)	5647.66 (227.56)	77.68 (4.67)	1.73 (0)
Chile	76.36 (0.86)	77.36 (0.58)	74.13 (0.66)	100 (0)	1471.59 (208.02)	41.11 (1.63)	1.06 (0)
China	79.72 (1.92)	74.84 (1.06)	76.6 (1.21)	62.5 (0)	13.93 (1.35)	0 (0)	0.52 (0)
Colombia	61.93 (1.85)	58.27 (1.04)	55.88 (1.19)	75 (0)	9347.02 (1634.08)	191.34 (18.34)	0.07 (0)
France	75.42 (4.23)	70.81 (2.38)	73.78 (2.72)	50 (0)	11879.43 (916.84)	455.32 (59.4)	1.38 (0)
India	68.98 (0)	64.06 (0)	66.07 (0)	50 (0)	24708.42 (1512.32)	348.31 (24.3)	0.17 (0)
Italy	79.63 (0)	74.22 (0)	74.11 (0)	75 (0)	23405.97 (4448.89)	703.98 (37.24)	0.46 (0)
Spain	71.3 (0)	66.67 (0)	63.69 (0)	87.5 (0)	9023.02 (892.63)	263.62 (26.4)	1 (0)
UK	67.63 (3.1)	68.38 (2.93)	63.86 (3.34)	100 (0)	17451.89 (5450.02)	449.03 (24.13)	1.44 (0)
US	74.63 (0.93)	68.81 (0.51)	69.72 (0.58)	62.5 (0)	175444 (13406.31)	1845.2 (244.79)	1.49 (0)
Uganda	48.18 (1.3)	38.66 (0.53)	44.19 (0.6)	0 (0)	417.74 (118.62)	2.23 (1.46)	-0.59 (0)

Note: seven-day average prior to survey date.

Procedures and Indexes definitions

We captured (macro) indicators of government responses at national level by linking our CANDOUR wave 1 data to the OxCGRT and the WGI databases. Variables of interest from the OxCGRT project, available as time-series, were merged into the CANDOUR dataset using the date in which each participant completed the online survey; variables from the WGI database, available at country-level, were instead merged using the country variable. We used the following four composite indices from the OxCGRT databases: the overall Government Response Index (GRI), which captures how the intensity of the governments responses varies over all indicators in the database during the different phases of the pandemic; the Containment and Health Index (CHI), which combines 'lockdown' restrictions and closures with measures to limit the spread of the virus, such as testing policy and contact tracing, short term investment in healthcare, and investments in vaccine); the Economic Support Index (ECI), which records measures such as income support and debt relief; and the Stringency Index, which measures the strictness of 'lockdown style' policies that mainly restrain people's activities and movement. As these indices include the same policy indicators but in different combinations, they were used in separate analyses. Each composite index ranges from 1 to 100 with higher values indicating a higher level of government action in the specific policy area of each index, and in our analyses were expressed as quintiles. We also used an indicator of Government Effectiveness (GE) from the WGI database. The indicator reflects perceptions of: the quality of public and civil services and the degree of its independence from political pressures; the quality of policy formulation and implementation; and the credibility of the government's commitment to such policies for each of the 13 countries in our study. The GE indicator ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance.

Table S3: Paretian Classification of Health Change overall and by continent, N (%)

	Pooled	Africa	Asia	Europe	North America	Oceania	South America
No problems	4495 (28.58)	131 (12.62)	796 (28.41)	1576 (34.1)	549 (23.94)	348 (25.3)	1095 (30.46)
No change	2720 (18.6)	97 (9.34)	152 (6.15)	1023 (22.63)	471 (21.81)	356 (29.97)	621 (18.45)
Improve	1011 (7.2)	118 (11.37)	249 (11.82)	175 (3.91)	116 (5.03)	107 (8.2)	246 (7.95)
Worsen	5632 (34.65)	417 (40.17)	817 (32.2)	1554 (34.58)	903 (39.01)	366 (25.46)	1575 (35.49)
Mixed	1622 (10.96)	275 (26.49)	467 (21.41)	209 (4.79)	255 (10.21)	181 (11.07)	235 (7.65)
TOTAL	15480 (100)	1038 (100)	2481 (100)	4537 (100)	2294 (100)	1358 (100)	3772 (100)

N=sample size; %=weighted percentage.

Table S4: Paretian Classification of Health Change by country, N (%)

	Uganda	China	India	France	Italy	Spain	UK	Canada	US	Australia	Brazil	Chile	Colombia
No problems	131 (12.62)	633 (41.96)	163 (13.7)	400 (33.44)	393 (35.7)	467 (40.54)	316 (26.87)	266 (23.17)	283 (24.71)	348 (25.3)	430 (29.95)	207 (23.65)	458 (37.25)
No change	97 (9.34)	103 (8.03)	49 (4.12)	266 (23.19)	251 (25.18)	174 (15.1)	332 (27.18)	237 (20.64)	234 (22.99)	356 (29.97)	272 (20.57)	176 (20.18)	173 (14.43)
Improve	118 (11.37)	116 (12.4)	133 (11.18)	42 (4.08)	40 (3.44)	43 (3.73)	50 (4.34)	55 (4.79)	61 (5.27)	107 (8.2)	79 (6.79)	51 (6.96)	116 (10.18)
Worsen	417 (40.17)	346 (25.41)	471 (39.58)	366 (32.87)	337 (30.38)	440 (38.19)	411 (36.59)	517 (45.03)	386 (32.97)	366 (25.46)	526 (31.83)	641 (46.31)	408 (29.87)
Mixed	275 (26.49)	93 (12.2)	374 (31.43)	68 (6.42)	59 (5.31)	28 (2.43)	54 (5.02)	73 (6.36)	182 (14.06)	181 (11.07)	114 (10.86)	45 (2.9)	76 (8.26)
TOTAL	1038 (100)	1291 (100)	1190 (100)	1142 (100)	1080 (100)	1152 (100)	1163 (100)	1148 (100)	1146 (100)	1358 (100)	1421 (100)	1120 (100)	1231 (100)

N=sample size; %=weighted percentage.

Figure S2: Paretian Classification of Health Change (PCHC) by World Bank income classification group (ICG)
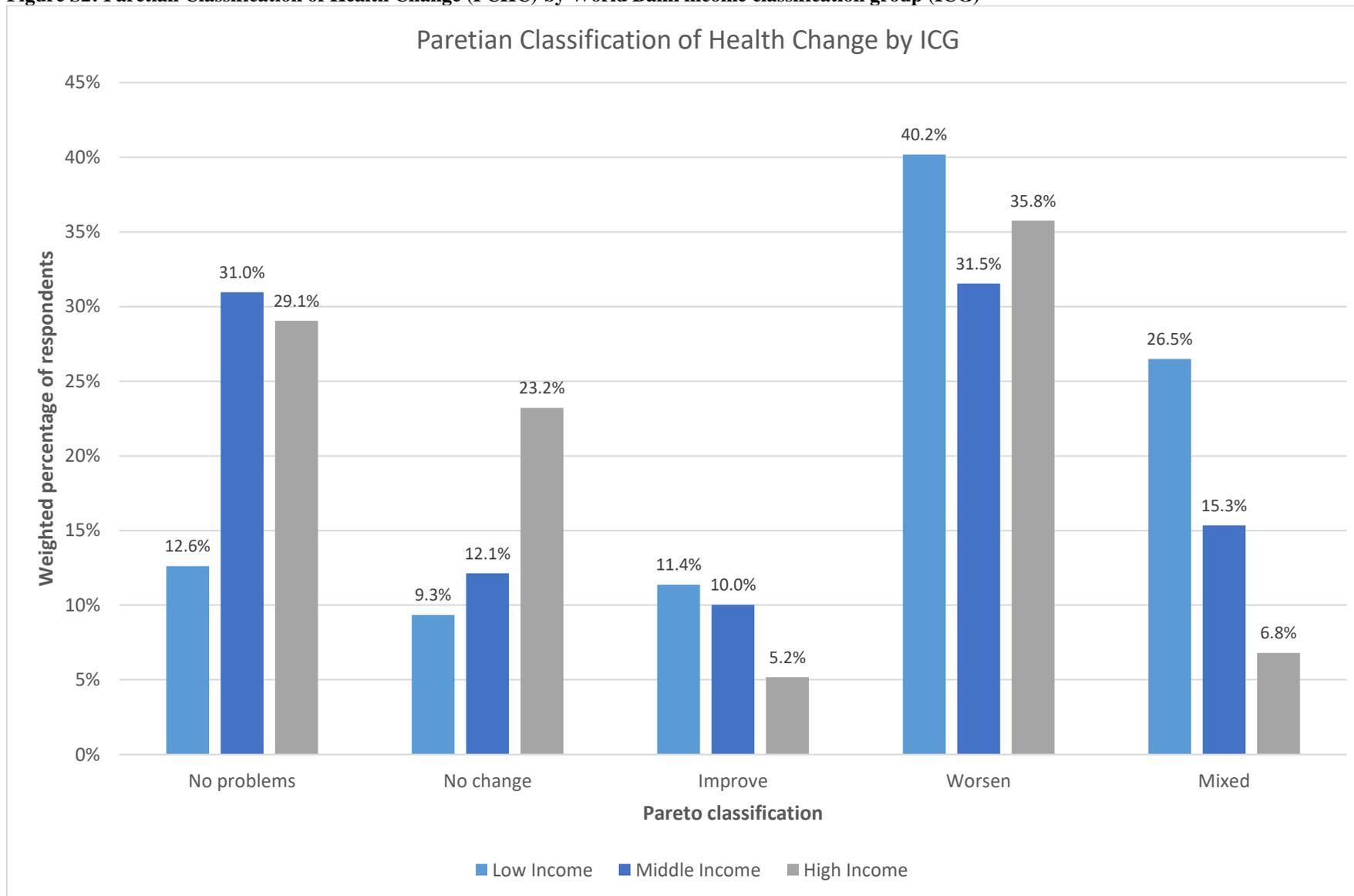
Paretian Classification of Health Change by ICG

Figure S3: Paretian Classification of Health Change (PCHC) worsened by EQ-5D-5L dimension

