Happiness Research Institute

Wellbeing in the age of COVID-19

A study on subjective wellbeing, loneliness, worries, and behaviour in the first phase of the coronavirus pandemic

Colophon

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Contents

Happiness in the midst of a pandemic

The COVID-19 pandemic has disrupted the lives of billions of people around the world. To study its impact on subjective wellbeing, the Happiness Research Institute launched an independent, longitudinal study to track changes in wellbeing and social behaviour during the early phase of the pandemic. Starting on April 13, 2020 we surveyed 3,211 people up to six times during a three month period. Our results are based on a total sample size of 12,000 observations from 97 countries.

As we face the COVID-19 pandemic, we are increasingly aware of the emotional toll our current circumstances can take on our wellbeing. People have lost their lives and livelihoods. We worry about our health, our loved ones and our ability to make a living.

It does not take big data and a team of happiness researchers to understand that the pandemic has undermined our wellbeing. But our aim for conducting this study was not only to better understand the effects of the pandemic on our happiness, but also to examine what we can do to protect our wellbeing during these disruptive times.

This study has illuminated emotional, circumstantial and behavioural patterns, and their relationship to different dimensions of subjective wellbeing. These observations have enabled us to analyse the emotional implications of the global pandemic, and from there, develop recommendations to protect people from its negative effects going forward. Increases in loneliness and fear, and decreases in life satisfaction re-

emphasise the importance of paying close attention to our mental health, as well as our physical health.

We hope the insights and actionable steps presented in the report will support you in protecting your mental health during the remainder of the pandemic. We ask you to keep taking care of yourselves, your loved ones and your communities – we are all in this together.

Meik Wiking
CEO
Happiness Research Institute
November 2020

→ **Increases of COVID-19 cases are strongly linked with emotional wellbeing.** With rising coronavirus cases, respondents felt more anxious and bored, and less proud, happy, and relaxed. The impact on anxiety was most pronounced. Per one million people, for every 100 new cases, 7,200 become anxious.

→ **Loneliness** had the most dramatic impact on wellbeing throughout the pandemic. Younger people and those without a job or a partner were most at risk of feeling severely isolated. Respondents in stable jobs and relationships were most protected.

→ **Cohabitation did not necessarily protect against loneliness.** Among singles, living together with more than three people predicted higher feelings of loneliness than living alone. However, respondents living with their partners were less lonely than those living apart.

→ **Meditation, speaking with friends and family, and spending time outside** were key activities that helped to reduce feelings of loneliness among our respondents.

→ **Fears and worries associated with COVID-19 were particularly prevalent in the early phase of the pandemic**, and then followed a U-shape over time. The most prevalent

concerns were that the pandemic would lead to a major economic crisis (62%) and small companies would go out of business (55%). Fears of losing someone (43%) and school closings (21%) were less prevalent, but had the largest negative effects on life satisfaction.

→ **The more respondents informed themselves about the pandemic, the more concerned they were likely to be.** However, different media platforms seemed to have different effects. Those who relied on websites and online pages for coronavirus-related news were much more likely to be worried than those who relied on print media, such as newspapers and magazines.

→ **Certain behavioural changes seemed to buffer against negative effects of COVID-19** on subjective wellbeing. In the early phase of the pandemic, many respondents started creative projects (71%) and reached out to loved ones (94%). We find that doing either even once per week can have positive impacts on subjective wellbeing.

→ Using these insights, in the final chapter, we offer a **6-item action plan containing day-to-day activities** which people can do to boost their happiness during the pandemic.

Introduction

A study on the subjective wellbeing impacts of COVID-19

The COVID-19 pandemic has disrupted the lives of billions of people around the world. What began as a public health crisis has now evolved into a social and economic crisis with still uncertain consequences. Many governments have taken dramatic and unprecedented steps to contain the spread of the virus, including social distancing measures and lockdowns. A large public debate has focused on the economic consequences of these decisions. More recently, a smaller, but growing share of attention is being paid to the wellbeing costs of the pandemic and efforts to contain it. In this report, we investigate the evolving impact of the COVID-19 pandemic on people's subjective wellbeing and quality of life.

On April 13, 2020, the Happiness Research Institute launched an independent, longitudinal study to track changes in wellbeing and social behaviour throughout the course of the pandemic. The baseline survey was completed by a total of 3,211 people. We continued to survey the same people on a weekly basis for four weeks, and then again once more in July. The last survey, which was sent out on July 6, 2020,

was completed by 1,343 of the original respondents. This report is therefore based on six survey rounds, which in total stretch approximately three months into the first lockdown phase of the pandemic (Figure 1). Overall, we were left with a total sample size of roughly 12,000 observations, including individuals from 97 countries.

In each survey, respondents were asked about their subjective wellbeing, social activities, work life, family structures, worries, and more. Our study was therefore primarily designed to shed light on how respondents' experiences, behaviour, and emotions changed throughout the spring and early summer. Using linear regressions with controls for socioeconomic and background circumstances, our analysis presented in this report is intended to reflect not only the voices of our respondents, but also reveal important trends in the experiences and behaviours of people around the world as they continue to deal with the challenges posed by COVID-19. For those interested in learning more about our research methodology, we offer an online appendix at happinessresearchinstitute.com.

Respondents were recruited voluntarily through Facebook, LinkedIn, Instagram, Twitter and our newsletter. Our sample

is therefore not intended to be globally representative, and is likely to favour individuals who are more prone to using social media than others. Respondents were predominantly female (83%) and mostly between the ages of 25-34 (32%) and 35-44 (25%). While our survey was offered in English, German, Spanish, and Danish, most respondents lived in English-speaking countries. Given these limitations, this report mostly focuses on how people's feelings and behaviour changed and evolved throughout the course of the pandemic, and is not intended to make representative claims or international comparisons.

Figure 1: Daily new confirmed coronavirus cases by continent
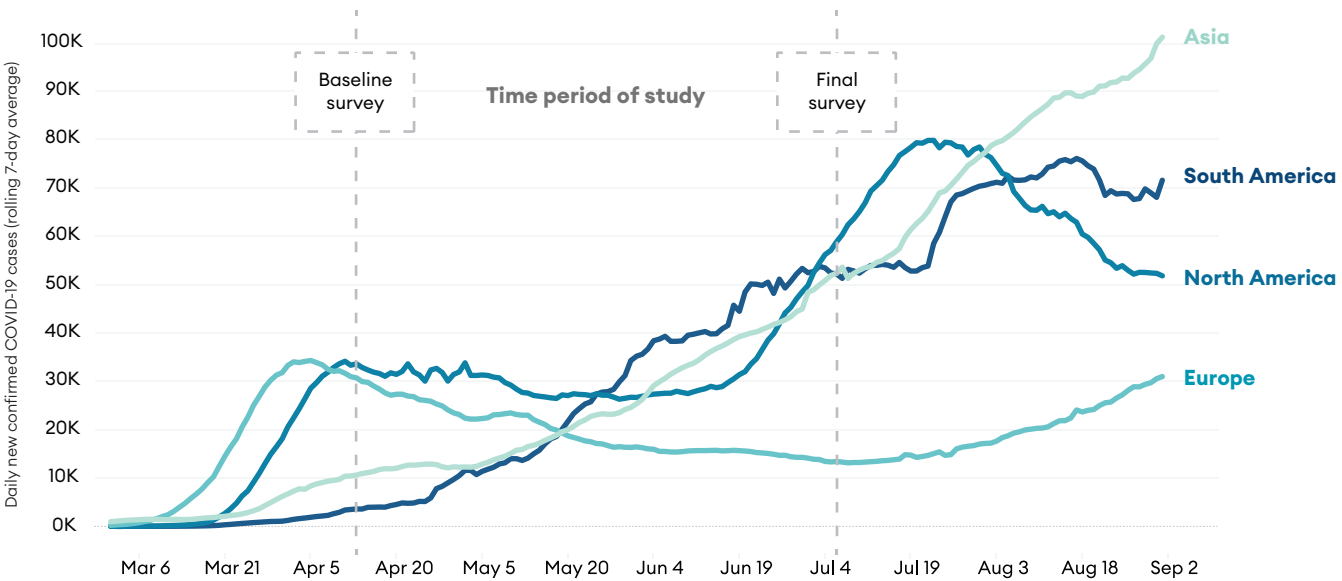
Data for COVID-19 cases can be found at www.ourworldindata.org/coronavirus

Figure 2: Countries and numbers of respondents surveyed

Subjective wellbeing as an alternative tool for policy evaluation

Our analysis relies on measures of subjective wellbeing to evaluate quality of life. In recent years, subjective wellbeing measures have established themselves as useful and reliable alternatives to standard economic indicators of welfare. Interest in subjective metrics has been driven by a growing dissatisfaction with the widespread use of conventional objective indicators such as Gross Domestic Product (GDP) to evaluate the impact of public and private sector decision-making.[1] This has led international organizations, including the OECD and the United Nations, to advise against exclusively relying on GDP as a measure of progress, as it "does not capture the broad range of outcomes that matter to people and contribute to their well-being."[2] Today, governments around the world, including in New Zealand, Iceland, Scotland, and Wales, have advocated for the use of subjective wellbeing metrics in public policy evaluation. These countries have recently established the Wellbeing Economy Governments Alliance (WEGO) where they promote and share their expertise and transferable policy practices in regard to subjective wellbeing.[3]

One of the core benefits of subjective wellbeing is that it measures individual experience directly by asking people to report how they feel about their lives. This differs from conventional economic metrics used in policy evaluation (such as unemployment rate, GDP per capita) that focus instead on people's market behaviour.

Subjective wellbeing measures have proven to be valid and reliable measures of experience across contexts. They remain stable over time and across individuals, correlate with third party reports, associate with genetic and physiological markers, respond to changes in life circumstances, and even predict future behaviours, including suicide.[4] For the last eight years, the United Nations has also published national rankings of subjective wellbeing in the World Happiness Report.[5] These international wellbeing averages have proven to be aligned with objective country conditions, including GDP per capita, life expectancy, and levels of corruption. Subjective wellbeing metrics are therefore poised to reveal important underlying dynamics that can help us to understand how people have felt and behaved during the COVID-19 pandemic.

Structure of the report

This report is divided into four chapters. In the first chapter, we provide an overview of how COVID-19 has affected subjective wellbeing. Here, we show a detailed analysis of how new COVID-19 cases have impacted life satisfaction, purpose, optimism, and mood. In this chapter, we also review how subjective wellbeing is measured.

The second chapter deals with loneliness and social isolation, both of which have dramatic and substantial effects on quality of life. Not all of our respondents felt lonely throughout the pandemic. Rather, loneliness was highly concentrated among certain distinct groups. We highlight these groups, estimate the overall wellbeing impact of loneliness, and illustrate the activities that most effectively protected people from feeling isolated.

Any event as impactful as COVID-19 is likely to produce fears and worries. In the third chapter of this report, we outline which worries and fears were most prominent for our respondents, how they changed over time, and which background conditions seemed to influence them the most. This chapter also investigates how certain media sources affected fears and worries throughout the pandemic.

In the fourth and final chapter of this report, we consider how respondents adapted their behaviour to suit their new circumstances. We analyse how behaviour patterns have changed over time and which activities seemed to have the most important impacts on wellbeing. We conclude with recommendations and an action plan to cope with the negative impacts of the COVID-19 pandemic on quality of life in the months to come.

Wellbeing impacts of COVID-19

In this chapter, we outline some of the most important impacts of the COVID-19 pandemic on subjective wellbeing, as reported by our respondents.

How we measure subjective wellbeing

To capture a holistic understanding of quality of life, happiness researchers generally focus on three dimensions of wellbeing. Throughout this report, we primarily consider subjective wellbeing (or happiness) in terms of evaluation, affect, and eudaimonia. Following recommendations provided by the OECD Guidelines on Measuring Subjective Wellbeing, each of these dimensions was assessed in our study using distinct, well-established survey questions.[6]

Evaluation A reflective assessment on one's life as a whole.

"All things considered, how satisfied would you say you are with your life these days?" Answer choices ranged from 0 indicating completely dissatisfied to 10 indicating completely satisfied.

Affect Ongoing feelings, moods, or emotional states.

"In the last week, to what extent have you felt happy / connected / interested / proud / anxious / lonely / bored / ashamed? Answer choices ranged from very slightly or not at all, a little, moderately, quite a bit, or extremely.

Eudaimonia A sense of purpose or meaning in one's life.

