

2022

# Global Happiness and Well-being Policy Report

Global Council for Happiness and Well-being

This publication may be reproduced using the following reference: The Global Happiness Council (2022). *Global Happiness and Well-being Policy Report 2022*. New York: Sustainable Development Solutions Network.

Global Happiness and Well-being Policy Report 2022 management by Sharon Paculor, design by Stislow Design.

Full text and supporting documentation can be downloaded from the website: **[happinesscouncil.org](https://happinesscouncil.org)**

ISBN 978-1-7348080-3-2

SDSN The Sustainable Development Solutions Network (SDSN) engages scientists, engineers, business and civil society leaders, and development practitioners for evidence based problem solving. It promotes solutions initiatives that demonstrate the potential of technical and business innovation to support sustainable development.

Sustainable Development Solutions Network  
475 Riverside Drive  
New York, NY 10115 USA

## Table of Contents

# Global Happiness and Well-being Policy Report 2022

---

1. Synthesis .....	3
2. Education .....	23
3. Work .....	43
4. Health .....	77
5. Vulnerable populations .....	89
6. Digital technologies .....	115
7. Measurement .....	135

The Global Happiness and Well-being Policy Report was written by a group of independent experts acting in their personal capacities. Any views expressed in this report do not necessarily reflect the views of any organization, agency or programme.

## The Global Happiness Council

The Global Happiness Council (GHC) is a global network of leading academic specialists in happiness and key practitioners in areas ranging from psychology, economics, education, public health, civil society, business and government. The GHC identifies best practices at the national and local levels to encourage advancement of the causes of happiness and well-being.

Council members oversee the work of six thematic groups (education, workplace, health, vulnerable populations, digital well-being and measurement) who each produce a chapter of policy recommendations in the Global Happiness and Well-being Policy Report. This report provides evidence and policy advice to participating governments to promote happiness and well-being.

The work of the Council is complementary to other research on the measurement and explanation of happiness. The aim of the GHC is to survey and share the best policies drawn from the research literature and government experiences around the globe.

We have been much helped by the senior policy advisory group for the synthesis chapter, including, in alphabetical order: Laura Chinchilla, Martine Durand, Carrie Exton, David Halpern, Sonja Lyubomirsky, Tim Ng, Gus O'Donnell, Jigmi Thinley, Meik Wiking and Karma Ura.

### Members

Jeffrey D. Sachs  
*Director of the Global Happiness Council*  
President, SDSN, and Director, Center for Sustainable Development, Columbia University

Jan-Emmanuel De Neve  
*Workplace Chair*  
Director, Wellbeing Research Centre, Oxford University

John F. Helliwell  
*Synthesis Report Chair*  
Vancouver School of Economics at the University of British Columbia, and Canadian Institute for Advanced Research

Lara B. Akinin  
*Synthesis Report co-Chair*  
Director, Helping and Happiness Lab, Department of Psychology, Simon Fraser University

Richard Layard  
*Health Chair*  
Founder-Director of the Centre for Economic Performance at the London School of Economics, and currently Co-Director of the Centre's Well-being research programme

Radhika Iyengar  
*Education Chair*  
Center for Sustainable Development, Columbia University

Ozge Karadag  
*Vulnerable Populations Chair*  
Center for Sustainable Development, Columbia University

Shun Wang  
*Well-being Measurement for Public Policy Chair*  
Professor, KDI School of Public Policy and Management

Stefano Quintarelli  
*Digital Well-being Chair*  
Computer Security Professor and former chairman of the Advisory Group on Advanced Technologies at UN-CEFACT and former chairman of the Italian Digital Agency

## Chapter 1

# Policies to support happiness during and after COVID-19: A Synthesis

---

Synthesis group

**John F. Helliwell, Lara B. Aknin,  
Christopher Barrington-Leigh, Jon Hall,  
Haifang Huang, Max B. Norton, Hugh Shiplett  
and Shun Wang**

The synthesis was prepared mainly by the first two authors, as chairs of the synthesis group, and they share responsibility for the views expressed. The other authors, listed alphabetically, are the synthesis editorial advisory committee members. They have provided editorial and content advice to the authors of the theme chapters, helped summarize those chapters for this synthesis, and gave us much helpful advice on the rest of this chapter.



## Introduction

In the three years since the last *Global Happiness and Well-Being Policy Report*, governments have faced a cascade of challenges to the well-being of their populations. Two of the three most important preceded COVID-19. First, governments have witnessed growing demands to recognize and redress long-standing and, in many places, growing inequalities of incomes, basic human rights, parity of esteem, and access to public services, both within and among nations. Second, the need for rapid and coordinated actions to limit and mitigate the effects of climate change has become increasingly urgent, with the escalating pace and severity of extreme climate events. The third challenge has, of course, been COVID-19. Now starting its third year, the pandemic had by January 2022 caused more than 300 million infections and 5 million deaths. This *Global Happiness Council* report, which itself has been long-delayed by the pandemic, uses a well-being lens to assess COVID-19 effects and policies, with the goal of sharing some lessons for future policies. The three challenges have made the use of a well-being lens both more difficult and more necessary. More complicated because the three crises interact with each other, making some inequalities worse, and polarizing opinions exactly when more cooperation is needed. More necessary because the required rethinking of what governments can and must do demands a more inclusive and encompassing set of policy objectives. Demands are everywhere to add new clauses to the social contract, right past wrongs, avoid fresh environmental catastrophes, and rebuild a social and physical infrastructure that delivers better lives for generations yet unborn.

How does policymaking change when happiness is the focus?<sup>1</sup> Designing policy to promote happiness offers at least four beneficial outcomes.

First, an average score for life satisfaction provides a simple and easily understood umbrella measure of the quality of life and a more encompassing indicator of policy success. This measure has more breadth of coverage than GDP and more simplicity than dashboards of indicators or other multidimensional measures. Life satisfaction ratings, if they are widely and carefully collected,

can be used for comparison among individual regions, communities, and demographic groups more easily than can GDP or dashboards of indicators. The distribution of life satisfaction scores can also provide measures of inequality that are more comprehensive than any of the usual statistics relating to the distribution of income and financial wealth.<sup>2</sup>

Second, a happiness approach fundamentally changes how policies are evaluated. For example, a commonly used tool in government decision-making is benefit/cost analysis, which compares the benefits and costs associated with policies and recommends offering the highest economic return. One key problem with this procedure is that it is difficult to compare the social, environmental, and economic consequences of policy options — with non-market consequences often being treated in footnotes or as complications. With happiness as the focus, it becomes possible to treat current and future generations' health, income, social trust, and other features of life comparably as sources of well-being. Benefit/cost analysis can then be done using well-being as the objective, with policies preferred that promise to deliver the greatest net increase in quality of life.<sup>3</sup> The availability of research showing how different aspects of life are related to overall happiness thereby permits a fundamental shift in the way policies are analyzed. As observed from the heart of the policymaking process, this shift provides a method of analysis applicable across a wide range of government agencies and departments.<sup>4</sup>

Third, and perhaps more fundamentally, using happiness as an overarching policy objective can build cross-government cooperation in service of the greater good. It may be easier to find and implement consistent policy choices if happiness becomes the common currency used to evaluate policy outcomes. This, in turn, may aid the achievement of a wider sense of common purpose.

Fourth, once happiness is established as the overall goal for policy, it becomes feasible and natural to improve the policymaking process in fundamental ways. Focusing on happiness extends attention beyond the direct benefits for the recipients of government services to include the impact of the services on the happiness of

both those designing and delivering them and those living in the surrounding communities. Various chapters in the *Global Happiness and Well-Being Policy Report 2019* and the *World Happiness Report 2019* provide examples showing that the social context—how highly people think of each other and cooperate with one another—is vitally important to how positively they rate their lives. This is true at work, on the streets, in families, in schools, and in the institutions of government and politics. Without a happiness focus, these important aspects of life may be ignored in the policy-making process.

As we illustrate below, adopting a well-being focus provides a common cause while also exposing fresh possibilities for win-win strategies to save and improve lives and livelihoods. This report aims to assess the evidence about what has been done thus far and consider what could be done better in the future. This synthesis starts with reviews of the six theme chapters, proceeds to draw out some of the main common ideas and emerging policy issues, and then considers what sorts of actions might help to create a whole-of-government framework in which well-being policy could thrive. Therefore, our emphasis in this chapter is not on particular problems or policy areas but on establishing a more integrated whole-of-government approach to making and evaluating well-being-focused policies.

## Chapter summaries

The remaining six chapters in this report are divided into two main groups. The first group addresses separate policy areas: education, work, and health. The second set covers cross-cutting issues: vulnerable populations, digital technologies, and measurement.

### Education

This chapter provides a worldwide scan of recent initiatives to incorporate social-emotional learning (SEL) into child learning environments. Rather than articulating all the benefits of SEL or focusing on formal studies of efficacy, the chapter highlights key directions requiring attention to realise the full promise that broader

non-cognitive skills education offers for well-being. Compared with earlier reviews, it broadens the scope of the SEL agenda through a natural extension from intra-personal and inter-personal awareness, empathy, and skills to their analogues at the broader level of human dignity and social group dynamics. The objective of SEL is well-being and resilience, and this chapter proposes an agenda for getting there.

The chapter begins with some background on defining and measuring mental well-being, including affective and evaluative well-being and UNICEF’s Social-Ecological Framework. The latter places a child’s psychosocial development in the context of well-being support at the family, community, and society levels. Using this framework, the authors argue that family, school, community, culture, and other “social-ecological levels” are key to building back happier in education. To promote well-being, schools should spend more time and effort supporting cognitive, social-emotional, and civic skills.

Pandemic-related school closures have broadened public perceptions of the impact of schools on community, family, and the teachers and learners. The opportunity to build back happier relates to the classroom and the broader social justice agenda. Accordingly, several prominent authorities are cited as advocating SEL.

Through anecdotal accounts of a number of ongoing initiatives, important lessons are articulated. Providing teachers with SEL skills for themselves is important. Most SEL models still tend to come from developed countries (and are expressed by adults) and may need adapting. “Inclusivity” is important for the effectiveness of SEL teaching and requires hiring teachers who represent the composition of their students. “Play-based” education approaches are described, including self-expression through art, including for trauma survivors. A “whole-school” approach — wherein all levels of the school or educational system support the same central teaching principles — is advocated, and early evidence from a pilot study is used to illustrate the effectiveness of a whole school approach to SEL.



The chapter argues that successfully improving well-being requires a theory of change and engagement with liberation from societal oppressions. The authors propose that this part of SEL can start at ages as young as three years. Thus, the chapter includes a section that describes approaches related more to addressing discrimination and oppression and building resilience.

Well-being education extends beyond the student — not just to teachers but also to students' communities. The main text ends with a small piece of primary research in which children are asked to describe what is important for well-being in their own words. These descriptions are, of course, insightful and diverse.

The chapter concludes with eight recommendations. These emphasize the ideas mentioned above — including teacher professional development, whole-school approaches, inclusive hiring, the inclusion of student voices in design and development — along with curriculum standards and community and family support.<sup>5</sup>

## **Work**

The workplace chapter draws evidence from many different sources on how COVID-19 has affected the labour-market outcomes and the subjective well-being (SWB) of different groups of workers globally and in specific countries. It also provides a useful review of many national governments' labour market policy responses to the pandemic. The primary focus is on workers' subjective well-being, including life satisfaction, happiness, and emotions. The chapter explores the links between employment outcomes, policy responses, and SWB whenever data allows and offers recommendations to promote and support workplace well-being.

Section 1 (“COVID-19 and the global labour market”) looks at both labour market outcomes and workers' SWB. First, it reports that global working hours declined by 8.8 percent from the end of 2019 to the end of 2020, four times more than during the 2008 global financial crisis.<sup>6</sup> Half of the decline was due to outright unemployment or workers quitting the labour force. The chapter then describes how the pandemic has exacerbated existing workplace inequalities. Low-income or

low-skill workers experienced larger than average declines in working hours in almost all the 20 plus European countries that have detailed data. In the United States, such workers were not only more likely to lose working hours, but they were also more likely to lose their jobs. Young workers were affected disproportionately, experiencing much larger employment declines and higher rates of leaving the labour force. On the gender front, the contrast is less clear-cut; women have been more likely than men to lose their jobs in some countries but not in others. The authors also note that “childcare and housework responsibilities have fallen disproportionately on women” during the pandemic. Roughly six out of ten workers worldwide are informally employed, especially in developing countries; informal workers are more likely to work in at-risk sectors and are less likely to benefit from public assistance.

Section 2 is called “Resilience in turbulent times.” The authors' focus on resilience stems from the data reported in the *World Happiness Report 2021*, which demonstrated that in many countries, overall levels of life satisfaction were mostly unchanged from 2019 to 2020. What might have been the sources of resilience? Using an international dataset, the authors find that having children lessens the negative impact of being out of the labour force, while social networks can help to buffer against these impacts, as evidenced by the greater decline in life satisfaction among U.K. workers who reported feeling lonely at the beginning of the study, relative to those who did not feel lonely. The authors then shift their focus to still-employed workers and conclude that the drivers of workplace well-being remained remarkably constant throughout the pandemic. As a result, firms that can cultivate strong working environments in good times will be better prepared to withstand labour market shocks and support employee well-being in times of hardship.

In the final section, “Building back happier,” the authors review labour market policy responses to COVID-19 in 27 high-income countries, dividing those policies into two types: job retention vs. income replacement. The authors find that countries favouring job retention programs generally experienced smaller increases in unemployment. Given unemployment's large

negative impact on subjective well-being, they conclude that the policy differences might have also contributed to differences in well-being outcomes. The authors thus argue that labour market policies aimed at maintaining employment arrangements are likely to protect worker well-being. A preliminary look at the data from 5 countries supports this idea.

Looking ahead, the authors foresee the need for substantial worker reallocation across sectors and warn that without direct government assistance and support, the process can be slow and inefficient. They recommend adopting active labour market policies (ALMPs), “those that seek to connect people to jobs using a variety of means, including job training<sup>7</sup>, job search assistance, public sector job creation, and hiring subsidies.” The authors also warn that given the pandemic’s disproportionately large impact on young workers, governments and workplaces should devote special attention and support to this group. Finally, the authors note that the expansion of remote work, while beneficial on many fronts, may reduce social connections and working relationships that are key factors in overall well-being. Their recommendation is to promote flexible work schedules to give workers sufficient autonomy to strike the right balance for themselves.

## Health

The health chapter argues that COVID-19 has drawn attention to one of the great underlying injustices of our age — the huge scale of untreated mental illness. Mental illness has devastating effects on people’s happiness, physical health, and the economy. Evidence-based treatments exist, but only a minority of those who need treatment receive it, especially in poorer countries. Effective services exist, and they should be copied more widely. An example of this is England’s programme for Improving Access to Psychological Therapy (IAPT), launched in 2008 and by 2021 was treating over 600,000 people a year, with over 50% recovering. The chapter makes clear that this crisis existed before COVID-19 but has since been exacerbated by it in ways that we must both understand and address.

Ideally, mental illness should be prevented rather than treated. Although this is impossible in every case, some key changes could help. First, the mental well-being of children should be a formal goal of every school. As argued in the Education chapter, schools should teach socio-emotional life-skills explicitly through formal instruction of at least one hour a week. Employers should have a duty of care for the mental health of their employees. Parents should know and apply the WHO-UNICEF nurturing care framework for early child development.

The chapter makes five key recommendations to treat those with existing mental health problems. First, countries whose resources for mental health reside mainly within institutions need to reorganize their services so people can access quality, affordable care near where they live. Second, it should be a principle that people with mental health problems are entitled to receive evidence-based treatment as people with physical health problems. This approach will undoubtedly require expenditure on mental health to grow faster than expenditure on physical health. Third, treatments should be based on evidence. Large-scale programmes are needed to train psychological therapists and healthcare workers to provide evidence-based mental health interventions and well-organised services for them to work in. Fourth, there should be major funding for evidence-based digital treatments and their deployment worldwide. Finally, the mental well-being of children should be an explicit goal of every school, with teachers, managers, and parents offering training in how to promote mental health.

The mental health crisis predates COVID-19 and has been the subject of earlier special chapters in the *Global Happiness and Well-Being Policy Reports*. But COVID-19 has provided a wake-up call to deliver better public health through a revolution in mental health care, laying bare the inadequacies of our current response and highlighting the risks that we face when existing challenges are compounded by a state of crisis.

Part 2 of the chapter shows how COVID-19 generated new mental health challenges worldwide and compounded existing challenges, inevitably those who were already most vulnerable.<sup>8</sup> The

sudden and prolonged interruptions of work, school, and social life within the community brought on by necessary lockdown measures isolated individuals and families who then had to cope with mounting financial difficulties in a state of isolation. This isolation fueled increases in family violence and social unrest.

The crisis required governments to act quickly while making difficult decisions. Success required public buy-in, and this experience highlighted the importance of trust in institutions and basic scientific and health literacy in the population.

Those with existing economic and social buffers were able to weather the storm better, and indeed the section highlights this surprising resilience. Nonetheless, marginalized groups, who were already facing higher rates of depression and self-harm, were affected most severely. The crisis made clear the need for universal access to mental health resources and that well-being policy must place emphasis on those in positions of vulnerability to achieve greater resilience in the future.

### **Vulnerable populations**

The chapter on vulnerable populations, entitled *Protecting mental health and well-being against increasing vulnerabilities and inequalities*, examines the interaction between the pandemic and existing societal divides. Many marginalized communities have faced above-average risks to their well-being over the past two years. Numerous practices and policies were introduced to provide targeted support to these especially vulnerable populations. At the same time, other practices and policies were developed with the general population in mind. If vulnerable groups face barriers to participation in broadly aimed initiatives, this could exacerbate existing inequalities.

The chapter's first section reviews evidence that vulnerable populations endured particularly acute distress because of COVID-19 and its social consequences. Importantly, countless people are members of more than one vulnerable population, meaning that the risks associated with one vulnerable identity become additive or amplified by the risks associated with another. The authors cite research showing that the young and the old encountered particularly acute challenges from

social isolation and loss of typical activities. Racial, ethnic, and indigenous minority groups reported more significant increases in mental distress; many also faced a greater threat from COVID-19 due to the compounding of existing health inequalities. Others living with a chronic disease, disability, or mental health condition also faced a particularly high threat from COVID-19 and its associated effects on well-being. Populations in precarious living conditions, such as migrants, refugees, the institutionalized, and the homeless, likewise were especially threatened by the disease and its social and psychological effects.

COVID-19 also increased the vulnerability of entire subpopulations. Two examples stand out. First, the need to keep basic services running during lockdowns increased the dangers faced by workers in healthcare and essential service industries. Second, members of Asian, and particularly those in Chinese diaspora communities in some countries, faced a sudden jump in stigma and violence. The authors cite research showing decreased well-being in these groups because of their increased vulnerability.

The second section of the chapter discusses numerous examples of policies and practices to support well-being during the pandemic, including but not limited to interventions targeting vulnerable groups. The rapid transition to mostly online delivery of mental health services offers many examples, including patient-facing resources and professional-facing resources meant to train and build capacity. Many religious group activities also moved online during the pandemic. In one promising effort in the U.S., Project Trust, health professionals collaborated with pastors in African American congregations to deliver accurate COVID-19 and mental health information, leveraging the pastors' established trust to provide support to a community at particularly high risk.

The concluding section offers recommendations across six domains: policies, practices, research, training, collaboration, and inclusion. The recommendations for policies and practices recognize the need for interventions to support the well-being of entire populations. But they emphasize that accessibility may be a particular

challenge for vulnerable groups due, for example, to geographic remoteness, financial difficulties, the digital divide, gender inequality, or stigma. Therefore, attention to suitability for these vulnerable groups is recommended, as is support for research, training efforts, and collaborations to benefit these groups. Finally, the authors emphasize the importance of including vulnerable populations in forming, implementing, and evaluating interventions meant for their benefit.

### **Digital technologies**

This chapter considers the state and future of an increasingly digital and online world, particularly in light of the shock that COVID-19 has had on increasing the ways and amount in which people engage digitally in key areas of life. Chapter 6 seeks to consider what this means for well-being. It has three sections, described by the authors as follows:

“The first acknowledges that digitalization is a cross-cutting and multi-sectoral issue and, therefore, focuses on four concrete areas of governance that are both important for the management of the COVID-19 pandemic and have been heavily digitized.” The second section identifies and argues that there are four key components for building a new digital world — data and digital archives, digital identity, interoperability, and flexibility” because “digital systems built taking into account such components have the potential to be more resilient and more apt and able to drive improvements in well-being.” The third section offers practical steps and policy recommendations on how to build a happier (digital) future.”

The chapter’s primary focus is on the general pros and cons of an increasingly online world and considers what these changes may mean for happiness and well-being.

Section 1 looks at four areas of public policy: healthcare, education, work, and government. Examples of the issues investigated include healthcare, how countries have used digital tools to tackle the pandemic (through test and trace, for example), and, for education, new inequality between students who were unable to continue their education online during the pandemic.

Section 2 looks at “digital resilience” and considers how systems can continue to function in the face of crises, while section three looks forward to imagining a better digital future.<sup>9</sup> It raises the important observation that “to understand well-being, we must look to the digital as well to understand how it influences well-being. How do digital technologies affect our well-being? Will digital technologies enable better social relationships? Will digital systems contribute to improving the environment?”

Although the chapter does not directly answer these questions, it does offer suggestions for further work on what the future might mean for well-being, noting that “social interaction is a core component of physical, emotional, and mental well-being. While digital technologies can enable such interactions, the future effort is needed to understand better how digital relationships compare to traditional physical-based ones.” The chapter also recognizes that “increased reliance on digital services and digital solutions can exacerbate already existing inequalities and continue to drive inequality and further the already existing digital divide.”

The chapter concludes with the important observation that “while digital technology has become such an important part of the overall ecosystem affecting the evolution of human life, we should stop thinking that it is the subject of design and decision for engineering only: in a matter that affects the whole society, decisions must be made more broadly and inclusively..”

### **Measurement**

Chapter 7 focuses on the measurement and dynamics of well-being across the world during the COVID-19 pandemic, described in three stages. The first comprises a review of pre-pandemic happiness data, as supplemented by new types of data collection during the pandemic. Second, the authors use data from various sources to review how happiness was impacted during the first waves of the pandemic. Finally, the authors assess the implications of the pandemic for future data collection to better support policies aimed at improving subjective well-being.

The chapter considers which countries collected national well-being statistics during the COVID-19 pandemic and reveals that these metrics are more common in developed economies. In addition, most nations followed or were consistent with the Organisation for Economic Co-operation and Development (OECD) *Guidelines on Measuring Subjective Well-being*. Just as countries were differentially impacted by COVID-19 and took different approaches in mitigating its impact, they also made efforts of differing degrees to track the well-being of residents during COVID-19. In particular, several European governments (e.g., UK, France, Ireland) and international organizations (Eurofound) have managed to collect happiness data on a quarterly basis since the early stage of the pandemic.

Happiness measures from international and national surveys were also conducted by private companies and academic institutions. Labor panels in a few developed countries and international surveys such as the World Values Survey and the Gallup World Poll provide consistent happiness measures before and during the pandemic. Research organizations and private polling companies also made joint efforts in tracking happiness. For example, the YouGov-Imperial College London's Covid-19 Behaviour Tracker asked the Cantril ladder question — a widely used measure of life evaluation — in 39 countries beginning in late April 2020.

Finally, the chapter considers data from social media platforms (e.g., Twitter and Facebook) and search engines (e.g., Google Trends). Despite some limitations, such as only providing information on people's emotional states and usually lacking national representativeness, social media data and big data analytics offer broad international coverage and enable researchers and policymakers to assess real-time happiness, complementing happiness measures from conventional surveys.<sup>10</sup>

The authors recommend a more coordinated effort to measure happiness across countries, using consistent survey questions and collecting data with a higher frequency and sufficient scale to compare the happiness trajectories for different population sub-groups. More measurement efforts in developing nations are especially

needed, and more collaboration among universities, research institutions, governments, and private sector agencies in tracking people's happiness during and after the pandemic.

## Common Elements

Here we draw out and illustrate several common ideas to many of the theme chapters. The most prevalent of these is a focus on the extent to which life under COVID-19 has exposed and often exacerbated pre-existing and growing inequalities.

## Inequality

As noted in the introduction, long-standing and often growing inequalities were a focus of policy debate before COVID-19 and have become even more central during two years under COVID-19. Inequality naturally provides the chapter's main focus on vulnerable populations and plays a central role in each of the other chapters. The vulnerable populations' chapter documents a disproportionately higher prevalence of adverse mental health symptoms (e.g., anxiety, depression, PTSD symptoms) among young people, elderly, racial and ethnic minorities, essential workers including healthcare professionals, unpaid caregivers for adults, homeless people, refugees, those without social support, those with pre-existing psychiatric conditions, and those infected by COVID-19. Hence, the COVID-19 pandemic is contributing to widening mental health inequities among people who experience health, social, and/or structural vulnerabilities due to age, income, employment, occupation, ethnicity, gender, pre-existing chronic conditions, and disability.<sup>11</sup> Because some of this evidence is based on inequalities under COVID-19 without matching data for the corresponding inequalities pre-COVID-19, it is difficult to say to what extent they have increased during COVID-19. However, one large study in the UK that tracked mental health evaluations from the same respondents before and during COVID-19 showed that the reductions in mental health were larger and more sustained for those in several vulnerable groups, including those living in deprived neighbourhoods or with a previous history of mental illness.<sup>12</sup> The pandemic has thus exposed and sometimes enlarged pre-existing inequalities,

adding extra weight to policy proposals designed to support all those in need, leaving fewer or none to fall through the gaps in the social safety nets.

The work chapter documents lost hours during COVID-19 being greater for those with lower skills and incomes. The chapter also reports that informal workers, more than half of the global workforce, are more likely to work in at-risk sectors and are less likely to benefit from public assistance. The measurement chapter documents the wide variation in how countries both responded to the COVID-19 pandemic and to what degree they invested in documenting well-being during this time. As for within-country inequalities, the chapter notes that most countries will need to collect subjective well-being data on a much greater scale before measuring and explaining the well-being trajectories for different sub-groups of their populations.

The digital chapter notes that the greater use of modern technologies has added to the disadvantages of those without digital access. We would add, based on the tracking of well-being during the pandemic, that the widespread ability to implement working from home, stay-at-home requirements, and travel restrictions has depended on the existence and rapidly evolving structure of digital technologies that substituted Zoom for the daily commute and permitted social media to become the primary means for maintaining social connections. Imagine lockdowns without the ability to pivot to online connections enabled by the power and prevalence of digital technologies.