PCHC 'Worsened' - dimensions in which they worsened
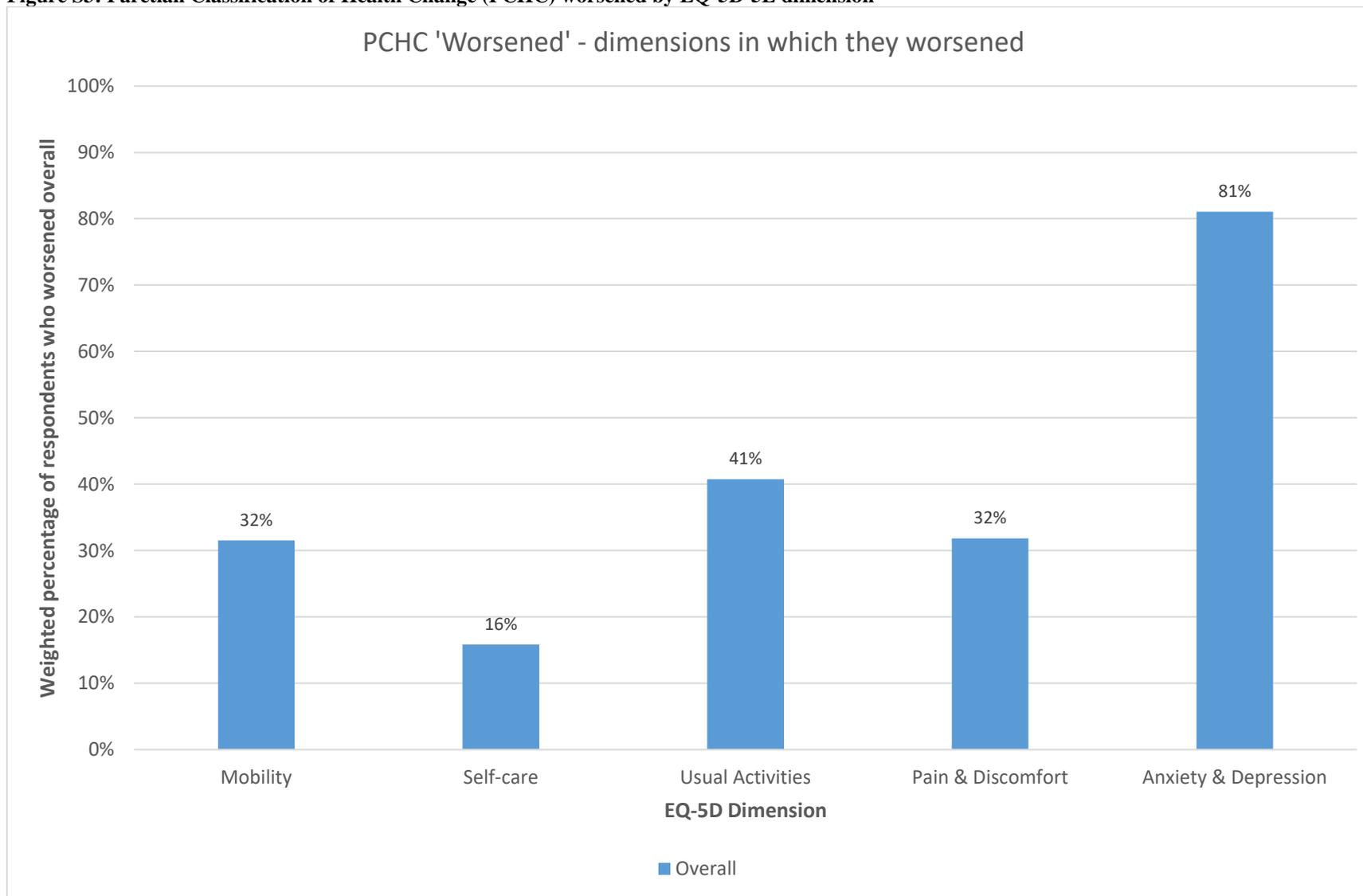
Figure S4: Paretian Classification of Health Change (PCHC) worsened by EQ-5D-5L dimension and number of long-term health conditions

PCHC 'Worsened' - dimensions in which they worsened, by number of long-term health conditions

Weighted percentage of respondents who worsened overall

Dimension	0 conditions	1 condition	2+ conditions
Mobility	26%	33%	41%
Self-care	12%	18%	22%
Usual Activities	39%	39%	48%
Pain & Discomfort	26%	33%	42%
Anxiety & Depression	79%	83%	84%

EQ-5D Dimension

■ 0 conditions ■ 1 condition ■ 2+ conditions
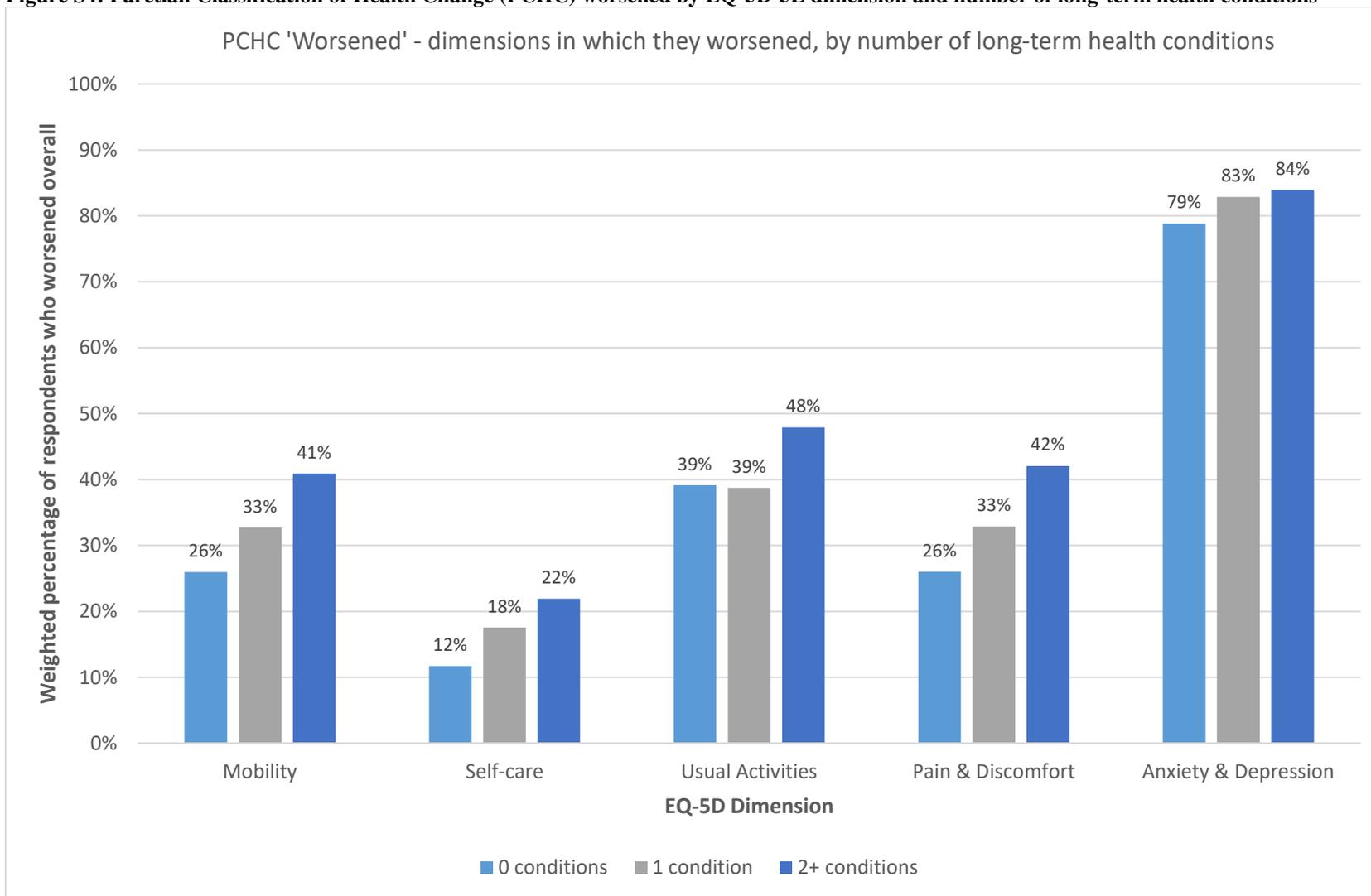
Figure S5: Paretian Classification of Health Change (PCHC) worsened by EQ-5D-5L dimension and ICG