"Overall, to what extent do you feel the things you do in your life are worthwhile?" Answer choices ranged from 0 indicating not at all worthwhile to 10 indicating completely worthwhile.

Given the inherent uncertainty of the pandemic, throughout the study we also asked participants to report their level of optimism about the future using the following prompt: *"As your best guess, overall how satisfied with your life do you expect to feel in one years' time?"* Responses were again coded on a scale from 0 indicating completely dissatisfied to 10 indicating completely satisfied. In the following sections, we will document some of the key findings that emerged from these assessments.
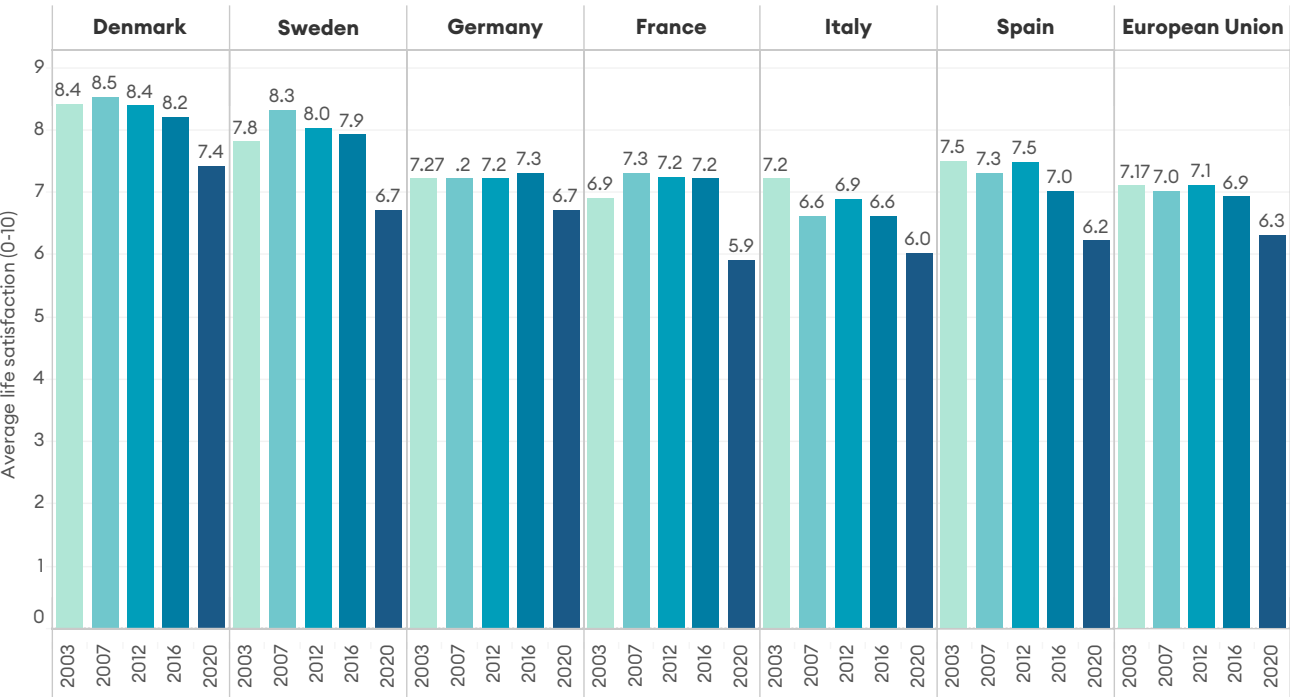
Life satisfaction

Life satisfaction – a key indicator of evaluative wellbeing – can be used to provide a general indication of how people judge their life to be going by their own standards. Using representative data provided by the European Quality of Life Surveys, Figure 3 shows the average life satisfaction in selected European countries before and after the COVID-19 outbreak in Europe.[7] After several years with only slight variations in life satisfaction on a populational level, life satisfaction decreased drastically in almost all European countries in 2020. In the 27 member states of the European Union, average life satisfaction levels decreased by 0.6 points. While this difference may seem relatively small, it is larger than the average negative impact of marital separation on life satisfaction.[8]

Decreases in life satisfaction in some countries have also been more severe than others. In Sweden for example, the 1.2-point drop in life satisfaction from 2016 to 2020 is

Figure 3: Average life satisfaction in European countries from 2003-2020 (after COVID-19 outbreak)

Average life satisfaction for each year broken down by country. Data is retrieved from the European Quality of Life Surveys. The approximate sample size for each wave is 60,000. For more information, visit: www.eurofound.europa.eu/surveys/european-quality-of-life-surveys

about as large as the estimated negative effect of depression.[9] In other words, the effect of the pandemic on life satisfaction in Sweden has been roughly equivalent to the entire country becoming depressed.[10]

Using data collected in our survey, we can dive even deeper into the reasons why some countries seemed to have fared better and worse than others. Figure 4 plots the relationship between average levels of subjective wellbeing and the number of coronavirus cases within a given country. We find that the percentage of people who report feeling satisfied with their lives (7 or higher on a 0 to 10-point scale) decreases as the number of coronavirus cases increases. We further investigated this relationship between life satisfaction and case rates using an OLS regression controlling for age, gender, marital status, employment, education, country, the average life satisfaction in that country, and income.[11] This analysis confirmed a small, but significant negative effect of new cases per

million inhabitants on the life satisfaction of residents residing in that country. In a population of one million people, we find that 100 new cases would lead to 2,500 people less satisfied with their lives (Figure 6). However, as large as this effect may seem, it still cannot independently explain the overall average drops in life satisfaction presented in Figure 3. There would seem to be other factors besides COVID-19 case increases – e.g. loneliness, negative emotions, fears, or worries – that have played a role in lowering average levels of wellbeing across countries by such a substantial degree.
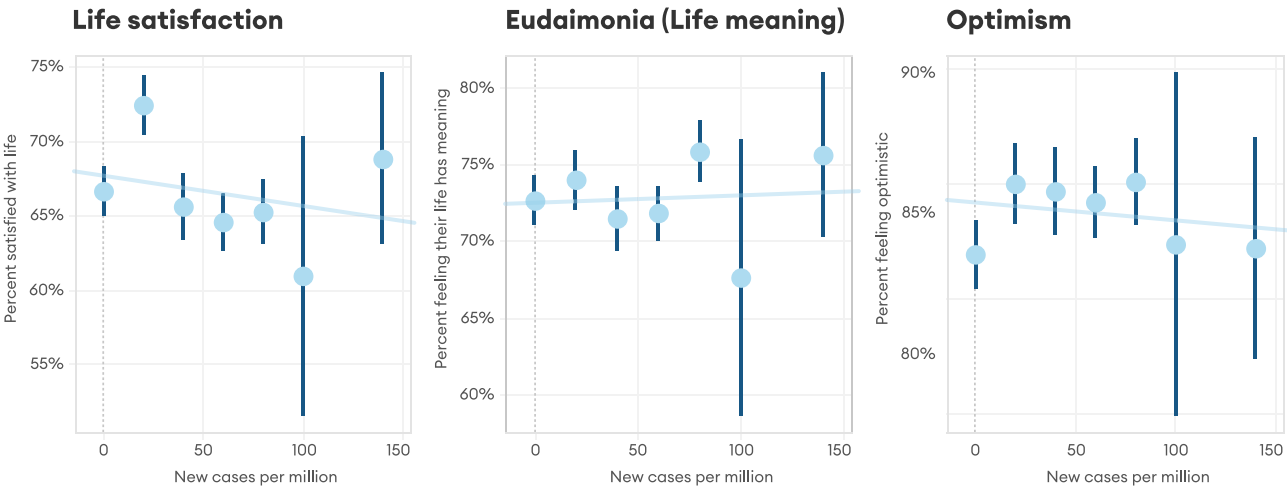
Optimism and life meaning

In our analysis, optimism was measured in terms of how satisfied respondents expected to be with their lives in one year's time. Once again, we observe a slight negative relationship between the number of new coronavirus cases in a given country and the degree to which residents are optimistic about their future. However, in

this case, using an OLS regression with relevant controls for socioeconomic and background conditions, this relationship becomes insignificant.[12] In other words, once the background conditions of each country are accounted for, increases in coronavirus cases do not seem to have a significant effect on optimism levels.

Eudaimonia (or life meaning) refers to the extent to which a person believes her life to be worthwhile. In this case, we actually observe a slight positive relationship between coronavirus cases and life meaning (Figure 4). One possible explanation for this

finding could be that as coronavirus cases increased and social distancing measures were implemented, people were more inclined to remember and concentrate on that which matters most in life, including their close friends, partners, or children. However, using an OLS regression with relevant background control variables, we find that the relationship between coronavirus cases and eudaimonia again becomes statistically insignificant.[13] It is therefore worth interpreting these results with caution. Overall, it would seem that coronavirus case increases had a negligible effect on life meaning.

Figure 4: Life satisfaction, optimism and eudaimonia by new cases per million inhabitants

The cut-off points for people feeling satisfied with their lives, life meaning, and optimistic are 7 or above on the 0-10 life satisfaction. Each dot represents 100 people. The error bars reflect the 95% confidence interval. Coronavirus data drawn from Our World In Data. For more information and variable descriptions, see the online appendix.

Figure 5: Affective wellbeing by new cases per million inhabitants
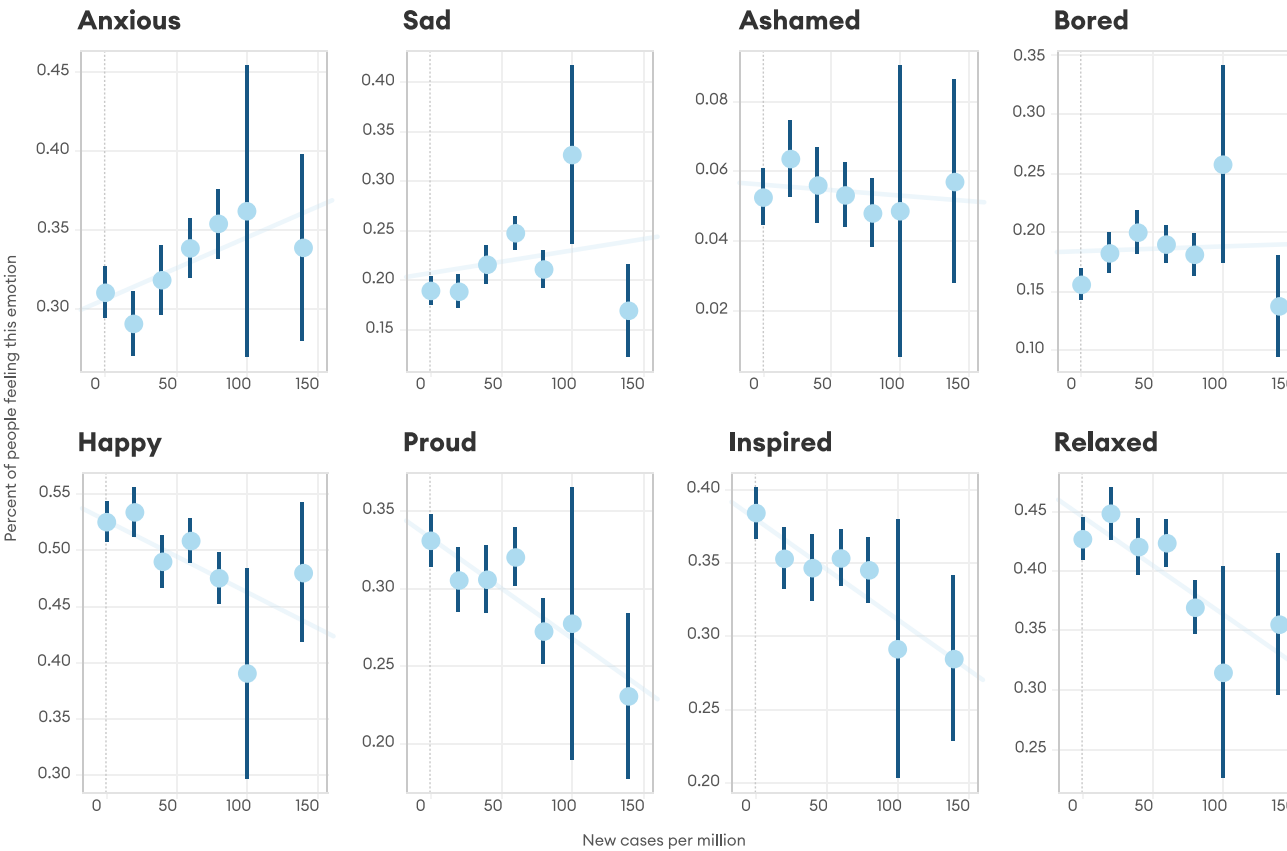
The cut-off points for people feeling each emotion are 4 or above on a 1-5 point scale. Each dot represents 100 people. The error bars reflect the 95% confidence interval. Coronavirus data drawn from Our World In Data. For more information and variable descriptions, see the online appendix.