The health chapter advocates greater use of digital means to deliver mental health services, in part because their lower cost and broader reach makes them accessible to those who would otherwise be underserved. The same may also be the case for education, where the vast global disparities in access to quality education may be addressed more quickly and cheaply by digital means than by traditional methods. All would agree that quality, equality, and breadth of access should be the goals.

The education chapter notes the important implications of teacher training and placement structures for inclusivity and belonging that can foster students and their families through school environments. These practices are essential as schools may harm learners, particularly minority groups when school cultures are misaligned with their students' community and family values. Part of this misalignment stems from the vast differences in the demographic make-up of students and teachers. The chapter also emphasizes the importance and potential of education content for shaping future equality outcomes through attitudes and emotional intelligence.

To provide a more global view of the extent to which COVID-19 has amplified rather than exposed existing inequalities, data from the Gallup World Poll prepared for use in *World Happiness Report 2022* can help to compare positive and negative emotions before and during COVID-19 for people in vulnerable sub-groups, including the poor, the sick and the unemployed. Data from 2020 and 2021 are currently available for 70 countries, yielding a sample exceeding a third of a million interviews from the five years 2017–2021. The sample frame does not cover those living in institutions and on the streets or otherwise unable to be reached by surveys and hence will not adequately cover those most vulnerable. But these data are nonetheless useful to help separate pre-existing inequalities from changes during COVID-19. These results are merely illustrative and may shift as data arrive from additional countries.

Overall, looking across positive emotions (laughter, enjoyment, interesting) and negative emotions (worry, sadness, anger), the sick, unemployed, and the poor fared worse than others before and during COVID-19, but the gaps did not generally increase during COVID-19. For example, the relative frequency of positive compared to negative emotions was more than three to one for those in the top three-quarters of the income distribution, but only two to one for those in the bottom quarter, both before (.657/.328) and during (.664/.332) COVID-19.

Across age groups, the young fared worse under COVID-19, although in several instances, this pattern reflected mainly a narrowing or

elimination of a pre-existing advantage. By contrast, the old fared relatively better than pre-COVID-19. In some cases, as with worry, they worried less than the middle-aged pre-COVID-19, with the gap increasing under COVID-19. Pre-COVID-19 life was significantly more interesting for the younger than the middle-aged, with the old having the least interesting lives.<sup>13</sup> COVID-19 significantly reduced these gaps: the young had significantly less interesting lives than pre-COVID-19, and the old had more interesting lives, but the frequency of interesting yesterdays still remained higher for the young than the old, although by a one-third reduced margin.

Turning from emotions to life satisfaction, the preliminary data continue to show the poor, sick, and unemployed to have significantly less satisfying lives under COVID-19. A slight overall drop occurred for the base population and also for the young, while there was increased life satisfaction for the old and a lessened unemployment effect, especially in 2020, when unemployment became much more widespread and diverse.

### **Taking a broader and more positive perspective on desired policy outcomes**

Implicit in all chapters, and explicit in most, is the idea that policy choices should be aimed at improving well-being broadly construed, with subjective well-being used as much as feasible as the common currency. This approach, in turn, entails shifting policy-making from its frequent repair mode — in which policymakers work to fix what is broken — to focus on building the positive aspects of life for all, including those designing and delivering the policies. The number of countries adopting a whole-of-government well-being focus continues to grow, with large differences in the extent to which it influences key policy and budget decisions.<sup>14</sup>

### **Building better connections between policy-makers and the intended beneficiaries**

Several chapters, including education, health, and vulnerable populations, emphasize the importance of designing policies in collaboration with the intended beneficiaries and those in the front lines of service delivery. Doing so helps link the policies more tightly to user needs while also

building trust and a shared commitment to the chosen means and goals.

### **Building a broader evidence base**

The measurement data chapter emphasizes the value of having more countries regularly monitoring subjective well-being.<sup>15</sup> We second that proposal and add the need for many more subject-specific measures of subjective well-being data in enough detail to inform the analysis needed to validate project proposals using a well-being lens. For example, evaluating various health-related policies and outcomes would require more regular collection and information about positive mental states to match the more universally collected data on negative mental states. By the same token, more regular data collection on the prevalence and nature of prosocial behaviour would provide an important balance to the more common collection of data on victimization. Collecting this information continuously is extremely valuable; countries that invested in well-being assessment before the pandemic have valuable pre-COVID-19 benchmark data on hand to assess the impact of COVID-19 on average and in various sub-populations. We return below to consider how improvements to the range and quality of data measuring well-being and its enabling factors can help to enable a whole-of-government approach to the use of a well-being focus.

### **Focus on the Future**

To change the focus of policy assessment and design from reactive responses to a constructive policy support system would provide natural synergies between building for the future and increasing happiness. A forward-looking focus, aiming to avoid rather than treat problems, will have broader coverage because the number of potential victims has to exceed the actual number. This broader coverage invites a positive focus, given the prophylactic protective nature of positive states of mind and the likely greater participation in programs that seem both productive and engaging. A future focus, coupled with a concentration on building positives, is more likely to attract and reward broad participation and engagement in policy design and delivery. All of these approaches

help to provide a socially and environmentally sustainable set of institutions and policies.

## **Enabling policy action with a whole-of-government focus**

Good ideas do not become effective policies on their own. It will be difficult to achieve the goals of well-being policy without a whole-of-government approach. As in other areas, building capacity starts with investing in the key raw materials — well-trained personnel and good data — followed by the development of an effective process, promoting clear leadership and stakeholder buy-in, and lastly, a willingness to take necessary risks. Below we illustrate the steps that must be taken to get from here to there.

### **Train a cadre of experts in well-being**

Greater training is needed to enable analysts to develop and assess policies with a well-being focus. To design and apply evidence-based policies to improve well-being requires a cadre of analysts within each of the ministerial areas, and especially in central agencies, who have had enough relevant training to do benefit/cost analysis when well-being is the focus, and enough breadth to see the potential of adopting a broader well-being focus.<sup>16</sup> But existing schools of public policy, business, economics, medicine, public health, sociology, planning, and law typically do not even have introductory courses about the measurement and understanding of well-being. And these faculties are collectively the sources of most of those with advanced degrees who are drawn into policy-making positions. It is possible, as has been done in the UK, to develop how-to courses for policy analysts already in public service, but these would be much more effective if the analysts already have some exposure to how well-being analysis could be harnessed in their own special fields of interest. Our vision extends beyond the often very popular undergraduate courses on positive psychology that are focussed more specifically on individual-level evidence and do-it-yourself advice. To provide the skills required for better policy-making requires a greater depth of evidence and analysis delivered as part of a regular professional curriculum,

powered by policy-relevant research and data. If training has common elements across disciplines of those being trained, collaborations and common cause across disciplinary boundaries will become easier to establish, and joining what otherwise might be departmental silos will become more feasible. Bhutan, an international forerunner in the whole-of-government use of well-being outcomes to select policies, provides a recent example of a co-ordinated attempt to create a pool of cross-ministerial well-being and policy researchers. A total of 108 civil servants are pooled from about 50 different ministries and agencies, including print and broadcast media, to be trained as researchers with special focus on well-being and policy research for a period of four years at the Centre for Bhutan and GNH Studies.

### **Improve the data infrastructure**

For specific proposals to be evaluated in advance and their subsequent performance to be assessed, subjective well-being data are required to be collected in sufficiently granular detail to track well-being outcomes in population sub-groups and before and after policy changes. Project-specific tracking should ideally involve measures comparable with those widely collected in a range of mainline surveys. Such measures would enable the establishment of population-level benchmarks for the sub-population and geographic regions that are the focus of specific projects.

### **Build a well-being approach into all policy assessments**

Such a well-being approach must be incorporated both within ministries and central agencies where proposals with competing budget implications are ranked.<sup>17</sup> Only if policy proposals coming from all ministries can be evaluated by similar measures of costs and benefits will it be possible to take a fully evidenced-based approach to the spending decisions made by central agencies. This common approach, in turn, requires expansion of the training capacity mentioned above. The UK, New Zealand, and Bhutan have gone further than most in developing standard methods for evaluating spending proposals through the lens of well-being. In



Bhutan, the GNH index is used as a weighted criterion in the allocation of budget among the local governments composed of 20 districts and four urban municipalities at the level of the middle tier of administration, and 205 counties or gewogs at the lowest tier in the vertical organization of the country.<sup>18</sup> Bringing such methods into more general use, including the use of well-being research to inform trade-offs for current and future well-being will require much more of the training and data described above. While challenging, such methods, in turn, will work best if project proponents, analysts, and decision-makers are convinced that well-being gains are ready to be found and harnessed.

### **Unlock the potential for win-win policies**

Giving those who want to help more access to those with unmet needs offers the prospect of greater well-being for both groups. COVID-19 has provided some excellent examples, including the UK National Health Service (NHS) COVID-19 volunteer program. In March of 2020, the NHS sent out a call for volunteers to support clinically high-risk people sheltering in their homes. Three-quarters of a million people responded within four days, the largest volunteer mobilization since WWII. This vast response meant that only a subset of volunteers were randomly selected to provide assistance right away, enabling researchers to compare the selected volunteers to matched controls to probe the potential positive impacts of helping on life satisfaction. The well-being benefits for the volunteers were estimated to be 140 times larger than the costs of the program without even counting the well-being benefits for those who had their groceries delivered, received friendly check-ins, or were taken to their health appointments.<sup>19</sup> Sometimes it takes a disaster to reveal the strength and power of the social fabric. COVID-19, with its massive scale and duration, coupled with evidence like that from the UK volunteering program, may help to open the eyes of policy-makers to the well-being gains that come from people helping one another.

Similar programs pre-dated COVID-19 as well. For instance, one program in Zimbabwe taps the wisdom of the nearby old volunteers to help

avert depression among the young.<sup>20</sup> See also the discussion below on the possibilities for increasing the happiness of the old and young, and those who differ in many other ways, by giving them the chance to become friends.<sup>21</sup>

### **Join the silos**

Policy-makers in central agencies should encourage boundary-hopping collaborations among ministries and policy units serving different needs within the same communities. These partnerships should involve direct collaboration with the families and communities being served to discover their unmet needs and provide effective and timely delivery of well-chosen services. Our 2019 policy synthesis paid special attention to several silo-joining cases. We return here to one of these, based on mixing different generations to enable each to improve the lives of the others. This example is especially relevant now because COVID-19 has created special difficulties for the young and the elderly housed in care facilities. Inquiries in many countries have been established to discover why COVID-19 decimated the populations of so many elder care facilities. Putting a spotlight on what lives are like in many such facilities has revealed environments where people are stored rather than made to feel like valued members of any community. At the other end of the age spectrum, schools and daycare centres have often reacted to the perceived risks of modern life by becoming spaces unto themselves, with few connections to, and little preparation for, life beyond the school walls. When more services have been considered for either schools or elder-care, they typically involve increases in trained professional staff within their own specialties, raising budget needs without empowering the old and the young to help each other.

Looking at schools and elder care facilities through the lens of well-being forces policy-makers to ask themselves what their objectives are and ought to be. It does not take long for such deliberations to prefer happier current lives for residents, students, and staff, coupled with better preparation for their future lives. The most important lessons from well-being research go beyond that point to emphasize that the

happiest lives are lived by those who have been offered the chance to learn about and to help others. The eureka moment comes when one thinks of children in education and elders in care homes not as recipients of services provided by professionals but as capable individuals with skills to share. Many households during COVID-19 discovered small versions of this same lesson when they traveled and spent less and provided for each other and their neighbours much closer to home. So perhaps there may now be a broader realization of the possible gains for opening doors to enlarge the scope for sharing and caring.

Intergenerational education has been studied and recommended for decades, as surveyed for UNESCO in 2001.<sup>22</sup> Individual case studies<sup>23</sup> exist for different sorts of mixing, as well as a number of reviews of the results for children,<sup>24</sup> and both old and young.<sup>25</sup> When classes and daycares are situated in extended care facilities, the scope for valuable mixing goes beyond just age to include opportunities for children to learn from new friends how to hold a paintbrush in their teeth,<sup>26</sup> and to both learn from and enrich the lives of those with dementia.<sup>27</sup> Reviews looking for best practices<sup>28</sup> and policy implications<sup>29</sup> find that intergenerational programs produce happiness most effectively when interactions are sustained, make use of shared spaces, and where both old and young have the freedom to design activities with and for each other. COVID-19 has made the benefits of such programs even more obvious, even if challenging to develop and deliver during the pandemic.

To achieve the largest benefits requires more complete merging of the activities of different types of institutions, such as the iGen program in Saskatoon that has a grade six class spend its entire year within the Sherbrooke Care Centre.<sup>30</sup> The program is regularly over-subscribed, thereby offering evidence of the expected benefits for the students as well as the possibility of having a control group when assessing the benefits. Although COVID-19 made that line of research infeasible, it was possible to run focus groups by Zoom involving students, elders, teachers, and care centre staff. The project did not need a control group to demonstrate its life-giving and life-enhancing effects.<sup>31</sup> Its findings, in turn, have

sparked further research to discover why, given the low costs of sharing spaces for the delivery of services already provided for, there has not been more wholesale adoption.

If many silo-mixing innovations exist that could improve well-being, what is stopping more widespread testing and uptake? While the authors of the education and health chapters were open to better ways to deliver well-being, the resources used and the recommendations made were typically within ministerial silos. There are probably two main reasons. One involves, perhaps simply, the inertia or cognitive overload acquired by established ways of doing things and the resulting resistance to change. Evidence from chess experiments shows that a known solution tends to block the search for better solutions (the Einstellung or set-point effect), even for the best of players, whose expertise dampens but does not eliminate the effect.<sup>32</sup> The second is the increasing tendency to try to avoid future bad consequences by means of rules, regulations, and approval processes designed to make schools and elder care facilities safer. Are the policy-making climate and procedures concentrated so much on avoiding embarrassing mistakes that too many chances to improve lives are being stifled by a risk-averse culture?

### **Manage risk aversion**

Risk assessment committees are everywhere in the 21<sup>st</sup> century, usually designed to identify and reduce risks. Although avoiding bad outcomes needs to be a touchstone for policy delivery, the increasing emphasis on risk avoidance tends to increase the complications of approval processes and make it harder to do anything out of the ordinary. This can easily throttle innovations, especially those that require collaborations across normal professional and ministerial boundaries. The trick is to find ways of limiting bad outcomes while sharing and accepting the risks and uncertainties when seeking better ways of doing things.

What specific policy changes might help to reduce costly risk aversion?<sup>33</sup> First, higher orders of government should develop a climate in which innovations are explicitly encouraged. It should

be recognized that encouraging innovations at lower levels and in smaller units, which involves a passing down of decision authority, needs to be matched by some passing up of risk-bearing by some form of risk pooling. For example, playgrounds are often closed, art exhibitions do not happen, and public spaces are closed after hours because local managers are leery of accidents, lawsuits, or theft and cannot afford insurance coverage against such risks. This is just the place for higher levels of government to step in to provide the necessary risk-pooling.<sup>34</sup> This upward transfer of risk-bearing can serve a double purpose, delivering a clear message that these activities are encouraged while removing what would otherwise be barriers to local initiatives.

### **Linking the three challenges**

Can a long-term well-being focus help deliver policy options that coherently address all three of the challenges facing governments in 2022: inequalities, sustainability, and COVID-19? People rate their lives more highly if they live in a society that sustains a more open and equal distribution of well-being. A well-being focus has something to add about how best to address inequalities. Ensuring that everyone has access to the services and opportunities promised but not always equally delivered by the social safety nets is clearly good for improving average well-being while reducing inequalities. Such access improves the current lives of all, especially those previously not adequately provided for, but also provides a stronger and more equal basis for the future lives of all those in current and following generations.

There is an active and important policy debate about how explicitly policies should be aimed at diagnosing and treating misery rather than identifying and building the drivers of happy lives. As emphasized in the health and education chapters, a focus on building the breadth and quality of social connections, which are key supports for happier lives, offers ways to forestall future misery. But when attention and resources are limited, a targeting of current misery can come at the expense of building positive conditions to avoid future misery. As was noted in the 2019 Report, such targeting can stigmatize the afflicted and lessen the broad support attracted

by more universal programs.<sup>35</sup> It also is more likely to involve diagnosis and treatment focused on removing the signs of illness rather than building positive circumstances, thereby ignoring policies that might be better for entire future populations, whether initially in misery or not.<sup>36</sup> Some evidence also suggests that policies designed to improve the social context in general will, in fact, provide the greatest benefits for those in misery.<sup>37</sup> A well-being lens can help to treat short-term misery while also improving longer term happiness for all by looking for ways to help the afflicted by improving the quality of the programs designed to provide equal opportunities for all. The New Zealand well-being review of Porirua regeneration alternatives<sup>38</sup> shows how a longer term view of a broader set of outcomes raises the value attached to improving the housing and social connections within a disadvantaged community.

A long-term well-being approach to environmental sustainability opens new doors for actions that can help to limit the conflicts between human activity and a sustainable physical environment.<sup>39</sup> First, by showing that material consumption is the lesser part of a good life, a well-being approach supports choices that substitute social connections for material consumption, and perhaps even taking shopping out of its central position, as illustrated by the role of Black Friday in US Thanksgiving celebrations. Less reliance on material consumption, especially if achieved by means that improve the levels and equality of subjective well-being offers win-win possibilities for the environment. Second, a well-being approach would make more use of the power of positive social norms. Widespread interest in leaving a healthy planet for future generations may lead to environment-improving innovations more quickly and effectively than relying solely on taxes and regulations, which attach too much importance solely by narrow economic interest.<sup>40</sup> Third, a long-term focus naturally brings sustainability to the centre stage of policy-making. This raises the potential appeal of policies whose return is in the further future, while also limiting or ruling out policies that offer to improve current lives at the expense of future generations. Fully applying a well-being framework to consider sustainability requires fundamental

changes in the ways in which sustainability enters the policy decision process. As noted by the New Zealand parliamentary commissioner for the environment, “In te ao Maori (the Māori world view) it is not simply how much of the environment is left for future generations but how much improvement today is needed for the future.”<sup>41</sup> Although the Commissioner is speaking specifically about the natural environment, the same need to treat the future environment less as a constraint and more as an explicit objective for current policies applies equally well to social and economic sustainability.

Such a lengthening and broadening of a well-being focus, if applied consistently, could help governments to address all of the current and future challenges they face.

## References

- Aknin, L. B., De Neve, J. E., Dunn, E. W., Fancourt, D. E., Goldberg, E., Helliwell, J. F., ... & Ben Amor, Y. (2021). Mental health during the first year of the COVID-19 pandemic: A review and recommendations for moving forward. *Perspectives on Psychological Science*, 17456916211029964.
- Alfano, C. J. (2008). Intergenerational learning in a high school environment. *International Journal of Community Music*, 1(2).
- BilaliD, M., McLeod, P., & Gobet, F. (2008). Inflexibility of experts—Reality or myth? Quantifying the Einstellung effect in chess masters. *Cognitive psychology*, 56(2), 73-102.
- Cummings, S. M., Williams, M. M., & Ellis, R. A. (2002). Impact of an intergenerational program on 4th graders' attitudes toward elders and school behaviors. *Journal of Human Behavior in the Social Environment*, 6(3), 91-107.
- Dolan, P., Krekel, C., Shreedhar, G., Lee, H., Marshall, C., & Smith, A. (2021). Happy to help: The welfare effects of a nationwide micro-volunteering programme. IZA Discussion Paper 14431.
- Durand, M. (2018). Countries' experiences with well-being and happiness metrics. *Global Happiness.Policy Report 2018*. [https://s3.amazonaws.com/ghc-2018/GHC\\_Ch8.pdf](https://s3.amazonaws.com/ghc-2018/GHC_Ch8.pdf)
- Epstein, A. S., & Boisvert, C. (2006). Let's do something together: Identifying the effective components of intergenerational programs. *Journal of Intergenerational Relationships*, 4(3), 87-109.
- Frijters, P., Clark, A. E., Krekel, C., & Layard, R. (2020). A happy choice: well-being as the goal of government. *Behavioural Public Policy*, 4(2), 126-165.
- Frijters, P., & Krekel, C. (2021). *A handbook for wellbeing policy-making: History, theory, measurement, implementation, and examples*. Oxford University Press.
- Gallagher, C., & Fitzpatrick, A. (2018). "It's a Win-Win Situation"—Intergenerational learning in preschool and elder care settings: An Irish perspective: practice. *Journal of Intergenerational Relationships*, 16(1-2), 26-44.
- Giraudeau, C., & Bailly, N. (2019). Intergenerational programs: What can school-age children and older people expect from them? A systematic review. *European Journal of Ageing*, 1-14.
- Goff, L., Helliwell, J. F., & Mayraz, G. (2018). Inequality of subjective well-being as a comprehensive measure of inequality. *Economic Inquiry*, 56(4), 2177-2194.
- Gualano, M. R., Voglino, G., Bert, F., Thomas, R., Camussi, E., & Siliquini, R. (2018). The impact of intergenerational programs on children and older adults: A review. *International Psychogeriatrics*, 30(4), 451-468.
- Hayes, C. L. (2003). An observational study in developing an intergenerational shared site program: Challenges and insights. *Journal of Intergenerational Relationships*, 1(1), 113-132.
- Helliwell, J. F. (2014). Social norms, happiness, and the environment: closing the circle. *Sustainability: Science, Practice and Policy*, 10(1), 78-84.
- Helliwell, J. F., Huang, H., & Wang, S. (2018) New Evidence on Trust and Well-Being. In *The Oxford Handbook of Social and Political Trust*.
- Holmes, C. L. (2009). An intergenerational program with benefits. *Early Childhood Education Journal*, 37(2), 113-119.
- Jarrott, S. E., Stremmel, A. J., & Naar, J. J. (2019). Practice that transforms intergenerational programs: A model of theory-and evidence informed principles. *Journal of Intergenerational Relationships*, 17(4), 488-504.
- Kaplan, M. S. (2001). *School-based intergenerational programs*. Hamburg, Germany: UNESCO Institute for Education.
- Keyes, C. L., Dhingra, S. S., & Simoes, E. J. (2010). Change in level of positive mental health as a predictor of future risk of mental illness. *American Journal of Public Health*, 100(12), 2366-2371.
- Knight, T., Skouteris, H., Townsend, M., & Hooley, M. (2014). The act of giving: A systematic review of nonfamilial intergenerational interaction. *Journal of Intergenerational Relationships*, 12(3), 257-278.
- Layard, R., & O'Donnell, G. (2015). How to make policy when happiness is the goal. In J. H. Helliwell, R. Layard, & J. Sachs (eds.). *World happiness report 2015* (pp. 76-87). New York: UN SDSN.
- Lokon, E., Kinney, J. M., & Kunkel, S. (2012). Building bridges across age and cognitive barriers through art: College students' reflections on an intergenerational program with elders who have dementia. *Journal of Intergenerational Relationships*, 10(4), 337-354.
- Metzler, H., Pellert, M., & Garcia, D. (2022). Using social media data to capture emotions before and during COVID-19. In *World Happiness Report 2022*. Sustainable Development Solutions Network. <https://worldhappiness.report/ed/2022/using-social-media-data-to-capture-emotions-before-and-during-covid-19/>
- OECD (2021), COVID-19 and Well-being: Life in the Pandemic, OECD Publishing, Paris, <https://doi.org/10.1787/1e1ecb53-en>.
- Park, A. L. (2015). The effects of intergenerational programmes on children and young people. *International Journal of School and Cognitive Psychology*, 2(1), 1-5.
- Pierce, M., Hope, H., Ford, T., Hatch, S., Hotopf, M., John, A., Kontopantelis, E., Webb, R., Wessely, S., McManus, S., & Abel, K. M. (2020). Mental health before and during the COVID-19 pandemic: A longitudinal probability sample survey of the UK population. *The Lancet Psychiatry*, 7(10), 883-892. [https://doi.org/10.1016/S2215-0366\(20\)30308-4](https://doi.org/10.1016/S2215-0366(20)30308-4).
- Proulx, J. D. E., Van de Vondervoort, J. W., Hamlin, K., Helliwell, J., & Aknin, L. B. (2021). Do real-world prosociality programs predict greater psychological well-being in primary school-aged children? <https://doi.org/10.31234/osf.io/z7fra>
- Radford, K., Gould, R., Vecchio, N., & Fitzgerald, A. (2018). Unpacking intergenerational (IG) programs for policy implications: A systematic review of the literature. *Journal of Intergenerational Relationships*, 16(3), 302-329.
- Shapiro, H. T. (1990). The willingness to risk failure. *Science*, 250(4981), 609-609.
- Ura, K. (2019) Development with Integrity: Bhutan's Gross National Happiness Index [Video file]. Retrieved from <https://www.youtube.com/watch?v=da8fqUdHGom>