PCHC 'Worsened' - dimensions in which they worsened, by ICG
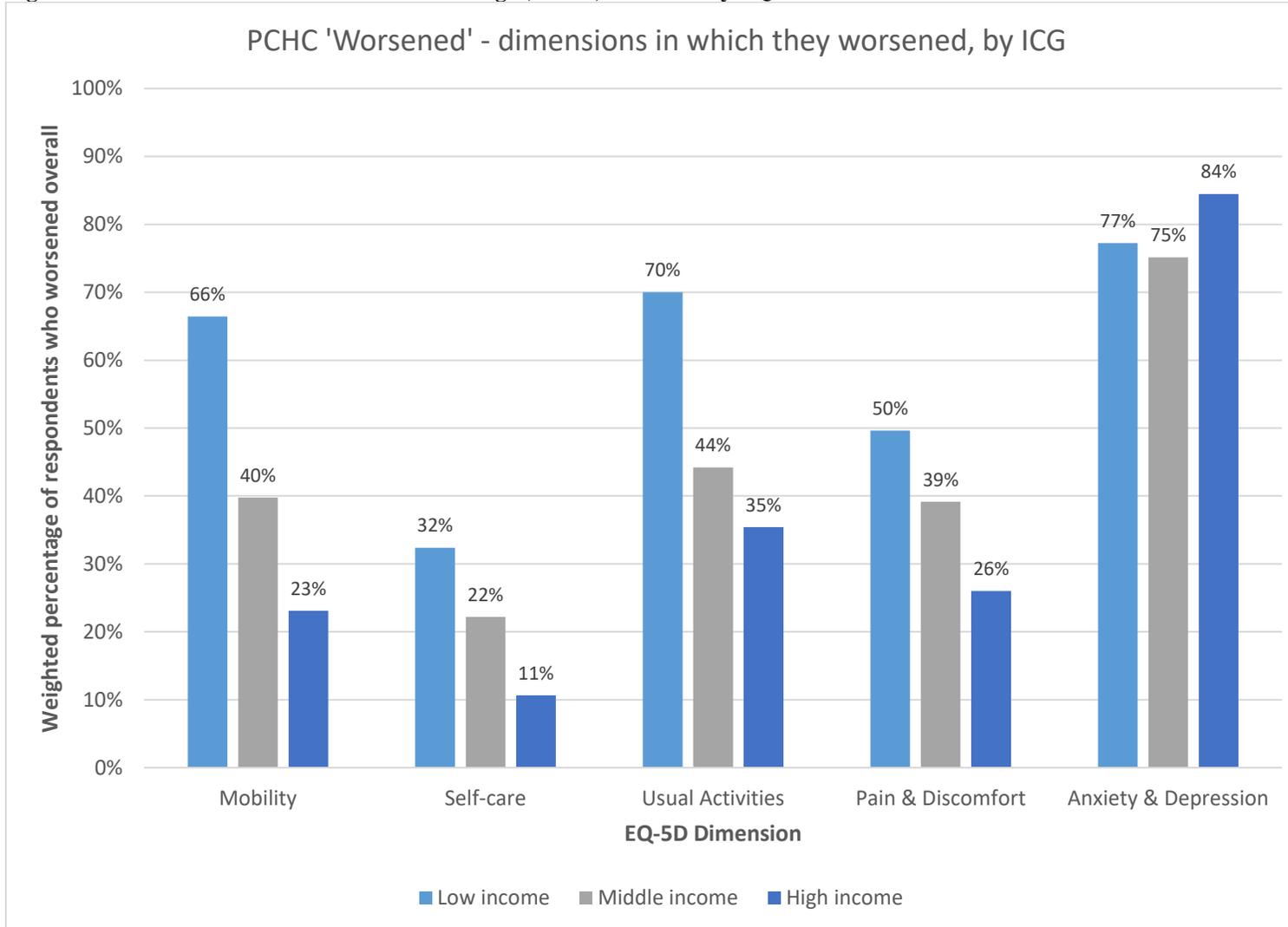
Figure S6: Association between worsened health and sociodemographic and clinical characteristics of participants
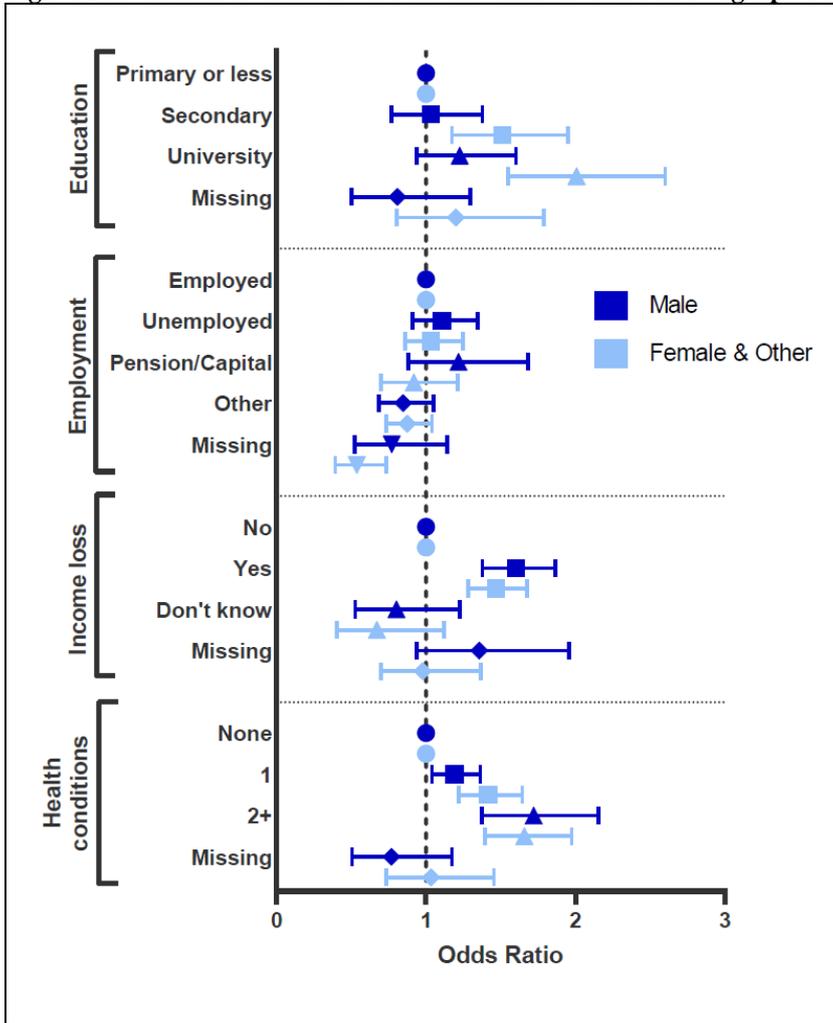
Note: adjusted for age and country.

Table S5: Association between worsened health and sociodemographic and clinical characteristics of participants

	Model 1[a]		Model 2[b]		Model 3[c]	
	Male	*Female & Other*	*Male*	*Female & Other*	*Male*	*Female & Other*
Education						
Primary or less completed[d]	-	-	-	-	-	-
Secondary completed	1.144	1.713[***]	1.030	1.511[***]	1.141	1.589[***]
	[0.874,1.497]	[1.348,2.176]	[0.771,1.376]	[1.172,1.949]	[0.880,1.480]	[1.242,2.032]
University completed	1.433[***]	2.461[***]	1.226	2.008[***]	1.372[***]	2.172[***]
	[1.097,1.871]	[1.939,3.122]	[0.938,1.602]	[1.551,2.600]	[1.079,1.744]	[1.693,2.785]
Missing	0.887	1.526[**]	0.808	1.200	0.959	1.352
	[0.562,1.401]	[1.039,2.241]	[0.504,1.296]	[0.804,1.789]	[0.601,1.533]	[0.905,2.019]
Employment						
Employed[d]	-	-	-	-		
Unemployed	1.182	1.118	1.106	1.035		
	[0.980,1.426]	[0.933,1.340]	[0.910,1.343]	[0.857,1.248]		
Pension/Capital Income	0.944	0.802[**]	1.218	0.919		
	[0.665,1.342]	[0.644,0.999]	[0.881,1.683]	[0.697,1.212]		
Other	0.865	0.877	0.848	0.874		
	[0.719,1.040]	[0.740,1.038]	[0.683,1.051]	[0.734,1.041]		
Missing	0.840	0.799[**]	0.770	0.537[***]		
	[0.701,1.006]	[0.668,0.955]	[0.521,1.139]	[0.393,0.733]		
Income loss						
No[d]	-	-	-	-	-	-
Yes	1.733[***]	1.490[***]	1.603[***]	1.466[***]	1.593[***]	1.477[***]
	[1.501,2.001]	[1.313,1.690]	[1.377,1.867]	[1.282,1.677]	[1.378,1.841]	[1.296,1.682]
Don't know	0.825	0.749	0.803	0.671	0.857	0.764
	[0.546,1.248]	[0.453,1.240]	[0.526,1.224]	[0.403,1.118]	[0.557,1.319]	[0.491,1.189]
Missing	1.431	1.041	1.356	0.978	1.512[**]	1.010
	[0.991,2.068]	[0.751,1.444]	[0.939,1.958]	[0.700,1.366]	[1.038,2.202]	[0.717,1.423]
Health conditions						
0[d]	-	-	-	-	-	-
1	1.121	1.296[***]	1.191[**]	1.416[***]	1.179[**]	1.458[***]
	[0.984,1.278]	[1.124,1.494]	[1.040,1.363]	[1.220,1.644]	[1.027,1.355]	[1.266,1.681]
2+	1.580[***]	1.434[***]	1.720[***]	1.658[***]	1.696[***]	1.677[***]
	[1.204,2.072]	[1.220,1.685]	[1.374,2.154]	[1.393,1.974]	[1.371,2.098]	[1.409,1.997]
Missing	0.829	1.084	0.769	1.033	0.786	1.208
	[0.585,1.174]	[0.775,1.517]	[0.505,1.173]	[0.734,1.454]	[0.512,1.205]	[0.847,1.725]

OR [95% confidence interval]; [a]Unadjusted; [b]Adjusted by age and country; [c]Fully adjusted; [d]Reference category; ** $p < 0.05$; *** $p < 0.01$.