Affective wellbeing

Affective or emotional wellbeing can roughly be understood as mood, or the extent to which we feel positive and negative emotions. In our study, we find that the impact of COVID-19 case increases on emotional wellbeing are much stronger than on life satisfaction, eudaimonia, or optimism. Figure 5 shows clear trends between new COVID-19 cases and multiple positive and negative emotions. Using OLS regressions controlling for background conditions, we confirmed that coronavirus cases significantly increased feelings of anxiety and boredom, and decreased feelings of pride, relaxation, and happiness.[14]

Figure 6 makes all of these relationships more intuitive to understand. This graph shows the effect of 10 new COVID-19 cases per 100,000 inhabitants each wellbeing dimension. The effect is strongest for anxiety. For every 10 new people infected per 100,000 inhabitants, 0.72% more of our respondents reported to be anxious (Figure 6). Although this number might sound small at first, in a population of one million people, only 100 new COVID-19 cases would lead to 7200 more people becoming anxious. This proves to be a much stronger effect than those observed for life satisfaction, life meaning, or optimism.

Figure 6: New COVID-19 cases were most strongly associated with increased anxiety
Changes in subjective wellbeing measures for every 10 new people infected per 100,000 inhabitants
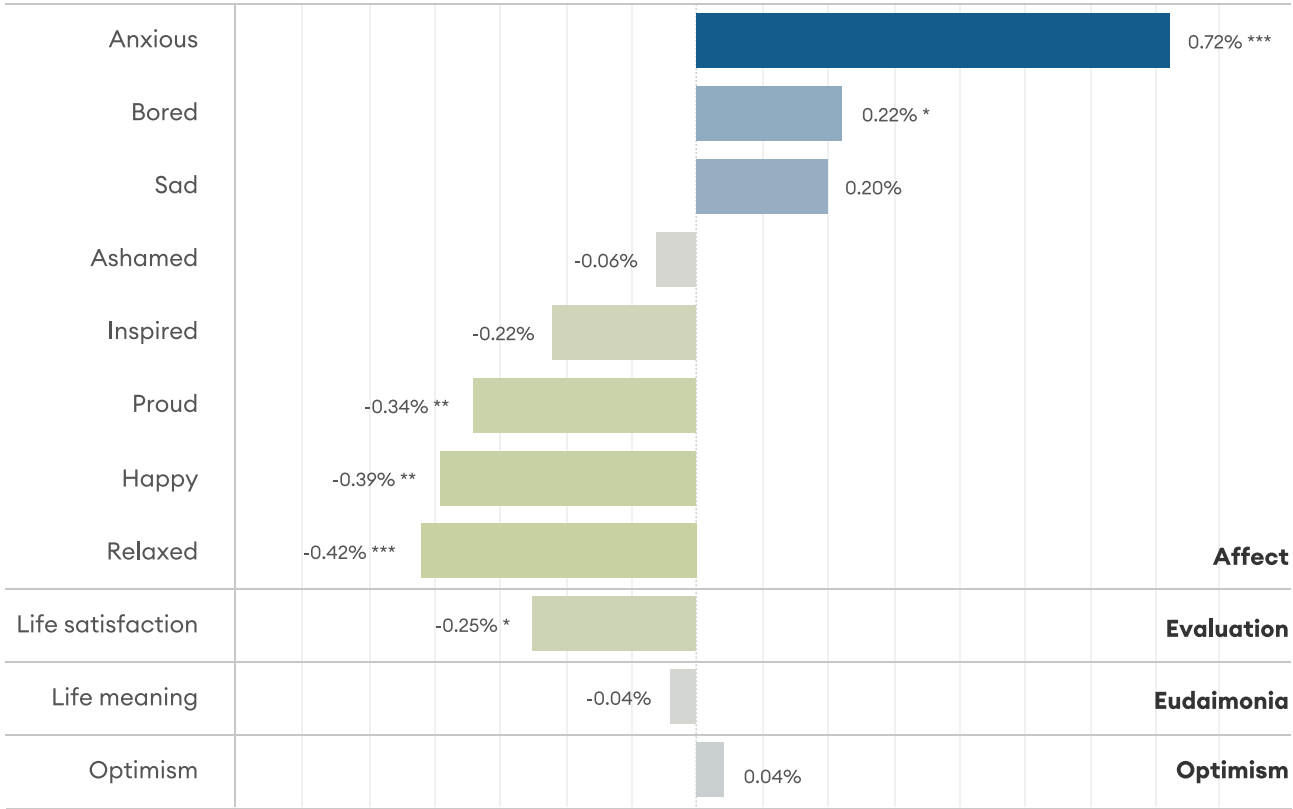
*** < 0.001, ** < 0.01, * < 0.05. Each row represents a separate OLS regression with control variables included for age, gender, employment status, marital status, education, and country life satisfaction averages drawn from the World Happiness Report (2020). The cut-off values for the affective wellbeing metrics used in the OLS regression are all answers 4 and above on a 1 to 5 point scale. For life satisfaction, eudaimonia (life meaning), and optimism, the regression threshold is 7 or above on a 0-10 point scale.

→ **COVID-19 case increases strongly impact emotional wellbeing**

This chapter has shown that coronavirus case increases can have dramatic effects on subjective wellbeing. In particular, the affective dimension of wellbeing – our feelings and emotions – seems to be impacted most clearly by rising COVID-19 cases. As coronavirus cases increased, respondents felt increasingly anxious and bored, and less proud, happy, and relaxed.

On the other hand, feelings of life meaning or purpose did not seem quite as affected. Neither eudaimonia nor optimism were significantly impacted by rising case rates. This would suggest the relationship with COVID-19, life meaning, and optimism is more complicated than it may seem. It is even possible that while coronavirus cases increase anxiety and decrease happiness, the pandemic has also encouraged people to focus more on family, close friends, and partners.

→ **COVID-19 cases cannot exclusively explain drop in life satisfaction**

While the spread of the pandemic does seem to have a significant effect on life satisfaction, it is still dwarfed by its effect on emotional wellbeing. Even though we do see a slight negative relationship between the number of cases and life satisfaction, the overall drop in life satisfaction observed across many European countries is likely explained by other factors. In the following chapters, we will consider some of these other potential factors in greater detail.

Loneliness

In an effort to curb the spread of the virus, governments around the world have enacted lockdowns, quarantines, and other social distancing policies. While these are often essential public health measures, they can also increase rates of loneliness and social isolation. In this chapter, we consider how the pandemic and policy responses to it affected loneliness among our sample population, and which activities seemed to protect people the most from feeling isolated.

What conditions lead to loneliness?

Humans are social animals. Having too few social connections can have negative implications for both mental and physical health. In past research, we have found that loneliness had the single largest effect on subjective wellbeing among European adults out of hundreds of possible physical and social circumstances.[15] Related findings have been confirmed in a wide body of research.[16] One analysis by the psychologist Julianne Holt-Lunstad and colleagues estimated the mortality risk of social isolation to be roughly equivalent to smoking fifteen cigarettes per day.[17]

In this study, we classify individuals as lonely if they report feeling left out, without companionship, and isolated.[18] We find particularly striking differences across the age spectrum. While 32% of young people aged 18-24 reported feeling severely lonely throughout the pandemic, only 16% of those 65 and older reported the same (Figure 7). It is quite striking that almost one out of every three young people in our sample reported high loneliness levels.[19]

We find a marginal gender difference in loneliness levels, with slightly more females reporting severe loneliness than males. However, this difference emerges as statistically insignificant.[20]

Employment status also seems to play a key role in explaining loneliness levels between groups (Figure 8). We find that 32% of unemployed people report feeling lonely, compared to 20% of full-time employees in the early phase of the pandemic. This may suggest that social contact with colleagues, online or otherwise, buffers the negative impacts of social distancing measures. However, students at universities do report feeling much lonelier than full-time employees. More than one in four students reported to be lonely throughout the lockdown period. Interestingly, part-time employees seem to be slightly less affected relative to other groups, with 18% reporting high levels of loneliness.

Most prominently, differences in marital status emerge as highly predictive of loneliness levels within our sample population (Figure 9). Across the board, individuals in relationships were significantly less lonely than those without partners. Respondents who live with their partners were also less lonely than those living apart. While only 15% of married respondents who live with their partners report high levels of loneliness, 24% of respondents who live apart from their partner do. Even more alarmingly, we observe that one in three respondents without partners are lonely. This number is exceeded only by widowed respondents, of whom almost half can be classified as severely lonely.

Figure 7: Loneliness by age
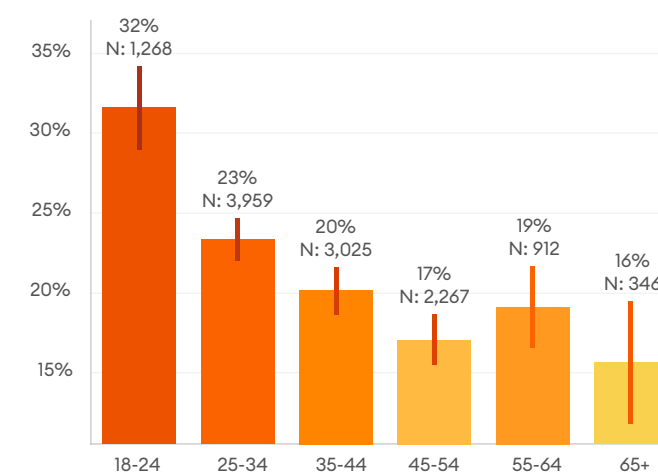1 in 3 young people were lonely during the lockdown

Figure 8: Loneliness by employment
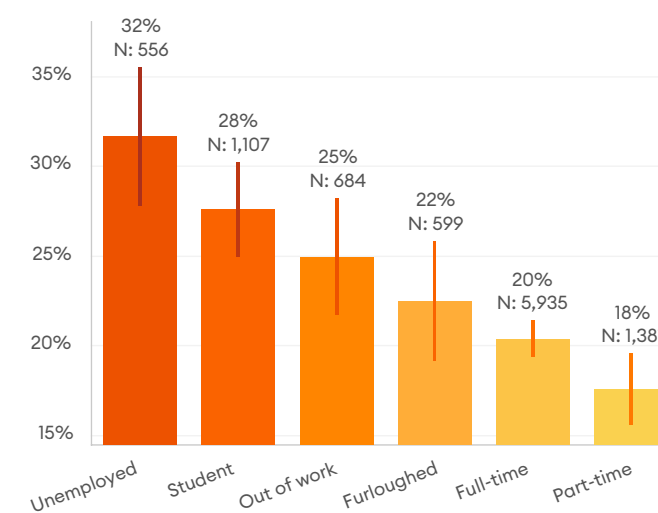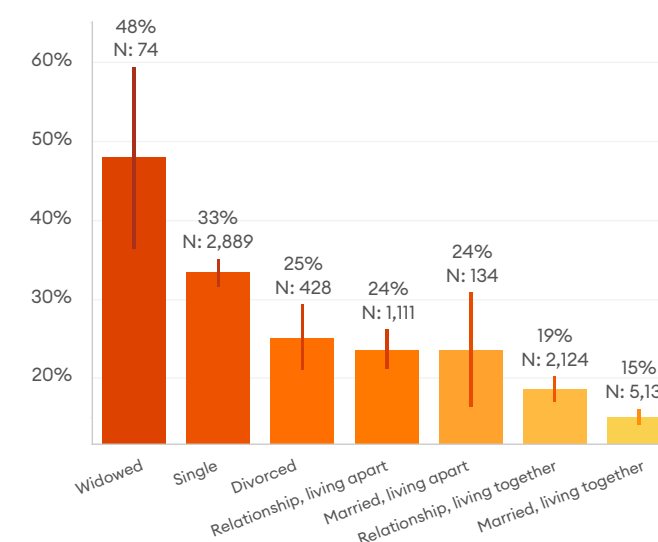Employment protects against loneliness

Figure 9: Loneliness by marital status
Loneliness particularly affects widows and singles

Answers above 6 on the 3 to 9-point UCLA Loneliness Scale signify loneliness. Error bars represent 95% confidence intervals. See the online appendix for variable details.