## Endnotes

1. This and the following three paragraphs are partly drawn from the synthesis chapter of the 2019 report. They seem as relevant to us now as they were then and are worth repeating for those who did not see the earlier report.
2. See Goff et al. (2018).
3. See Layard and O'Donnell (2015). See also Frijters et al. (2020) and several of the commentary papers in the same collection.
4. Fortunately, some countries have started adapting CBA analyses to include more comprehensive well-being frameworks, such as the environmental, social impacts (e.g., the UK Treasury Green Book). See the New Zealand Living Standards framework <https://www.treasury.govt.nz/sites/default/files/2019-08/sp-what-treasurys-lsf-means-for-public-sector.pdf>. Bhutanese examples are noted later in the chapter.
5. See Karma Ura, 'A Proposal for GNH Value Education in Schools' for an example from Bhutan Available at <http://www.wisdompage.com/GNHValueEducationProposal.pdf>
6. More information from the OECD Employment Outlook here: <https://www.oecd.org/employment-outlook/>
7. Bhutan is seizing the disruptions caused by the COVID-19 pandemic as an opportunity to train and skill tens of thousands of Bhutanese in different skills through various De-suung Skilling Programmes.
8. See also OECD (2021).
9. For a review of how digital technologies may affect well-being, see OECD How's Life in the Digital Age- Opportunities and Risks of the Digital Transformation for People's Wellbeing. <https://www.oecd.org/publications/how-s-life-in-the-digital-age-9789264311800-en.htm>
10. See Metzler et al. (2022).
11. The specific references for both these points may be found in chapter 5. See also Aknin et al. (2021).
12. See Pierce et al. (2020).
13. One of the Gallup World Poll questions asks whether respondents did something interesting during the previous day. The pre-COVID and COVID data for this are reported in Chapter 2 of the World Happiness Report 2022.
14. See Durand (2018) for a global list for 2018, and also OECD (2021, p.51) for a list covering OECD adopting countries from 2000 through 2021.
15. In Bhutan, a nationwide survey on GNH is conducted every five years which serves as an input for the formulation and evaluation of national five-year plans. It is analysed to compute a multidimensional GNH index that is disaggregated by district, gender, occupation, age cohort, and other variables and broken down by indicator to see how the constituents of happiness vary and what investments are required for which groups. See <https://www.bhutanstudies.org.bt/publication-Files/2015-Survey-Results.pdf>
16. See, for example, Frijters and Krekel (2021).
17. See Layard and O'Donnell (2015).
18. See Ura. (2019).
19. See Dolan et al. (2021).
20. See <http://www.bbc.com/future/story/20181015-how-one-bench-and-a-team-of-grandmothers-can-beat-depression>
21. This is better illustrated by watching than by words. From the UK, see [https://www.youtube.com/watch?v=VSG\\_FC-Q10fA](https://www.youtube.com/watch?v=VSG_FC-Q10fA) . For a Canadian example, see <https://intergenerational.ca/meadows-school-project/documentary/>. Another approach is to have high school students and seniors learn and perform music together, delivering good music and good friends in the process (Alfano, 2008).
22. See Kaplan (2001).
23. For example, Hayes (2003), Holmes (2009).
24. See Park (2015) and Cummings et al. (2003).
25. See Giuliano et al. (2018), Knight et al. (2014), and Giraudeau and Bailly (2019),
26. As shown in this video from the Sherbrooke Care Home in Saskatoon. <https://www.dailymotion.com/video/x31ihvy>
27. See Lokon et al. (2012).
28. See Epstein and Boisvert (2006).
29. See Radford et al. (2018) and Jarrot et al. (2019).
30. See Proulx et al. (2021) for more information on the iGen program and student well-being benefits and <https://youtu.be/XbG011JeG-o> for an interview with Keri Albert, the founder and lead teacher.
31. Described in this video: [https://www.youtube.com/watch?v=LiWeygFwnh4&list=PLCN4RiMNE8UxUaDLmu-jGlxEAs5g\\_Q7TqB&index=3](https://www.youtube.com/watch?v=LiWeygFwnh4&list=PLCN4RiMNE8UxUaDLmu-jGlxEAs5g_Q7TqB&index=3)
32. It may be reassuring to know that although limiting the search for better solutions (i.e. sticking within one's own silo) is universal, it is less prevalent among the best players (Bilalic et al., 2008).
33. This unmet need has been noted even before risk committees became all-pervasive. See Shapiro (1990).
34. For example, many countries already have national indemnification programs for travelling cultural exhibits, pooling risks to increase the feasibility and lower the costs for such exhibits. An EU report 24 of 30 EU countries to have such schemes, with actual claims being very small relative to benefits provided. See Galambos et al. [https://okm.fi/documents/1410845/3956635/State\\_indemnity.pdf/7567b3d2-faa8-40a0-a70a-fd7233fb574d/State\\_indemnity.pdf.pdf](https://okm.fi/documents/1410845/3956635/State_indemnity.pdf/7567b3d2-faa8-40a0-a70a-fd7233fb574d/State_indemnity.pdf.pdf)
35. See Kumlin and Rothstein (2005).
36. See Keyes et al. (2010).
37. For example, Helliwell et al. (2018, Fig 18.3) show that living in an environment of high social trust is of greatest value for those most likely to be in misery, whether through illness, unemployment, or being a member of a group subject to discrimination.
38. The report, released under an access to information request, may be found at: <https://kaingaora.govt.nz/assets/Publications/OIAs-Official-Information-Requests/May-2020/Attachment-22-May-Porirua-Business-Case.pdf>

39. For an elaboration of these possibilities, see <https://link.springer.com/article/10.1057%2Fs41301-017-0113-x>
40. For more on this point, see Helliwell (2014).
41. Quotation from p. 37 of <https://www.pce.parliament.nz/media/197166/wellbeing-budgets-and-the-environment-report.pdf>





## Chapter 2

# Building Back Happier In Education

---

Thematic group: Education

**Radhika Iyengar**

Center for Sustainable Development, Columbia University

**Tara Stafford Ocansey**

Center for Sustainable Development, Columbia University

**Kamiya Kumar**

Teachers College, Columbia University

**Alexis Decosimo**

Playing to Live, USA

With contributions by:

**Ashley Nemiro**, MHPSS Collaborative

**Elizabeth Raymond**, American University of Nigeria

**Suchitra Sarda**, Center for Systems Awareness

## Introduction

Two decades into the 21<sup>st</sup> century, our global community is battling the worst pandemic in a century, reckoning with the legacies of oppression, and waking up to the rapidly increasing severity and immediacy of climate disaster. These intersecting challenges have brought issues of mental health and well-being to the fore, with the U.S. Surgeon General recently sounding the alarm about a youth mental health crisis. In the advisory, the U.S. Surgeon General cites a global survey of 80,000 young people that found depression and anxiety symptoms among young people doubled during the pandemic. The advisory cites social isolation and health and economic stressors resulting from the pandemic as contributing factors, as well as issues such as racial injustice and growing concerns over climate change. Worldwide school closures resulting from the COVID-19 outbreak shined a spotlight on the critical role that formal schooling plays in keeping our social and economic systems running, and in turn, providing a foundation for happiness and well-being within the lives of learners and their families. At the same time, school closures have forced renewed conversation about the purpose of schooling and how schools can play more prominent roles in supporting learner, family, and community well-being and resilience. Increasingly, global education leaders are grappling with how schools can equip learners with cognitive skills for learning core academic subjects and social-emotional and civic skills to enhance well-being, engagement in education, and participation as empowered citizens.

While the pandemic has brought a sense of urgency to the conversation about education and well-being, the movement within the education field toward more holistic approaches that prioritize learner mental health, well-being, and skills for resilience has been well underway in the last years. For example, in Delhi, India, a Happiness Curriculum was launched in 2018 based on the premise that helping students develop skills to support their happiness and contribute to their well-being would translate to improved learning and life outcomes. As the pandemic has accelerated efforts to integrate

Social Emotional Learning (SEL) in school policy and practice, many educators have also called for SEL approaches that help facilitate understanding of societal inequities and injustices.

This chapter will explore examples of education policy and programming that promote well-being across education ecosystems — considering the ways that teacher, family, and community well-being all help create healthy environments in which children can thrive. The next section begins with a discussion of how this chapter conceives happiness and well-being and how these conceptions can inform effective strategies for building back happier in education. The sections that follow explore various key strategies. Considering the roles of formal education systems, the chapter discusses SEL and mental health support for teachers and students, inclusive education communities for students with individualized education needs, creative and play-based pedagogical approaches, and whole-institution approaches to implementation. Considering the roles of education systems within wider cultural and ecological contexts, the chapter examines a more critical approach to SEL that prioritizes building empathy for the ways that societal injustices create barriers that are beyond the scope of what individualized strategies for well-being can address and how such approaches can build a foundation for collective well-being and resilience over the longer-term. The chapter will show how specific program examples are designed, how they are being implemented, how their outcomes are being measured, and how these approaches can inform the adoption and adaptation of education policy and practice that promotes well-being, justice, and resilience in various country and community contexts around the world. The chapter concludes with recommendations for building back happier in education.

## Defining Happiness and Well-being for Education Contexts

Before exploring case study examples of how education systems and educators encourage happy learners, this section introduces a framework for what we mean by “building back happier” in education. While the terms “happiness” and “well-being” may often be used interchangeably, it is essential to define these terms and how they relate to each other. The term happiness, of course, can mean many things to different people. When used to refer to a person’s current emotional state or feeling, researchers often refer to this as the *Emotional State* theory of happiness. However, use of the term happiness to describe a person’s fleeting emotional state is distinct from its use to refer to a happy *life*. This use of the term is exhibited by the degree to which a person feels their life aligns with their ideal vision for their own life and/or by high levels of health and subjective well-being, and is often referred to as the Life Satisfaction theory of happiness. This conception of happiness is more relevant to the overlapping concepts of well-being and resilience, contributing factors to common life satisfaction measures, including having a sense of health and well-being and belonging to healthy families and communities.

Common frameworks of well-being that align with the Life Satisfaction theory of happiness include the concept of positive psychology and the PERMA theory of well-being developed by Martin Seligman. Seligman’s PERMA theory is an acronym that defines five building blocks of well-being, including Positive emotions, Engagement, Relationships, Meaning, and Accomplishment. Seligman’s research has shown that, when measuring these proposed building blocks of well-being individually, their composite matches closely to single measures of subjective well-being. These building blocks do indeed make up much of what adds up to well-being, therefore offering insight into the kinds of strategies employed to cultivate each of the building blocks. O’Brien notes that Seligman’s positive psychology research ignited her imagination to pair happiness research with education for sustainability, leading her down a scholarly path to develop the concept of Sustainable

Happiness, which can be defined as “happiness that contributes to individual, community and/or global well-being without exploiting other people, the environment, or future generations.” Based on both Seligman’s and O’Brien’s concepts of happiness and well-being, building back happier aims to develop building blocks of well-being in learners that can come together to promote broader individual and collective well-being in ways that also prioritize the well-being of other people and the planet. These strategies include addressing the Emotional State or Positive Emotions sense of well-being by promoting inclusive and participatory classroom approaches such as play-based learning and creative pedagogies. They address the Life Satisfaction sense by building community among learners, their families, and other local stakeholders that help cultivate engagement and relationships, and by facilitating skill-building in areas such as goal setting, action planning, reflection, and meta-cognition that can help learners find meaning and a sense of accomplishment. Finally, they extend the building blocks of meaning and accomplishment to incorporate the concept of Sustainable Happiness by promoting justice-oriented approaches to SEL that can help learners understand their roles in society and in their environment, and feel empowered to take action to address shared challenges that stand in the way of collective well-being for all.

Socio-ecological models of resilience and well-being in children, as illustrated in [UNICEF’s Social-Ecological Framework](#), help demonstrate the importance of relationships and engagement in fostering well-being by considering the intersecting roles of a child’s social contexts — including their family, school environment, community, culture, and others — in facilitating resilience and well-being. When education institutions include the systems that surround a child in their strategies for promoting learner well-being, especially considering the well-being of their caregivers and communities’, the child’s chances of optimal growth, resiliency, capacity for learning, and well-being increase. Therefore, strategies to build back happier in education need to act across these social-ecological levels.

As outlined in the introduction, this chapter will explore various case study examples of how

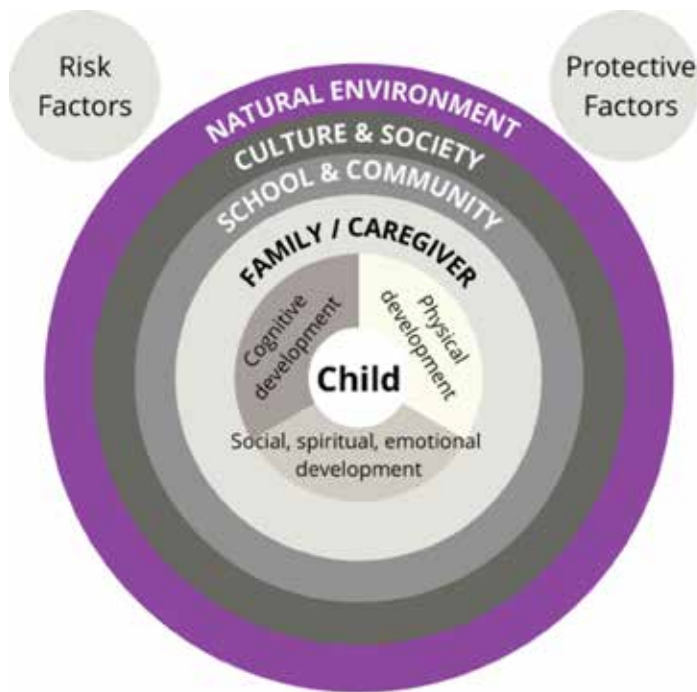
education systems are promoting well-being through this social-ecological lens, considering the ways that various program approaches promote happiness and well-being on an individual level (i.e., through mindfulness practice and learning through play techniques) as well as on a collective level (i.e., through taking action to understand root causes and addressing societal inequities, injustices, and environmental concerns.). How can these examples be amalgamated to build a holistic understanding and approach towards both individual and collective well-being to create sustainable change and more sustainable, equitable societies?

**Promoting Social-Emotional Learning and Mental Health Support for Teachers and Students**

The global pandemic highlights the importance of schools in providing social and emotional skills

and support for both students and teachers. The National Education Association in the United States has stated that Social Emotional Learning (SEL) should be prioritized for all students during and after the COVID-19 crisis. SEL can be defined as a process for cultivating the necessary skills, attitudes, competencies, and knowledge to learn and achieve well-being and be effective in social interactions. Many teachers and experts are calling to include SEL in all aspects of existing curricula. World Bank education experts agree that the SEL component must be prioritized. A report by the Collaborative for Academic, Social, and Emotional Learning (CASEL) on efforts in the United States to elevate SEL found that states had engaged in several strategies to support districts and schools, including addressing mental health needs and supporting SEL for teachers and staff, providing professional development for teaching SEL, and implementing SEL strategies through

**Figure 2.1: The Social-Ecological Model. Adapted from *Community-Based Mental Health and Psychosocial Support in Humanitarian Settings: Three-tiered support for children and families* (page 20), UNICEF (2018)**



distance learning in response to the pandemic. One notable example comes from New Mexico, where their Remote Learning guidance encourages teachers to reflect on the cultures and values of the students' families they serve as part of their support for students' social and emotional needs.

The CASEL survey's inclusion of SEL and mental health support for teachers is noteworthy, as teachers' stress and burnout can inhibit their well-being, dampen healthy student-teacher relationships and contribute to poor learning outcomes, particularly in vulnerable and low-socioeconomic status settings. In their landscape review on teacher well-being in low-resource, crisis, and conflict-affected settings, Falk, Varni, Finder, and Frisoli discuss how strategies to support teacher well-being are typically not prioritized, despite evidence of the vital role teachers play in student learning and the stressful nature of the profession. Teachers are often exposed to their learners' experiences of conflict and crisis in addition to their personal experiences. The authors outline how school-level coping strategies employed by teachers, such as collaborating with colleagues and engaging in professional development aimed at promoting teacher well-being and skills for facilitating SEL, can serve as an asset-based approach that validates and builds on teachers' skills and resilience processes to support each other's well-being mutually.

Research on the impacts of teachers' professional development in stress identification and reduction strategies shows that even short, self-paced, online modules, such as the free Social Emotional Learning for Teachers (SELF-T) online course, can contribute to teachers' increased use of stress reduction strategies, as well as increased use of expressive encouragement with children experiencing negative emotions. To support educators and primary caregivers with skills for supporting mental health, psychosocial well-being, and SEL of young people, the LEGO Foundation launched a 9-week, online, asynchronous course in 2020, developed in collaboration with international Mental Health and Psychosocial Support (MHPSS) and SEL experts. The course is focused on building skills and approaches for facilitating learning through play, understanding the importance of SEL in crisis, facilitating age-sensitive

SEL knowledge and activities, and helping children learn to cope with changes and transitions.

As teachers have by and large returned to in-person teaching, some countries have been explicit in laying out plans and financing for supporting teacher well-being during re-entry. The U.K government adopted a Teachers' Wellbeing Charter and a Well-being for Education Return plan for students and teachers. The Teachers' Well-Being Charter includes recommendations to improve access to online resources for teachers to support their mental health and well-being and integrate teacher well-being into any training, standards, or guidance. The Wellbeing for Education Return plan included a multi-million GBP investment in teacher training led by mental health experts.

In terms of equipping educators with skills for facilitating SEL in classrooms, education systems must ensure that the curriculum includes standards for SEL and teachers are equipped with content knowledge and pedagogical approaches for facilitating SEL in classrooms to promote equity and justice. To this end, some states and countries have adapted teacher training criteria and school curriculum to address social-emotional learning and students' well-being explicitly. In India, the National Initiative for School Heads' and Teachers' Holistic Advancement (N.I.S.H.T.H.A.), a national model for teacher and school leader training and the world's largest teacher training program of its kind, is implemented through a step-down model from the national to the local level, with resources offered online as well. Expected outcomes of the training program include "teachers being trained as first-level counselors to be alert and responsive to the social, emotional and psychological needs of students" and "the creation of a healthy and safe school environment."

Education systems also adopt curriculum standards to ensure that SEL is integrated across the curriculum. For example, in the U.S. state of New Jersey, a modified version of the CASEL framework has been adopted that includes five strands — self-awareness, self-management, social awareness, responsible decision-making, and relationships — integrated into teaching, across subjects. Teachers are required to integrate these SEL standards into all of their teaching. New

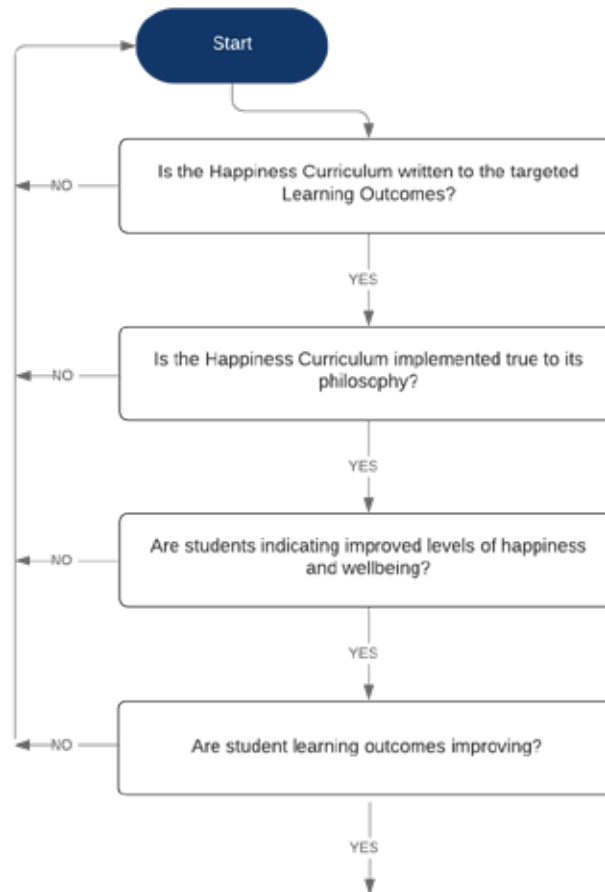
Jersey also has suggested lesson plans and activities for the teachers, including resources for families. Many districts have provided in-service professional development in SEL approaches and special SEL units to support teachers and students in re-entry to in-person schooling. Another example is New York State, which adopted a Framework for Mental Health Education Instruction that includes self-management, resource management, and relationships.

One challenge in implementing SEL is that most of the well-known models originate from the Global North/West and may need significant adaptation in Global South contexts. To help address this challenge at scale, the Inter-agency Network for Education in Emergencies (INEE) launched a Psychosocial Support – Social Emotional Learning Collaborative in 2018 to address gaps in policy, practice, and research on PSS and SEL, particularly in conflict and crisis settings. In partnership with Harvard’s EASEL Lab, the Collaborative’s PSS-SEL Core Framework aims to help develop a shared language for PSS and SEL to better support policymakers, practitioners, researchers, and other stakeholders as they further develop locally relevant dimensions and competencies of SEL and PSS. An example of a program informed by the work of INEE, and which seeks to adapt common SEL Frameworks into an approach for a specific local context, is a program that has been underway in Northeast Nigeria since 2019. The program approached this framework adaptation process by inviting education leaders from two Northeast Nigerian states to participate in a facilitated group decision-making process to review existing models, including CASEL and PERMA, the International Rescue Committee’s Healing Classrooms model, and others, then identify what elements could be adapted and/or added to prepare a locally-relevant SEL framework. Based on the competencies and skills the group identified and defined as the SEL framework, the program team, (made up of education experts from a Northeast Nigerian university and a US-based university), collected and adapted local and global examples of SEL activities and classroom management strategies that teachers could use to promote SEL in classrooms. Activities included mindfulness activities, fun songs in the local language

addressing SEL themes, and local stories supported with discussion questions to explore concepts of self-management, empathy, teamwork, and resilience. Since schools resumed in September 2020, the program team has regularly visited classrooms to support teachers in implementing SEL approaches. The team has also trained a cohort of Community Education Workers (CEWs) to support student and family well-being through activities such as visiting students’ homes when they are absent to check on them and share knowledge about how families can integrate SEL in homes. While data for the program is still being collected, initial findings have shown that teachers have stopped using harmful classroom management practices like corporal punishment and that students are more eager to come to school. The program has even seen a steep rise in girls’ enrolment since the implementation of the SEL program, perhaps indicating that implementation of SEL has helped to create more welcoming learning environments and community connections.

Another model of contextualized SEL from the Global South is the Happiness Curriculum, which has been implemented in New Delhi schools since 2018, from Kindergarten through Grade 8. The program engages students in one period of Happiness Classes each day. These classes engage students in games, reflective conversations, storytelling, mindfulness practice, and role play. In alignment with India’s new National Education Policy of 2019, the Happiness Curriculum is aimed at helping students develop foundational skills for happiness and well-being that will translate to improved learning and life outcomes. The curriculum borrows from O’Brien’s concept of Sustainable Happiness, designed for students “to reflect on the relationship between their feelings, thoughts, behaviour and their impact on themselves, family, society around them, and the natural environment.” New research by the Center for Universal Education at Brookings, with support of the Dream a Dream Foundation, aims to understand better how the program’s lessons and implementation align to the program’s objectives, how students and teachers have received the program to date, and what kinds of measures can best capture and assess the program’s desired competencies and outcomes.

**Figure 2.2: Decision Flow Model from Care, E., Talreja, V., Ravingranath, S., Sahin,A.G. (2020). Development of Student and Teacher Measures of Happiness Curriculum Factors. Dream a Dream Foundation and Brookings.**



After some rounds of data collection with students and teachers, analysis, and fine-tuning, the research team developed a set of scales that mapped onto the three main competency areas of the Happiness Curriculum — 1) critical thinking and reflection, 2) being mindful and attentiveness and 3) social-emotional skills. The research team notes that a benefit of the assessment exercise is that it encourages metacognition — or thinking about one’s patterns of thinking — itself a valued skill in the Happiness Curriculum. Noting the challenges of measuring social-emotional characteristics, particularly in children who may have limited capacity to respond in valid ways, as well as the impossibility of facilitating a controlled trial for a program implemented across all Delhi public

schools, the research team proposed the Decision Flow Model shown in Figure 2.2, which can be a helpful guide for implementers of SEL and other programs aimed at improving well-being.

At another school in Delhi, India, the school community focuses on integral education, which aims to develop all faculties of the human being, including the soul and spirit, with the goal of students experiencing the joyful freedom of inner growth as an approach to cultivating peace and happiness. This approach is based on a holistic/ non-reductionist understanding of human nature, with parallels to Seligman’s building block of meaning in the PERMA model, which guides students through this journey of inner growth, views each learner as a unique, complex, and

evolving person and aims to consider students' needs while designing group projects. Learning objectives for these group projects are designed to evaluate holistic student growth, and evaluation is based on student reflections as well as teacher reflections and feedback. Relatedly, integral education focuses on cultivating inner self-discipline amongst students to guide them through a journey of inner spiritual growth. Recognizing that no learning or progress is possible without deeply ingrained self-discipline, the school culture values the ever-continuing attempt to nurture inner self-discipline. Inner self-discipline implies "a growing sense of responsibility, sensitivity and maturity: the very core of a learning process" and is a process that "demands parents' and facilitators' constant and ongoing involvement."

An example of a contextualized SEL program from Uganda, called Eminyeeto, was implemented to address the low school enrollment of girls. The program team noted that, beyond the most commonly discussed reasons for low girls' enrollment, such as poverty, high opportunity costs, and lack of quality education, additional barriers often include girls' low self-esteem and inequitable gender attitudes. The program team conducted consultations with teachers and Ugandan education experts to develop a tailored SEL curriculum designed to increase girls' competencies for stress management, delayed gratification, and the ability to feel motivation and agency to achieve their goals. The program trained female teachers in 10 treatment schools by first guiding them through reflecting on their own social and cultural biases as women. The program allowed for flexibility in when and how teachers implemented the SEL modules, only requiring that the modules be covered by the end of the academic year. The program reached 291 girls between 12-17 years old. These girls saw improvement across all measured SEL domains of self-esteem, self-efficacy, responsible choices, social support, equity for girls, and rights and privileges of men, compared to a control group that saw improvements in only social support and equity for girls, with lower scores in other areas.

### **Inclusive Classrooms and Learning Communities for Learners with Individualized Needs**

While the pandemic has impacted all families with school-aged children in one way or another, the experiences of school closures for families with children relying on Individualized Education Plans (I.E.P.s) for special learning needs were particularly challenging. In the U.S. state of California, many parents struggled to get support from their schools and even to find reliable information on what services they could continue to rely on during the lockdown. While improving channels for communicating about and supporting I.E.P.s for learners with disabilities is a longer-term strategy for building back happier, one leader aimed to address the near-term well-being needs of families of learners with disabilities by working through Community Advisory Committees made up of parents of children with disabilities to organize regular check-in calls. During these calls, parents would practice stress-relieving exercises like deep breathing, share strategies for connecting with the right people to advocate for their children's I.E.P.s, and build a community around their shared challenges. Education systems can foster these support networks and encourage school and district leaders to support their networks with coping skills for dealing with difficult emotions and situations.

### **Creative and play-based pedagogies**

The use of creative approaches in education has great potential to promote protective processes that foster resilience through meaning-making, as research shows that the ability to attach meaning to difficult experiences can help promote effective coping strategies. Heise discusses links between creativity and resilience, with creative expression serving as a haven for people in times of stress and helping to build resilience skills such as problem-solving, autonomy, social competence, and a sense of purpose. Art activities strategically facilitated by educators can provide opportunities for expression, meaning-making, and building resilience. For children who have experienced adversity, expressive arts can provide a space for nonverbal exploration of safety, rebuilding a sense of control and self, and emotional regulation.