Figure S7: Association between worsened health and experiences of/exposure to COVID-19
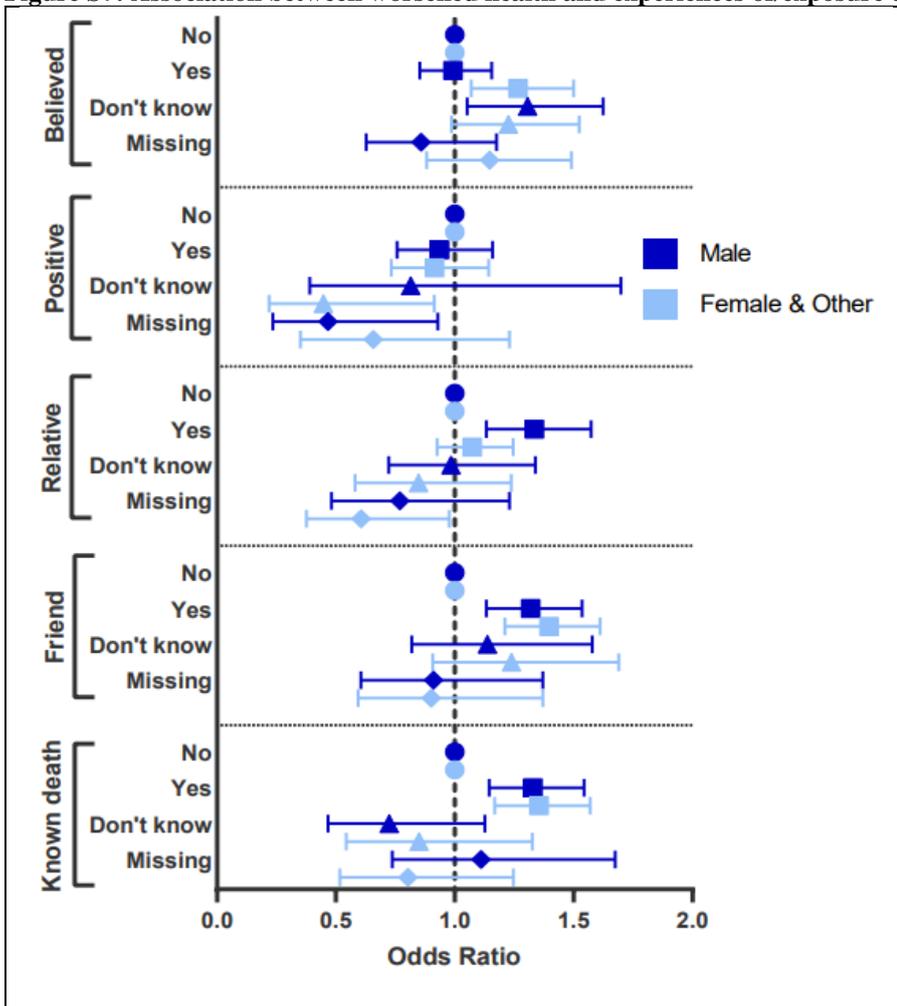
Note: adjusted for age and country.

Table S6: Association between worsened health and experiences of/exposure to COVID-19

	Model 1[a]		Model 2[b]		Model 3[c]	
	Male	*Female & Other*	*Male*	*Female & Other*	*Male*	*Female & Other*
Believed had COVID-19						
No[d]	-	-	-	-	-	-
Yes	1.087	1.358***	0.993	1.266***	0.858	1.274***
	[0.931,1.269]	[1.160,1.590]	[0.853,1.156]	[1.069,1.500]	[0.726,1.013]	[1.063,1.526]
Don't know	1.394***	1.409***	1.307**	1.226	1.277**	1.225
	[1.148,1.693]	[1.142,1.739]	[1.052,1.624]	[0.986,1.523]	[1.017,1.603]	[0.988,1.520]
Missing	0.796	1.061	0.859	1.146	0.869	1.259
	[0.587,1.079]	[0.830,1.356]	[0.627,1.176]	[0.882,1.491]	[0.618,1.221]	[0.944,1.678]
Tested positive for COVID-19						
No[d]	-	-	-	-		-
Yes	1.021	0.903	0.936	0.915		0.776**
	[0.847,1.232]	[0.733,1.111]	[0.757,1.158]	[0.733,1.143]		[0.614,0.980]
Don't know	0.860	0.503	0.814	0.447**		0.465**
	[0.436,1.696]	[0.251,1.010]	[0.390,1.699]	[0.219,0.914]		[0.220,0.982]
Missing	0.450**	0.628	0.467**	0.657		0.831
	[0.232,0.875]	[0.333,1.184]	[0.235,0.928]	[0.351,1.230]		[0.356,1.938]
Relative had COVID-19						
No[d]	-	-	-	-	-	-
Yes	1.395***	1.175**	1.335***	1.073	1.234**	0.926
	[1.174,1.658]	[1.023,1.348]	[1.133,1.573]	[0.925,1.246]	[1.019,1.494]	[0.795,1.078]
Don't know	1.079	1.006	0.984	0.847	0.931	0.767
	[0.803,1.450]	[0.697,1.451]	[0.722,1.340]	[0.580,1.238]	[0.641,1.352]	[0.490,1.201]
Missing	0.699	0.600**	0.769	0.606**	0.764	0.573
	[0.445,1.098]	[0.367,0.980]	[0.481,1.230]	[0.376,0.977]	[0.429,1.361]	[0.283,1.157]
Friend/colleague had COVID-19						
No[d]	-	-	-	-	-	-
Yes	1.361***	1.477***	1.319***	1.397***	1.214**	1.338***
	[1.171,1.581]	[1.303,1.673]	[1.133,1.536]	[1.211,1.611]	[1.007,1.463]	[1.161,1.543]
Don't know	1.229	1.448**	1.137	1.238	1.192	1.377
	[0.904,1.671]	[1.083,1.937]	[0.819,1.578]	[0.908,1.690]	[0.816,1.743]	[0.972,1.950]
Missing	0.812	0.877	0.911	0.902	0.925	1.131
	[0.541,1.218]	[0.577,1.332]	[0.605,1.371]	[0.593,1.370]	[0.548,1.561]	[0.660,1.939]
Known death from COVID-19						
No[d]	-	-	-	-	-	-
Yes	1.417***	1.360***	1.329***	1.354***	1.219**	1.270***
	[1.216,1.650]	[1.198,1.544]	[1.144,1.544]	[1.169,1.570]	[1.036,1.435]	[1.095,1.473]
Don't know	0.804	0.998	0.725	0.850	0.649	0.902
	[0.525,1.232]	[0.649,1.534]	[0.466,1.127]	[0.544,1.327]	[0.392,1.076]	[0.558,1.457]
Missing	1.083	0.811	1.111	0.803	1.389	1.007
	[0.726,1.615]	[0.517,1.272]	[0.737,1.675]	[0.517,1.247]	[0.830,2.327]	[0.587,1.728]

OR [95% confidence interval]; [a]Unadjusted; [b]Adjusted by age and country; [c]Fully adjusted; [d]Reference category; ** p < 0.05; *** p < 0.01.

Figure S8: Association between worsened health and indicators of responsiveness to and severity of COVID-19
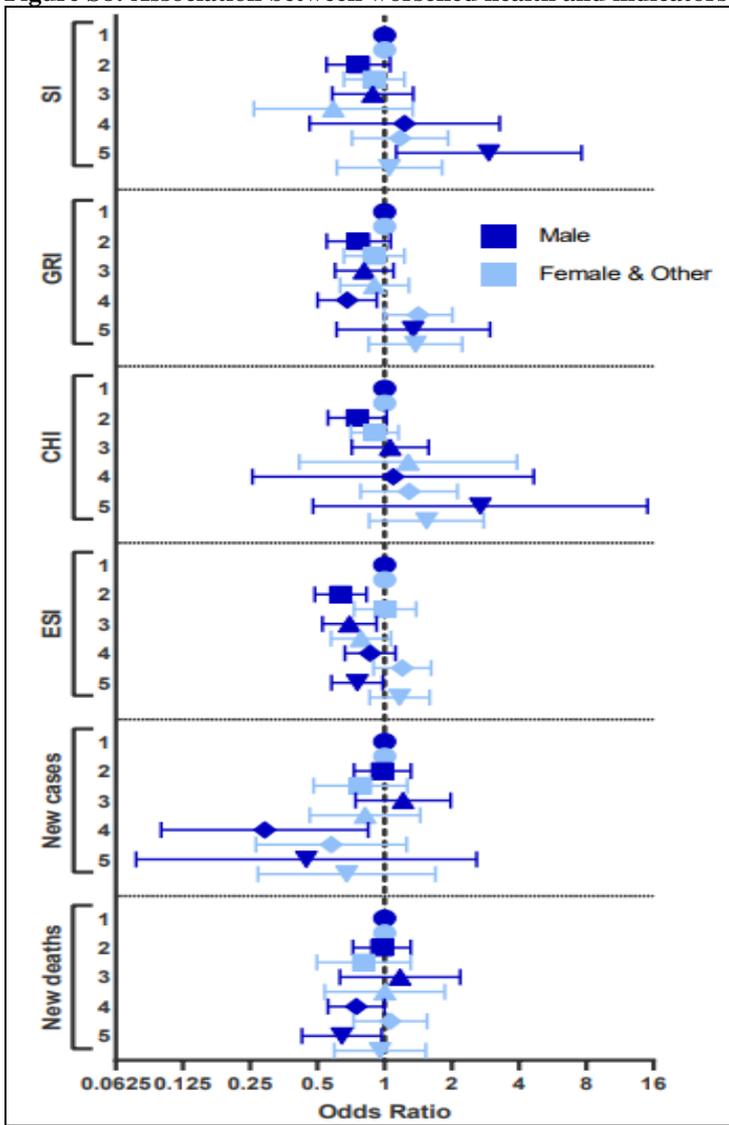

Note: adjusted for age and country.

Table S7: Association between worsened health and indicators of responsiveness to and severity of COVID-19