Cohabitation did not necessarily protect against loneliness

Generally speaking, living together with a partner seems to protect against feeling isolated throughout the pandemic. But what about those who live with family or friends? Were they equally protected against loneliness?

Figure 10 plots the percentage of people feeling severely lonely across a variety of living and social arrangements. Loneliness is given on the y-axis, and three lines are given for the number of cohabitating adults (yellow), number of children living in the household (orange), and number of close social contacts (red). Perhaps unsurprisingly, loneliness levels are highly dependent on social contacts. While 50% of those without any close social contacts report high levels of loneliness, this percentage drops to 32% for those with one close social contact, and continues to decline for those with even more.

The relationship between loneliness and cohabitation proves to be slightly more complicated. While those who live alone are more likely to be lonely than those who do not, individuals who live with more than one adult or more than three children seem to be even lonelier than those who live with only one adult or fewer children. Perhaps the most important takeaway from these results is that having more social contacts seems to make the biggest difference in reducing loneliness levels, not necessarily living with more people. In fact, living with more people can even predict higher levels of loneliness in some cases, not less. Unfortunately, it is possible to feel lonely despite being surrounded by others.

To further explore these dynamics, we also split our sample by marital status to investigate how living together affected respondents in different subgroups. Figure 11 shows the loneliness levels of three groups: single respondents (red), respondents living apart from their partners (orange), and respondents living together with partners (yellow).

Interestingly, single people living with more than two adults during the pandemic actually reported feeling lonelier than singles living alone. This trend was reversed for those in relationships. Respondents with partners felt less lonely the more adults they were living with, regardless if they shared a household with their partner. However, respondents who lived with their partners were still consistently less lonely than those who did not. Living with a partner appears to be one of the best protectors against loneliness during lockdowns.

Figure 10: Living together with others did not necessarily protect against loneliness during COVID-19
Percent feeling lonely by living circumstances
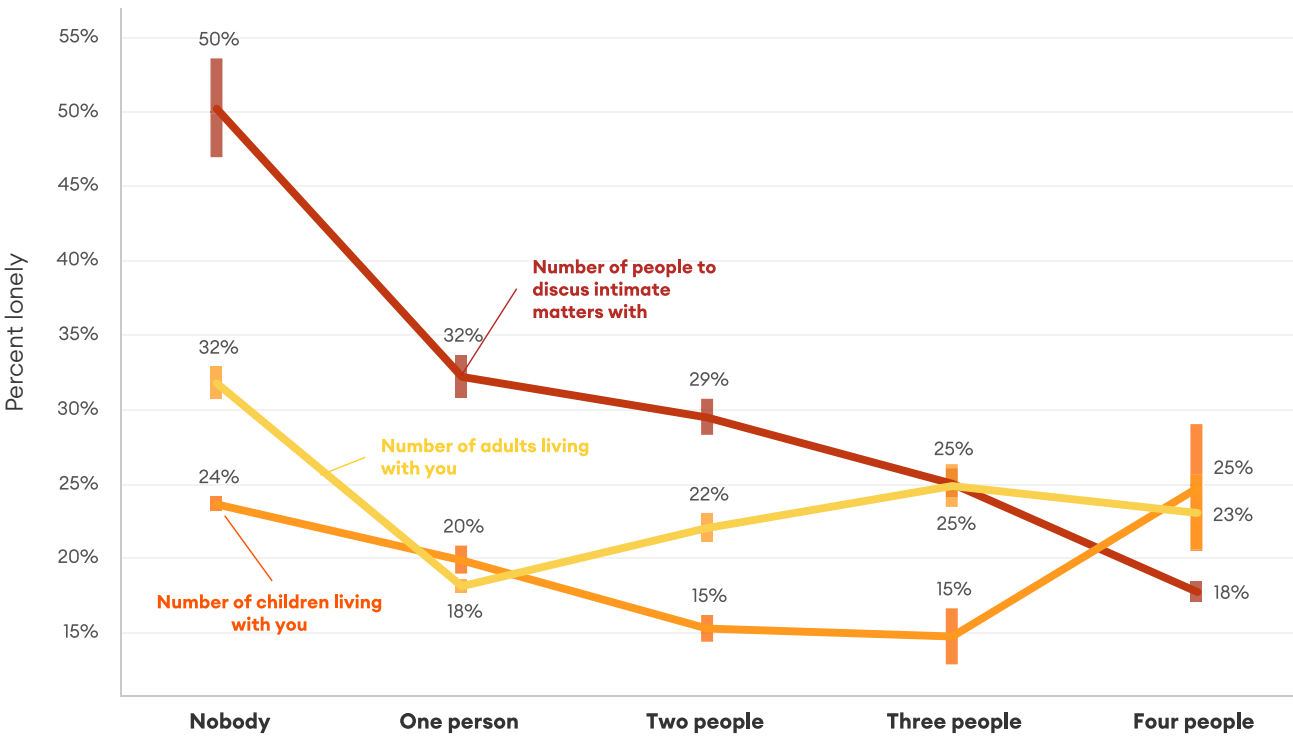
Answers above 6 on the 3 to 9-point UCLA Loneliness Scale signify loneliness. Error bars represent 95% confidence intervals. See the online appendix for variable details.

Figure 11: Singles who lived together with three adults were lonelier than those that lived alone
Link between loneliness and number of adult cotenants split by marital status
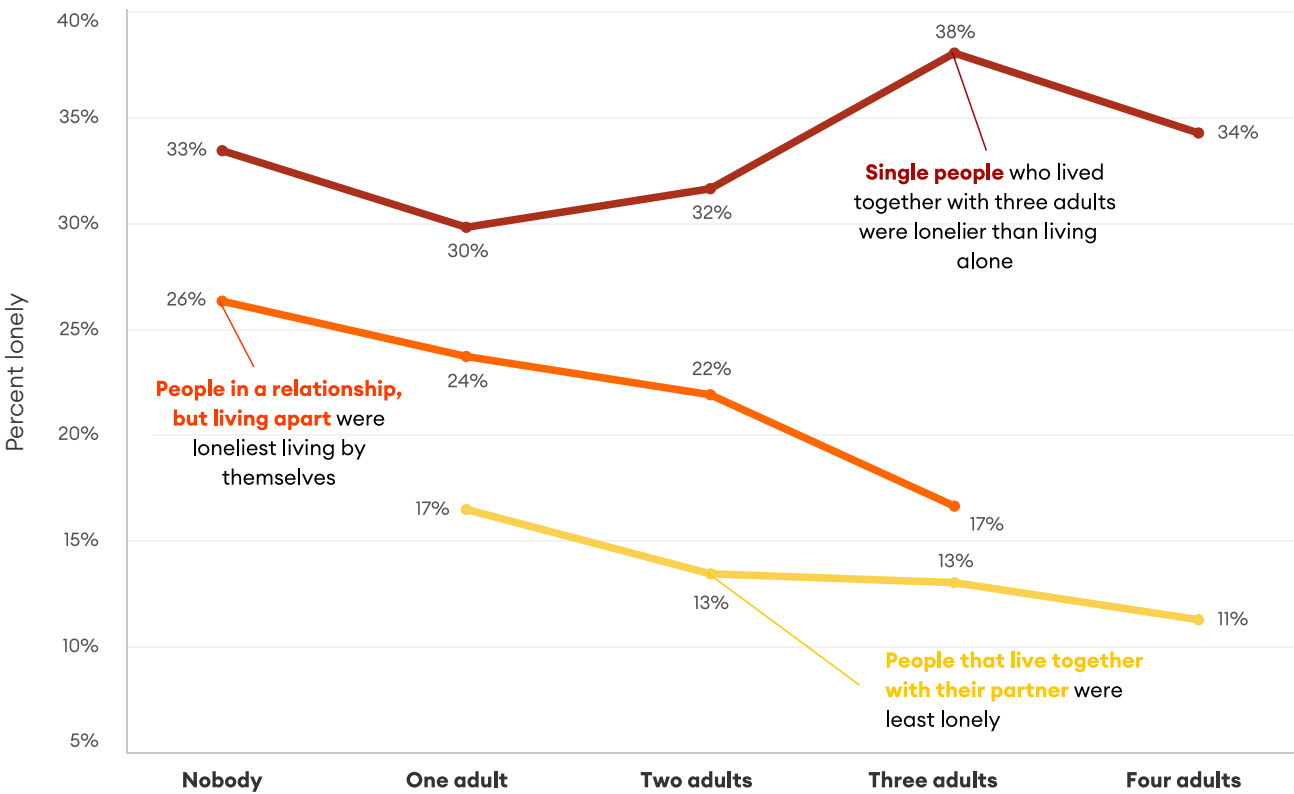
Answers above 6 on the 3 to 9-point UCLA Loneliness Scale signify loneliness. Error bars represent 95% confidence intervals. See the online appendix for variable details.

Figure 12: Association between loneliness and subjective wellbeing

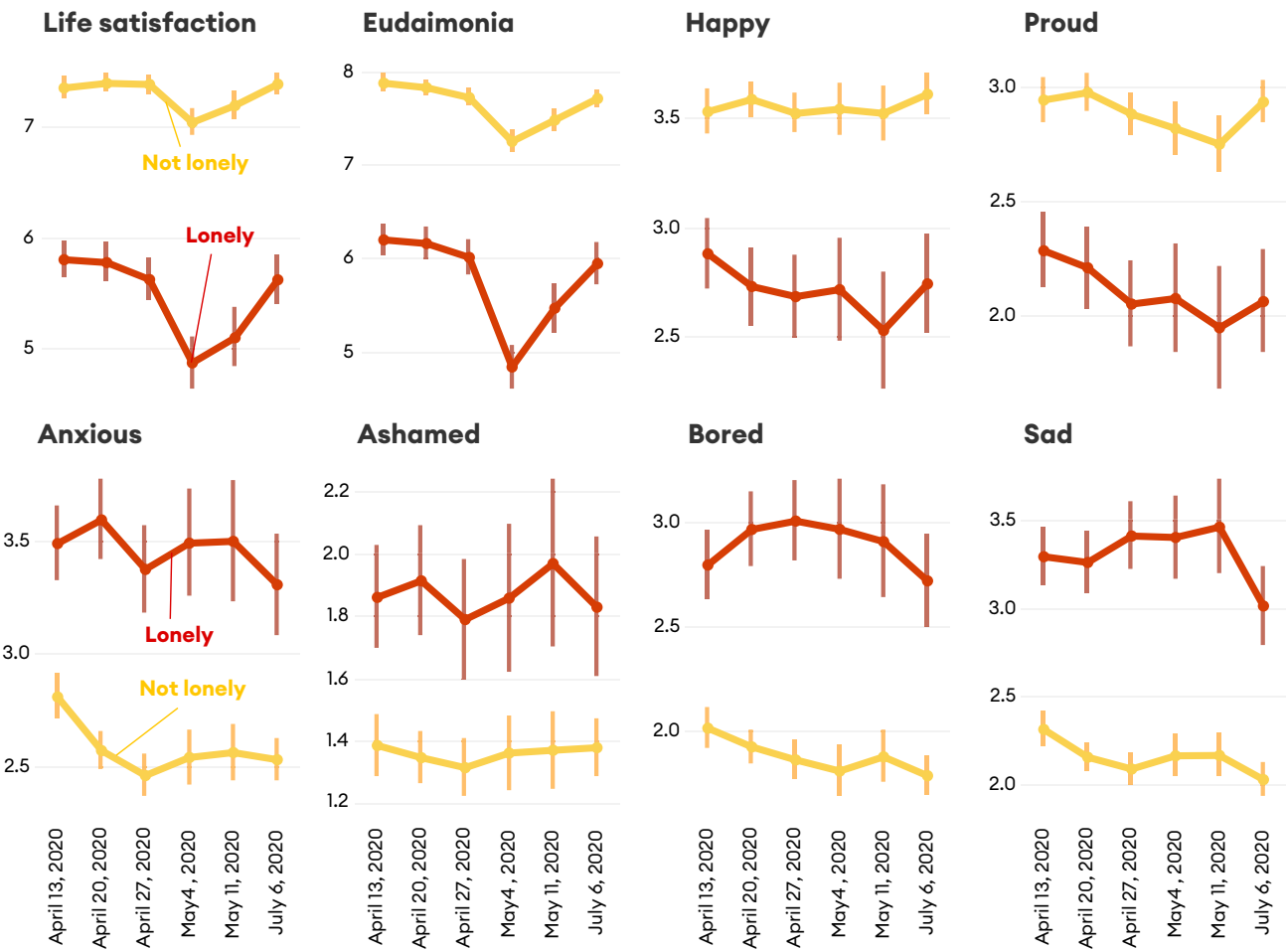Life satisfaction and eudaimonia measured on 0-10 scale. Affect measured on a 1-5 scale.