Living in a pandemic can impact every corner of a child's life. Pandemics create fear for safety, potential loss of loved ones, and isolation from peers. When it is safe to gather outside, community-based play and artistic expression can effectively combat these adverse effects. During the 2014-2015 Ebola epidemic in Liberia, the INGO Playing to Live and Liberian N.G.O. R.E.S.H. implemented a large-scale psychosocial arts program for children impacted by the virus. This UNICEF-funded program trained female Ebola survivors to facilitate play and expressive arts programming centered on teaching coping skills, building relationships, and providing a space for children to learn how to use art and expression to communicate emotions and hopes. Despite the facilitators ranging in professional and educational backgrounds, the qualitative data reflected that the hands-on training and supervision successfully taught basic psychosocial skills and play facilitation. The program reached 870 children and had two different treatment times, 5-months and 3-months. Both programs resulted in significant decreases in stress symptoms for the children, with the data indicating that the more prolonged treatment had a larger impact on decreasing stress symptoms. While group settings may not be available at specific points, art and play expression facilitated by a trusted adult can impact a child's well-being. For educators working in emergency settings, a recently released online course, developed by a consortium of leading Education in Emergencies and MHPSS practitioners, focuses on Learning Through Play in Education in Emergencies settings and is available for free online, to be taken at participants' own pace.

Play-based learning is critical for early years. One such program that uses SEL as its foundation for psycho-social well-being and social justice is Think Equal. Through directed play-based learning, Think Equal's approach is to co-construct pro-social neural pathways in the developing brains of early years children for positive life outcomes. The early education program for 3 to 6 years old looks at social equality, gender, racial and religious equality, social and emotional health and well-being, environmental stewardship, and global citizenship, based on social-emotional learning, with storytelling as the spine of the

program. The concrete programmatic toolkit focuses on experiential understanding and incorporates 25 SEL competencies: empathy; collaboration; self-awareness; resilience; emotional literacy; perspective-taking; self-esteem; relationship-building skills; self-regulation; inclusion; self-confidence; kindness; gender equality; being an advocate for others — an 'upstander'; problem-solving; moral and ethical values; communication skills; global citizenship; critical thinking; peaceful conflict-resolution; mindfulness; environmental awareness and action; creativity; a celebration of diversity; and goal setting. These skills are taught through ninety 30-minute lessons, led three times each week over a school year. There are also home-based activities (150 x 10-minute exercises) for parents to enjoy with children at home. Think Equal's empowering, value-based social and emotional learning curriculum has six core tenets- The child as an empowered being; an active, constructive learning environment; the use of positive language; the concept of Ubuntu; the process of narrative; and social cognition. In partnership with local non-profits and U.N. agencies (e.g. UNICEF, UNESCO), Think Equal operates in more than 18 countries on 6 continents, including South Africa, Guerrero, the most violent state in Mexico, and Rajasthan, the most gender-unequal state in India.

## **A Whole School Approach**

A whole-school or whole-institution approach to SEL can be described as facilitating engagement with SEL at the following levels: leadership and commitment, school culture and environment, professional learning, teaching and learning, community partnerships, and support for students and staff. It is essential for educational policies and direct stakeholders such as school systems, curriculum, students, and school leadership to share a bi-directional relationship so that voices on-ground can shape educational policies and programming that are contextually relevant across the global landscape.

Integration of SEL requires the whole school or institution to adopt SEL into the organizational culture and ways of teaching and learning. Integrating SEL into the curriculum is one aspect.

However, SEL needs to be reflected in the more extensive school system through its various policies. One example of this is the Australian state of Victoria, where they have piloted a whole-school approach to respectful relationships. Their approach includes the following strategies: foster a friendly, respectful and inclusive environment; implement a positive approach to behavior management; establish proactive policies addressing well-being and inclusion; drive improvement in well-being outcomes through various school improvement programs; provide opportunities for student participation and leadership; and foster strong partnerships with students, parents, caregivers, community and service providers. The state of Victoria recommended the following: explicitly teaching social and emotional learning skills; providing a comprehensive well-being education program; explicitly developing personal and social capabilities. A pilot study of the whole-school approach to respectful relationships found that the approach led to increased student engagement, improvements in teacher-student relationships, improvements in student classroom behavior, and changes in attitudes that allowed violence to occur.

**SEL, Peace and Human Rights Education, and Education for Sustainable Development frameworks as transformative pathways toward social justice and sustainability**

Efforts among education systems to integrate SEL amid the pandemic are happening alongside local and global movements to address and heal from historical and ongoing legacies of racism, discrimination, and exploitation, as evidenced by movements such as the Black Lives Matter movement and the Stop Asian Hate movement in the U.S., the End SARS movement in Nigeria, and efforts among farmers in India to push back against exploitative laws that would hinder farmer livelihoods and widen income inequality. Young people around the world have taken to the streets through movements like Fridays for Future calling for urgent action to mitigate the worst effects of climate change. The rise of these movements highlights the links between unexamined biases and consumption practices that contribute to upholding discriminatory and

unsustainable systems, and SEL competencies like self-awareness and empathy that can help examine and understand identities and break down harmful prejudices and practices. Using the lens of our adapted Social-Ecological Framework, which argues that approaches to children's well-being must consider their wider school, family, community, cultural, and environmental contexts, thoughtfully implemented SEL can serve as a pathway to exploring and interrogating the roles of cultural and social norms and systems in enabling or hindering individual and collective well-being. Yet as Simmons notes, many popular SEL frameworks and programs do not explicitly confront forms of racist violence and various societal inequities, and SEL is often taught in ways divorced from the larger sociopolitical context. Camangian and Cariaga call for education for humanization, arguing that existing SEL frameworks fail to offer an adequate analysis of intersecting oppressions and their impact on the well-being of oppressed people and communities, serving to propagate existing power relations. Still, teachers have valid concerns about being accused of politicization or being ill-equipped to discuss complex issues. In places like the U.S., efforts to integrate more accurate, integrative histories of discriminatory policy and practice, and the impacts of their continued legacies in the school curriculum, have faced immense backlash, with some states in the United States, such as Texas, taking legislative measures to prevent teachers from discussing current events in classrooms. In the U.S. State of Wisconsin, legislators have proposed legislation to ban certain concepts from being taught, including "social emotional learning", "action civics", "equity", "systemic racism", and "social justice." These challenges are not to be minimized, and working to overcome them must be central to the work of building back happier in education.

SEL curriculum and programming, if implemented through an anti-racist, restorative justice, sustainability-oriented lens, can offer opportunities to build skills for self-awareness that can help learners explore their biases and build learners' skills for empathy toward others and toward the environment. Scholars of SEL are working to build in an equity and justice lens for common SEL frameworks. For example, Jagers,

Rivas-Drake, and Borowski explore how the CASEL competency framework can be viewed through an equity-focused, culturally responsive lens. Some examples of how the CASEL competency areas are being reframed through an equity and justice lens include, for the CASEL competency area of Self-Awareness, facilitating discussions that explore teachers' and students' racial, class, and gendered identities. For the CASEL competency area of Responsible Decision-making, this reframing might guide teachers and students to explore how various potential decisions can either serve the status quo, or prioritize distributive justice, sustainability, and collective well-being for all.

An example of educators taking on this work is the collective of educators called LiberatED SEL, mobilized by scholar Dr. Dena Simmons. LiberatED SEL aims to support educators in deepening their skills for facilitating SEL in ways that promote racial justice and healing, offering teacher fellowships, online discussions, and resources through their website and monthly newsletter. Beyond SEL, education frameworks such as Peace Education, Human Rights education, and Education for Sustainable Development offer additional avenues for educators to guide their students through interrogation of the root causes of societal inequities and sustainability challenges.

There is agreement amongst most peace education scholars that peace education is primarily focused on dismantling all forms of violence and building a more just, peaceful, and happier world. In its manifestations, the field includes considerations of practice, policy, theory, and pedagogy that combine to develop knowledge, ideologies, and skills required to build peace and happiness. Peace education has evolved to highlight further the quest for liberation, self-determination, and freedom from colonial and imperial rule in the Global South and among marginalized populations in the Global North, the role of feminist scholarship in the 1970s and 1980s that aimed to dismantle patriarchy, strengthening peace research, and pedagogy of peace education shaped by prominent educational theorists such as Dewey, Freire, and Montessori, that reflected a broader vision of how humans should interact with the earth, each other, and their broader communities. With other forms and fields of

education intersecting with pedagogies, practices, and goals of peace education, there is discourse across the fields of conflict resolution, human rights education, environmental education, multicultural and anti-racist education to prevent or address violence, connect issues of human dignity, build planetary stewardship and engage with increased xenophobia and ideas of pluralism.

Examples of critical peace education frameworks can be found in schools across contexts. For instance, one school in Delhi delves deep into root causes of conflict and injustice by engaging students with realities of the subaltern segment of society and recognizing complexities and paradoxes of human society by forging a historical framework to interpret knowledge about the past and understand themselves in order to respond to change and existing social conflicts. Relatedly, at Bluebells School International, facilitators support the entire learning process by posing probing questions and providing a template for session outlines, rubrics for self/peer-review and feedback tools, while working with students as they navigate sensitive issues and experiences, such as bullying, women's equality, LGBTQIA+ rights, discrimination and racism, social media, cyber addiction, self-harm, fear of being judged, gender toxicity and double standards, acceptance of failure, and self-love, to mention a few. For example, as part of this collaborative process, a group of students from 9th Grade brought forth the theme of women's equality, and they delineated some of the problems and root causes as: 'biased mindsets and lack of awareness, the 'will to dominate' and 'internalized misogyny'. Recognizing the centrality of building awareness and working collectively to challenge biased mindsets, these students addressed an array of issues that included violence against women, exploitation, female foeticide, and menstruation myths. As they co-facilitated the session, they drew on examples across international contexts, examined government policies, and proposed solutions such as addressing these topics with students from 13 years of age. The discussion also led to an examination of school practices and discussion of what could be done differently to build awareness amongst peers, teachers, the broader school community, and parents, which included

fully examining school rules and policies, designing/administering surveys to garner perspectives from teachers and parents on related themes, (such as ‘would you accept your child (boy) wearing a skirt?’), organizing and conducting gender sensitization workshops for students, teachers, and parents, amongst others. The focus on continual reflective practices can encourage students, teachers, school leadership, and policy-makers to examine the roots of their own identity (class, gender, religion, race, sexual orientation, etc.) and draw links from self to collective, furthering happiness and positive peace.

Within the complexities of existing education systems, having students lead the discourse on well-being and happiness is an integral way to ensure that their lived experiences and narratives continue to shape the dynamism of school culture, practices, and, eventually, educational policies. There is an ongoing effort at the schools highlighted above to ensure that these conversations and spaces are embedded across subjects/grades. In places like the U.S. state of New Jersey, such critical discussions are embedded in curriculum standards, through examples such as a middle school civics standard to “Identify an issue of inequality, develop multiple solutions, and communicate the best one to an appropriate government body,” and a high school economics standard to “Evaluate efforts of governmental, non-governmental, and international organizations to address economic imbalances, social inequalities, climate change, health and/or illiteracy.”

One of the biggest challenges in transforming education systems to prioritize and support individual and collective well-being and resilience is building self-reflexivity amongst the entire teaching and learning community in ways that enable each one of us to: acknowledge our subjectivities and positionalities, build awareness of the multi-layered identities and intersectionalities that define individuals and communities, and create space to undertake a journey of personal and collective transformation. Toward this end, education systems must also consider how their broader teacher training and placement structures have implications for the degree of inclusivity and belonging that can be enabled for students and their families within school

environments. These practices are essential as schools may harm learners, particularly those from minoritized groups when school cultures are misaligned with their students’ community and family values. Part of this misalignment stems from the vast differences in the demographic make-up of students and teachers. In the United States, non-white children make up a majority of public school student populations, particularly in urban schools. Yet, less than 20% of teachers are racial or ethnic minorities. This misalignment has implications for education resilience. Research shows that non-white students have more favorable views of Black and Latino teachers who they can more easily identify with, promoting motivation, interest, and improved learning outcomes. Numerous studies have demonstrated that teachers often have lower expectations of Black and Latino students than their White and Asian peers. Cherng found that these inequitable expectations among teachers translate to students’ lower expectations for themselves. However, research has also shown that when teachers are deliberate about effectively communicating their high expectations for all their students, these high expectations can translate to higher learning gains for Black students than White students, helping to close achievement gaps. Such high expectations exemplify how interventions aimed at improving student-teacher relations can translate to improved educational resilience and well-being that can buffer environmental risk factors, such as racism, that students face.

### **Building capacities for resilience for learners, families, and communities**

Education must support and foster community resilience amongst all students. Hajir, Clarke-Habibi & Kurian suggest that resilience that solely focuses on the individual’s agency and does not address the more significant structural issues is seriously flawed. Resilience in the form of political resistance must be given due attention. Pedagogical practice that facilitates learner agency to take action in their communities to address problems that impact them, such as through project-based learning, place-based

learning, and action civics approaches, can build problem-focused coping strategies in learners that foster both their individual protective processes for resilience, as well as contribute to greater community resilience by addressing systemic challenges and inequities as part of their learning.

New Zealand provides one example of an education system acknowledging the power of learner agency and taking action in one's community as coping strategies for dealing with difficult situations and transitions. The Ministry of Education launched a [Climate Change Wellbeing Program](#) for 11-15-year-olds. The program addresses the negative impacts on learner well-being and "eco-anxiety" that stem from the threats that climate change poses to young people's lives by equipping learners with action civics skills to take action to address climate change in their communities, along with skills for supporting their mental health and well-being.

New York City's Department of Education launched its Civics for All program to equip educators with a K-12 curriculum, resources, and experiential learning opportunities to facilitate their students. Activities in the program include partnering with the city government every year to register eligible high school students to vote and helping promote student voice through participatory budgeting, whereby students allocate portions of their school budgets toward their identified priorities, such as implementing community projects.

For education systems and schools to cultivate youth agency and skills for resilience, beyond the types of programs and curricula outlined above that engage learners in addressing problems in their communities, education decision-makers should engage learners from the early stages in identifying and helping to design education approaches that tap into their prior knowledge and lived experiences. In their multi-country study of youth perceptions of effective resilience strategies, Vostanis et al looked at how young people in low- and middle-income countries formulate resilience strategies when faced with various adversity scenarios relevant to their socio-ecological contexts. The authors argue that most research on resilience strategies for

youth has focused on the contributions of adult stakeholders without directly considering the perspectives of youth who are the targeted recipients of interventions aimed at building their capacities for resilience. Participants in the research were 274 young people aged 10-17, from Kenya, Turkey, Brazil, and Pakistan. The young people were asked to define resilience strategies in response to a set of adversity scenarios that spanned a socio-ecological framework, including scenarios impacting a young individual, a family, a school, and a community.

The youth-generated strategies identified in the study for promoting protective processes to foster resilience demonstrated some similarity across cultures and highlighted how specific contextual adversity scenarios call for contextualized resilience strategies. Intrapersonal strategies such as self-management included engaging in free-time activities that might help people redirect their minds by engaging in something enjoyable like reading. Activities like listening to music and drawing were identified across cultures, highlighting the universal nature of music and the arts to promote well-being. This understanding can inform the kinds of programs that can be integrated into education spaces and the professional development that teachers take part in. The findings demonstrate the key role that young people can play in developing resilience strategies. Thus, their voices should inform the development of educational interventions to foster resilience in learners. The authors also note that considering how youth responses cut across individual processes, a formal and informal network, education interventions should also consider how they can engage the various levels of young people's socio-ecological environments, including their families and communities.

Recognizing the importance of including student voices in designing education solutions to improve well-being and resilience skills in learners and their communities, and to ensure that this report stands true to the recommendations that we make as a group of policy-makers, researchers, and practitioners, we asked a group of students, the direct stakeholders of education, to reflect on what well-being means to them. As part of ongoing life-skills sessions at Bluebells School

International in New Delhi, India, context about this report was shared with seventh-grade students, where it was highlighted that, when it comes to making decisions about education, knowledge is often constructed and decisions are made by researchers and policy-makers, without including input from those most directly impacted — the students. To actively involve students in this conversation, and in the process, help affirm their lived experiences, narratives, and voices, students were invited to brainstorm the following prompts –

How do you define well-being, how does one cultivate/build these aspects of well-being [specific tools, resources]?

What kind of education is needed to build the well-being you envision or how would define education for well-being?

An initial large-group discussion led to the sharing of myriad viewpoints, some of which included ‘being mentally, socially, and physically healthy,’ and ‘less stressed and being able to feel comfortable in any situation.’ One interesting perspective put forth was that ‘one doesn’t always have to be happy and every emotion that we experience plays a role towards our growth and development’. Following the large-group discussion, the students spent time in breakout rooms and were asked to ‘create a collage of images/write bullet points that captured the above prompts’ (see below) In the following session, as each of the groups presented their perspectives, one of the students asked a presenting group, “Do you think that happiness or positive emotions are the only emotions that lead to one’s well-being?” The student referred to the *movie Inside Out*, sharing the example of ‘sadness’ as emotion and how sadness contributed to cultivating empathy. This led to a dynamic debate where the complexities of student world-views, experiences, and perspectives surfaced. The students took the lead of the discussion and, as a follow-up activity, decided to create a ‘land’ or a ‘map’ of their personality and all the emotions that make them who they are so that they could acknowledge and embrace every aspect of themselves, a facet that had been encouraged across sessions with the students. As the dialogue

culminated with the role that education plays in well-being, one student shared that education provides them the language they need to express how they feel.

This discussion is a starting point for educators and policy-makers to ensure that students are supported in a manner that ensures the trust they are extending is nurtured and reciprocated so that education continues to cultivate this expansive view of well-being through a critical and contextual lens. Examples of students’ reflections and outputs are included in the Appendix.

## Recommendations

To conclude, this report recommends the following:

**Curriculum Standards for SEL** — School systems must adopt/adapt grade-appropriate SEL goals and curriculum standards for students and teachers to work towards that have been developed or contextually adapted according to national or global standards. To reach the desired SEL goals, a framework must be in place to guide quality and explicit instruction of social and emotional learning skills.

**Teacher professional development to facilitate SEL through active pedagogies that promote learner agency across subjects** — Teacher training for pre-service and in-service teachers will reinforce the integration of SEL standards across the syllabus in classroom teaching. Teachers must first be trained with strategies for improving their well-being. SEL training that promotes pedagogical styles involving play, creativity, student problem-solving, collaboration, and community action can help promote learner well-being.

**A Whole-School Approach** towards well-being is needed, following the socio-ecological model. This includes creating access to well-being support for teachers and families (e.g., education opportunities, teacher support mechanisms, connecting with local resources and services in the community that focus on well-being), integrating SEL into the curriculum and pedagogical practices of teachers, and creating a healthy, inclusive environment for children at school through institutional policies.

**Access to School Counselors and support mechanisms for students** — Allocate adequate resources for well-trained school counselors to be assigned to one or a network of closely associated schools. In addition, support mechanisms must be built into the school system and be accessible and child friendly, such as peer support networks and student-led task teams focused on well-being. In addition, create a culture in schools where students have the knowledge and skills to seek support when needed.

**SEL as a pathway to promoting social justice and sustainable development** — Justice and sustainability-oriented SEL approaches and adaptation of curriculum and pedagogical practices can help connect learning to students' lived experiences and promote learner agency to understand problems in their communities. Education frameworks including SEL, Peace Education, Human Rights Education, and Education for Sustainable Development should be infused into curriculum standards and teacher pedagogical training to help teachers facilitate student exploration of root causes of societal inequities and sustainability challenges.

**Promoting inclusivity through teacher hiring practices** — Considering how teacher hiring and placement practices can promote greater demographic alignment among students and their teachers to help promote inclusivity and belonging among students and their families. Noting that such alignment may not always be possible, pre-service and in-service teachers should be guided by exploring their own biases and developing pedagogical and metacognition skills to promote and enable fair treatment and expectations of students of all backgrounds and identities.

**Well-being support and SEL opportunities for families and communities** -Well-being and SEL skill development shouldn't be confined to schools. They should extend learning to families and communities, including through models such as CEWs who help bridge the school and students' households and through SEL guidance for families that can be taught and utilized at home.

**Including student voice in the design and development of educational approaches to promote well-being and resilience skills.** Research and classroom activities like those conducted by Vostanis et al. and the activity example described in the Appendix demonstrate how policy-makers and educators can facilitate exploration of students' ideas and experiences and how they can inform the development of policies and classroom approaches to improve students' well-being and skills for resilience.

# APPENDIX 1

Facilitating inclusion of student voice in design and development of classroom approaches to promote well-being and resilience — student outputs from a classroom in New Delhi, India

## Examples of student responses

Responses from students Trinabh Mehra, Ojas Gupta, Dhruv Bakshi, and Manvi Khurana

A1. Well-being is when we are happy in every aspect, be it mentally, socially or physically. It is also when you keep others happy.

A2. We cultivate these aspects by knowing how we would want well-being to be and how we feel about it. One also builds these aspects by many things like happiness and friendship.

A3. Normal schooling education is needed to build the well-being we imagine of. Normal schooling can help us to make friends and that is the key to cultivate the well-being we envision of.



- Well being is when a person is comfortable, happy, and healthy. But it is not just moment to moment happiness. Rather, it is happiness in your whole life.

- There are many things that contribute to one's wellbeing. On a personal note, staying fit, eating a balanced diet, getting enough sleep, making time for hobbies, etc, contribute to one's well being. For a whole community, adequate resources, equal rights, happiness at workplace, proper healthcare, etc.

Responses by Aarav Saini, Anuva Adwita, and Bhuvi Kukreja

With a goal of ensuring that this report stands true to the recommendations that we make as a group of policy-makers, researchers and practitioners, we include the voices of students, the direct stakeholders of education, on what well-being means to them. Examples of students' ideas and outputs are included below.

### How to define well-being

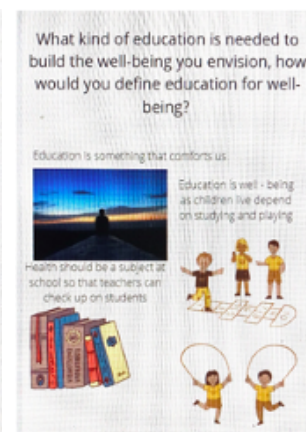
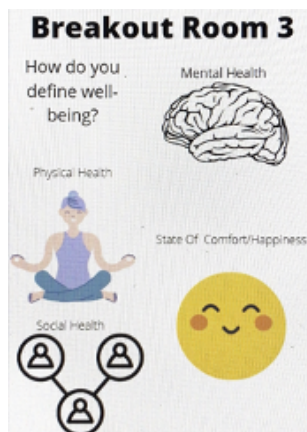
GROUP 1- CHETALI ISHAN ARIHANT AND AANYA



Responses by Chetali Sushil, Ishan Kumra, Arihant Sharma, and Anya Nida Samtuel

A video of student-generated content responding to the prompts, created by students Shrishti Singh, Shreshna Panjla, Viraansh Malhotra, and Prisha Kapoor, can be viewed here —

<https://drive.google.com/file/d/1wFqFV6O8lrRx-8n5Vvk7DhtmON9Nv38jN/view>



Responses by Dhvani Verma, Trisha Sharma and Devyani Bansal



## References

- Agnew, D. (May 5, 2021). GOP lawmakers want to ban "woke philosophies" like critical race theory in Texas schools. *Texas Tribune*. Found online at: <https://www.texastribune.org/2021/05/05/texas-critical-race-theory-schools-legislature/>
- Bajaj, M. (Ed.). (2008). *Encyclopedia of peace education*. I.A.P.
- Bajaj, M., & Hantzopoulos, M. (Eds.). (2016). *Peace education: International perspectives*. Bloomsbury Publishing.
- Brock-Utne, B. (1989). *Feminist perspectives on peace and peace education*. Pergamon.
- Camangian, P. and Cariaga, S. (2021) Social and emotional learning is hegemonic miseducation: students deserve humanization instead, *Race Ethnicity and Education*, DOI: 10.1080/13613324.2020.1798374
- Care, E., Talreja, V., Ravingranath, S., Sahin, A.G. (2020). Development of Student and Teacher Measures of Happiness Curriculum Factors. *Dream a Dream Foundation and Brookings*. Available online at: <https://www.brookings.edu/wp-content/uploads/2020/08/Development-of-student-and-teacher-measures-of-HC-factors-FINAL-081920.pdf>
- Cherng, H.Y.S., Halpin, P.F. (2016). The Importance of Minority Teachers: Student Perceptions of Minority Versus White Teachers. *Education Researcher*. 45:7, pp. 407-420. American Educational Research Association. Available online at: <https://www.jstor.org/stable/43997757>
- Cherng, H.-Y. S. (2016). Too hard to handle? Teacher underestimation of the academic ability of minority students and lowered student expectations.
- Decosimo, C., Hanson, J., Quinn, M., Badu, P., & Smith, E. (2019). Playing to live: Outcome evaluation of a community-based psychosocial expressive arts program for children during the Liberian Ebola epidemic. *Global Mental Health*, 6, E3. doi:10.1017/gmh.2019.1
- Decosimo, C.A et al. (2017). A process description of playing to live! A community psychosocial arts program during ebola. *Journal of Social, Behavioral, and Health Sciences* 2017, Volume 11, Issue 1, Pages 176-199.
- Department of Education & Ford, V. (2020). £8m programme to boost pupil and teacher well-being. U.K. Government. Available online: <https://www.gov.uk/government/news/8m-programme-to-boost-pupil-and-teacher-wellbeing>
- Falk, D., Varni, E., Funder Johna, J., Frisoli, P. (2019). Landscape Review: Teacher Well-being in Low Resource, Crisis, and Conflict-affected Settings. *Education Equity Research Initiative*. Washington DC.
- Galtung, J. (1969). Violence, peace, and peace research. *Journal of peace research*, 6(3), 167-191.
- Goagoses, N., Winschiers-theophilus, H., & Chamunorwa, M. B. (2020). The (Potential) Role of Technology for Young Children's Social-Emotional Learning
- Hajir, Basma., Clarke-Habibi, Sara & Kurian, Nomisha. 2021. The 'South' Speaks Back: Exposing the Ethical Stakes of Dismissing Resilience in Conflict-Affected Contexts. *Journal of Intervention and Statebuilding*.
- Hantzopoulos, M. (2011). Institutionalizing critical peace education in public schools: A case for comprehensive implementation. *Journal of Peace Education*, 8(3), 225-242.
- Hantzopoulos, M., & Bajaj, M. (2021). *Educating for Peace and Human Rights: An Introduction*. Bloomsbury Publishing.
- Hantzopoulos, M., Zakharia, Z., & Garad, B.H. (2021). Situating Peace Education Theories, Scholarship, and Practice in Comparative and International Education. *The Bloomsbury Handbook of Theory in Comparative and International Education*, 345.
- Harris, I. (2008). History of peace education. *Encyclopedia of peace education*, 15-24.
- Haybron, D. (2013). The Nature and Significance of Happiness. *Oxford Handbook of Happiness*. Oxford University Press. DOI: 10.1093/oxford-hb/9780199557257.013.0023
- Heise, D. (May 2014). Stealing and Resilience in Art Education. *Art Education*, 67:3, pp. 26-30.
- Helliwell, J.F., Norton, M.B., Huang, H., Wang, S. (2018). Happiness at Different Ages: The Social Context Matters. *National Bureau of Economic Research*. DOI 10.3386/w25121
- Hicks, D. (Ed.). (1988). *Education for peace: Issues, principles, and practice in the classroom*. Taylor & Francis. Inter-agency Network for Education in Emergencies. (2021). Psychosocial Support and Social Emotional Learning (PSS-SEL). Available online at: <https://inee.org/collaboratives/pss-sel>
- INEE. 2016. INEE background paper on psychosocial support and social and emotional learning for children & youth in emergency settings. New York: INEE. Retrieved from <http://www.ineesite.org/en/resources/inee-background-paper-on-psychosocial-support-and-social-and-emotional-learning>
- Jagers, R., Rivas-Drake, D., Borowski, T. (2018). Toward Transformative Social and Emotional Learning: Using an Equity Lens. *Measuring SEL* November 2018. Available online at: [https://measuringSEL.caseli.org/wp-content/uploads/2018/11/Framework\\_EquitySummary-.pdf](https://measuringSEL.caseli.org/wp-content/uploads/2018/11/Framework_EquitySummary-.pdf)
- Jagers, R. C.A.SEL (November 25, 2019). 2019 SEL Exchange: Building a Culture of Equity Through SEL [Video]. YouTube. <https://www.youtube.com/watch?v=6VRRjGSBJh0>
- Lang, S., Jeon, L., Sproat, E.B., Brothers, B.E., Buettner, C.K. (2020). Social-Emotional Learning for Teachers (SELF-T): A Short-term, Online Intervention to Increase Early Childhood Educators' Resilience. *Early Education and Development*. 31(2):1-12. Available online at: [https://www.researchgate.net/publication/340890158\\_Social\\_Emotional\\_Learning\\_for\\_Teachers\\_SELF-T\\_A\\_Short-term\\_Online\\_Intervention\\_to\\_Increase\\_Early\\_Childhood\\_Educators%27\\_Resilience](https://www.researchgate.net/publication/340890158_Social_Emotional_Learning_for_Teachers_SELF-T_A_Short-term_Online_Intervention_to_Increase_Early_Childhood_Educators%27_Resilience)
- Luna-Bazaldua, D. & Pushparatnam, A. (2020). The importance of monitoring the impacts of the COVID-19 pandemic on young children and their families. *World Bank Blogs*. Available online at: <https://blogs.worldbank.org/education/importance-monitoring-impacts-covid-19-pandemic-young-children-and-their-families>