	Model 1[a]		Model 2[b]	
	Male	*Female & Other*	*Male*	*Female & Other*
Stringency Index				
1 – Lower quintile[c]	-	-	-	-
2	0.750***	1.085	0.762	0.897
	[0.627,0.896]	[0.910,1.294]	[0.548,1.059]	[0.657,1.225]
3	1.265***	1.580***	0.885	0.589
	[1.096,1.461]	[1.347,1.853]	[0.583,1.344]	[0.260,1.334]
4	0.959	1.442***	1.229	1.173
	[0.791,1.163]	[1.165,1.785]	[0.461,3.277]	[0.715,1.925]
5 – Upper quintile	0.888	0.950	2.931**	1.052
	[0.664,1.186]	[0.781,1.156]	[1.128,7.611]	[0.612,1.808]
Gov. Response Index				
1 – Lower quintile[c]	-	-	-	-
2	1.073	1.255***	0.765	0.897
	[0.925,1.245]	[1.068,1.474]	[0.550,1.064]	[0.657,1.225]
3	0.962	1.332***	0.810	0.901
	[0.806,1.149]	[1.109,1.599]	[0.600,1.095]	[0.632,1.284]
4	0.765***	1.237**	0.680**	1.414
	[0.655,0.894]	[1.051,1.456]	[0.502,0.923]	[0.995,2.011]
5 – Upper quintile	1.119	1.236	1.343	1.374
	[0.790,1.587]	[0.949,1.610]	[0.609,2.962]	[0.848,2.226]
Contain. Health Index				
1 – Lower quintile[c]	-	-	-	-
2	0.864	1.287***	0.754	0.903
	[0.738,1.011]	[1.095,1.512]	[0.558,1.021]	[0.707,1.153]
3	1.465***	1.691***	1.059	1.276
	[1.253,1.713]	[1.419,2.014]	[0.713,1.573]	[0.415,3.924]
4	0.934	1.307***	1.092	1.287
	[0.790,1.105]	[1.093,1.563]	[0.256,4.659]	[0.781,2.120]
5 – Upper quintile	0.966	0.979	2.684	1.540
	[0.661,1.411]	[0.753,1.273]	[0.478,15.06]	[0.854,2.778]
Econ. Support Index				
1 – Lower quintile[c]	-	-	-	-
2	0.867	0.991	0.635***	1.005
	[0.733,1.026]	[0.841,1.168]	[0.487,0.828]	[0.729,1.386]
3	0.699***	0.687***	0.696**	0.784
	[0.597,0.818]	[0.593,0.797]	[0.527,0.919]	[0.575,1.068]
4	0.920	1.259**	0.862	1.201
	[0.755,1.120]	[1.040,1.523]	[0.665,1.118]	[0.892,1.617]
5 – Upper quintile	1.180	1.283**	0.754**	1.167
	[0.854,1.631]	[1.018,1.617]	[0.579,0.983]	[0.857,1.589]
New cases				
1 – Lower quintile[c]	-	-	-	-
2	1.691***	1.977***	0.978	0.780
	[1.319,2.168]	[1.586,2.465]	[0.730,1.310]	[0.481,1.266]
3	1.133	1.619***	1.209	0.817
	[0.915,1.402]	[1.325,1.979]	[0.741,1.973]	[0.462,1.445]
4	1.248**	1.502***	0.290**	0.576
	[1.033,1.508]	[1.246,1.809]	[0.0998,0.844]	[0.265,1.254]
5 – Upper quintile	0.963	1.563***	0.446	0.677
	[0.775,1.197]	[1.279,1.910]	[0.0770,2.583]	[0.271,1.688]
New deaths				
1 – Lower quintile[c]	-	-	-	-
2	1.643***	1.856***	0.972	0.806
	[1.279,2.110]	[1.490,2.312]	[0.722,1.308]	[0.497,1.308]
3	1.393***	1.743***	1.172	1.002
	[1.148,1.689]	[1.437,2.113]	[0.630,2.180]	[0.539,1.862]
4	1.038	1.675***	0.746**	1.060
	[0.849,1.269]	[1.376,2.038]	[0.557,0.999]	[0.725,1.549]
5 – Upper quintile	0.926	1.417***	0.643**	0.953
	[0.760,1.130]	[1.170,1.716]	[0.427,0.969]	[0.595,1.528]

OR [95% confidence interval]; [a]Unadjusted; [b]Adjusted by age and country; [c]Reference category; ** p < 0.05; *** p < 0.01.

Figure S9: Association between worsened health and perceived government effectiveness
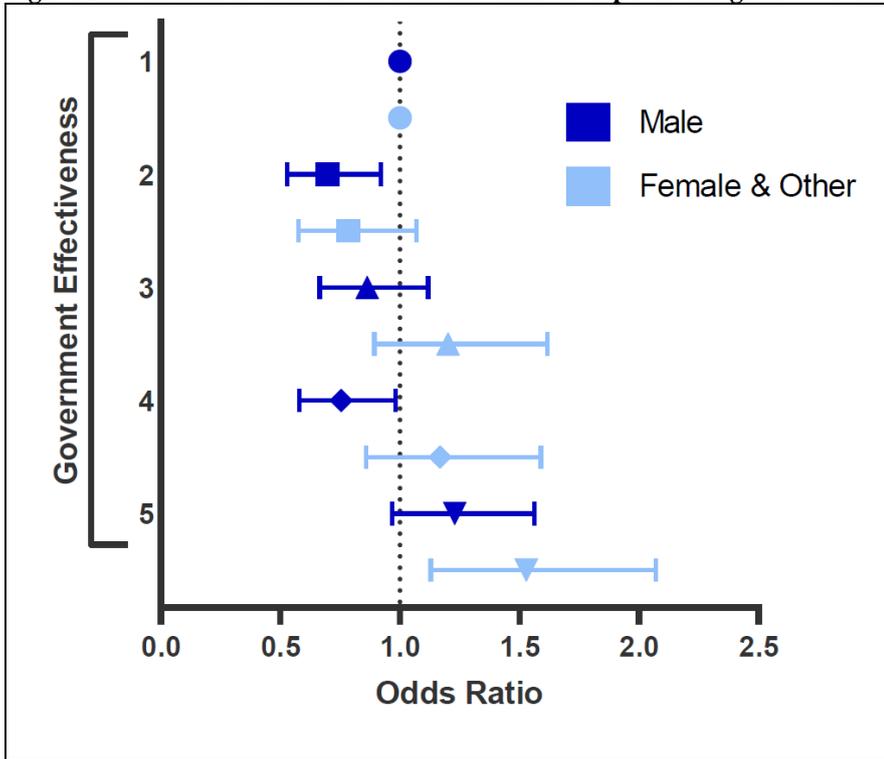
Note: adjusted for age and country.

Table S8: Association between worsened health and perceived government effectiveness

	Model 1[a]		Model 2[b]	
	Male	*Female & Other*	*Male*	*Female & Other*
Gov. effectiveness				
1 – Lower quintile[c]	-	-	-	-
2	0.979	0.857	0.696[**]	0.784
	[0.816,1.174]	[0.715,1.028]	[0.527,0.919]	[0.575,1.068]
3	1.391	1.449[***]	0.862	1.201
	[0.999,1.936]	[1.142,1.838]	[0.665,1.118]	[0.892,1.617]
4	0.842[**]	1.193[**]	0.754[**]	1.167
	[0.718,0.988]	[1.013,1.405]	[0.579,0.983]	[0.857,1.589]
5 – Upper quintile	1.038	1.025	1.229	1.528[***]
	[0.878,1.227]	[0.865,1.215]	[0.967,1.561]	[1.129,2.069]

OR [95% confidence interval]; [a]Unadjusted; [b]Adjusted by age and country; [c]Reference category; ** $p < 0.05$; *** $p < 0.01$.

Table S9 – Association between worsened health and all potential predictors (socio-economic and clinical characteristics, experiences of COVID-19, indicators of responsiveness to and severity of COVID-19, and indicators of effectiveness)

	Model 4	
	Male EQ-5D Total Score PCHC Worsened	*Female* EQ-5D Total Score PCHC Worsened
Education		
Primary or less completed[c]	-	-
Secondary completed	1.229 [0.973,1.551]	1.558*** [1.222,1.987]
University completed	1.465*** [1.184,1.812]	2.028*** [1.582,2.599]
Missing	1.011 [0.633,1.615]	1.405 [0.943,2.093]
Income loss		
No[c]	-	-
Yes	1.607*** [1.371,1.884]	1.452*** [1.272,1.656]
Don't know	0.858 [0.544,1.353]	0.831 [0.523,1.321]
Missing	1.594** [1.095,2.320]	1.034 [0.727,1.472]
Health conditions		
0[c]	-	-
1	1.206*** [1.052,1.382]	1.445*** [1.253,1.665]
2+	1.788*** [1.399,2.286]	1.642*** [1.381,1.952]
Missing	0.817 [0.542,1.232]	1.232 [0.857,1.772]
Believed had COVID-19		
No[c]	-	
Yes	0.790*** [0.666,0.937]	
Don't know	1.204 [0.967,1.498]	
Missing	0.860 [0.615,1.202]	
Friend/colleague had COVID-19		
No[c]	-	-
Yes	1.234*** [1.054,1.444]	1.258*** [1.095,1.444]
Don't know	1.185 [0.840,1.670]	1.332 [0.958,1.851]
Missing	0.939 [0.564,1.564]	1.059 [0.631,1.779]
Known death from COVID-19		
No[c]	-	-
Yes	1.227** [1.031,1.461]	1.201** [1.041,1.385]
Don't know	0.654 [0.393,1.089]	0.862 [0.545,1.364]
Missing	1.447 [0.865,2.420]	0.930 [0.549,1.576]
Gov. Response Index		
1 – Lower quintile[c]	-	
2	0.997 [0.757,1.314]	
3	0.530*** [0.351,0.802]	
4	0.499*** [0.343,0.726]	
5 – Upper quintile	1.536** [1.012,2.329]	
Positive for COVID-19		
No[c]		-
Yes		0.780** [0.623,0.977]
Don't know		0.567 [0.265,1.215]
Missing		0.886 [0.396,1.981]
Government Effectiveness		
1 – Lower quintile[c]		-
2		1.076 [0.677,1.711]
3		1.442 [0.991,2.099]
4		1.533 [0.988,2.377]

5 – Upper quintile		2.387[***] [1.424,4.001]

OR [95% confidence interval]; [c]Reference category; ** p < 0.05; *** p < 0.01.