Answers above 6 on the 3 to 9-point UCLA Loneliness Scale signify loneliness. Error bars represent 95% confidence intervals. See the online appendix for variable details.

The wellbeing impact of loneliness

In Figure 12, we turn to the relationship between loneliness and the three dimensions of subjective wellbeing. We see clear trends on all three accounts. Lonely people experienced more negative emotions, were less satisfied with their life, and viewed their life as less purposeful than those who are not lonely. This is largely consistent with past literature and illustrates the crucial contribution of social relationships to subjective wellbeing.

## The effect of daily activities on loneliness

In this section, we consider the relationship between loneliness and a variety of daily activities. In Figure 13, we plot the effect of engaging in each activity for one more day or three more days per week compared to the week before. The effects of these changes on loneliness are plotted in yellow and red, respectively.

Three activities in particular stand out. Most notably, engaging in meditation or mindfulness significantly reduced loneliness levels. Respondents who increased the frequency of meditation by at least three days per week felt on average 7 percentage points less lonely than those who did not. Increasing the amount of time spent on the phone with family or friends was also associated with a decline in loneliness of 6 percentage points. Being outside three or more days per week than usual also decreased loneliness by 4 percentage points. Even engaging in each of these activities just once more per week had slight but significant effects in reducing feelings of loneliness.

Figure 13: Increasing meditation, phone calls with friends or family, and being outside significantly decreased loneliness

Impact of increasing an activity on the loneliness of the same person over time
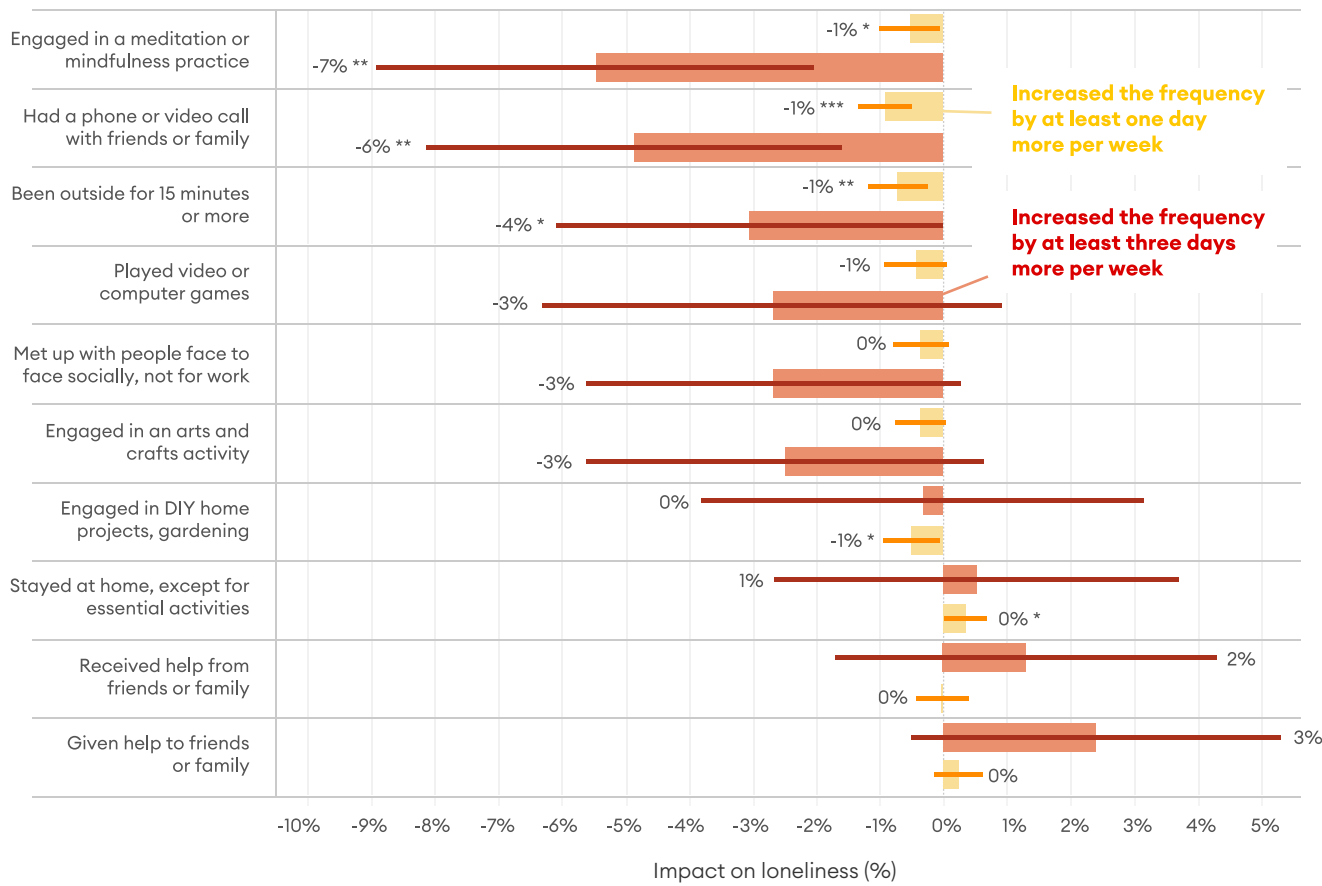
*** < 0.001, ** < 0.01, * < 0.05. Each row represents a separate OLS regression with the percent change in loneliness between survey waves as the dependent variable and changes in activity levels as the key independent variable of interest. Control variables were included in each regression for age, gender, employment status, marital status, education, and country life satisfaction averages drawn from the World Happiness Report (2020). Error bars represent 95% confidence intervals.

Loneliness was highest among those without a job or partner

Loneliness can have a severely negative impact on subjective wellbeing. In this chapter, we found that loneliness can result in feeling more negative emotions, lower levels of life meaning, and declines in life satisfaction. Throughout the pandemic, some groups have also seemed to be more at risk than others. Respondents who are unemployed, widowed, or single were among those who reported experiencing the highest levels of loneliness.

Cohabitation may not protect against loneliness

Surprisingly, we find that living with more people does not necessarily lead to lower levels of loneliness. In fact, among singles, living together with more than one person even predicted higher feelings of loneliness than living alone. However, among respondents in relationships, those living together with their partners were less lonely than those who lived apart.

Meditation, speaking with friends and family, and spending time outside can significantly decrease loneliness

In the final analysis of this chapter, we found that increasing the frequency of meditation by three or more times per week led to a decrease in loneliness of 7 percentage points. Speaking with friends and family more frequently than usual also predicted a 6 percentage point decline in feeling lonely, and spending more time outside lowered loneliness levels by 4 percentage points.

Fears and worries

The COVID-19 pandemic has given rise to a variety of fears and worries, which in turn can have a negative impact on wellbeing. In this chapter, we highlight our respondents' greatest concerns throughout the early phase of the pandemic, and how these fears and worries evolved over time. We will also address the role of the media in shaping these concerns.

Wellbeing impact of fears and worries

In each survey, we asked respondents about a variety of possible fears and worries related to the COVID-19 pandemic.[21] Answers were recorded on a 7-point scale from "not at all worried" to "very worried." This allows us to investigate the severity of a number of possible concerns, and how they evolved over time.

Figure 14 plots the prevalence of the different worries and fears on the y-axis, and their estimated impact on life satisfaction on the x-axis.[22] Several insights are noteworthy. We find for example that approximately 43% of respondents were worried about losing someone they love throughout the study period. On average, a one-point increase in worrying about losing someone you love (on a 0 to 6-point scale) significantly decreased life satisfaction by 0.042 points (on a 0 to 10-point scale).

On the other hand, while being worried about a long-lasting economic crisis was more common, it seemed to have a much lower impact on life satisfaction. Although 62% of our respondents feared that COVID-19 would develop into a long-lasting economic crisis, this appeared to have an insignificant effect on life satisfaction. In total, only five out of the nine worries that were measured in the study significantly impacted life satisfaction.

Worries and fears can also have significant and important effects on eudaimonia (life meaning), optimism, and emotional wellbeing. In Table 1, we plot the effect of each type of worry on each dimension.

Figure 14: The fear of losing someone you love had the largest negative impact on life satisfaction
Prevalence of worries by their impact on life satisfaction
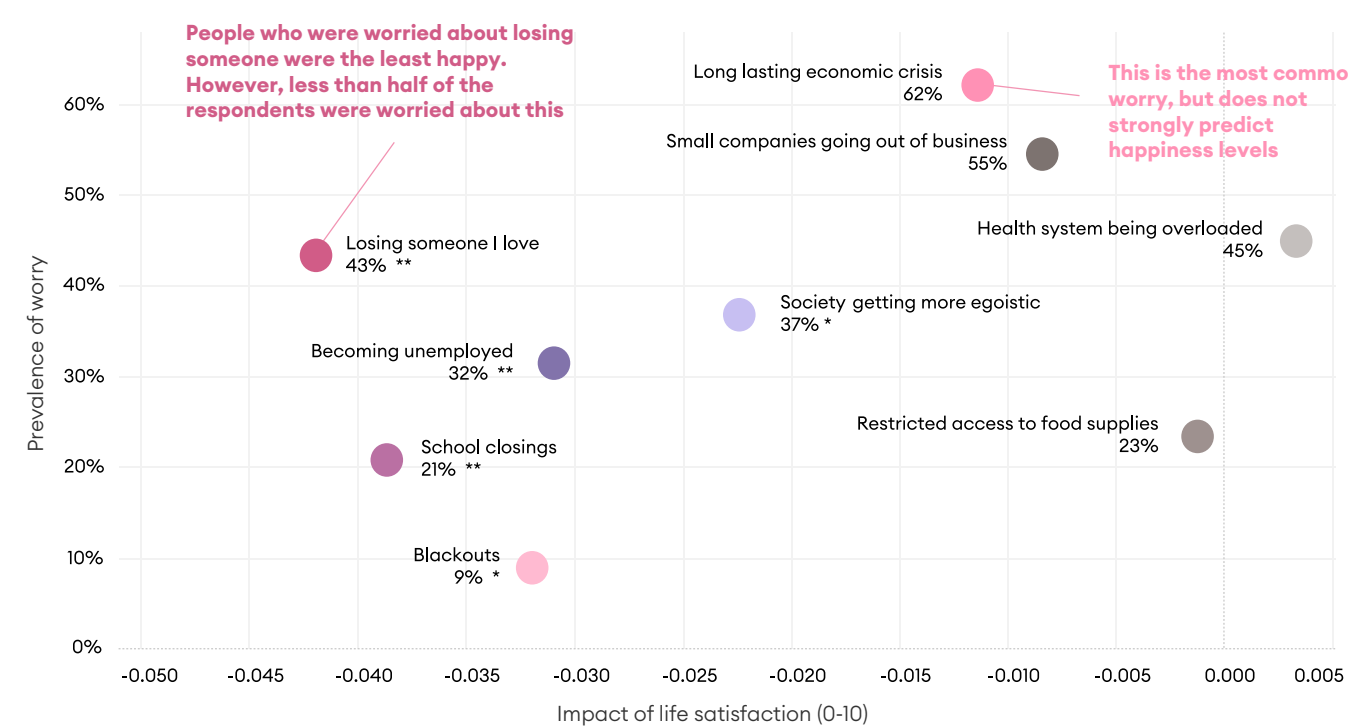
People who were worried about losing someone were the least happy. However, less than half of the respondents were worried about this

This is the most common worry, but does not strongly predict happiness levels

Long lasting economic crisis 62%

Small companies going out of business 55%

Health system being overloaded 45%

Losing someone I love 43% **

Society getting more egoistic 37% *

Becoming unemployed 32% **

Restricted access to food supplies 23%

School closings 21% **

Blackouts 9% *

*** < 0.001, ** < 0.01, * < 0.05. Impact estimates on the x-axis estimated using an OLS regression with the change in life satisfaction between waves as the dependent variable and becoming worried about each domain as the key independent variable of interest. Respondents were classified as worried by reporting 4 or above on a 0-6 scale for each concern. Control variables included for age, gender, employment, marital status, education, and country average life satisfaction drawn from the World Happiness Report.