- Malhotra, N., Ewonetu Ayele, Z., Zheng, D., Ben Amor, Y. (2021) Improving social and emotional learning for schoolgirls: An impact study of curriculum-based socio-emotional education in rural Uganda, *International Journal of Educational Research*, 108, <https://doi.org/10.1016/j.ijer.2021.101778>.
- Manning, J. & Jeon, L. (2020). Teacher Stress and Second-Hand Trauma: Supporting Teachers During Re-Entry. John Hopkins School of Education. Available online: <https://jscholarship.library.jhu.edu/bitstream/handle/1774.2/63228/Supporting-Teachers-During-Re-Entry.pdf?sequence=1>
- National Initiative for School Heads' Teachers; Holistic Advancement. (2019). Expected Outcomes. National Portal of India. Available online at: <https://www.india.gov.in/spotlight/nishtha>
- New Jersey Department of Education. (2020). New Jersey Student Learning Standards — Social Studies.
- O'Brien, C. (2010a). Sustainability, happiness and education. *Journal of Sustainability Education*, 1. Retrieved from [www.jsedimensions.org/word-press/content/2010/04/](http://www.jsedimensions.org/word-press/content/2010/04/)
- O'Brien, C. (2013). Happiness and Sustainability Together at Last! Sustainable Happiness. *Canadian Journal of Education*. 36(4) p. 228-256.
- Office of the Surgeon General. (2021). Protecting Youth Mental Health: The U.S. Surgeon General's Advisory. Available online at: <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>
- Reardon, B. A. (1985). *Sexism and the war system*. New York: Teachers College Press.
- Reardon, B. A. (1988). *Comprehensive peace education: Educating for global responsibility*. Teachers College Press, 1234 Amsterdam Avenue, New York, NY 10027.
- Reardon, B. A. (1999). Peace Education: A Review and Projection. *Peace Education Reports* No. 17.
- Reyes, J.A., Elias, M.J., Parker, S.J., Rosenblatt, J.L. (2012). Promoting Educational Equity in Disadvantaged Youth: The Role of Resilience and Social-Emotional Learning. *Handbook of Resilience in Children*. S. Goldstein and R.B. Brooks (eds.). Springer: New York.
- Seligman, M. (2011). *Flourish*. New York: Free Press.
- Seligman, M. (2018): PERMA. and the building blocks of well-being, *The Journal of Positive Psychology*, DOI: 10.1080/17439760.2018.1437466
- Simmons, D. (2019). Why We Can't Afford Whitewashed Social-Emotional Learning. A.C.S.D. Education Update, 61(4). Retrieved from: [http://www.ascd.org/publications/newsletters/education\\_update/apr19/vol61/num04/Why\\_We\\_Can't\\_Afford\\_Whitewashed\\_Social-Emotional\\_Learning.aspx](http://www.ascd.org/publications/newsletters/education_update/apr19/vol61/num04/Why_We_Can't_Afford_Whitewashed_Social-Emotional_Learning.aspx)
- Stafford Ocansey, T. & Raymond, E. (forthcoming). Participatory Design of a Psychosocial Support and Social-Emotional Learning Framework for Northeast Nigeria Primary Schools. Working paper.
- State of Victoria Department of Education and Training (2017). *Respectful Relationships, A Resource Kit for Victorian Schools*. Available online at : <https://fusecontent.education.vic.gov.au/cfee82ef-67f8-488c-a167-52759afda882/respectfulrelationshipsresourceakitforvictorianschools.pdf>
- Swee-Hin, T. (2006, May). Education for sustainable development & the weaving of a culture of peace: complementarities and synergies. In *Proceedings of the UNESCO Expert Meeting on Education for Sustainable Development, Kanchanaburi, Thailand*.
- United Nations Children's Fund. (2018). Operational guidelines on community based mental health and psychosocial support in humanitarian settings: Three-tiered support for children and families (field test version). UNICEF: New York. Available online at: <https://www.unicef.org/media/52171/file/Mental%20health%20and%20psychosocial%20support%20guidelines%202019%20.pdf>
- Vetterkind, R. (September 29, 2021). Wisconsin Assembly passes ban on teaching Critical Race Theory. *Wisconsin State Journal*. Found online at: [https://madison.com/wsj/news/local/govt-and-politics/wisconsin-assembly-passes-ban-on-teaching-critical-race-theory/article\\_1e53044a-8047-58c7-9560-368ae54fb588.html](https://madison.com/wsj/news/local/govt-and-politics/wisconsin-assembly-passes-ban-on-teaching-critical-race-theory/article_1e53044a-8047-58c7-9560-368ae54fb588.html)
- Vostanis, P., Haffejee, S., Yazici, H., Hussein, S., Ozdemir, M., Tosun, C., & Maltby, J. (2020). Youth conceptualization of resilience strategies in four low-and middle-income countries. *International Journal of Child, Youth and Family Studies*, 11(1), 92-111.
- Walker, T. (2020). Social-Emotional Learning Should Be Priority During COVID-19 Crisis. National Education Association. Available online at: <https://www.nea.org/advocating-for-change/new-from-nea/social-emotional-learning-should-be-priority-during-covid-19>
- Williams, J. (2021). Stories from the Field: Special Parents, Children, and Schools. Center for Systems Awareness: Summer 2021. Available online at: <https://www.systemsawareness.org/stories-from-the-field-a-special-parents-children-and-schools/>
- Yadav, M. (2019). Happiness Curriculum. State Council of Educational Research and Training, Delhi and Directorate of Education.
- Yoder, N., Posamentier, J., Godek, D., Seibel, K., Dusenbury, L. (2021). "State Efforts to Elevate Social and Emotional Learning During the Pandemic," Committee for Children, C.A.SEL Retrieved at: <https://casel.org/wp-content/uploads/2020/08/CASEL-CFC-final.pdf>
- Zimmer-Gembeck, M.J., Skinner, E.A. (2016). The Development of Coping: Implications for Psychopathology and Resilience. *Volume Four. Risk, Resilience, and Intervention*. Available online at: <https://doi.org/10.1002/9781119125556.devpsy410>

## Endnotes

1. OSG (2021) p. 9.
2. OSG (2021) p. 9-10.
3. Care, Talreja, Ravingranath, Sahin (2020).
4. Care, Talreja, Ravingranath, Sahin (2020).
5. Walker (2020); Luna-Bazaldua & Pushparatnam (2020).
6. Simmons (2019); Camangian and Cariaga (2021).
7. Haybron (2013).
8. Haybron (2013).
9. Helliwell, Norton, Huang, Wang (2018).
10. Seligman (2018).
11. O'Brien (2013).
12. O'Brien (2010).
13. UNESCO (2018).
14. Walker (2020).
15. INEE. (2016). p. 10
16. Goagoses, Winschiers-Theophilus, Chamunorwa. (2020).
17. Luna-Bazaldua & Pushparatnam (2020).
18. Yoder, Posamentier, Godek, Seibel, and Dusenbury (2021).
19. Yoder, Posamentier, Godek, Seibel, and Dusenbury (2021).
20. Reyes et al (2012).
21. Falk, Varni, Finder & Frisoli (2019).
22. Falk, Varni, Finder & Frisoli (2019).
23. Lang, Jeon, Sproat, Brothers, Buettner (2020).
24. Manning & Jeon (2020).
25. Department of Education & Ford (2020).
26. NISHTHA (2019).
27. See <https://www.state.nj.us/education/students/safety/sandp/sel/>
28. See <https://www.state.nj.us/education/students/safety/sandp/sel/>
29. See <http://www.nysed.gov/common/nysed/files/programs/curriculum-instruction/continuumofwellbeing-guide.pdf>
30. INEE (2021).
31. Seligman (2018).
32. Stafford Ocansey & Raymond (forthcoming)
33. Care, Talreja, Ravingranath, Sahin (2020).
34. Yadav, M. (2019).
35. Care, Talreja, Ravingranath, Sahin (2020).
36. Care, Talreja, Ravingranath, Sahin (2020).
37. Malhotra, Ayele, Zheng & Ben Amor (2021).
38. Malhotra, Ayele, Zheng & Ben Amor (2021).
39. Williams (2021).
40. Williams (2021).
41. Heise (2014).
42. Heise (2014).
43. Heise (2014).
44. Decosimo, Hanson, Quinn, Badu & Smith (2019).
45. Decosimo et al. (2017).
46. See <https://kayaconnect.org/course/info.php?id=3055>
47. See [thinkequal.org](http://thinkequal.org)
48. Victoria State Government (2017).
49. See <https://www.education.vic.gov.au/school/teachers/health/mentalhealth/Pages/promoting-mental-health.aspx>
50. Victoria State Government (2017) p. 5.
51. Simmons (2019).
52. Camangian and Cariaga (2021).
53. Simmons (2019).
54. Agnew (2021).
55. Vetterkind (2021).
56. Jagers, Rivas-Drake, and Borowski (2018).
57. Jagers, Rivas-Drake, and Borowski (2018); Jagers (2019).
58. Bajaj & Hantzopoulos (2016); Hantzopoulos & Bajaj (2021).
59. Hantzopoulos, Zakharia, & Harris-Gard (2021); Hantzopoulos & Bajaj (2021); Hantzopoulos (2011); Bajaj (2008); Swee-Hin (2006); Reardon (1988); Galtung (1969).
60. Harris (2008); Bajaj (2008); Reardon (1988).
61. Hantzopoulos, Zakharia, & Harris-Gard (2021); Hantzopolous & Bajaj (2021).
62. Brock-Utne (1989); Reardon (1985); Reardon (1988); Reardon (1999).
63. Bajaj (2008).
64. Hicks (1988).
65. Reardon (1988).
66. NJDOE (2020).
67. Cherng & Halpin (2016).
68. Cherng & Halpin (2016).
69. Cherng & Halpin (2016).
70. Cherng (2016).
71. Cherng & Halpin (2016).
72. Hajir, Clarke-Habibi & Kurian (2021).
73. Hajir, Clarke-Habibi & Kurian (2021).
74. Zimmer-Gembeck & Skinner (2016).
75. See <https://nzcurriculum.tki.org.nz/News/Climate-Change-Learning-Programme-Wellbeing-Guide>
76. See <https://infohub.nyced.org/in-our-schools/programs/civics-for-all>
77. Vostanis et al (2020)
78. Vostanis et al (2020)
79. Vonstanis et al (2020) p. 99
80. Vostanis et al (2020)



## Chapter 3

# Workplace well-being in the wake of COVID-19

---

Thematic group: Changes in Work and the Workplace

In this chapter, we will explore the labour market consequences of the pandemic and the associated impacts on subjective well-being. In Section I, we will first survey the broad changes to the world of work brought on by the crisis, paying special attention to inequalities of impact within and across countries. We will also consider the well-being trajectories of workers who remained employed, using longitudinal datasets of employed workers in the United States and United Kingdom. In Section II, we will examine the well-being consequences of the pandemic for different groups of workers. In doing so, we will highlight key vulnerabilities as well as potential sources of resilience. Finally, in Section III, we will consider the variety of policy responses adopted by countries in response to the crisis, and discuss their immediate and potential long-term impacts. We will conclude by offering recommendations for public and private institutions to promote and support workplace well-being in the years to come.

## COVID-19 and the global labour market

The COVID-19 pandemic has resulted in the largest economic crisis in a generation.<sup>1</sup> The consequences for the global labour market have been severe and unequal. The crisis has taken a particularly dramatic toll on countries and workers already in precarious positions to begin with. Low-income and low-skill workers, women, young people, informal labourers, as well as those employed in food, accommodation, and service sectors have been acutely affected.

In Figure 3.1, we map the change in total working hours from 2019 to 2020 across countries using data provided by the International Labour Organization.<sup>2</sup> Overall, global working hours declined by almost 8.8 percent as a result of the pandemic, equivalent to 255 million full-time jobs lost.<sup>3</sup> This decline in working hours is four times larger than during the global financial crisis of 2008.<sup>4</sup> Impacts were also disproportionately concentrated in lower-middle-income countries, particularly in South America. In Peru and Colombia, total working hours decreased by one fourth and one fifth, respectively. Many

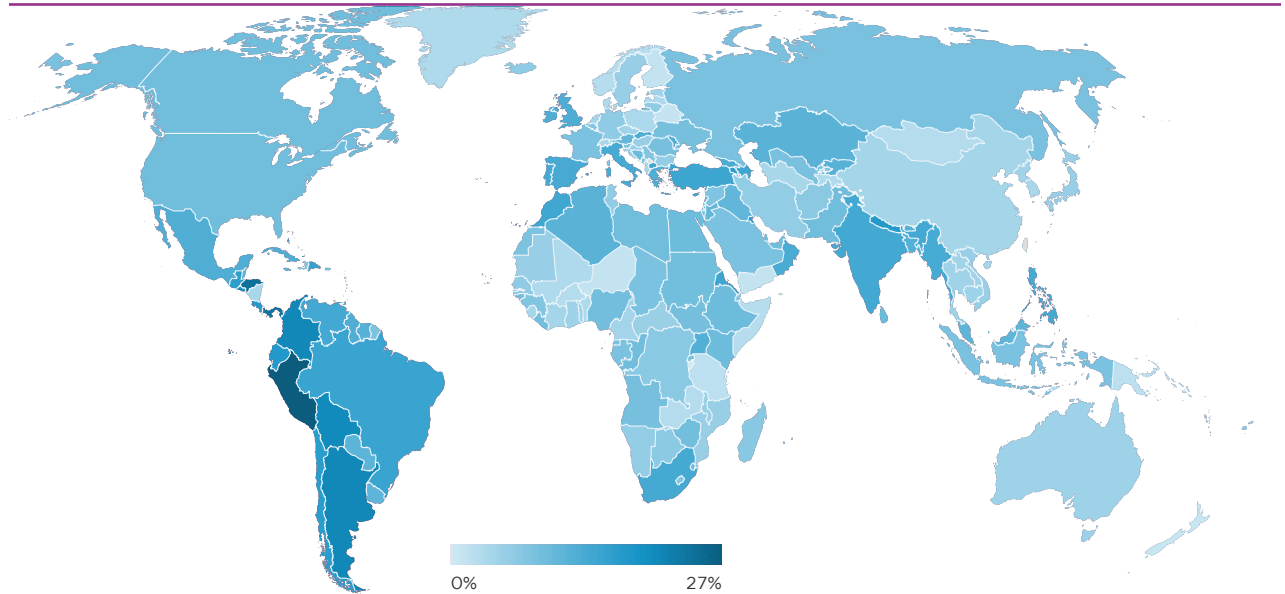
governments in the developing world have also been unable to provide workers with sufficient financial relief. By the end of October 2020, stimulus packages in low-income countries amounted to just over one tenth of what would be required to offset the total loss in labour income.<sup>5</sup>

In high-income countries, the economic impacts of the crisis have also varied considerably. For example, Labour market shocks in Spain, the United Kingdom, and the United States have generally been more severe than those in Denmark, Finland, and the Netherlands. Nevertheless, almost all high-income countries suffered large economic setbacks. By the end of 2020, real GDP had declined by almost 5 percent in high-income countries, 40 percent more than the global average.<sup>6</sup>

In Figure 3.2, working hour losses due to COVID-19 are decomposed into increases in unemployment, increases in inactivity, and hourly reductions among those who remained employed. While unemployment levels clearly increased in a majority of countries, the number of workers leaving the labour force entirely increased to an even greater degree. Globally, 81 million workers left the labour force as a result of the crisis, accounting for 71 percent of total employment losses.<sup>7</sup> As these workers are no longer actively seeking new jobs, they are classified as “inactive” in official statistics. For many, finding a new job in the midst of a global pandemic has been difficult. Data from the international jobs site *Indeed.com* show that the trend in job postings plummeted by more than 50 percent at the onset of the pandemic in April 2020 and in many countries continue to remain well below 2019 levels.<sup>8</sup> At the same time, many workers who stayed employed also had to reduce their working hours as a result of workplace closures. Overall, these reductions account for roughly 50 percent of total working hour losses as a result of COVID-19 (Figure 3.2).

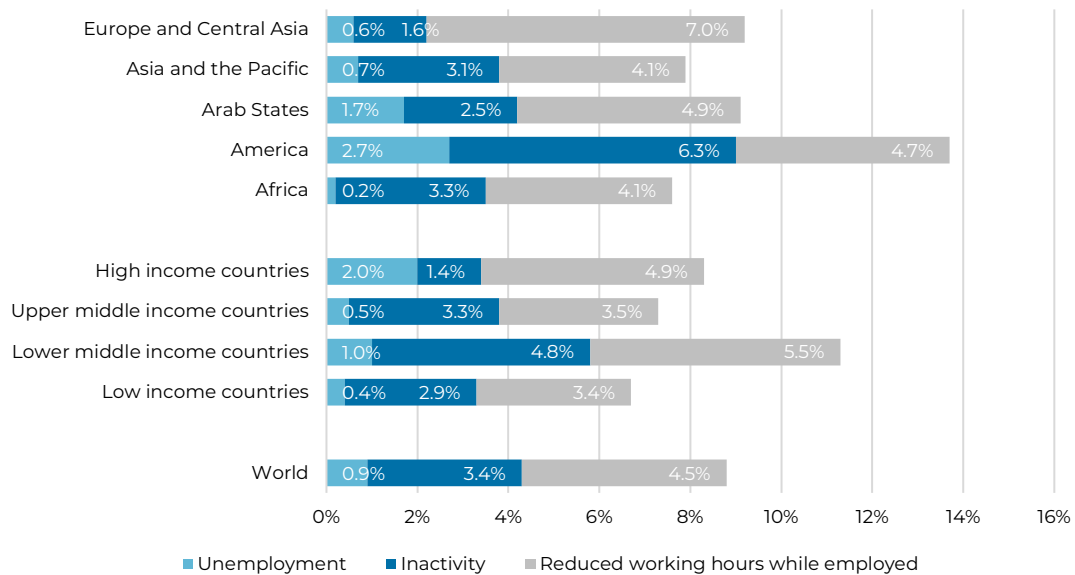
All of these developments are expected to have meaningful impacts on subjective well-being. Unemployment has consistently been shown to have to negative effects on life satisfaction.<sup>9</sup> Adults who lose their jobs are generally 5 to 15 percent less satisfied with their lives than those who remain employed.<sup>10</sup> Unlike other life events,

**Figure 3.1: Working hour losses from Q4 2019 to Q4 2020**



Source: ILO (2021)

**Figure 3.2: Decomposition of working hour losses by global regions**



**Note:** The overall working hour losses represented in Figure 3.1 are decomposed here into changes in unemployment, inactivity and reduced or zero working hours. Unemployment plus inactivity equals the total employment loss. Unemployment and inactivity have been transformed into their working-hour equivalent using the average working hours per week. The working hour equivalent of changes in employment, unemployment and inactivity is computed using the estimated average working hours per week, which ranges from 35 to 45 hours per week across the income groups and regions.

Source: ILO (2021)

unemployment can be exceedingly difficult to adapt to, which can produce long-term consequences for affected workers.<sup>11</sup> Yet the relationship between work and well-being extends beyond simply unemployment. Past research has demonstrated that both labour market inactivity and underemployment can also have adverse impacts on life satisfaction, and in some cases can be even worse than unemployment.<sup>12</sup> We will return to these issues in greater detail later in Section II. For now, we will take a closer look at inequalities of impact for different groups of workers around the world.

### Inequalities

While the spread of COVID-19 has affected workers in almost every country, the effects have been unevenly distributed. In what follows, we will touch on key inequalities of impact by income, skill, age, gender, sector, and type of work.

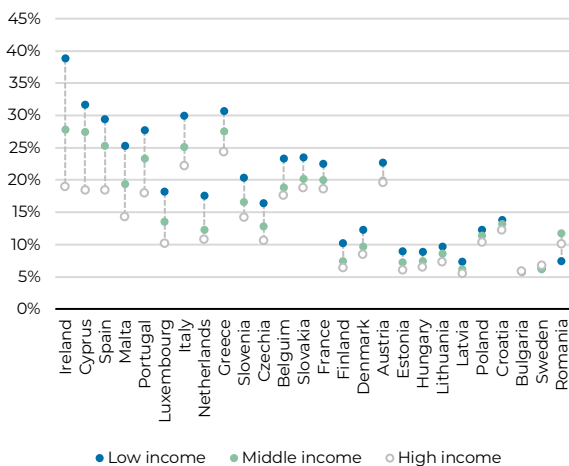
### Low-income and low-skill workers

For workers in low-income or low-skill professions, the labour market impacts of the pandemic have been particularly severe. In Europe, both groups of workers were more likely to reduce their working hours in the early phases of the pandemic (Figures 3.3a-b).

In Figure 3.3a, we plot the risk of reduced working hours in the second quarter of 2020 using data provided by Eurostat, broken down by income level. In some European countries including Ireland, Luxembourg, and Estonia, low-income workers were almost twice as likely to reduce their working hours as high-income workers. Out of all the countries considered, only low-income workers in Bulgaria, Sweden, and Romania were not more likely to lose more working hours than other income groups.

In Figure 3.3b, we plot average declines in working hours from the third quarter of 2019 to the third quarter of 2020 by skill level. In 23 out of 24 countries considered, low-skill workers

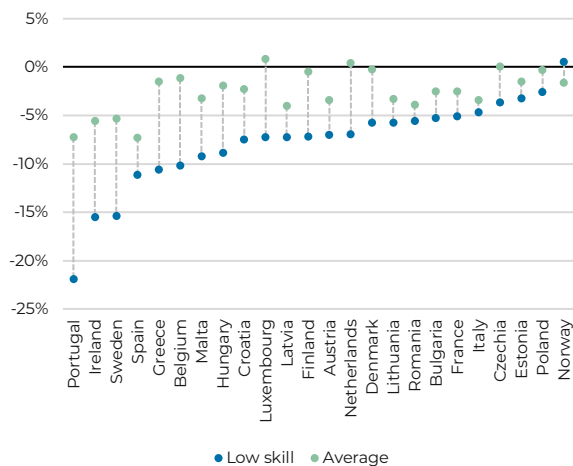
**Figure 3.3a: Risk of reduced working hours by income level (Q2 2020)**



**Note:** Includes 0 to 100% reduction in working hours while still remaining employed. Risks estimated using logistic regression.

**Source:** Eurostat (2020)

**Figure 3.3b: Risk of reduced working hours by income level (Q2 2020)**



**Note:** Data refers to low-skill blue-collar workers (ISCO8 codes 8 and 9).

**Source:** Eurostat (2021)



experienced larger than average declines in working hours. In many countries, these differences were considerable. In Portugal and Ireland, for example, low-skill workers experienced time reductions that were more than three times larger than the country average.