Figure S10: Worsened anxiety/depression by age and gender for each continent
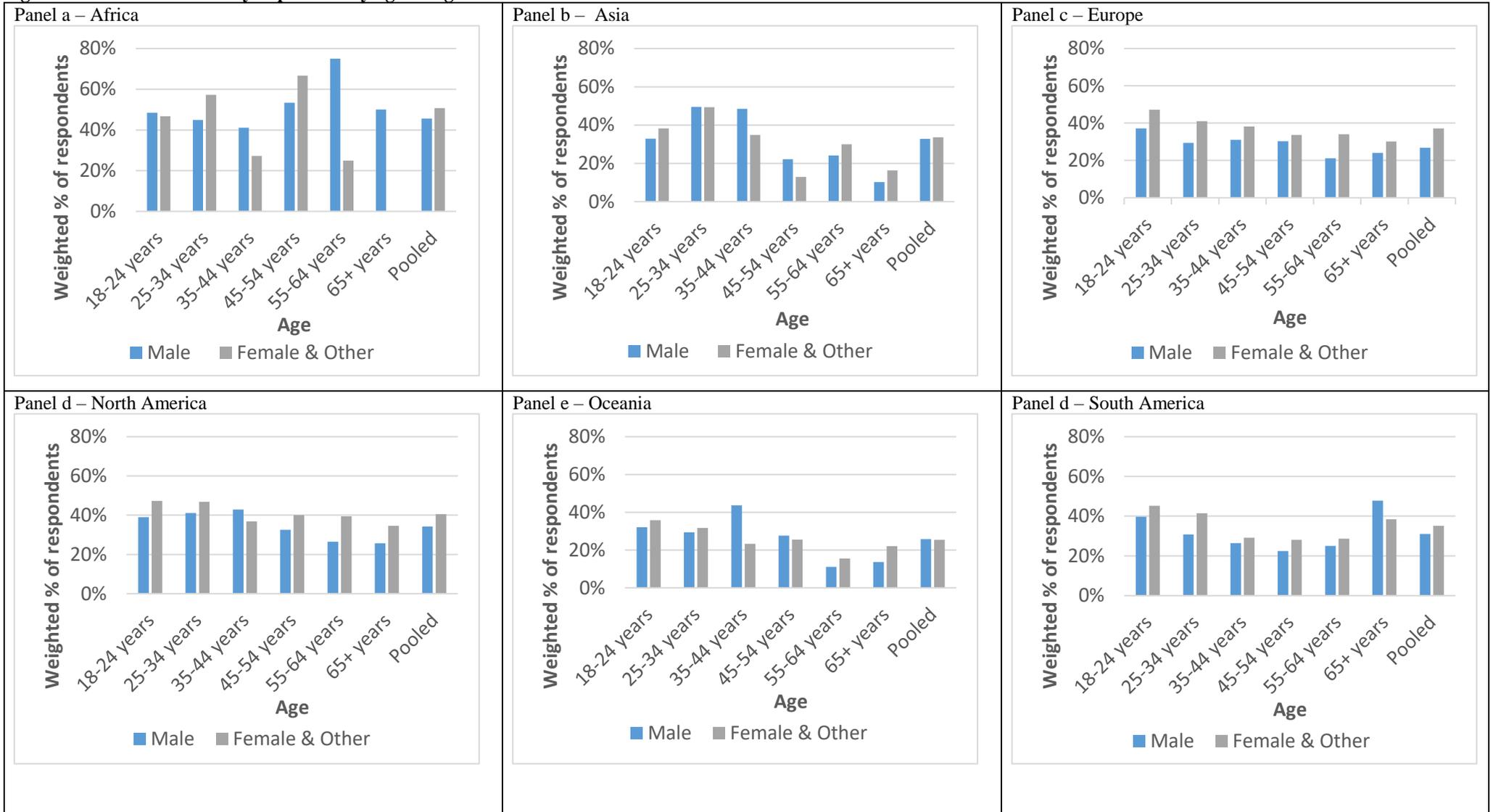
Figure S11: Worsened health by EQ-5D domains but anxiety/depression – stratified for by age and gender

Panel a – Mobility	Panel b – Self-care

Panel c – Usual activities	Panel d – Pain/discomfort

Changes in EQ-5D level pre- and during COVID-19 pandemic, by domain
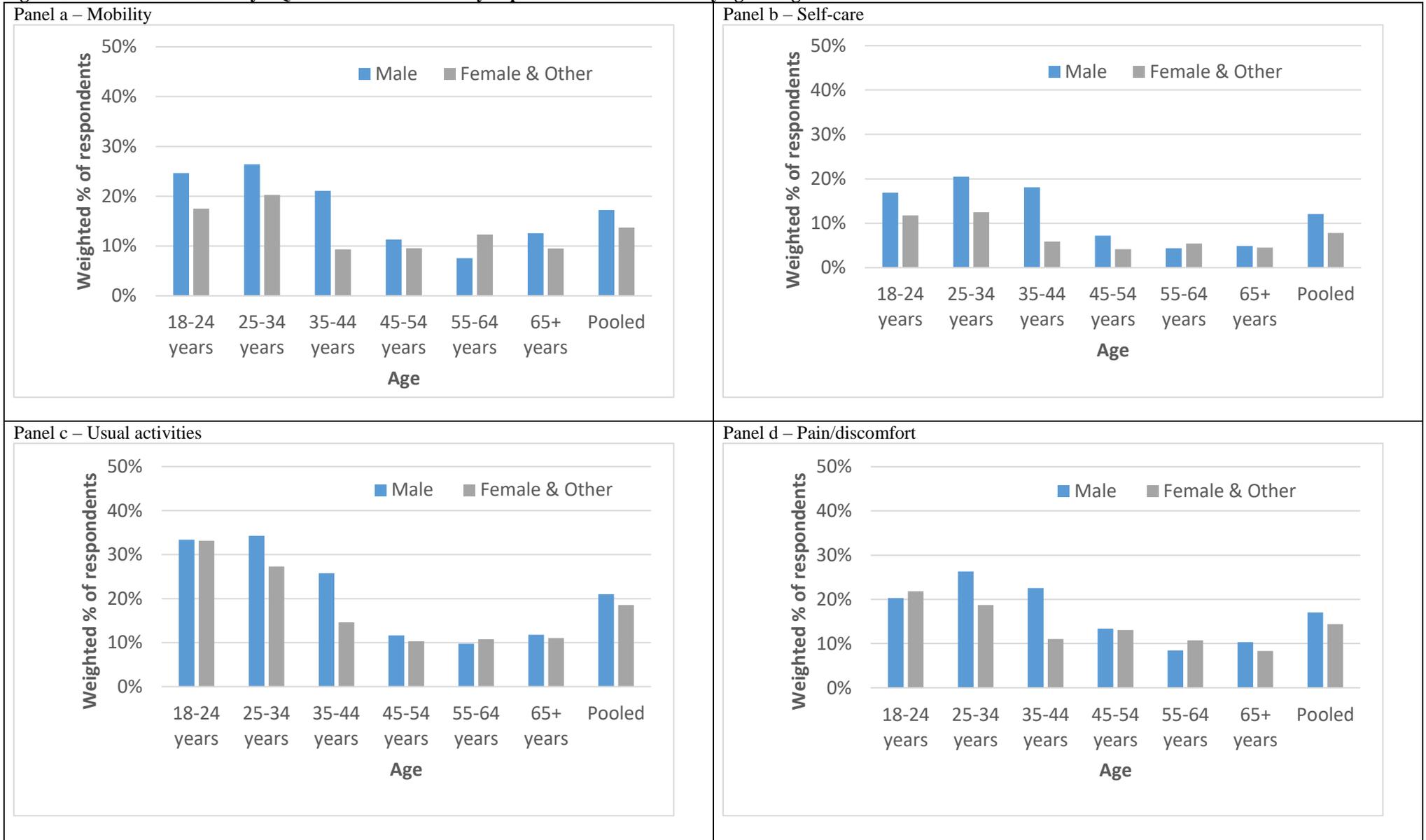
Table S10: Respondents self-reported health on EQ-5D-5L before the COVID-19 pandemic and at time of survey – overall sample

EQ-5D Question	Level 1			Level 2			Level 3			Level 4			Level 5		
	N	%	p-value[a]	N	%	p-value[a]	N	%	p-value[a]	N	%	p-value[a]	N	%	p-value[a]
Mobility															
Pre-COVID-19	12,374	78.35		1,307	9.11		855	5.93		490	3.39		454	3.21	
During COVID-19	11,469	72.93*	<0.001	1,840	12.03*	<0.001	1,041	7.34*	0.002	646	4.38*	<0.001	484	3.32	0.635
Self-care															
Pre-COVID-19	13,467	86.01		991	6.92		479	3.47		242	1.59		301	2.01	
During COVID-19	13,084	83.78*	<0.001	1,056	7.37	0.148	661	4.39*	<0.001	380	2.55*	<0.001	299	1.91	0.453
Usual activity															
Pre-COVID-19	12,787	81.13		1,391	9.77		692	5.03		346	2.21		264	1.86	
During COVID-19	11,017	70.5*	<0.001	2,105	13.98*	<0.001	1,247	8.35*	<0.001	664	4.27*	<0.001	447	2.9*	<0.001
Pain/discomfort															
Pre-COVID-19	10,727	67.47		2,592	17.68		1,244	8.61		570	3.88		347	2.36	
During COVID-19	9,738	62.34*	<0.001	2,936	18.75	0.053	1,578	10.39*	<0.001	777	5.56*	<0.001	451	2.96*	<0.001
Anxiety/depression															
Pre-COVID-19	9,974	63.91		3,207	20.62		1,336	8.65		578	4.05		385	2.77	
During COVID-19	7,088	46.88*	<0.001	3,973	25.04*	<0.001	2,461	15.27*	<0.001	1,165	7.32*	<0.001	793	5.49*	<0.001

Sample size: 15,480 [a] p-value referring to the proportion of respondents reporting different level of response at the time of the survey compared with before the COVID-19 pandemic: * significant at the 1% level or less; ** significant at the 5% level.

Table S11: Mean difference in EQ-5D-5L index (utility) pre-COVID-19 and at time of survey, UK value set – Male only

Country	Utility pre-COVID-19			Utility at survey			Utility difference		
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value
Australia	642	0.766	0.262	642	0.709	0.293	-0.056	(-0.089, -0.024)	0.001
Brazil	706	0.836	0.248	706	0.797	0.269	-0.039	(-0.075, -0.003)	0.033
Canada	617	0.814	0.236	617	0.741	0.285	-0.072	(-0.102, -0.043)	<0.001
Chile	436	0.865	0.238	436	0.718	0.332	-0.147	(-0.317, 0.023)	0.09
China	683	0.876	0.208	683	0.881	0.158	0.006	(-0.032, 0.043)	0.767
Colombia	520	0.849	0.271	520	0.849	0.236	-0.001	(-0.054, 0.053)	0.977
France	634	0.860	0.219	634	0.821	0.233	-0.039	(-0.065, -0.013)	0.004
India	720	0.721	0.348	720	0.605	0.349	-0.116	(-0.152, -0.080)	<0.001
Italy	488	0.871	0.207	488	0.827	0.244	-0.044	(-0.074, -0.014)	0.004
Spain	560	0.916	0.157	560	0.878	0.174	-0.038	(-0.057, -0.019)	<0.001
UK	625	0.809	0.271	625	0.773	0.277	-0.036	(-0.068, -0.004)	0.027
US	580	0.739	0.310	580	0.670	0.346	-0.069	(-0.114, -0.024)	0.003
Uganda	762	0.737	0.346	762	0.573	0.405	-0.164	(-0.202, -0.127)	<0.001
Overall	7,973	0.816	0.271	7,973	0.753	0.304	-0.063	(-0.078, -0.049)	<0.001

N=sample size; Mean=weighted mean; SD=weighted standard deviation; CI=confidence interval.