Table 1: Worries and concerns are strongly linked with subjective wellbeing
The impact of fears and worries on subjective wellbeing

	Eudaimonia	Optimism	Relaxed	Inspired	Happy	Proud	Ashamed	Bored	Sad	Anxious
Losing someone I love	0.0078	-0.0319 *	-0.0308 ***	-0.0147	-0.0315 ***	-0.0022	0.0068	0.0193 **	0.0479 ***	0.0591 ***
Health system being overloaded	0.0211	-0.0052	-0.0056	0.0058	-0.0049	-0.0024	0.0066	0.0169 *	0.0206 **	0.0391 ***
Becoming unemployed	-0.0308 **	-0.0342 *	-0.0309 ***	-0.0377 ***	-0.0218 ***	-0.0236 **	0.0248 ***	0.0152 *	0.0321 ***	0.0388 ***
Long lasting economic crisis	0.0171	-0.0376 *	-0.0105	-0.0217 *	-0.0169 *	-0.0128	0.0048	0.0281 ***	0.0304 ***	0.0378 ***
School closings	-0.0240 *	-0.0235	-0.0081	-0.0198 *	-0.0114	-0.0014	0.0176 **	0.0319 ***	0.0226 **	0.0376 ***
Blackouts	-0.0263	-0.0011	-0.0220 *	-0.0085	-0.0146	0.0010	0.0041	0.0200 *	0.0323 **	0.0298 **
Restricted access to food supplies	0.0205	-0.0232	-0.0255 ***	-0.0189 *	-0.0136 *	-0.0066	0.0172 *	0.0192 *	0.0168 *	0.0241 **
Society getting more egoistic	-0.0169	0.0113	-0.0182 **	-0.0177 *	-0.0113 *	-0.0130	0.0091	0.0073	0.0138	0.0235 ***
Small companies going bankrupt	0.0291 *	-0.0065	0.0022	-0.0026	-0.0007	-0.0023	-0.0007	0.0328 ***	0.0243 **	0.0204 *

*** < 0.001, ** < 0.01, * < 0.05. Each cell represents a separate OLS regression with the change in subjective wellbeing as the dependent variable, and becoming worried about each domain as the key independent variable of interest. Respondents were classified as worried by reporting 4 or above on a 0-6 scale for each concern. Control variables included in each regression for age, gender, employment status, marital status, education, and country average life satisfaction drawn from the World Happiness Report.

We find for instance that becoming increasingly worried about COVID-19 significantly increases feelings of sadness and anxiety. Becoming concerned about unemployment also has significant negative effects on every dimension of wellbeing considered. Respondents who fear a long-lasting economic crisis are also less likely to be optimistic about their lives in the future. All of these effects illustrate possible channels by which the spread of COVID-19 and efforts to contain it can affect subjective wellbeing.

Development of fears and worries over time

Perhaps unsurprisingly, the severity of certain fears and worries also seemed to evolve throughout the study period. In Figure 15, we plot the evolution of different worries and fears reported by respondents who participated in at least five out of six surveys. Similar patterns emerge for each concern. Almost all fears and worries were most pronounced in early April, when most Western countries were in the early phases of their lockdowns. Many of these concerns

Figure 15: Most worries and fears followed a U-curve during the first part of the pandemic
Development of fears and worries over time
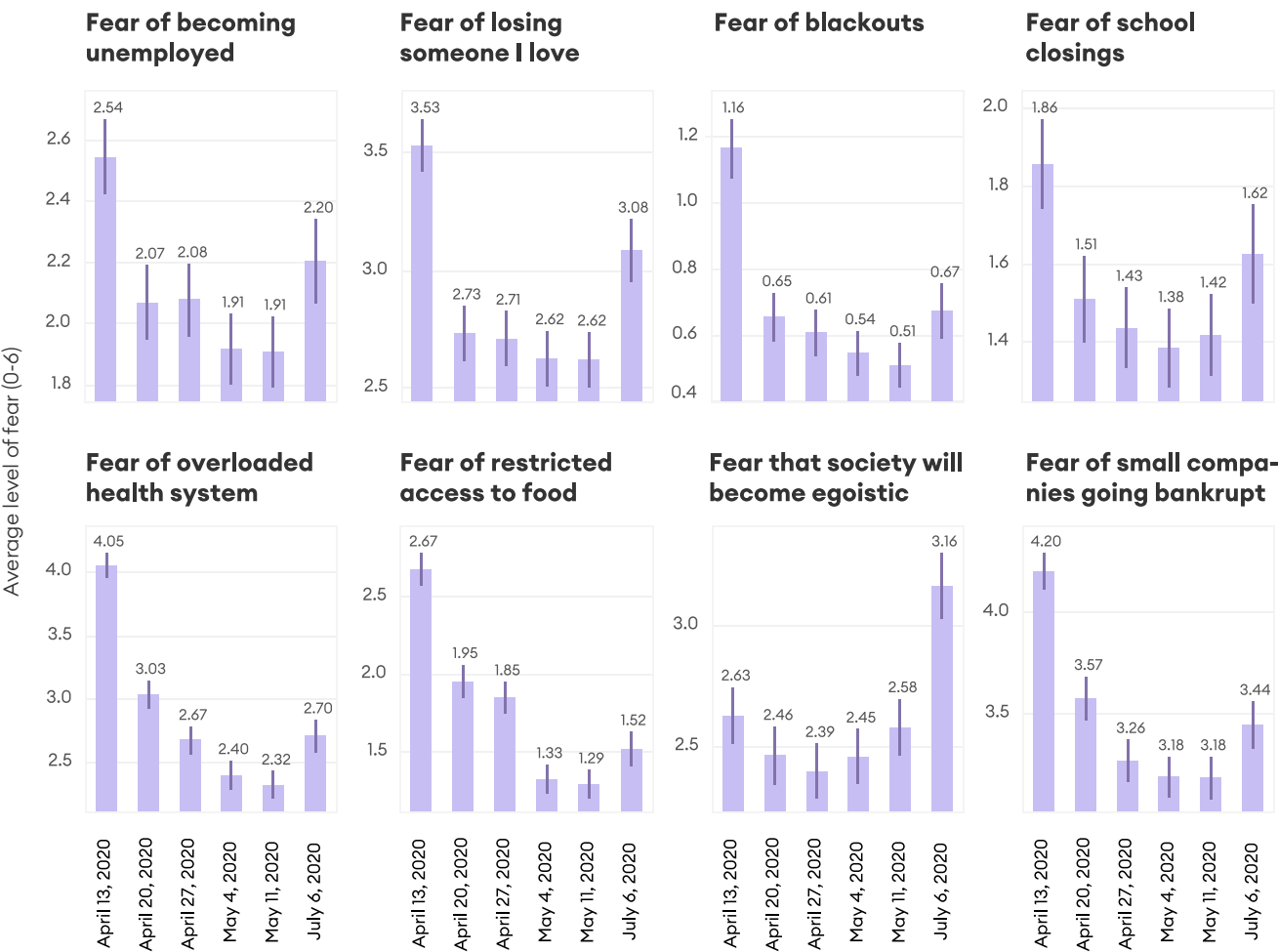
then began to subside in following weeks. In our final survey on July 6th, worries spiked again. Nevertheless, the only fear that ended up surpassing its initial recorded level in April was the fear of society become more egoistic. This increase also appeared mainly to be driven by respondents in the United States and United Kingdom.[23]

The role of the media

Throughout the survey period, we asked respondents to report which media sources they relied upon for news about the pandemic. Our data suggests that the media plays an important role in shaping certain fears and worries. Overall, we find that respondents who increased their consumption of any media source to gain information about COVID-19 were more likely to become worried than those who did not.

However, not all media platforms have equal effects (Figure 16). We find for example that respondents who informed themselves about COVID-19 through websites and online pages were more likely to be worried than those who relied on other media platforms. Out of all media sources considered, newspapers and magazines seemed least likely to stoke fears and worries about coronavirus.
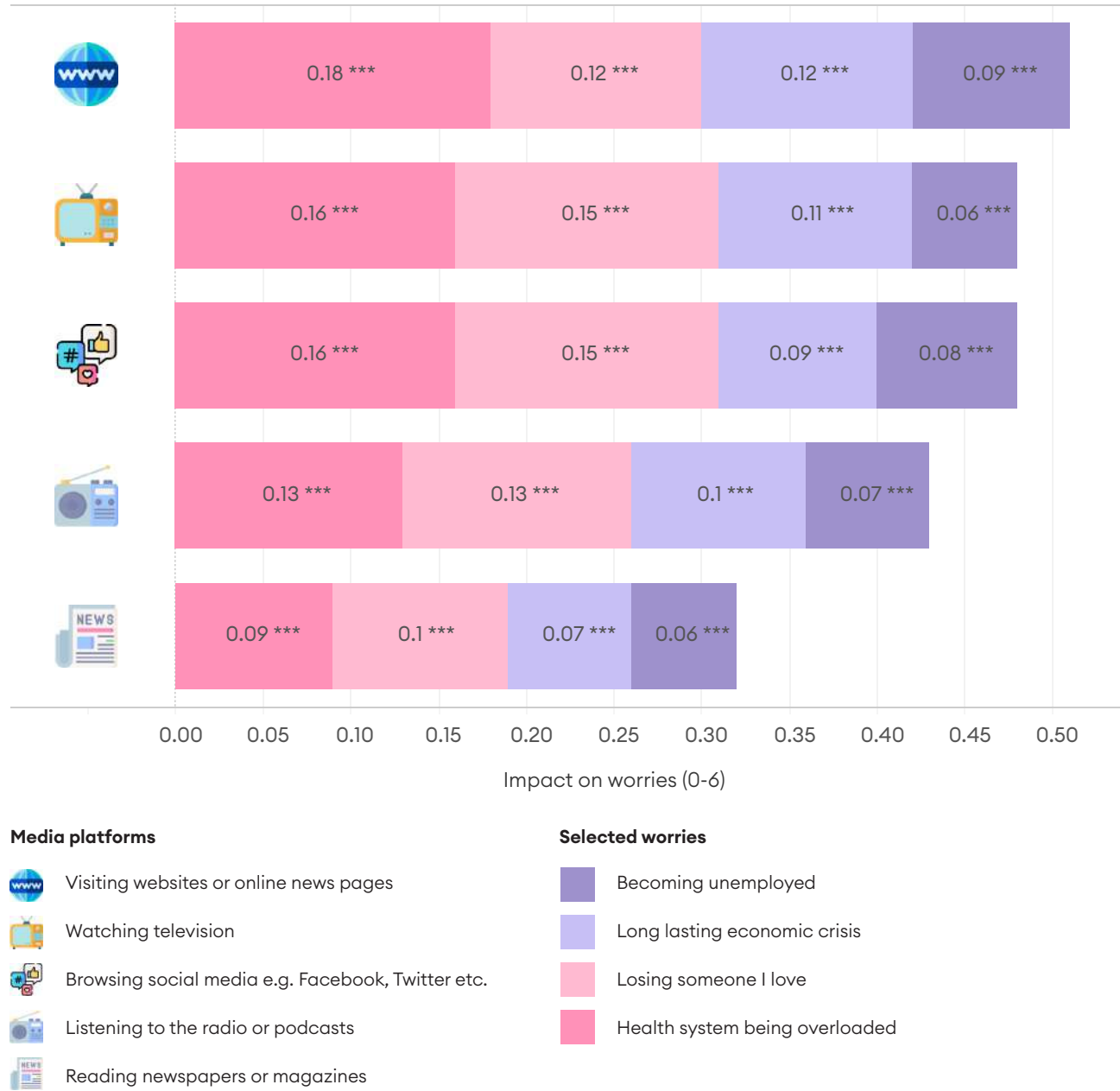
Different media sources also had different relationships with different types of concerns. For example, relying more on television or social media for news related to coronavirus was more likely to increase concerns about losing someone than listening more to the radio. On the other hand, reading more online news sources

was more closely associated with worrying about unemployment than watching more television.