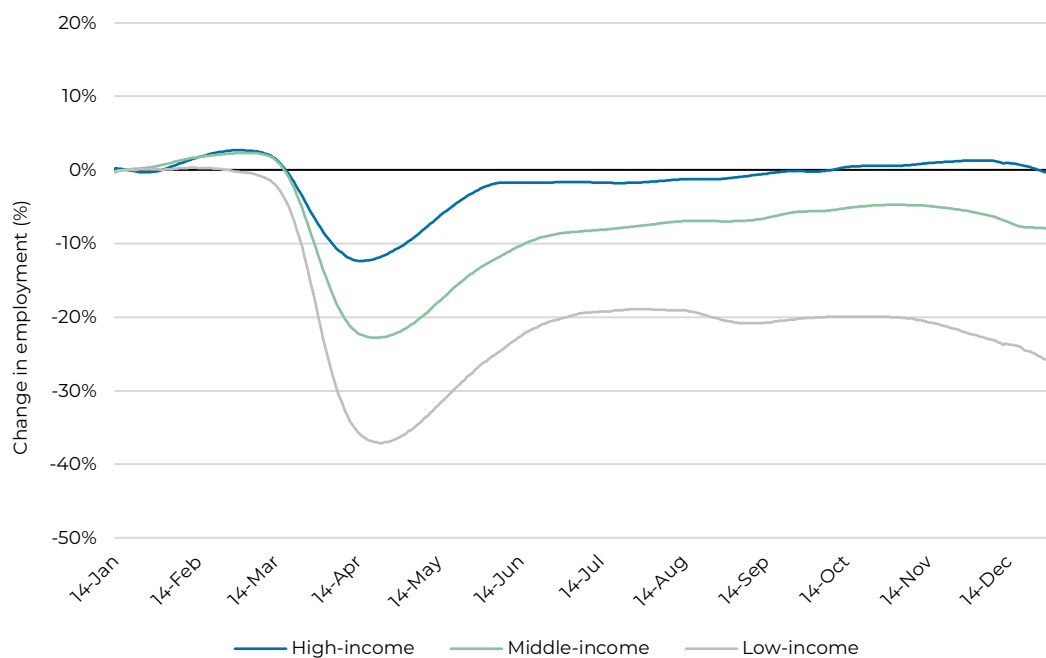
Low-income and low-skill workers were not only more likely to lose working hours, they were also more likely to lose their jobs. In Figure 3.4, we plot the change in employment for high-income, middle-income, and low-income workers during the pandemic in the United States, normalized to a baseline level at the beginning of the year.<sup>13</sup> High-income workers were both less likely to lose their jobs at the onset of the crisis, and more likely to be rehired as the pandemic dragged on into the fall. By mid-October, the recession for high-income workers had practically ended, with an observable increase in employment relative to pre-pandemic levels. At the same time, employment among middle-income workers was still roughly 5 percent below baseline, and employment among low-income workers remained 20 percent below baseline.<sup>14</sup> While the disparate economic

impacts of the pandemic across income levels were particularly severe in the United States, these trends are roughly representative of the broader global context.<sup>15</sup>

Two related explanations have been put forth for these dynamics. First, low-income and low-skill workers were more likely to be employed in high-risk occupations when the pandemic began. These include jobs in food and accommodation, transportation, travel and leisure, retail, and domestic work.<sup>16</sup> Along similar lines, workers with lower socioeconomic status are also less likely to be able to work remotely. One study found that high-income workers in the United Kingdom and United States were more than three times more likely to be able to work from home than low-income workers in the early phases of the pandemic.<sup>17</sup> This dynamic is also particularly stark in developing countries, where roughly half as many workers are able to work from home in the first place relative to high-income countries.<sup>18</sup>

In the United States, some of the divergence in rehiring is also likely attributable to disparities in

**Figure 3.4: Change in employment by income level in the United States (2020)**



Source: Chetty et al. (2020)

access to government assistance. The U.S. government's flagship relief program for businesses affected by the COVID-19 crisis — the Payment Protection Plan (PPP) — was disproportionately distributed to larger businesses, which are more likely to employ high-income workers, allowing them to rehire more employees who were initially laid off. Meanwhile, the smallest business with less than ten employees were more likely to be unaware of government assistance programs, particularly in low-income communities, and therefore less likely to receive assistance early on in the pandemic.<sup>19</sup>

### Disproportionate effects on young people

Young people have also faced considerably more challenging labour market prospects than other groups. At the beginning of 2020, four in ten young workers around the world were employed in (a) wholesale and retail trade, (b) manufacturing, (c) real estate business and administrative activities, or (d) accommodation and food services.<sup>20</sup> All four sectors experienced large declines in activity as a result of the crisis.<sup>21</sup> Those enrolled in educational and work-training programs have also struggled with consistent interruptions and setbacks. The resulting economic consequences for young people have been severe.

According to data provided by the International Labour Organization, roughly one in six young people (ages 15-24) around the world stopped working entirely at the beginning of the crisis. More than half reported feeling uncertain or insecure about their future career opportunities, and majorities of those enrolled in educational programs anticipated delays to their studies.<sup>22</sup> By the end of the year, youth employment was still 9 percent lower than it was before the pandemic, and total job losses were nearly twice as large for young people compared to adults.<sup>23</sup> In many European countries, employment declines among young people proved to be three or even four times greater than national averages (Figure 3.5a). These declines have also been almost entirely accounted for by increases in inactivity. Rates of young people leaving the labour force have surpassed those of adults in a majority of countries (Figure 3.5b).

Coupled with delays to education and training programs, obstacles to finding work, and increases in loneliness and social isolation, COVID-19 has taken a particularly dramatic toll on young people's well-being.<sup>24</sup> These developments are also likely to have lasting impacts after the pandemic has subsided. In the coming years, young people will face greater competition for fewer jobs. An array of studies conducted before the crisis have found persistent negative effects on later-life labour market outcomes for workers who come of age during a recession.<sup>25</sup> In Section III, we will explore these potential long-term consequences in greater detail.

### Gendered impacts of COVID-19

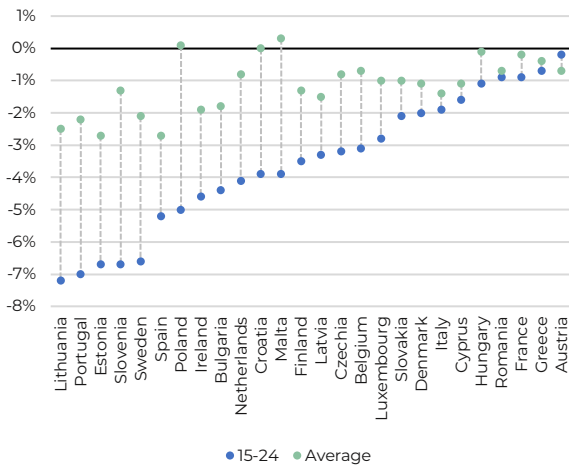
The pandemic has also had differential impacts on men and women. Like young people, women are generally overrepresented in sectors including services and accommodation that have been particularly hard-hit during the crisis. However, at the same time, women are also disproportionately employed in key professions including health and social work. In some countries, four out of every five healthcare workers are women.<sup>26</sup> Perhaps as a result, evidence regarding gendered changes in employment during the pandemic have been somewhat mixed, particularly in high-income countries. In Europe, women have been more likely than men to lose their jobs in France, Finland, and Belgium, while the reverse is true in Denmark, Sweden, and Portugal.<sup>27</sup> Globally, women have been more likely to leave the labour force during the crisis in a majority of countries, although men have been more likely to become unemployed.<sup>28</sup>

Nevertheless, regardless of employment status, childcare and housework responsibilities have fallen disproportionately on women. In Figures 3.6a-b, we plot the gender divisions of childcare and household chores for working adults in the United Kingdom from March to July 2020. Both men and women reported spending more time on childcare and housework at the beginning of the crisis than they did later in the spring and summer as schools and businesses began to reopen. Yet even as time went on, women continued to devote more time to childcare and housework than men. This observed distribution of labour has been supported by a handful of

related studies in other countries, and is generally reflective of gender divisions that existed before the pandemic.<sup>29</sup> However, there is also evidence to suggest that these gaps may be getting smaller. In many countries around the world, men have started to dedicate more time

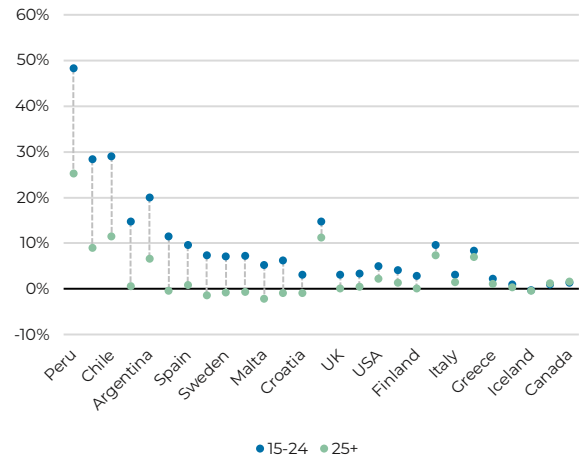
to childcare during the pandemic, leading to more egalitarian distributions of household labour.<sup>30</sup> In Section II, we will explore these gender dynamics in greater detail, paying special attention to the relationship between parenthood and subjective well-being.

**Figure 3.5a: Change in employment rate by age (Q3 2019 to Q3 2020)**



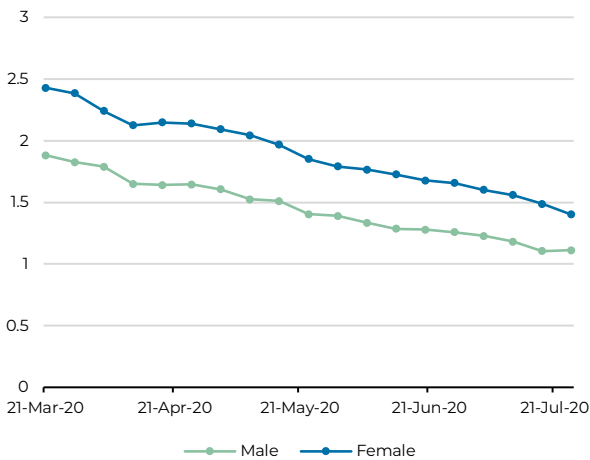
Source: Eurostat (2021)

**Figure 3.5b: Change in labour market inactivity by age (Q3 2019 to Q3 2020)**



Source: ILOSTAT (2021)

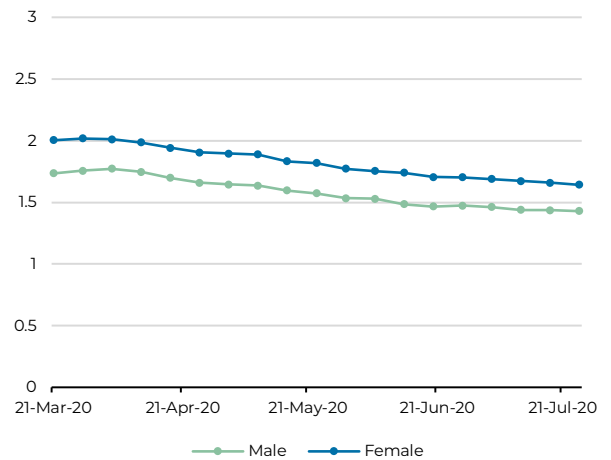
**Figure 3.6a: Daily time spent on childcare in the United Kingdom for working parents (0-4)(Q3 2019 to Q3 2020)**



**Note:** Childcare includes bathing, feeding, doing homework with, etc. Measured on scale from 0 to 6+ hours per day.

Source: University College London (2021)

**Figure 3.6b: Daily time spent on housework in the United Kingdom for working adults (0-4)age (Q3 2019 to Q3 2020)**



**Note:** Housework includes cooking, cleaning, ironing, tidying, shopping, etc. Measured on scale from 0 to 6+ hours per day.

Source: University College London (2021)

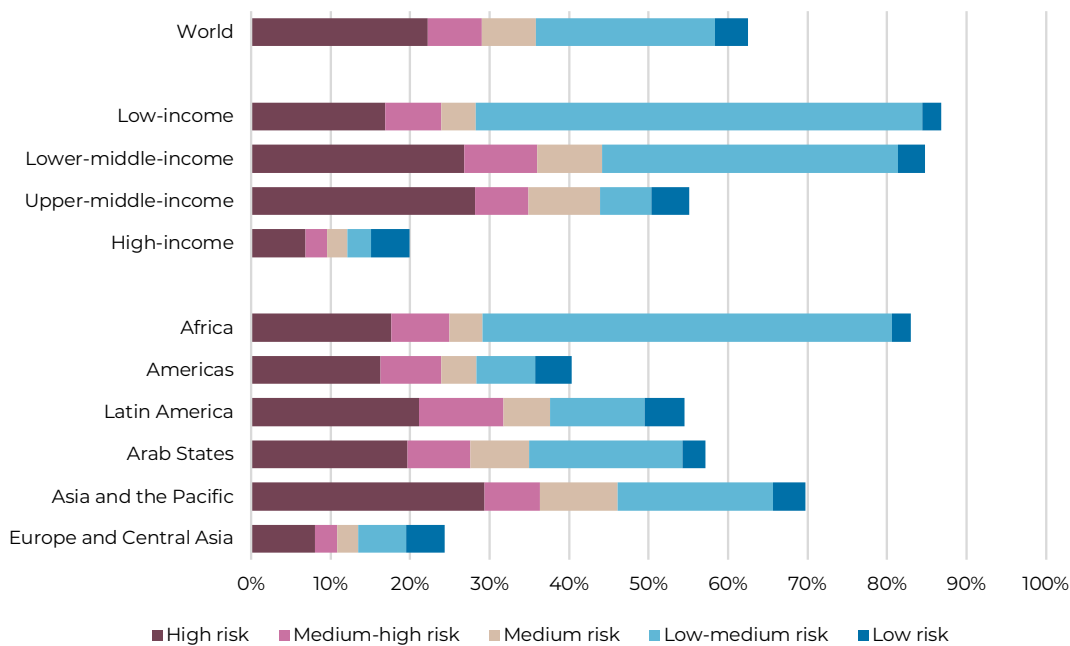
**Informal and service sector work**

Thus far we have primarily considered the labour market impacts of the crisis for workers in formal employment arrangements. Yet roughly six out ten workers around the world are informally employed, and in developing countries substantially more.<sup>31</sup> This group consists of domestic workers, street vendors, garment workers, agricultural labourers, and others in related professions.<sup>32</sup> Almost half of all informal workers – one third of the total global workforce – were working in high-risk or medium-high risk sectors when the pandemic began (Figure 3.7). Workers belonging in this group are also generally unable to benefit from public assistance programs, making them particularly vulnerable to labour market shocks. Research from past recessions has consistently shown that informal workers tend to suffer more severe economic impacts than other groups.<sup>33</sup> In many of the world’s most vulnerable regions, an emerging body of evi-

dence collected since the onset of COVID-19 has begun to document disproportionately large declines in working hours and labour incomes for those who are informally employed.<sup>34</sup>

In high-income countries, fewer workers are employed in informal working arrangements than in the developing world. Yet the crisis has still had considerable negative effects on those who are self-employed or working in high-risk sectors. In Europe, accommodation and food service employees in particular have been much more likely to lose their jobs than those working in other sectors.<sup>35</sup> Self-employed workers have also tended to fare worse than other groups. Like informal workers, self-employed professionals have also generally had more limited access to financial assistance, and have been more likely to suffer income losses as a result.<sup>36</sup> In the United Kingdom, two-thirds of self-employed workers reported total earnings of less than £1,000 GBP in April 2020, twice as many as four months

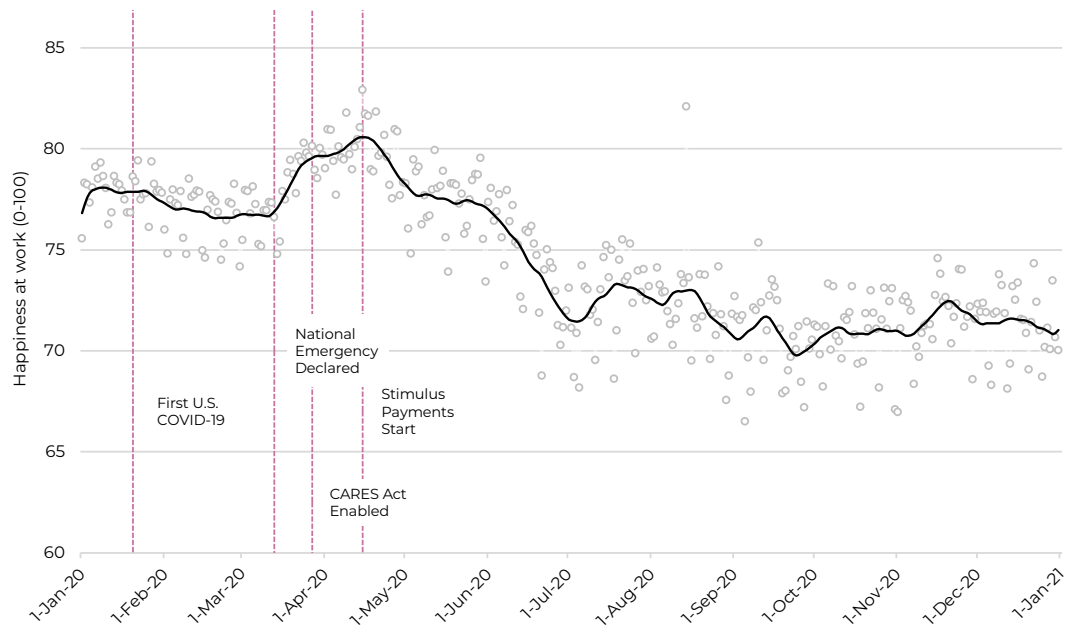
**Figure 3.7: Percent of total workforce in informal employment, decomposed into sectors hit hardest by the COVID-19 pandemic**



**Note:** *High risk:* Wholesale and retail trade, manufacturing, real estate and administrative activities, accommodation and food services. *Medium-high risk:* Transport, storage and communication, arts and leisure. *Medium risk:* Mining and quarrying, financial and insurance services, construction. *Low-medium risk:* Agriculture, forestry and fishing. *Low risk:* Utilities, public administration and defense, human health and social work activities, education.

**Source:** ILOSTAT (2021), International Labour Organization (2020b).

**Figure 3.8: Happiness at work in the United States during the COVID-19 pandemic**



**Note:** Lowess line of best fit displayed using a bandwidth of 0.05. Currently employed workers only. See text for further details.

**Source:** *Indeed.com*

earlier.<sup>37</sup> In Italy, self-employed workers experienced a 21 percent loss in labour income in 2020, more than five times as large as average income losses reported by formal employees.<sup>38</sup> Ensuring that these workers are protected against potential long-term effects of the crisis will remain a central challenge in the months and years ahead.

### **Employee well-being during COVID-19**

In addition to its effects on unemployment and inactivity, the pandemic has also dramatically altered workplace demands and routines for those who have remained employed. Perhaps the most salient change has been the shift to remote work. As of January 2021, more than 90 percent of the world's workforce still lived in countries with some form of workplace closures still in effect.<sup>39</sup> Such significant changes to workplace conditions and cultures brought on by the pandemic are likely to have lasting impacts even after the crisis has subsided. It is therefore crucial to understand how these changes have affected workers' well-being, and what they may

suggest about the future of work. To address these issues, we will turn to a longitudinal analysis of workplace well-being for employed workers throughout the crisis, using case studies of the United States and United Kingdom.

### **Workplace happiness in the United States for those who remained employed**

Beginning in November 2019, the jobs site *Indeed.com* began collecting data on workplace well-being for employees in the United States. This effort was designed to assist jobseekers in their decision-making process by offering average levels of employee well-being across companies and industries. Since then, more than 4 million responses have been collected, making it one of the largest and most comprehensive datasets on workplace well-being ever assembled. Even over a relatively short period of time, such a large number of observations allows for a granular look at changing happiness levels in the United States throughout the COVID-19 crisis.

Importantly, the data does not offer a representative panel of workers in the United States. Rather, it offers daily cross-sectional snapshots of happiness among workers who log-on to the site to review companies they work for. Because users decide for themselves whether to use the site, and whether to leave reviews, responses are not randomly collected or fully representative of the national labour market. Responses could be biased if, for example, employees with particularly favourable or unfavourable opinions of their workplaces are more likely to leave reviews about them. Jobs that rely heavily on offline recruiting, particularly in the informal sector, are also likely to be underrepresented in the data. Nevertheless, to the extent that these potential sources of bias are expected to be evenly distributed over time and across companies, it may still be instructive to consider average changes in employee happiness.

In Figure 3.9, we plot the evolution of workplace happiness over time using average responses to the following question: *“To what extent do you agree or disagree with the following statement: I feel happy at work most of the time.”* Responses are recorded on a 5-point scale from “strongly disagree” to “strongly agree”.<sup>40</sup> Answers are then rescaled by Indeed to give an overall indication of workplace happiness on a scale from 0 to 100.<sup>41</sup> In Figure 3.9, we plot both the raw average responses as well as a local regression (“lowess”) line of best fit from January 2020 until January 2021.

Happiness levels declined slightly in the beginning of the year as the virus began spreading around the world. Perhaps counterintuitively, workplace happiness then began to increase from mid-March until mid-April in the United States, reaching the annual high point around the time the first round of stimulus checks were sent out. Given the limitations of our dataset, we cannot say for certain why happiness levels increased at the onset of the first wave. One possibility is that workers’ concerns were eased once local and state governments began responding with policy measures to limit the spread of the virus. This dynamic is reflected in an emerging strand of research demonstrating that well-being levels actually appear to have increased in several countries following lockdown

orders.<sup>42</sup> This could suggest that anxieties relating to the spread of COVID-19 itself, or concerns regarding future potential lockdowns, may be more likely to negatively impact well-being than lockdowns themselves.

Another possibility is more mechanical. As our dataset only contains information for respondents who currently work for the company they are reviewing, changes in the sample composition over time could lead to changes in average recorded happiness levels. During the first wave of the pandemic, unemployment soared in the United States, more so than in almost any other high-income country, and workers employed in low-income or low-skill professions were disproportionately affected (Figure 3.4). Because these workers are more likely to be unhappy to begin with, the coinciding increase in workplace happiness we observe in the early spring may be attributable to low-skill and low-income workers dropping out of the sample. Once again, we are not considering the average happiness of all American workers, but only those who report being employed — the “survivors” — as they leave reviews. Importantly, we are also again not observing the same workers throughout the course of the pandemic, but rather different workers throughout the course of the year.

Alternatively, reference groups for workers who manage to hold onto their jobs are likely to have shifted over the course of the year. This could lead those who remain employed to reflect on their own working arrangements more favourably than they did before the crisis. There is also a wide body of evidence to suggest that workers who remained employed were more likely to be able to work from home before the pandemic began, and therefore less negatively affected by the forced shift to remote work.<sup>43</sup> These potential explanations are not necessarily mutually exclusive and all could have contributed to increasing happiness levels at the beginning of the pandemic. However, due to data limitations, we are not able to easily distinguish among them.

Nevertheless, after the initial increase, workplace happiness then began to steadily decline throughout the spring and summer, and still had not recovered to baseline levels by the end of the year. This decrease is especially notable since

many high-income workers who lost their jobs during the first wave of the crisis in the United States were eventually rehired by autumn (Figure 3.4). The lack of a summer recovery in happiness levels is also at odds with observed trends in several European countries.<sup>44</sup> Although we can again only speculate as to why workplace happiness declined to such a degree, it seems likely the unique nature of the epidemic in the United States may have played a role. Unlike many European countries, the United States was gripped by an even larger second wave of infections throughout the summer months. Federal unemployment insurance for workers affected by the pandemic also began to be rolled back around the same time. Both dynamics could play a role in reducing well-being levels of American workers. Yet these potential explanations should be interpreted with caution. Future research using more traditional academic datasets may begin to shed more light on the underlying drivers of well-being levels in the United States throughout the pandemic.

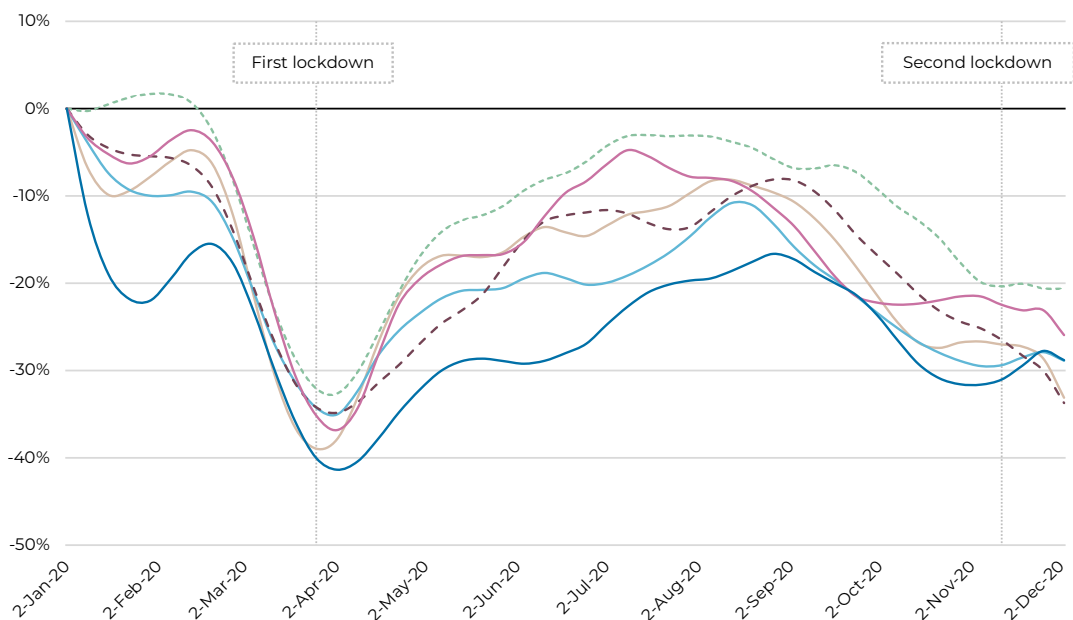
### Changes in happiness for employed

### workers in the United Kingdom

As a final note, we will turn to a descriptive analysis of happiness levels in the United Kingdom using quasi-panel data collected by the YouGov Weekly Tracker.<sup>45</sup> Here again, we are primarily interested in the well-being of workers report being currently employed.<sup>46</sup> Data was collected weekly using different random cross-sectional samples of roughly 1000 respondents. As a result, the sample can be considered broadly representative of the labour market in the United Kingdom. In this case, we are also able to distinguish between different types of workers including senior managers, junior managers, professionals, sales and service workers, as well as skilled and unskilled manual labourers.