Table S12: Mean difference in EQ-5D-5L index (utility) pre-COVID-19 and at time of survey, UK value set – Female and other only

Country	Utility pre-COVID-19			Utility at survey			Utility difference		
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value
Australia	716	0.777	0.260	716	0.726	0.292	-0.050	(-0.083, -0.018)	0.002
Brazil	715	0.829	0.220	715	0.745	0.268	-0.083	(-0.115, -0.051)	<0.001
Canada	531	0.812	0.225	531	0.720	0.270	-0.092	(-0.122, -0.062)	<0.001
Chile	684	0.848	0.208	684	0.768	0.230	-0.080	(-0.121, -0.039)	<0.001
China	608	0.884	0.175	608	0.868	0.211	-0.016	(-0.063, 0.031)	0.498
Colombia	711	0.867	0.223	711	0.815	0.241	-0.052	(-0.085, -0.020)	0.001
France	508	0.832	0.245	508	0.781	0.261	-0.052	(-0.086, -0.018)	0.003
India	470	0.688	0.358	470	0.591	0.372	-0.097	(-0.143, -0.050)	<0.001
Italy	592	0.847	0.190	592	0.791	0.233	-0.056	(-0.082, -0.031)	<0.001
Spain	592	0.888	0.190	592	0.826	0.205	-0.062	(-0.085, -0.040)	<0.001
UK	538	0.798	0.259	538	0.728	0.283	-0.070	(-0.104, -0.037)	<0.001
US	566	0.768	0.261	566	0.683	0.311	-0.085	(-0.124, -0.046)	<0.001
Uganda	276	0.710	0.386	276	0.563	0.406	-0.148	(-0.214, -0.082)	<0.001
Overall	7,507	0.817	0.250	7,507	0.748	0.283	-0.069	(-0.079, -0.059)	<0.001

N=sample size; Mean=weighted mean; SD=weighted standard deviation; CI=confidence interval.

Table S13: Mean difference in EQ-5D-5L index (utility) pre-COVID-19 and at time of survey, US value set – overall sample

Country	EQ-5D index pre-COVID-19			EQ-5D index at survey			EQ-5D index at survey – EQ-5D index pre-pandemic		
	N	Mean	SD	N	Mean	SD	Mean difference	95% CI	p-value
Australia	1,358	0.801	0.269	1,358	0.749	0.308	-0.053	(-0.076, -0.029)	<0.001
Brazil	1,421	0.857	0.239	1,421	0.803	0.274	-0.054	(-0.079, -0.029)	<0.001
Canada	1,148	0.844	0.234	1,148	0.763	0.290	-0.082	(-0.103, -0.060)	<0.001
Chile	1,120	0.888	0.222	1,120	0.784	0.273	-0.103	(-0.177, -0.030)	0.006
China	1,291	0.890	0.205	1,291	0.891	0.188	0.001	(-0.031, 0.033)	0.935
Colombia	1,231	0.878	0.249	1,231	0.857	0.233	-0.021	(-0.051, 0.009)	0.177
France	1,142	0.875	0.236	1,142	0.835	0.255	-0.039	(-0.062, -0.017)	0.001
India	1,190	0.711	0.373	1,190	0.595	0.390	-0.116	(-0.146, -0.085)	<0.001
Italy	1,080	0.889	0.200	1,080	0.844	0.243	-0.045	(-0.065, -0.025)	<0.001
Spain	1,152	0.930	0.170	1,152	0.888	0.188	-0.042	(-0.056, -0.027)	<0.001
UK	1,163	0.837	0.266	1,163	0.784	0.291	-0.053	(-0.077, -0.030)	<0.001
US	1,146	0.780	0.299	1,146	0.699	0.351	-0.082	(-0.113, -0.050)	<0.001
Uganda	1,038	0.733	0.368	1,038	0.565	0.421	-0.167	(-0.201, -0.133)	<0.001
Overall	15,480	0.840	0.269	15,480	0.776	0.306	-0.064	(-0.073, -0.055)	<0.001

N=sample size; Mean=weighted mean; SD=weighted standard deviation; CI=confidence interval.

Table S14: Mean difference in EQ-5D-5L index (utility) pre-COVID-19 and at time of survey, US value set – Male only

	EQ-5D index pre-COVID-19			EQ-5D index at survey			EQ-5D index at survey – EQ-5D index pre-pandemic		
Country	N	Mean	SD	N	Mean	SD	Mean difference	95% CI	p-value
Australia	642	0.787	0.280	642	0.729	0.316	-0.058	(-0.093, -0.023)	0.001
Brazil	706	0.851	0.258	706	0.821	0.279	-0.030	(-0.068, 0.008)	0.120
Canada	617	0.843	0.240	617	0.768	0.297	-0.075	(-0.105, -0.045)	<0.001
Chile	436	0.891	0.248	436	0.750	0.321	-0.141	(-0.301, 0.020)	0.086
China	683	0.884	0.220	683	0.896	0.159	0.012	(-0.030, 0.054)	0.569
Colombia	520	0.860	0.282	520	0.871	0.235	0.011	(-0.046, 0.067)	0.713
France	634	0.887	0.220	634	0.856	0.233	-0.031	(-0.058, -0.005)	0.018
India	720	0.721	0.370	720	0.596	0.383	-0.125	(-0.164, -0.086)	<0.001
Italy	488	0.896	0.211	488	0.854	0.253	-0.041	(-0.073, -0.010)	0.010
Spain	560	0.940	0.157	560	0.908	0.176	-0.032	(-0.052, -0.013)	0.001
UK	625	0.839	0.270	625	0.803	0.284	-0.036	(-0.068, -0.004)	0.027
US	580	0.754	0.329	580	0.682	0.368	-0.072	(-0.119, -0.025)	0.003
Uganda	762	0.737	0.356	762	0.566	0.423	-0.171	(-0.211, -0.132)	<0.001
Overall	7,973	0.833	0.283	7,973	0.771	0.319	-0.062	(-0.076, -0.047)	<0.001

N=sample size; Mean=weighted mean; SD=weighted standard deviation; CI=confidence interval.

Table S15: Mean difference in EQ-5D-5L index (utility) pre-COVID-19 and at time of survey, US value set – Female and other only

	EQ-5D index pre-COVID-19			EQ-5D index at survey			EQ-5D index at survey – EQ-5D index pre-pandemic		
Country	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value
Australia	716	0.814	0.259	716	0.765	0.299	-0.048	(-0.081, -0.016)	0.004
Brazil	715	0.862	0.220	715	0.785	0.268	-0.077	(-0.109, -0.045)	<0.001
Canada	531	0.846	0.228	531	0.757	0.281	-0.089	(-0.120, -0.058)	<0.001
Chile	684	0.885	0.202	684	0.809	0.230	-0.077	(-0.115, -0.039)	<0.001
China	608	0.899	0.179	608	0.883	0.226	-0.016	(-0.066, 0.034)	0.535
Colombia	711	0.892	0.218	711	0.846	0.231	-0.045	(-0.077, -0.014)	0.004
France	508	0.864	0.250	508	0.817	0.272	-0.047	(-0.082, -0.011)	0.01
India	470	0.696	0.377	470	0.593	0.401	-0.102	(-0.152, -0.053)	<0.001
Italy	592	0.884	0.190	592	0.836	0.233	-0.048	(-0.074, -0.022)	<0.001
Spain	592	0.921	0.182	592	0.870	0.198	-0.051	(-0.072, -0.029)	<0.001
UK	538	0.835	0.263	538	0.764	0.296	-0.071	(-0.105, -0.036)	<0.001
US	566	0.806	0.265	566	0.715	0.333	-0.091	(-0.132, -0.050)	<0.001
Uganda	276	0.720	0.399	276	0.564	0.416	-0.156	(-0.224, -0.088)	<0.001
Overall	7,507	0.848	0.253	7,507	0.781	0.292	-0.066	(-0.077, -0.056)	<0.001

N= sample size; Mean=weighted mean; SD=weighted standard deviation; CI=confidence interval.