The media clearly plays an important role in influencing wellbeing. This has become all the more apparent throughout the course of the pandemic. As we saw earlier in this report, only a few new cases of coronavirus within a country can affect the subjective wellbeing of thousands of people. The analysis in this chapter further suggests that learning about these case increases and other coronavirus related news from different media sources can affect the degree to which viewers and consumers become fearful or worried. Journalists, politicians, and citizens alike should keep these dynamics in mind when creating, promoting, and consuming news media in the months ahead.

Figure 16: Visiting websites or online news pages has the largest impact on fears and worries
The impact of different media platforms on fears and worries related to coronavirus

Impact on worries (0-6)

Media platforms
- Visiting websites or online news pages
- Watching television
- Browsing social media e.g. Facebook, Twitter etc.
- Listening to the radio or podcasts
- Reading newspapers or magazines

Selected worries
- Becoming unemployed
- Long lasting economic crisis
- Losing someone I love
- Health system being overloaded

*** < 0.001, ** < 0.01, * < 0.05. Each coloured bar represents a separate OLS regression with the change in worry (on a 0 to 6-point scale from not at all worried to very worried) between waves as the dependent variable and increasing the frequency media source consumption (on a 0 to 6-point scale from never to everyday) as the key independent variable of interest. Control variables included in each regression for age, gender, employment status, marital status, education, and country average life satisfaction levels drawn from the World Happiness Report. (2020). For additional details and variable descriptions, see the online appendix.

Behaviour

Within a matter of days, people around the world had to change their behaviour and lifestyle dramatically to adapt to the onset of COVID-19. In this chapter, we consider how daily activities and habits changed in the early phase of the pandemic, and which changes were most conducive to maintaining high levels of subjective wellbeing. We conclude with an Action Plan of activities for readers to engage in to protect against the negative wellbeing impacts of the pandemic in the months ahead.

→ **Fear of losing someone close to you has the most significant effect on subjective wellbeing**

The COVID-19 pandemic has led to a variety of fears and concerns. In this chapter, we saw that while almost half of our respondents were concerned about a long-lasting economic crisis, being concerned about losing a loved one had larger effects on subjective wellbeing (Figure 14).

→ **Fears and concerns were particularly prevalent in the early phase of the pandemic, and then followed a U-shape over time**

All of the fears and worries we considered in this analysis were severely pronounced in April, and then began to subside in the following weeks. However, in the last survey conducted in July, almost all fears and worries seemed to once again be on the rise. This was particularly true for concerns relating to society becoming more egoistic.

→ **Increasing consumption of online news media was likely to increase feelings of worry and fear**

Overall, we found that the more people informed themselves about the pandemic, the more concerned they were likely to be. However, this also seemed to be influenced by which media platform was used. In particular, those who relied increasingly on websites and online pages for coronavirus-related news were much more likely to be worried than those who relied on print media, including newspapers and magazines.

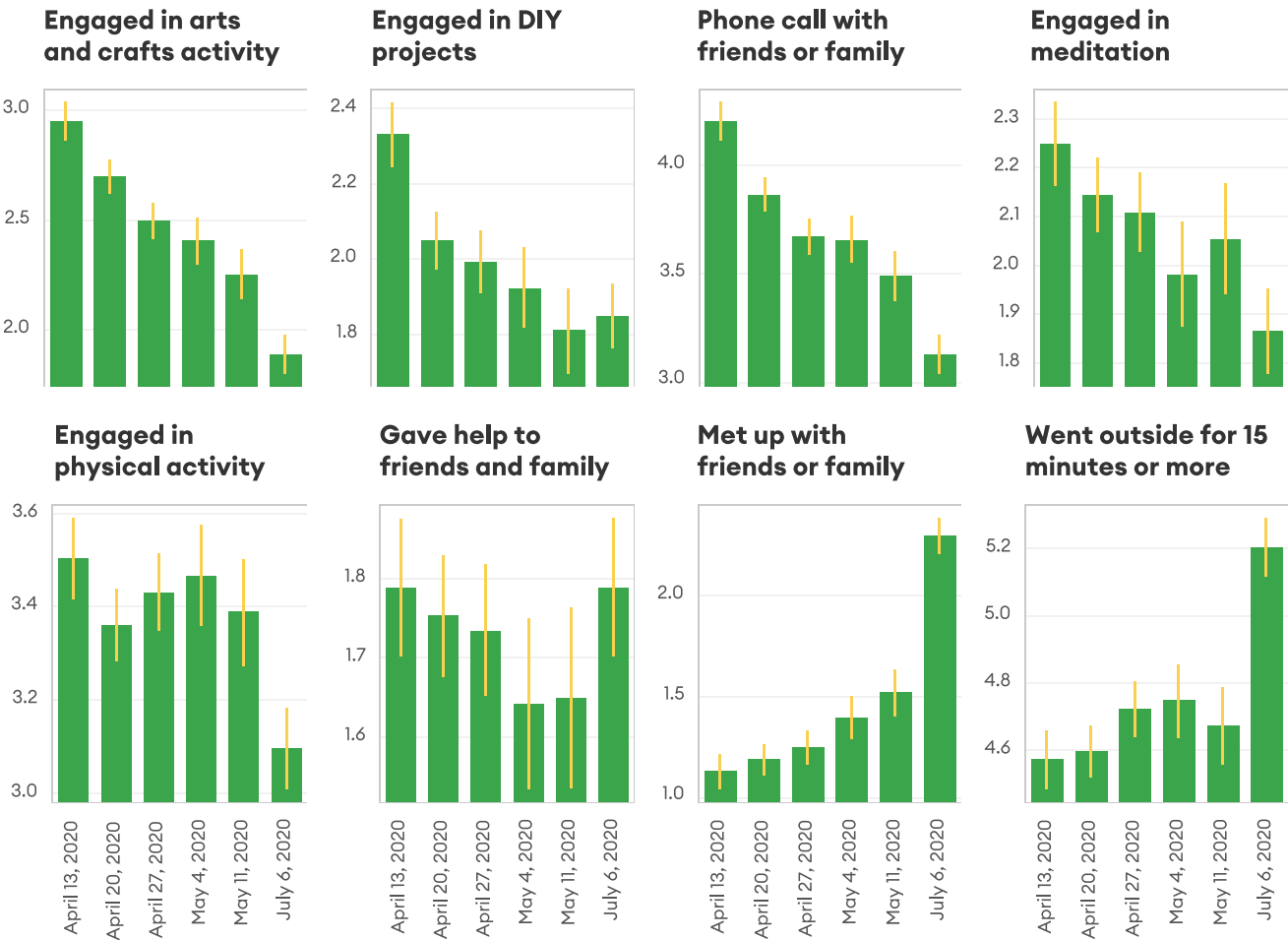## Changes in habits and behaviour

In each of the six surveys, respondents were asked about their behaviour and activities in the previous week. Figure 17 plots the degree to which respondents engaged in each activity throughout the course of the study.

While some activities were quite common in early April – e.g. engaging in arts and crafts or DIY projects, calling with friends and family – they began to decline in popularity as time went on. A second group of activities – e.g. meditation, physical activity, and helping loved ones – largely seemed to remain constant throughout the course of the study. Although slight declines can be observed for meditation and exercise, these changes are mostly within the margin of error. At the same time, we also find that the extent to which respondents met up with friends and went outside actually increased as time went on.

Interestingly, we did not find any significant association between these developments and changes in the coronavirus case load within a given country.[24] We can therefore only speculate as to why these behavioural changes occurred. However, it seems likely that early motivations to engage in new activities at the beginning of the pandemic wore off over time. Spending time outside and with family may also have become more feasible as time went on and government restrictions were lifted.

Figure 17: Frequency of activites undertaken per week throughout the study

Activities measured in terms of the average days per week the activity was undertaken

Engaged in arts and crafts activity

Engaged in DIY projects

Phone call with friends or family

Engaged in meditation

Engaged in physical activity

Gave help to friends and family

Met up with friends or family

Went outside for 15 minutes or more

(x-axis for all: April 13, 2020; April 20, 2020; April 27, 2020; May 4, 2020; May 11, 2020; July 6, 2020)

Impact of activities on subjective wellbeing

We also investigated the relationship between each activity and subjective wellbeing. Figure 18 plots the number of respondents who performed each activity at least once per week on the y-axis, and the activity's impact on life satisfaction on the x-axis. Encouragingly, many of the most common activities also seem to have the largest positive impact on life satisfaction. For example, spending more than 15 minutes outside per week was associated with a

0.054-point increase in life satisfaction on a 0 to 10-point scale. Calling with loved ones and exercising also had significant impacts on subjective wellbeing and were quite common within our sample population.

On the other hand, spending more time playing video games, board games, and conducting work calls was not significantly associated with changes in life satisfaction. In comparison to other activities, less than 70% of our respondents engaged in these activities at least once a week.

Figure 18: Going outside for more than 15 minutes had the largest positive impact on life satisfaction

Prevalence of activities undertaken by their impact on life satisfaction
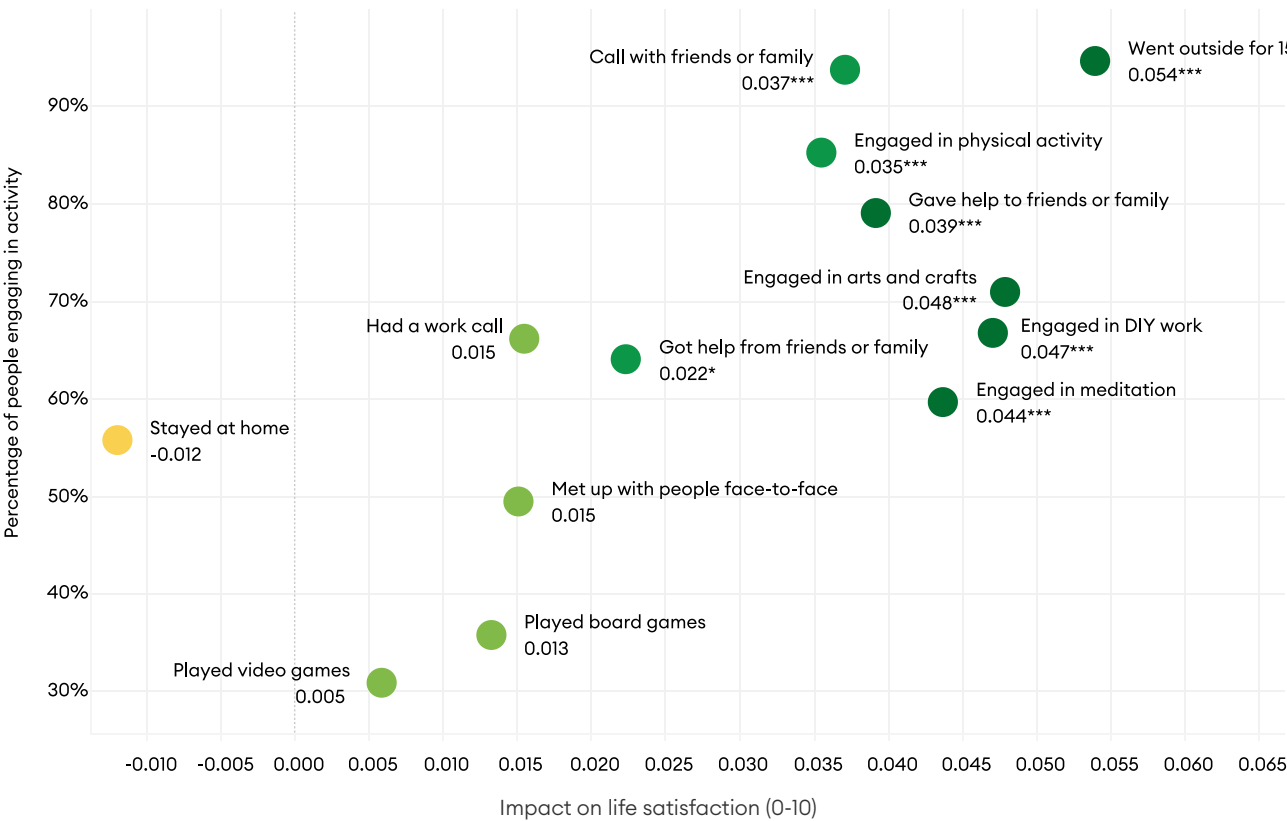
*** < 0.001, ** < 0.01, * < 0.05. Impact estimates on the x-axis estimated using an OLS regression with the change in life satisfaction between waves as the dependent variable and performing each activity one more day per week as the key independent variable of interest. Control variables included in each regression for age, gender, employment status, marital status, education, and country average life satisfaction levels drawn from the World Happiness Report (2020).