In Figure 3.10, we plot surveyed changes in the percent of workers feeling happy the previous week.<sup>47</sup> Changes are normalized to a baseline level recorded in the first week of the year. For example, 35 percent fewer skilled workers reported feeling happy at the time of the first lockdown in late March than in January. For all

**Figure 3.9: Changes in percent of each group feeling happy the previous week (UK)**



**Note:** Lowess line of best fit displayed using a bandwidth of 0.3, normalized to a baseline level on January 2, 2020.

**Source:** YouGov Weekly Tracker

groups of workers, we observe sharp declines in average happiness levels in the time leading up to the first lockdown, followed by slight recoveries throughout the spring and summer, followed again by declines in autumn leading up to the second lockdown. However, while all groups of workers follow largely similar trajectories, a few key differences emerge. Unskilled manual labourers in particular seem to have been acutely affected. These workers experience the largest decline in happiness levels leading up to the first lockdown, followed by the slowest and most incomplete recovery throughout the spring and summer. While we cannot conclusively determine the underlying drivers of this trend, it is again worth noting that low-skill workers were much more likely to experience working hour reductions and income losses than other groups.<sup>48</sup> Low-skilled labourers in the United Kingdom have also been more likely to contract severe cases of COVID-19, which may also help explain such steep declines in subjective well-being for this group of workers throughout the pandemic.<sup>49</sup>

Interestingly, senior managers also seem to have experienced steep declines in happiness in 2020, while junior managers have been relatively less affected than other groups. In this case, it is plausible that the unprecedented immediate shift to remote work may have created additional stressors for workers with more managerial responsibilities. As we will discuss in Section II, senior managers have taken on an especially outsized role in determining the well-being of their workers throughout the crisis. This may have exacerbated pressures on senior managers to adapt to changes in workplace cultures and environments, resulting in relatively larger declines in happiness.<sup>50</sup>

As a final note, it is worth commenting on the differences in well-being for workers in the United States (US) and the United Kingdom (UK). While the overall trends are somewhat similar for both groups — declines in happiness leading up to the first lockdown, followed by increases and then eventual decreased in happiness throughout the rest of the spring and summer — there are notable differences in the magnitude of the changes. For example, workplace happiness in the US climbed to an even higher level in April than the recorded baseline in January, while

happiness levels in the UK never fully recovered to baseline levels. One potential interpretation of this difference is that survivorship bias may be playing a stronger role in determining recorded happiness levels in the US than in the UK. After the onset of COVID-19 in both countries, unemployment increased by a factor of five in the US. In the UK, most workers affected by the pandemic were furloughed, but did not lose their jobs. The sample in the US may therefore be more likely to contain workers who were in more advantageous positions to weather the crisis in the first place, thereby driving up happiness levels after the initial rise in unemployment. The UK sample is also more likely to be nationally representative than the US sample, which may help to explain the difference in trends.<sup>51</sup> In Section II, we will explore these issues in greater detail by diving deeper into the well-being impacts of the pandemic for different groups of workers within and across countries.

## Resilience in turbulent times

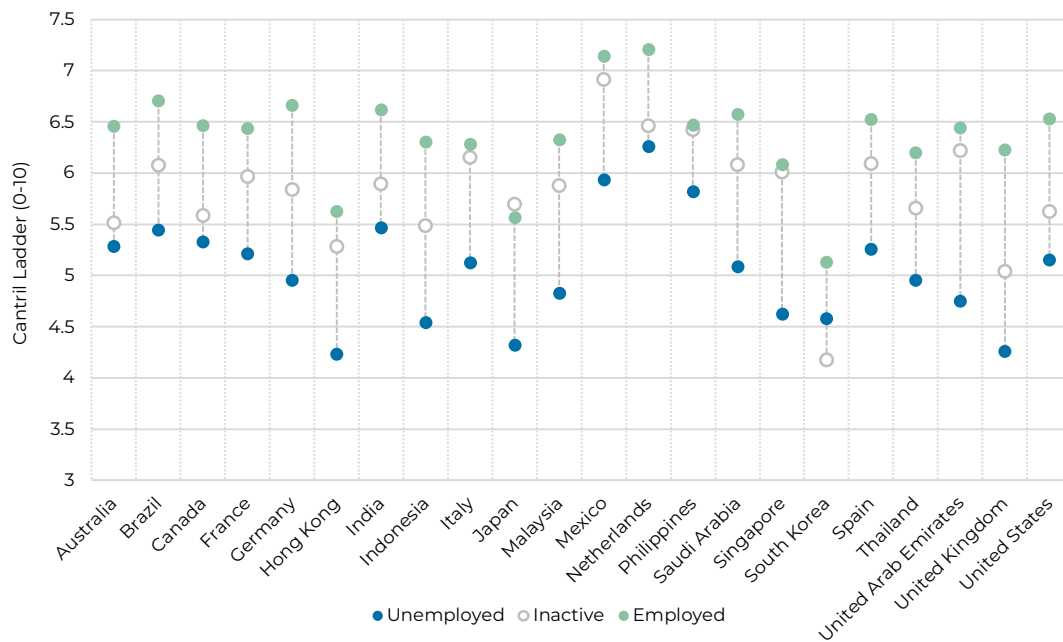
The impacts of a crisis are rarely evenly shared. As we documented in Section I, the labour market effects of COVID-19 were acutely felt by those in lower-income countries, as well as low-income and low-skill workers, young people, food and accommodation workers, and women. However, even when facing similar labour market shocks, some workers have fared better than others. In what follows, we will consider the differential effects of unemployment, inactivity, and work stoppages for different groups of workers. Along the way, we will highlight key vulnerabilities and sources of resilience that may have served to exacerbate or attenuate labour market shocks.

### (Un)employment and well-being during COVID-19

The negative impact of unemployment on well-being is considered to be one of the most robust findings to emerge from empirical happiness research.<sup>52</sup> Those who become unemployed are generally less satisfied with their lives,<sup>53</sup> experience higher levels of negative affect,<sup>54</sup> and struggle to adapt to being out of work.<sup>55</sup> In this analysis, we will consider the well-being impacts



**Figure 3.10: Life satisfaction and employment status during COVID-19**



**Note:** The figure shows average life satisfaction differences for adults who are unemployed, inactive (out of the labour force), and employed (full-time and part-time) across 22 large economies from April 2020 to January 2021. Life satisfaction is measured using the Cantril Ladder on a scale from 0 to 10. The sample includes respondents aged 18 to 65.

**Source:** YouGov, Imperial College

of unemployment during the COVID-19 pandemic. Moreover, as we also documented in Section I, in many countries, inactivity — the share of adults out of work and not looking for a job — has outpaced unemployed. It is therefore also important to consider the impact of inactivity on well-being throughout the crisis. We will do so here using representative international data collected by YouGov and Imperial College. Finally, using the United Kingdom as a case study, we will consider how the relationship between employment and well-being evolved throughout the crisis in response to changing labour market conditions.

### Life satisfaction, unemployment, and inactivity

Past research has shown that unemployed adults are generally 5 to 15 percent less satisfied with their lives than employed counterparts.<sup>56</sup> The negative effects of unemployment can also spill-over onto partners, families, and social networks.<sup>57</sup> As a result, given the high rises in unemployment observed in many countries during the pandemic, the associated

consequences for well-being are expected to be substantial. To assess these effects, we turn to an international dataset compiled by YouGov and Imperial College. The survey captures individual characteristics, employment status, and life satisfaction for more than 200,000 respondents in 22 countries from the beginning of the pandemic in April 2020 through until January 2021.<sup>58</sup>

In Figure 3.2-1, we plot the average life satisfaction for workers who have been employed, unemployed, and out of the labour force (inactive) in the first 9 months of the pandemic. In line with past research, unemployed adults are found to be less satisfied with their lives than employed workers in all countries in our sample. The average difference between both groups is 1.2 points on a scale from 0 to 10. To put this figure into context, it is roughly analogous to the difference between married and widowed adults.<sup>59</sup>

Adults who are out of work and not looking for a job also report lower life satisfaction scores than employed counterparts in all countries except for Japan. However, this gap is about half as large.

**Table 3.1: Impacts of unemployment and inactivity on life satisfaction by gender and age**

	Overall	Male	Female	18-25	26-35	36-45	46-55	56-65
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Cantril Ladder (0-10)							
Employed (reference)								
Unemployed	-1.317***	-1.507***	-1.151***	-1.046***	-1.378***	-1.277***	-1.414***	-1.335***
	(0.064)	(0.074)	(0.063)	(0.076)	(0.106)	(0.065)	(0.081)	(0.078)
Inactive	-0.745***	-1.274***	-0.551***	-0.718***	-0.726***	-0.634***	-0.871***	-0.779***
	(0.096)	(0.091)	(0.081)	(0.098)	(0.113)	(0.095)	(0.140)	(0.119)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Week fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean life satisfaction	6.180	6.201	6.158	5.828	6.208	6.254	6.189	6.170
Observations	89264	45377	43887	6468	21427	22177	20863	18329
R-squared	0.155	0.185	0.134	0.116	0.154	0.171	0.175	0.172

**Note:** Regressions are estimated using OLS. Heteroskedasticity robust standard errors are reported in parenthesis, adjusted for clustering at the country level. Effects estimated relative to full-time workers. Individual control variables include age (in columns 1-3), gender (in columns 1, 4-8), household size, parental status, trust in government, trust in healthcare system, presence of pre-existing condition, individual and household COVID-19 status, ability to isolate, and willingness to isolate. \*\*\* p<.01, \*\* p<.05, \* p<.1

**Source:** YouGov, Imperial College

**Table 3.2: Impacts of unemployment and inactivity on negative affect by gender and age**

	Overall	Male	Female	18-25	26-35	36-45	46-55	56-65
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Negative affect (0-12)							
Employed (reference)								
Unemployed	1.206***	1.314***	1.112***	0.819***	1.240***	1.362***	1.307***	1.158***
	(0.090)	(0.126)	(0.091)	(0.152)	(0.140)	(0.087)	(0.093)	(0.115)
Inactive	0.670***	1.183***	0.502***	0.443*	0.456**	0.628***	0.896***	0.784***
	(0.161)	(0.202)	(0.138)	(0.241)	(0.182)	(0.175)	(0.203)	(0.197)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Week fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean negative affect	3.930	3.648	4.221	4.915	4.346	3.946	3.653	3.391
Observations	89264	45377	43887	6468	21427	22177	20863	18329
R-squared	0.126	0.130	0.115	0.108	0.105	0.118	0.121	0.133

**Note:** Regressions are estimated using OLS. Heteroskedasticity robust standard errors are reported in parenthesis, adjusted for clustering at the country level. Effects estimated relative to full-time workers. Individual control variables include age (in columns 1-3), gender (in columns 1, 4-8), household size, parental status, trust in government, trust in healthcare system, presence of pre-existing condition, individual and household COVID-19 status, ability to isolate, and willingness to isolate. \*\*\* p<.01, \*\* p<.05, \* p<.1

The average difference between both groups is roughly 0.6 points. In this case, there is also considerable variation between countries. While inactive adults in Italy, Japan, Mexico, the United Arab Emirates, and Singapore are almost or even happier than working counterparts, those in Australia, Canada, the Netherlands are almost as dissatisfied with their lives as the unemployed.

In Table 2.1, we also present the results of linear regressions in which we estimate the effect of unemployment and inactivity controlling for a host of individual characteristics — age, gender, household size, parental status, trust in government, trust in healthcare system, presence of pre-existing condition, individual and household COVID-19 status, ability to isolate, and willingness to isolate — as well as country and week fixed effects. Here again we find significant negative impacts of being unemployed or out of the labour force on life satisfaction. The effect of the former is 1.3 points, while the effect of the latter is 0.7 points.

These dynamics can also vary depending on gender and age. In line with past research, we find that being unemployed or inactive affects women less severely than men.<sup>60</sup> Young people (ages 18 to 25) also appear to be relatively less affected by unemployment than older cohorts.<sup>61</sup> Nevertheless, both women and young people are still found to be less satisfied with their lives than other groups overall.<sup>62</sup> This may suggest that even though the individual effect of unemployment is smaller for them, the aggregate effect is larger as more women and young people lost their jobs than other groups.<sup>63</sup> Alternatively, or perhaps in addition, both groups may also have been more negatively affected by other impacts of the pandemic including school closures or social isolation.<sup>64</sup> Nevertheless, perhaps the most important takeaway from this analysis is the significant and substantial negative impacts of unemployment and inactivity on life satisfaction for all groups of workers. From a policy perspective, these results underscore the crucial importance of protecting workers from losing their jobs in times of crisis.

### **Negative affect and employment status**

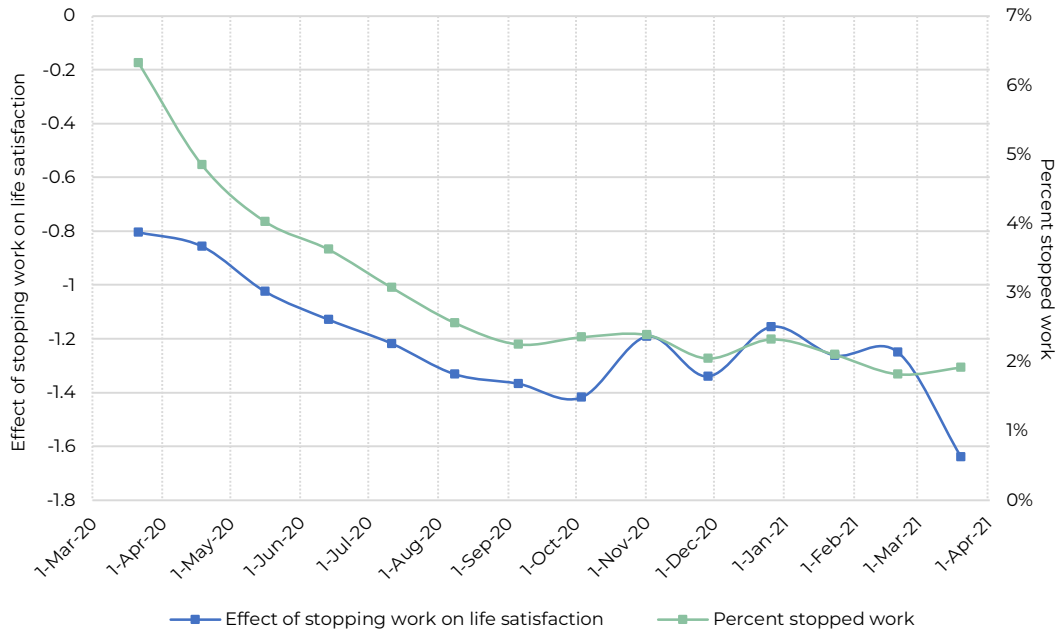
After having considered the impacts of being out of work on life satisfaction, we can now turn to the analogous impacts on negative affect. While life satisfaction provides an indication of overall quality of life, affect relates to the frequency and intensity of emotions experienced on a day-to-day basis. In this case, using the same dataset, we consider feelings of anxiety, depression, worry, and lack of interest. Respondents are asked to report the frequency by which they experience each emotion on a scale from 0 (not at all) to 3 (nearly every day). We aggregate all four to give an overall indication of experienced negative affect on a scale from 0 to 12.

In Table 3.2.2, we present the results of regressions estimating the impact of unemployment and inactivity on negative affect. Similar trends emerge. Relative to employed adults, both unemployed and inactive workers experienced higher levels of negative affect in 2020, although the difference for the latter group is about half as large as the former. Women and young people also appear to be relatively less affected by being out work, though both groups experience higher levels of negative affect overall.

### **Has the effect of unemployment changed throughout the crisis?**

One natural question arising from the analysis so far is whether or not the effect of being out of work has changed during the pandemic. Given the profound uncertainty at the onset of the crisis and the expected difficulties in finding new work, one might intuitively imagine that losing a job during COVID-19 would have more negative effects on well-being than it may have in previous years. On the other hand, some research has shown that the negative effects of unemployment on well-being are reduced when aggregate unemployment levels are higher.<sup>65</sup> This is often interpreted as evidence that there is less social stigma associated with unemployment when there is more of it around.

To address this issue, we rely on data collected on a weekly basis in the United Kingdom by the University College London COVID-19 Social Study.<sup>66</sup> First, we estimate the effects of being unable to work on life satisfaction each month

**Figure 3.11: Changing levels and individual effects of stopping work in the United Kingdom**

**Note:** The figure plots changing effects of work stoppages on life satisfaction in blue on the left y-axis, and changing levels of overall work stoppages in green on right y-axis. Effects are estimated using OLS linear regressions controlling for individual and week fixed effects, with standard errors clustered at the individual level. All effects are significant at a 99% confidence level.

**Source:** University College London (2021)

from March 2020 to April 2021, controlling for individual and week fixed effects.<sup>67</sup> These effects are plotted on the left axis in Figure 3.2.2. Second, we estimate the percent of respondents in the dataset who report being unable to work over the same period. These averages are plotted on the right axis.

We find clear evidence of parallel trends. Over the course of the first year of the pandemic, the negative effects of work stoppages seem to become more severe as fewer workers were forced to stop working. However, the effects of work stoppages become more imprecisely estimated towards the end of the year, which likely accounts for the variation in effects observed from November onwards. Nevertheless, these dynamics would appear to support the importance of social spillover effects of unemployment, suggesting that workers who were unable to work later in the pandemic were more negatively affected than those at the onset when the labour market was in considerably worse shape.

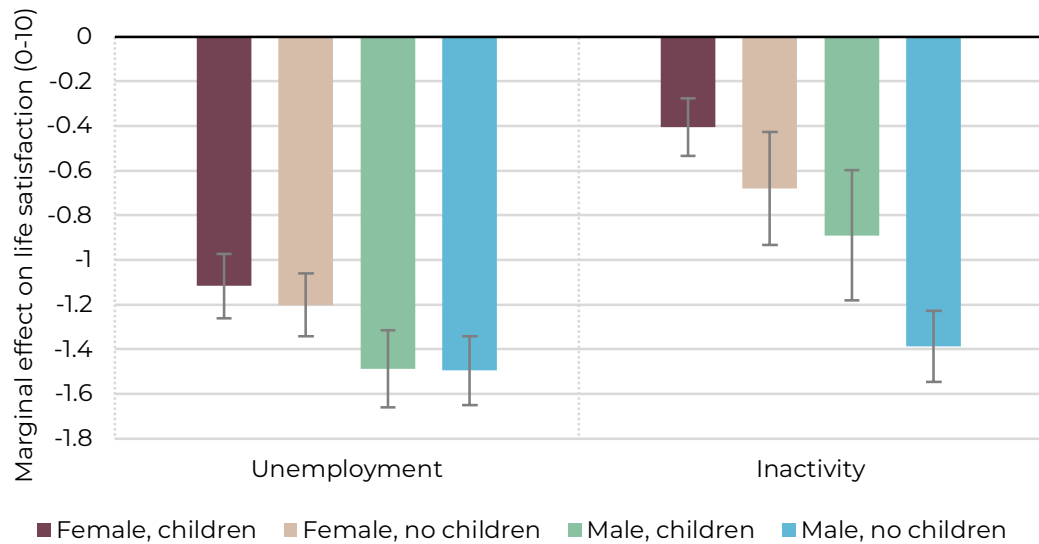
## Resilience

Despite considerable declines in well-being observed in the first phase of the pandemic, an emerging body of evidence has also begun to demonstrate impressive levels of resilience as the pandemic wore on. In many countries, overall levels of life satisfaction remained mostly unchanged from 2019 to 2020.<sup>68</sup> Here, we will consider key sources of this resilience that helped protect certain groups of workers from labour market shocks. Specifically, we consider the extent to which adults with children, in white-collar professions, and strong social networks were better able to absorb the negative impacts of unemployment and work stoppages throughout the crisis.

### Parenthood, inactivity, and unemployment

We will now turn specifically to the relationship between parenthood and employment status. In Section III, we also documented unequal impacts of the crisis on mothers and fathers, as women continued to do the majority of childcare and

**Figure 3.12: Impact of employment status on life satisfaction by parenthood status and gender**



**Note:** Marginal effects plotted from interaction terms on employment status and age, gender, and parental status using separate OLS regressions. The reference category is full-time employment. Additional controls included in all regressions for trust in government, trust in healthcare system, presence of pre-existing condition, individual and household COVID-19 status, ability to isolate, and willingness to isolate. 95% confidence intervals displayed.

**Source:** YouGov, Imperial College

housework, regardless of employment status. Given the added burdens placed on parents as a result of lockdowns and school closures, one might imagine that adults with children would therefore have suffered larger declines in well-being than those without children. In fact, we find that the reality is much more complicated.

Here again we rely on international data collected by YouGov and Imperial College. Overall, we find that parents reported higher levels of happiness than non-parents after the onset of the pandemic from April to December 2020. The difference is small but statistically significant — about 0.16 points on a scale from 0 to 10 — and does not seem to depend on employment status. In a linear regression controlling for a host of individual characteristics as well as country and week fixed effects, we find the interaction between both variables to be insignificant. In other words, we do not find evidence that men or women with children were more or less negatively affected by losing their jobs during COVID-19 than those

without children. These effects are represented graphically in the first panel of Figure 3.2.3.

However, we do find significant effects for inactivity. For both men and women, having children does seem to attenuate the negative impact of being out of the labour force. While the overall effect of inactivity on life satisfaction is still negative for all groups, it is relatively less severe for parents than non-parents. Specifically, the effect of inactivity is reduced by more than one third from 0.9 points for those without children to 0.5 points for those with children.<sup>69</sup> These effects are represented graphically for both men and women in the second panel of Figure 3.2.3.<sup>70</sup> This may suggest that parents who became inactive during the pandemic were able to spend more time with their children at home, attenuating the negative effect of not working.<sup>71</sup> However, one important caveat to this analysis is that we are unable to distinguish between parents of children with different ages. The labour market impacts of the pandemic seem likely to have affected

**Figure 3.13: Life satisfaction changes before and after work stoppage in the United Kingdom**



**Note:** Happiness levels are averaged by week and normalized to a baseline level recorded eight weeks before the first work stoppage recorded in the survey period. Respondents grouped by average baseline loneliness levels in the first two survey periods. Lowest smoothed regression lines displayed using a bandwidth of 0.5.

**Source:** University College London (2021)

parents of young children, adolescents, and teenagers in different ways.

**Does social support protect against the negative impact of work stoppage?**

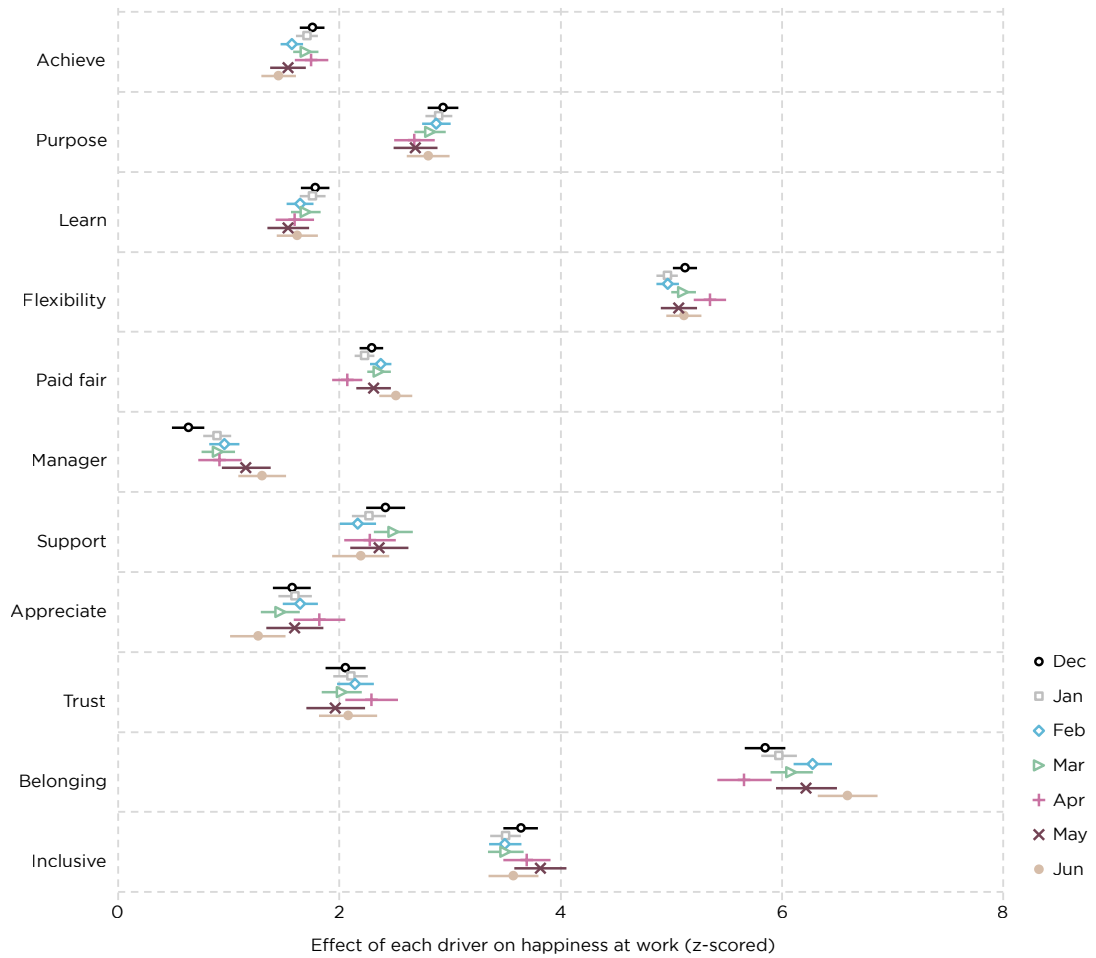
The results of the prior analysis suggest that having children at home may have actually buffered the negative impacts of not working. We will now consider this relationship more direct by looking at the moderating effects of social support. Using the United Kingdom as a case study, here we rely again on data from the University College London COVID-19 Social Study, offering over 200,000 individual responses on work and well-being from April 2020 to January 2021. In this case, the same respondents are also repeatedly surveyed over time, allowing us to assess the differential impacts of not working depending on baseline characteristics.

In Figure 3.2-4, we split the sample by the degree to which respondents reported feeling lonely at the beginning of the study.<sup>72</sup> We then follow lonely and non-lonely respondents over time to observe the impact of having to stop

working on life satisfaction. For both groups, we notice a potential anticipation effect, as life satisfaction levels begin to steadily decline in the weeks before stopping work. However, for those who initially reported feeling lonely, life satisfaction declines by as much as 14 percent by the time they actually stop working. Among non-lonely respondents, life satisfaction declines by almost half as much.

In a subsequent analysis, we check the validity of these results using a fixed effects regression controlling for individual and week fixed effects. For lonely respondents, stopping work lowers life satisfaction by 0.38 points, while for non-lonely respondents the effect is 0.25 points. Both effects (as well as the difference between them) are statistically significant at a 99% confidence level. This analysis is presented in the appendix. Taken together, this would seem to suggest that social networks can help to buffer against the negative impacts of hard times.

**Figure 3.14: Drivers of happiness at work before and after the onset of COVID-19 in the United States (monthly)**



**Note:** Coefficients plotted from seven regression models with monthly samples restricted from December 2019 to June 2020. In all cases, workplace happiness serves as the dependent variable, on a 0 to 100 scale, and drivers as the key independent variables of interest (all z-scored). Fixed effects included for the date of survey completion, company, occupation, response collector link, and state. Sample includes employees reviewing companies they currently work for. 95% confidence intervals displayed.