Tables S16 – National mean difference in EQ-5D-5D-5L index (utility) by age, UK tariff

Australia

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population*		QALY change
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	142	0.81	0.232	142	0.718	0.293	-0.092	(-0.153, -0.031)	0.003	2,168,461	-	199,498
25-34 years	305	0.766	0.283	305	0.715	0.312	-0.051	(-0.102, -0.000)	0.05	3,549,631	-	181,031
35-44 years	276	0.752	0.259	276	0.667	0.305	-0.085	(-0.136, -0.035)	0.001	3,309,496	-	281,307
45-54 years	188	0.73	0.302	188	0.66	0.346	-0.07	(-0.146, 0.005)	0.066	3,184,780	-	222,935
55-64 years	224	0.781	0.244	224	0.766	0.247	-0.015	(-0.067, 0.036)	0.564	2,897,947	-	43,469
65+ years	223	0.794	0.23	223	0.769	0.235	-0.025	(-0.073, 0.024)	0.317	4,016,956	-	100,424
										19,127,271	**-**	**1,028,664**

Brazil

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population*		QALY change
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	178	0.848	0.209	178	0.758	0.277	-0.09	(-0.151, -0.029)	0.004	24,189,074	-	2,177,017
25-34 years	364	0.803	0.262	364	0.723	0.304	-0.08	(-0.135, -0.024)	0.005	34,675,372	-	2,774,030
35-44 years	288	0.878	0.172	288	0.801	0.235	-0.078	(-0.120, -0.035)	<0.001	33,228,920	-	2,591,856
45-54 years	246	0.84	0.211	246	0.784	0.279	-0.056	(-0.113, 0.001)	0.055	26,339,990	-	1,475,039
55-64 years	255	0.808	0.291	255	0.791	0.258	-0.017	(-0.076, 0.043)	0.582	20,472,174	-	348,027
65+ years	90	0.822	0.199	90	0.786	0.203	-0.036	(-0.111, 0.040)	0.354	20,281,930	-	730,149
										159,187,460	-	10,096,118

Canada

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population*		QALY change
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	142	0.802	0.229	142	0.657	0.291	-0.146	(-0.206, -0.085)	<0.001	3,018,081	-	440,640
25-34 years	217	0.835	0.216	217	0.711	0.287	-0.123	(-0.171, -0.076)	<0.001	4,809,186	-	591,530
35-44 years	200	0.82	0.238	200	0.747	0.292	-0.073	(-0.125, -0.021)	0.006	4,786,308	-	349,400
45-54 years	175	0.809	0.218	175	0.752	0.264	-0.057	(-0.107, -0.006)	0.027	4,820,196	-	274,751
55-64 years	191	0.784	0.278	191	0.716	0.313	-0.068	(-0.127, -0.009)	0.024	5,194,646	-	353,236
65+ years	223	0.82	0.203	223	0.782	0.212	-0.038	(-0.076, 0.000)	0.052	6,580,761	-	250,069
										29,209,178	**-**	**2,259,626**

Chile

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population[*]	QALY change	
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	305	0.887	0.152	305	0.735	0.233	-0.151	(-0.218, -0.085)	<0.001	1,876,473	-	283,347
25-34 years	279	0.894	0.187	279	0.79	0.223	-0.104	(-0.168, -0.040)	0.001	2,918,376	-	303,511
35-44 years	157	0.81	0.249	157	0.783	0.211	-0.028	(-0.091, 0.036)	0.391	2,462,017	-	68,936
45-54 years	222	0.825	0.276	222	0.773	0.279	-0.052	(-0.216, 0.113)	0.536	2,397,264	-	124,658
55-64 years	105	0.843	0.267	105	0.808	0.236	-0.035	(-0.112, 0.042)	0.373	2,042,015	-	71,471
65+ years	52	0.878	0.099	52	0.521	0.412	-0.356	(-0.719, 0.007)	0.054	2,148,739	-	764,951
										13,844,884	-	1,616,874

Colombia

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population[*]	QALY change	
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	165	0.894	0.176	165	0.804	0.223	-0.09	(-0.146, -0.033)	0.002	5,740,524	-	516,647
25-34 years	321	0.878	0.211	321	0.842	0.219	-0.036	(-0.079, 0.008)	0.11	7,561,311	-	272,207
35-44 years	330	0.867	0.268	330	0.834	0.243	-0.033	(-0.090, 0.024)	0.254	6,440,118	-	212,524
45-54 years	252	0.841	0.252	252	0.838	0.245	-0.004	(-0.065, 0.058)	0.91	5,550,212	-	22,201
55-64 years	125	0.871	0.232	125	0.859	0.222	-0.012	(-0.077, 0.052)	0.705	4,475,682	-	53,708
65+ years	38	0.768	0.33	38	0.769	0.298	0.002	(-0.176, 0.179)	0.986	4,615,469		9,231
										34,383,316	**-**	**1,068,056**

France

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population[*]	QALY change	
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	91	0.841	0.219	91	0.748	0.279	-0.093	(-0.166, -0.019)	0.013	5,481,459	-	509,776
25-34 years	165	0.867	0.21	165	0.817	0.235	-0.049	(-0.101, 0.003)	0.064	7,776,086	-	381,028
35-44 years	156	0.88	0.196	156	0.836	0.212	-0.043	(-0.089, 0.002)	0.062	8,265,605	-	355,421
45-54 years	205	0.853	0.234	205	0.81	0.252	-0.043	(-0.095, 0.010)	0.11	8,836,577	-	379,973
55-64 years	277	0.831	0.258	277	0.804	0.234	-0.027	(-0.075, 0.021)	0.27	8,264,917	-	223,153
65+ years	248	0.817	0.251	248	0.774	0.275	-0.043	(-0.095, 0.009)	0.105	13,303,244	-	572,039
										51,927,888	-	2,421,390

India

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population*	QALY change	
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	282	0.718	0.337	282	0.622	0.371	-0.096	(-0.154, -0.038)	0.001	182,990,512	-	17,567,089
25-34 years	508	0.697	0.357	508	0.581	0.347	-0.116	(-0.159, -0.073)	<0.001	230,764,784	-	26,768,715
35-44 years	215	0.687	0.361	215	0.594	0.359	-0.093	(-0.161, -0.025)	0.007	188,994,832	-	17,576,519
45-54 years	99	0.723	0.367	99	0.598	0.391	-0.125	(-0.230, -0.020)	0.019	139,650,192	-	17,456,274
55-64 years	62	0.795	0.304	62	0.662	0.297	-0.133	(-0.238, -0.028)	0.013	98,145,792	-	13,053,390
65+ years	24	0.714	0.407	24	0.62	0.445	-0.094	(-0.330, 0.142)	0.437	93,164,416	-	8,757,455
										933,710,528	**- 101,179,443**	

Italy

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population*	QALY change	
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	89	0.781	0.292	89	0.709	0.327	-0.072	(-0.167, 0.022)	0.134	4,127,764	-	297,199
25-34 years	159	0.823	0.245	159	0.763	0.294	-0.06	(-0.122, 0.002)	0.057	6,559,388	-	393,563
35-44 years	221	0.885	0.147	221	0.821	0.208	-0.064	(-0.098, -0.029)	<0.001	8,121,335	-	519,765
45-54 years	228	0.868	0.195	228	0.823	0.223	-0.045	(-0.085, -0.005)	0.028	9,779,625	-	440,083
55-64 years	241	0.869	0.17	241	0.817	0.235	-0.052	(-0.093, -0.011)	0.013	8,274,090	-	430,253
65+ years	142	0.868	0.182	142	0.841	0.174	-0.026	(-0.070, 0.017)	0.237	13,784,435	-	358,395
										50,646,637	**- 2,439,259**	

Spain

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population*	QALY change	
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	50	0.913	0.217	50	0.85	0.211	-0.063	(-0.146, 0.020)	0.139	3,091,684	-	194,776
25-34 years	226	0.917	0.13	226	0.844	0.191	-0.073	(-0.103, -0.043)	<0.001	5,137,782	-	375,058
35-44 years	209	0.911	0.16	209	0.857	0.186	-0.054	(-0.088, -0.021)	0.001	7,309,586	-	394,718
45-54 years	253	0.9	0.178	253	0.84	0.204	-0.06	(-0.094, -0.027)	<0.001	7,342,949	-	440,577
55-64 years	274	0.883	0.206	274	0.86	0.183	-0.023	(-0.056, 0.009)	0.16	5,993,525	-	137,851
65+ years	140	0.899	0.173	140	0.86	0.194	-0.039	(-0.082, 0.004)	0.072	8,999,257	-	350,971
										37,874,783	**- 1,893,951**	

UK

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population*		QALY change
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	57	0.792	0.277	57	0.695	0.295	-0.097	(-0.200, 0.007)	0.068	5,604,396	-	543,626
25-34 years	171	0.82	0.27	171	0.767	0.277	-0.053	(-0.110, 0.005)	0.074	9,457,326	-	501,238
35-44 years	221	0.784	0.289	221	0.736	0.301	-0.048	(-0.105, 0.009)	0.099	8,716,166	-	418,376
45-54 years	200	0.799	0.249	200	0.741	0.282	-0.057	(-0.111, -0.004)	0.037	9,189,565	-	523,805
55-64 years	260	0.794	0.288	260	0.741	0.307	-0.053	(-0.105, -0.001)	0.044	8,079,824	-	428,231
65+ years	254	0.826	0.217	254	0.789	0.224	-0.037	(-0.076, 0.002)	0.062	12,123,632	-	448,574
										53,170,909	**-**	**2,863,851**

US

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population*		QALY change
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	67	0.693	0.362	67	0.651	0.347	-0.042	(-0.170, 0.086)	0.519	30,367,254	-	1,275,425
25-34 years	220	0.72	0.293	220	0.615	0.339	-0.105	(-0.171, -0.039)	0.002	45,025,396	-	4,727,667
35-44 years	272	0.727	0.306	272	0.606	0.356	-0.121	(-0.184, -0.058)	<0.001	41,647,780	-	5,039,381
45-54 years	165	0.802	0.255	165	0.722	0.318	-0.08	(-0.149, -0.010)	0.024	41,474,136	-	3,317,931
55-64 years	213	0.758	0.281	213	0.703	0.322	-0.055	(-0.124, 0.013)	0.111	42,938,392	-	2,361,612
65+ years	209	0.81	0.231	209	0.769	0.257	-0.04	(-0.101, 0.021)	0.195	53,495,832	-	2,139,833
										254,948,790	**-**	**18,861,848**

Uganda

Age	Utility pre-COVID-19			Utility at survey			Utility difference			Population*		QALY change
	N	Mean	SD	N	Mean	SD	Mean	95% CI	p-value			
18-24 years	269	0.719	0.365	269	0.573	0.39	-0.146	(-0.209, -0.082)	<0.001	5,705,615	-	833,020
25-34 years	587	0.727	0.352	587	0.563	0.407	-0.164	(-0.208, -0.121)	<0.001	5,531,647	-	907,190
35-44 years	145	0.761	0.338	145	0.615	0.397	-0.146	(-0.230, -0.061)	0.001	3,415,678	-	498,689
45-54 years	27	0.731	0.474	27	0.427	0.529	-0.304	(-0.567, -0.042)	0.023	2,143,713	-	651,689
55-64 years	8	0.688	0.459	8	0.566	0.369	-0.122	(-0.504, 0.259)	0.529	1,250,801	-	152,598
65+ years	2	0.824	0.071	2	0.839	0.099	0.016	(-0.104, 0.135)	0.796	972,780		15,564
										19,020,234	**-**	**3,027,621**