Figure 19: Boosting happiness during the COVID-19 pandemic

Activity ranking by highest impact on life satisfaction
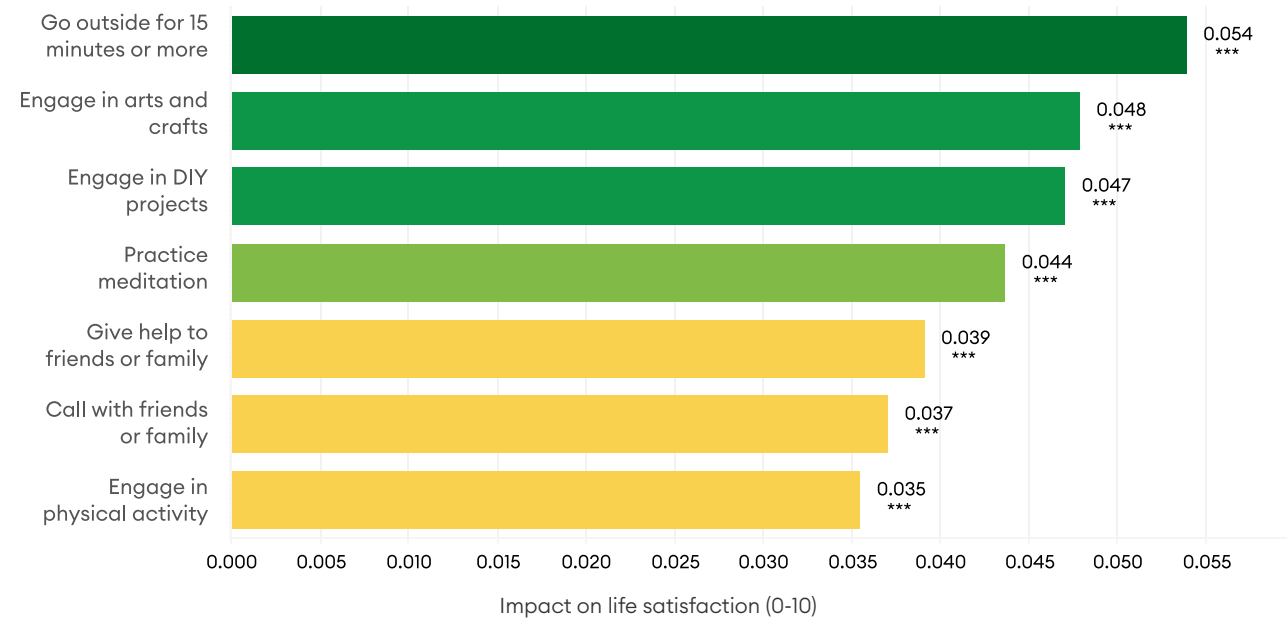
*** < 0.001. Most significant impact estimates drawn from Figure 18. For additional details and variable descriptions, see the online appendix.

ACTION PLAN

For readers looking for ways to increase their life satisfaction throughout the remainder of the pandemic, we have prepared a list of key activities to focus on based on the findings presented in this report.

→ **Spend more time outside**

With physical distancing measures in place, spending long periods of time indoors may be inevitable. Nevertheless, we find that spending even just 15 minutes per day outside can significantly increase life satisfaction. Going for a walk once per day can provide an important and meaningful break from life indoors. Walks can also be a perfect opportunity to call friends and family, which can have additional positive impacts on wellbeing.

→ **Engage in arts and crafts or DIY projects**

Knitting, painting, baking, gardening, and renovating are all useful activities to try out during lockdown, especially since none of them require close physical contact with others. While it can be difficult to remain motivated to perform these activities on a regular basis, we find that doing so can play an important role in raising wellbeing.

→ **Meditate**

Meditation practices such as mindfulness teach us to be present in the moment and meet challenges with openness, acceptance, and curiosity. We find that even short daily meditation exercises can have a notable impact on wellbeing. There are several guided meditation services to draw from, many of them free of charge. It may be worth trying one out to see if it works for you.

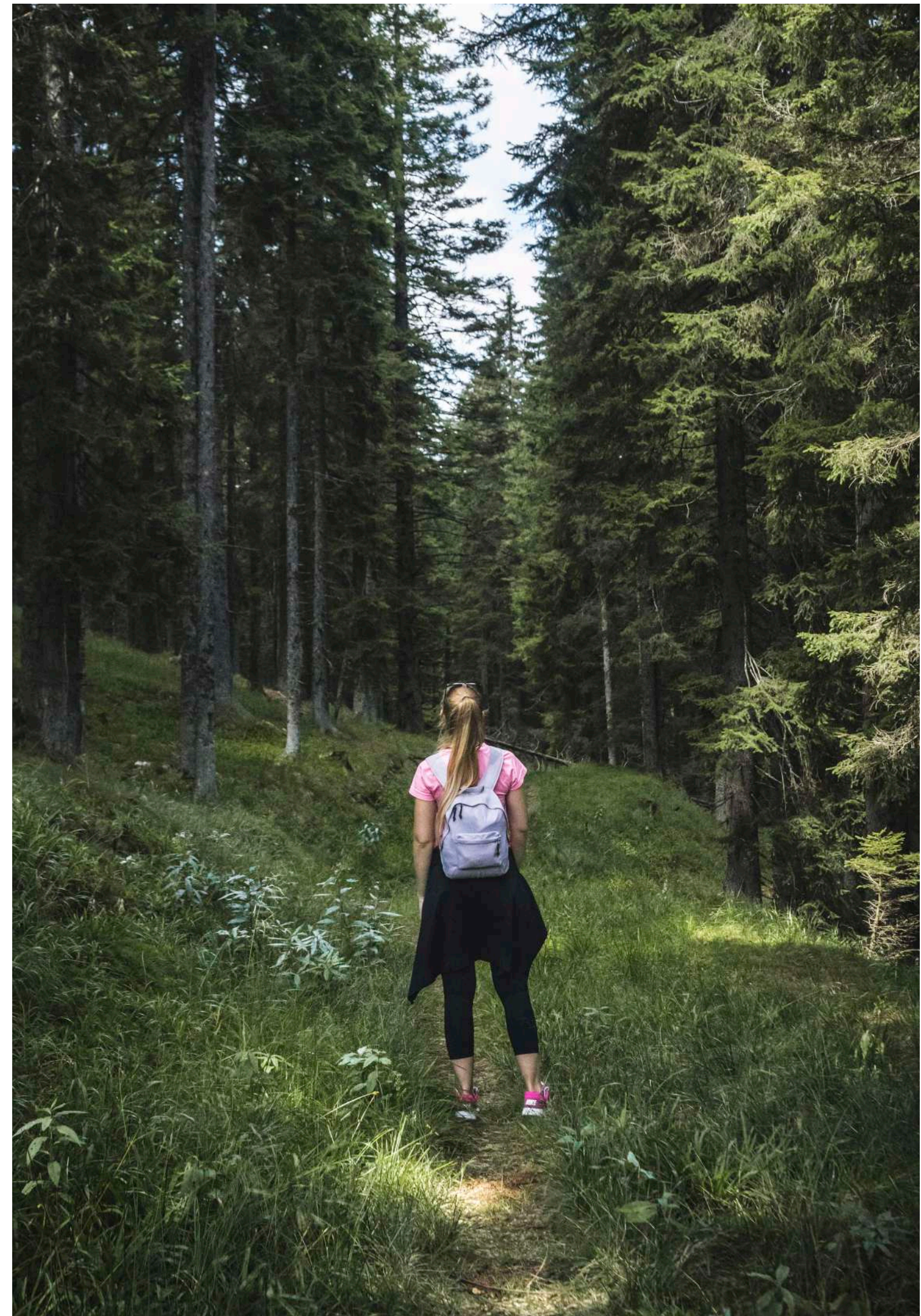→ **Lend a helping hand to friends and family**

In a global pandemic, more people than ever need a helping hand. Reaching out to friends and family who may be in need can not only help to make their lives easier, but can actually have a positive impact on individual wellbeing as well. Keep an eye out for opportunities to help those in need, and let those close to you know if you need help yourself.

→ **Keep in touch with those close to you**

In the midst of a pandemic, maintaining face-to-face social interaction with others can be challenging and even dangerous. Fortunately, we find that even virtual connections with friends and family can lead to significant improvements in wellbeing. While we may not all be able to spend time with those close to us in person, keeping in touch over the phone or by video chat is now more important than ever.

→ **Remember to stay fit**

Engaging in physical exercise is important not only for physical health, but also for mental health. Exercising regularly can encourage us to spend more time outdoors and significantly increase life satisfaction. As the pandemic continues into the fall and winter, it will be important to prioritise staying in shape and exercising on a regular basis.

1. Stiglitz, J., J. Fitoussi, & M. Durand (2014)

2. Llena-Nozal, A., Martin, N., & Murtin, F. (2019)

3. For more information, visit: www.wellbeingeconomy.org

4. Diener, E., Inglehart, R., & Tay, L. (2012)

5. Helliwell et al. (2020)

6. OECD (2013)

7. Eurofound (2020)

8. Luhmann et al. (2013)

9. Happiness Research Institute & Leaps by Bayer (2020)

10. While this is unquestionably a dramatic decrease in life satisfaction, other independent studies in Canada, the United Kingdom, and the United States have confirmed similar staggering declines in subjective wellbeing and increases in mental health issues. See: Helliwell et. al. (forthcoming); Fujiwara et al. (2020); Czeisler et al. (2020)

11. We control for the average life satisfaction level of a country's population using data provided by World Happiness Report (2020).

12. See Table A2 in the online appendix.

13. See Table A2 in the online appendix

14. See Table A2 in the online appendix.

15. Happiness Research Institute & Leaps by Bayer (2020)

16. VanderWeele, T. J., Hawkley, L. C., & Caioppo, J. T. (2012)

17. Holt-Lunstad et al. (2010); Holt-Lunstad et al. (2015)

18. For this purpose, we rely on the 3-item UCLA Loneliness scale, which consists of the following questions: (1) How often do you feel that you lack companionship? (2) How often do you feel left out? (3) How often do you feel isolated from others? Answer choices are coded on a three-point scale – (1) Never or hardly never, (2) Sometimes, or (3) Often – and then aggregated together. Following past research, we consider individuals who score 7, 8, or 9 as severely lonely. For additional information, see: Hughes et al. (2004).

19. This finding has also been confirmed in other related research on the wellbeing of young people throughout the pandemic. See: Helliwell et. al. (forthcoming); Czeisler et al. (2020)

20. Nevertheless, while we do not find significant differences in terms of severe loneliness, women do seem to be slightly lonelier than men in absolute terms by a factor of about 4%. Women were 0.21 points lonelier than men on the 6-point UCLA Loneliness Scale. This difference is significant at a 95% confidence level.

21. Our list of fears and concerns was drawn from a standardized list provided by WHO (2020)

22. Effects were calculated using OLS linear regressions on changes of key variables of interest from one wave to the next with control variables included for age, gender, education, employment, marital status, and country life satisfaction averages. See the online appendix for additional information.

23. When respondents from the United States and United Kingdom were excluded from the sample, the prevalence of this particular concern dropped well below initial April levels.

24. This was tested using OLS linear regressions with activity frequencies as the dependent variable, coronavirus case load as the independent variables, and additional control variables for age, sex, gender, education, employment, marital status, and country life satisfaction averages.

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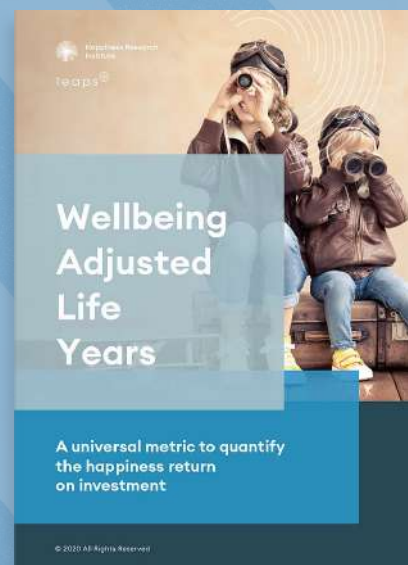
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This report examines the relationship between social media use and wellbeing. It demonstrates that young people's online and offline lives are inextricably linked. To truly understand the effects of social media use, it is therefore necessary to consider which platforms young people use, how they use them, and the personal characteristics that make some young people more vulnerable than others online.

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