**Source:** Indeed.com

## Drivers of employee well-being in times of crisis

An important question for policymakers and business leaders moving forward is how to make workplaces more resilient to future crises. While some level of disruption will always be inevitable in crises, some workers have clearly fared better than others throughout the pandemic. What lessons can be learned from

these experiences to help better prepare firms to weather the next storm?

In this analysis, we address this issue by turning back to the United States using data from *Indeed.com*. In addition to tracking overall happiness levels, the site has also been collecting data on a host of related workplace characteristics and conditions. Here, we are primarily interested in eleven drivers of workplace well-being throughout the crisis. Specifically, the extent to

**Table 3.3: Labour market policy responses to COVID-19**

	Job retention Designed to maintain employment contracts between employees and employers by subsidizing firms' labour costs.		Income replacement Designed to provide financial relief to workers, without necessarily maintaining employment arrangements.	
	Short-time work (STW) schemes Compensate workers for hours not worked	Wage subsidies Subsidize workers' hourly wages while continuing to work	Unemployment benefits Provide financial support to workers who lose their jobs	Direct cash transfers Lump sum payments provided regardless of employment status
Australia		○	● → ↑	
Austria	● → ↑	○	● → ↑	
Belgium	● → ↑		● → ○	
Canada	●	○	● → ○	○
Czech Republic	● → ↑		● →	
Denmark	● → ○		●	
Finland	● → ↑		● →	
France	● → ↑		●	
Germany	● → ↑		● →	
Greece	○		● → ↑	○
Hungary	○		● ↑	
Iceland	○		● ↑	○
Ireland	●	○	● → ↑	
Italy	● →		● →	○
Japan	● → ↑		● →	○
Luxembourg	● → ↑		● →	
Netherlands	●	○	● →	
New Zealand		○	● ○	
Norway	●		● → ↑	
Portugal	● →		● → ↑	
Slovak Republic	● → ↑		● →	
Slovenia	○		● →	
Spain	● → ↑		● ○	
Sweden	● → ↑		● → ↑	
Switzerland	● →		● → ↑	
United Kingdom	○		● →	
United States	● → ↑		● → ↑	○

● Pre-existing program    → Expanded access    ↑ Increased benefits    ○ New program introduced

Source: Adapted from OECD (2020), Lipson et al. (2021), and International Labour Organization (2021b).



which workers (1) feel they achieve their goals at work, (2) have a clear sense of purpose, (3) feel appreciated, (4) feel a sense of belonging, (5) have the time and location flexibility they need, (6) work in an inclusive and respectful environment, (7) learn at work, (8) have a manager who helps them succeed, (9) are paid fairly, (10) feel supported, and (11) trust their colleagues.<sup>73</sup> Our intention here is not only to assess the degree to which each of these drivers are correlated with workplace happiness, but also to consider if and to what extent their importance has shifted throughout the course of the pandemic.

In Figure 3.2-5, we plot the effects of each driver on the extent to which workers report feeling happy at work.<sup>74</sup> While all drivers are significantly predictive of workplace happiness, two broad developments are worth noting. First, we find that eudaimonic drivers of workplace including achievement, purpose, and learning become slightly less important over the course of the crisis. This may suggest that, while surrounded by uncertainty and insecurity in the early phases of the pandemic, workers came to value more fundamental features of their jobs. On the other hand, flexibility and managers in particular become even more important over the same period, underscoring the importance of both autonomy and leadership in a time of unprecedented shifts to remote work.

However, despite these modest changes, the overall takeaway from this analysis is that the drivers of workplace well-being remained remarkably constant throughout the pandemic. As a result, firms that can cultivate strong working environments to cultivate these drivers in good times, may also be better prepared to withstand labour market shocks and support employee well-being in times of hardship.

## Building back happier

Government policy has also played a critically important role in tempering or exacerbating the worst effects of the pandemic. In this final section, we will focus specifically on the impact of labour market policies adopted in response to the crisis. In doing so, we will consider not only their economic effects, but also their effects on

workers' well-being. We will close by considering the potential long-term implications of the pandemic on the global labour market, and offer several recommendations to build back more resilient labour markets in the years to come.

## Labour market policy responses to COVID-19

As COVID-19 began to spread around the world, economic activity began to decline initially as a result of fear of catching the virus, and then as a result of mandated government lockdowns. As the global demand for certain key goods and services fell — including air travel, live events, and restaurants — many governments began passing legislation to protect vulnerable workers employed in these industries. Broadly speaking, these were generally aimed at job retention or income replacement. In what follows, we will summarize the key features of both strategies. We will then turn to an analysis of their effects on overall unemployment and subjective well-being.

In high-income countries, policies aimed at job retention have been widely adopted to protect workers affected by the pandemic. While the specifics of these initiatives differ between countries, their similarities are often more important than their differences. Broadly speaking, job retention programs aim to provide financial support to businesses so that they can continue paying employees' salaries during economic downturns. The explicit aim of these programs is to maintain employment contracts and limit increases in unemployment. By May 2020, job retention policies were supporting more than 50 million jobs in OECD countries — ten times more than during the global financial crisis.<sup>75</sup>

In practice, job retention policies have generally been administered as short-time work schemes and/or wage subsidies. Short-time work schemes — such as those adopted by France, Germany, and the United Kingdom — seek to alleviate firms' labour costs by compensating workers for hours they have been unable to work due to the crisis. In Germany, the government entitled employees to receive up to 80 percent of their income for lost hours as part of the *Kurzarbeit* program.<sup>76</sup> In France, the *Activité Partielle* program provided eligible businesses with financial support to compensate workers for hourly

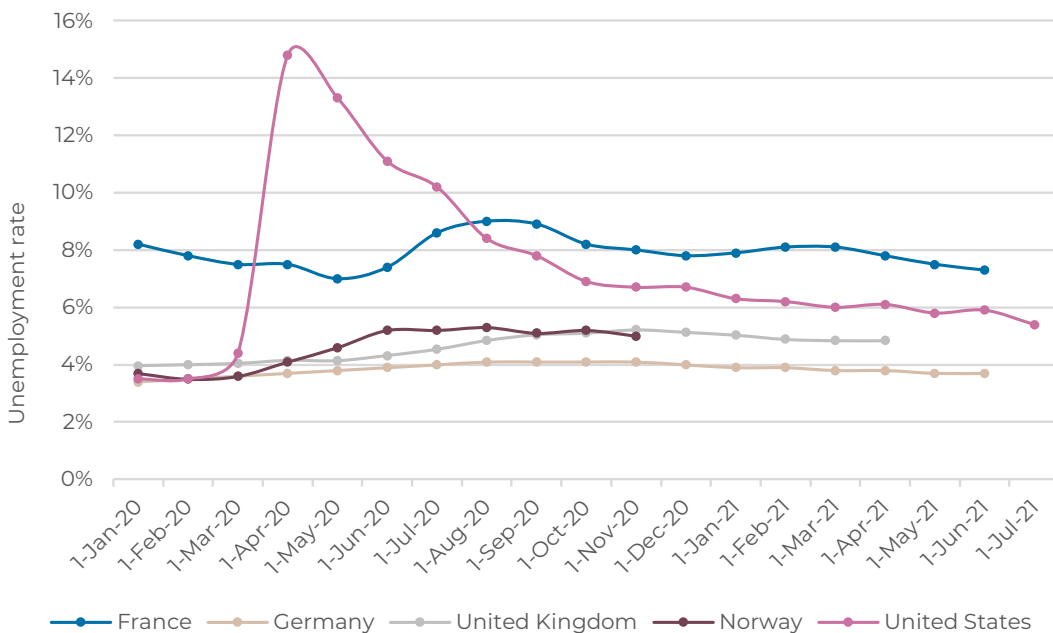
reductions at a rate of 70 percent of their original income. In the United Kingdom, the *Coronavirus Job Retention Scheme* subsidized firms to replace employees' lost wages up to £2,500 per month. Initially, in both France and the United Kingdom, workers receiving benefits were not allowed to work any number of paid hours for their employers. These policies were later adjusted to allow workers to work part-time. Other countries introducing or expanding existing short-time work schemes as a result of COVID-19 include Austria, Denmark, Japan, and Spain (Table 3.1).<sup>77</sup>

A handful of other (primarily English-speaking) countries relied on wage subsidy programs to provide financial support to affected workers. While both short-time work schemes and wage subsidies seek to alleviate firms' labour costs and keep workers on the payroll, the latter approach tops up employees' wages for hours actually worked, as opposed to only subsidizing workers for hourly reductions. In effect, this allows firms to continue paying their workers to work semi-regular hours while facing reduced demand.

Firms may also be able to use these subsidies to support the incomes of non-standard workers, and rehire workers that have been laid off. However, as wage subsidies are generally less tied to revenue reductions and hourly losses than short-time work schemes, the resulting financial support they provide may be more imprecisely targeted.<sup>78</sup>

Both short-time work and wage subsidy schemes provide financial assistance to workers through their employers in an attempt to keep employment arrangements intact. Another approach adopted by many countries was to provide financial relief directly to workers. In practice, this tended to take the form of unemployment benefits and/or direct cash transfers. These forms of income replacement were particularly important in countries with relatively low layoff costs to begin with, most notably in the United States.<sup>79</sup> Unemployment benefits in the United States were increased by \$600 per week in March of 2020, while households earning under \$75,000 per year were sent one-time direct cash transfers of \$1,200, plus an extra \$500 per child. Eligibility

**Figure 3.15: Unemployment rate over time in selected countries**



Source: OECD (2021a)

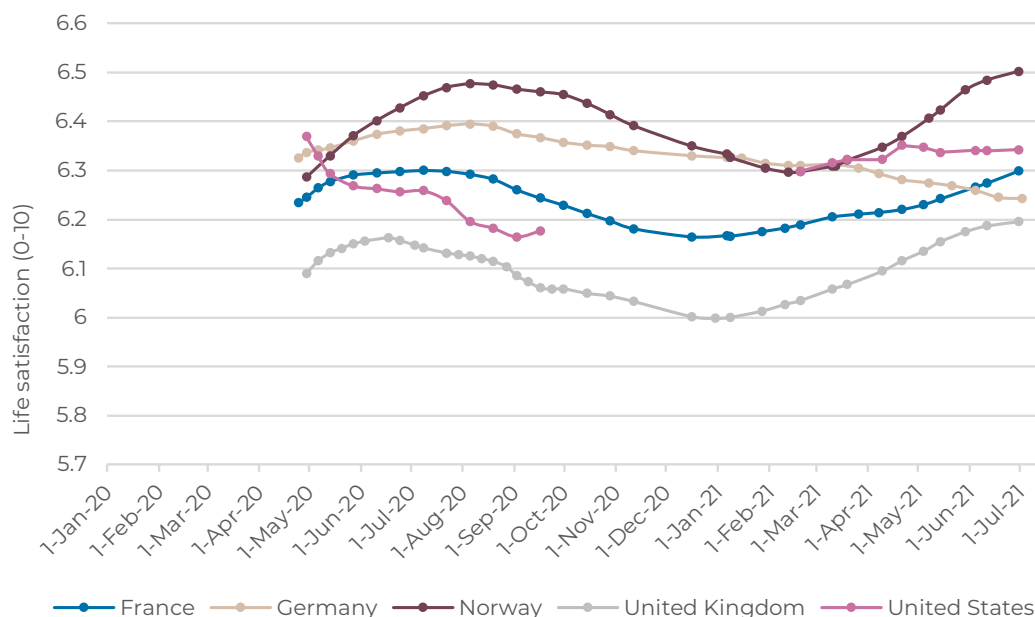
for unemployment benefits was also extended to include part-time workers, freelancers, self-employed workers, and contractors.<sup>80</sup> Other countries offering some form of direct cash transfers to eligible recipients include Japan, Canada, and Greece (Table 3.1).

In general, countries offering more generous economic stimulus programs tended to see smaller reductions in economic activity. However, there were also important differences in effect between countries favouring job retention and those favouring income replacement. We will explore these dynamics in greater detail in the next subsection.

### Policy impacts on unemployment and well-being

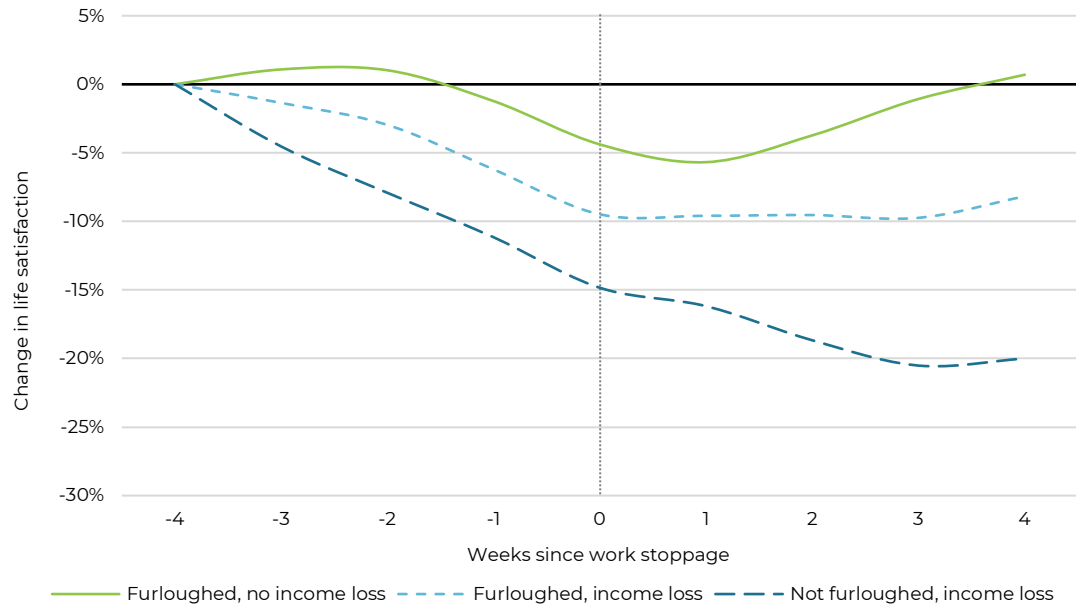
In general, countries favouring income replacement over job retention saw steeper increases in unemployment (Figure 3.3-1). In the United States, unemployment levels reached roughly 15 percent in the first weeks of the pandemic, the largest figure ever recorded.<sup>81</sup> On the other hand, Norway, the United Kingdom, and Germany only saw increases in unemployment of one to two percentage points over the same time period. This divergence is particularly striking as all four countries started the year with the same overall level of unemployment. In the United States, the combined result of increased unemployment benefits and direct cash transfers also had the somewhat surprising effect of providing many workers with higher levels of income in unemployment than they received at their jobs. Overall, combined state and unemployment benefits exceeded the minimum wage in every state in the country.<sup>82</sup> In practice, this meant that seven out of ten workers who lost their jobs received benefits exceeding their initial wages. The median increase in income was 34 percent.<sup>83</sup> We will explore the potential long-term consequences of these dynamics later on. Yet before we do, it is

**Figure 3.16: Life satisfaction over time in selected countries**



Source: University College London (2021)

**Figure 3.17: Life satisfaction changes before and after work stoppage in the United Kingdom depending on furlough status**



**Source:** University College London (2021)

also worth considering the well-being implications of different labour market policies adopted during the crisis.

In Section II, we documented the considerable impact of unemployment on well-being. Workers who lost their jobs, as well as those who left the labour force completely, reported significantly lower life satisfaction and higher negative affect throughout the pandemic.<sup>84</sup> As a result, it stands to reason that countries favouring income replacement programs over job retention, and therefore experiencing higher levels of unemployment and inactivity as a result, would have also experienced greater declines in overall well-being. In fact, we do find some preliminary evidence of these trends.

In Figure 3.3-2, using data collected by Imperial College London and YouGov, average life satisfaction is plotted for five countries from April 2020 to July 2021. Unfortunately, due to data limitations, we are unable to reliably compare changes in overall well-being during the pandemic to baseline levels before the crisis took root. Nevertheless, we can still observe dynamic differences between countries. Following the precipitous rise in unemployment in the United

States, we see a subsequent decline in life satisfaction that continues at least until October of the same year. However, encouragingly, when data collection resumed in the United States in spring of 2021, both unemployment and life satisfaction levels had mostly recovered back to initial levels observed the onset of the pandemic.

In France, Germany, the United Kingdom, and Norway — all countries relying primarily on short-time work schemes to support affected workers as opposed to income replacement programs — life satisfaction levels did not decline to an equivalent degree throughout the spring and summer of 2020. Instead, life satisfaction steadily increased during the same period, which may be indicative of recoveries back to initial well-being levels following drops that occurred before data collection began.<sup>85</sup>

These trends may provide evidence that countries introducing labour market policies to keep workers in their jobs also experienced less severe declines in overall well-being. However, they are of course only broadly suggestive. Well-being throughout the crisis was determined by a confluence of factors, including the rate of disease spread, demographic differences, local and national

media environments, etc. To gain a better understanding of the relationship between labour market policy and subjective well-being, we can take a closer look using the United Kingdom as a case study. For the first five months of the crisis, the U.K. government subsidized firms to pay the salaries of workers who were unable to work as a result of COVID-19. During this period, furloughed workers were not allowed to undertake any paid work for their employers. Some furloughed workers reported no overall reductions in household income, while others reported significant declines. These differences provide a unique opportunity to compare the well-being trajectories of workers who were (a) furloughed without any income loss, (b) furloughed with income loss, or (c) stopped work without being furloughed at all.<sup>86</sup>

In Figure 3.3-3, we plot average changes in life satisfaction for each group of workers before and after stopping work for the first time. Notably, life satisfaction declines for all three groups. In fact, even for workers who experienced no income losses as a result of being furloughed, the observable declines in life satisfaction suggest that the relationship between work and well-being extends beyond monetary compensation. While this result appears to be at odds with standard economic interpretations of work as a trade-off between leisure time and financial reward, it is entirely in line with an emerging literature demonstrating the non-pecuniary benefits of work.<sup>87</sup> This is not to say that income does not matter. In the United Kingdom, furloughed workers who experienced greater income losses also experienced greater declines in life satisfaction (Figure 3.3-3).<sup>88</sup> Nevertheless, regardless of income losses, furloughed workers reported less severe declines in life satisfaction overall than those who stopped work without the same protections. Taken together, this evidence further indicates that labour market policies aimed at maintaining employment arrangements are likely to be more protective of well-being than those that are not.<sup>89</sup>

## Lessons for the future of work

At the time of writing in September 2021, the world is now roughly 18 months into the COVID-19 pandemic. While in many countries, case rates are at lower levels than they were in the early stages of the crisis and employment levels have begun to recover, there are still considerable challenges on the horizon. The spread of the Delta variant has driven many countries back into lockdown, global vaccination rates have stalled, many sectors of the economy have yet to fully reopen, and large proportions of the global workforce remain out of work. While income replacement schemes and job retention programs were crucially important to protect vulnerable workers in the early months of the pandemic, labour market policy objectives have begun to shift. As countries attempt to rebuild their economies, active labour market policies (ALMPs) are becoming increasingly important tools to get workers back to work. Past research from earlier recessions also suggests that the pandemic is likely to have long-lasting effects on the choices and career paths of young people, rendering them especially in need of support. Finally, the transition to remote work is likely to outlast COVID-19, bringing unique challenges and opportunities to employers and workers alike.

Moving forward, matching out-of-work adults to new jobs will be crucially important not only for countries' economic stability, but also for workers' well-being. While employment levels in many countries have begun to recover back to initial levels, millions of workers around the world remain dependent on job retention programs and government benefits. In the United States, rates of labour market participation remain 1.7 percentage points below where they were at the onset of the crisis, after recovering from a 3.2 percentage-point-deep trough in April 2020.<sup>90</sup> Workers may be reluctant to return to work due to the risk of contracting COVID-19. Labour shortages may also be the result of changing values and expectations. As access to unemployment benefits in the United States and other countries around the world continue to dwindle and expire, many workers may ultimately feel forced to return to work. Yet building back

stronger and happier workforces requires more than financial incentives alone. In this regard, active labour market policies (ALMPs) have an important role to play.

Broadly speaking, ALMPs seek to connect people to jobs using a variety of means, including job training, job search assistance, public sector job creation, and hiring subsidies. All of these measures can provide unique and complementary support to match workers with employers.<sup>91</sup> An emerging body of research has also suggested that many of the jobs worst affected by the COVID-19 crisis are not likely to return, while other sectors are set to experience unprecedented job growth.<sup>92</sup> When managed properly, this type of labour reallocation can provide mutual benefits to employers and employees alike. Yet without direct government assistance and support, reallocation across sectors can proceed slowly and inefficiently, leaving many workers behind. Encouragingly, many governments have already begun stepping up the plate. In a recent survey of OECD countries, roughly 70 percent had introduced or expanded pre-existing ALMPs to help workers find new jobs.<sup>93</sup> These initiatives will be critical to rebuilding strong economies and labour markets in the months and years ahead.

As we documented in Section I, young people have been particularly vulnerable to labour market impacts of the pandemic and will likely require special attention in the years to come. Of all age groups, young people experienced the largest increases in unemployment and inactivity after the onset of the crisis.<sup>94</sup> These trends are not necessarily unique to COVID-19. Past research has demonstrated that young people who come of age during recessions experiencing long-lasting employment effects well into adulthood.<sup>95</sup> Young people who come of age in worse macroeconomic conditions are also more likely to value financial security than job meaning throughout their careers.<sup>96</sup> As a result, the pandemic's impact on this generation of young people may result in a shifting landscape of

values, expectations, and employment opportunities. Governments and workplaces alike would be wise to devote attention and support to these workers in the years ahead.

As a final note, one of the most important changes brought on by the COVID-19 crisis has been the expansion of remote work. In April 2021, roughly half of the American workforce continued to work from home at least part of the time, including seven out of ten white-collar workers.<sup>97</sup> Additional research has suggested that three out of ten workers around the world may continue to work remotely for a majority of the time after the pandemic.<sup>98</sup> These developments may have countervailing impacts on workers' well-being. On one hand, increasing opportunities for remote working arrangement can save time, energy, and resources that would otherwise be devoted to daily commutes. Remote working arrangements may also increase employment opportunities. On the other hand, a number of studies have documented the importance of social connections and working relationships to well-being.<sup>99</sup> If the global decline of office work limits employees' opportunities to meaningfully interact with each other, we may begin to see increases in feelings of isolation. As a result, promoting flexible work schedules in which workers can decide if and when to come into the office may strike the right balance. A flexible homeworking model that still affords employees opportunities to network, collaborate, and socialise in person could provide the necessary in-flows of social and intellectual capital and lead to large productivity dividends.<sup>100</sup>

Whatever the long-term effects of the pandemic may be, the hardships brought on by COVID-19 have provided a unique opportunity to build back better, stronger, and more resilient workforces. It is our hope that the findings and insights presented in this report can help to ensure companies and countries alike take advantage of it.

# Appendix

**Table 3A.1: Impacts of stopping work depending on furloughing**

Life satisfaction (0-10)	Coef.	Std. Err.
Did not stop work (reference)		
Stopped work, furloughed, no income loss	-0.393**	(0.154)
Stopped work, furloughed, income loss	-0.538***	(0.154)
Stopped work, not furloughed, income loss	-0.546***	(0.119)
Constant	5.681***	(0.217)
Mean dependent var	6.221	
Observations	154,978	
R-squared	0.029	

**Note:** Fixed effects regression controlling for individual and week fixed effects. Heteroskedastic robust standard errors clustered at the individual level are reported in parenthesis. \*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

**Source:** University College London (2021)

## References

- Adams-Prassl, A., Boneva, T., Golin, M., & Rauh, C. (2020a). Work Tasks that Can Be Done from Home: Evidence on Variation within & Across Occupations and Industries. *IZA Discussion Paper* 13374.
- Adams-Prassl, A., Boneva, T., Golin, M., & Rauh, C. (2020b). Inequality in the Impact of the Coronavirus Shock: Evidence from Real Time Surveys. *Journal of Public Economics*.
- Anayi, L., Barrero, J. M., Bloom, N., Bunn, P., Davis, S., Leather, J., Meyer, B., Oikonomou, M., Mihaylov, E., Mizen, P., & Thwaites, G. (2021). Labour market reallocation in the wake of Covid-19. *VoxEU CEPR*. Retrieved from: [www.voxeu.org/article/labour-market-reallocation-wake-covid-19](http://www.voxeu.org/article/labour-market-reallocation-wake-covid-19)
- Andrew, A., Cattan, S., Costa Dias, M., Farquharson, C., Kraftman, L., Krutikova, S., ... & Sevilla, A. (2020). The gendered division of paid and domestic work under lockdown. *SSRN Papers*.
- Angrave, D., & Charlwood, A. (2015). What is the relationship between long working hours, over-employment, under-employment and the subjective well-being of workers? Longitudinal evidence from the UK. *Human Relations*, 68(9), 1491-1515.
- Anusic, I., Yap, S. C., & Lucas, R. E. (2014). Testing set-point theory in a Swiss national sample: Reaction and adaptation to major life events. *Social indicators research*, 119(3), 1265-1288.
- Balde, R., Boly, M., & Avenyo, E. K. (2020). *Labour market effects of COVID-19 in sub-Saharan Africa: An informality lens from Burkina Faso, Mali and Senegal*. Maastricht Economic and Social Research Institute on Innovation and Technology (UNU-MERIT).
- Bartley, M., & Plewis, I. (2002). Accumulated labour market disadvantage and limiting long-term illness: data from the 1971-1991 Office for National Statistics' Longitudinal Study. *International journal of epidemiology*, 31(2), 336-341.
- Bell, D. N., & Blanchflower, D. G. (2011). Young people and the Great Recession. *Oxford Review of Economic Policy*, 27(2), 241-267.
- Benzeval, M., Burton, J., Crossley, T. F., Fisher, P., Jäckle, A., Low, H., & Read, B. (2020). The Idiosyncratic Impact of an Aggregate Shock: The Distributional Consequences of COVID-19. Available at SSRN 3615691.
- Blundell, J., Machin, S., & Ventura, M. (2021). *Covid-19 and the self-employed: Ten months into the crisis*. Centre for Economic Performance, London School of Economics and Political Science.
- Blundell, R., Costa Dias, M., Joyce, R., & Xu, X. (2020). COVID-19 and Inequalities. *Fiscal Studies*, 41(2), 291-319.
- Bubonya, M., Cobb-Clark, D. A., & Wooden, M. (2014). *A Family Affair: Job Loss and the Mental Health of Spouses and Adolescents* (No. 8588). Institute of Labor Economics (IZA).
- Carlson, D. L., Petts, R., & Pepin, J. (2020). US Couples' Divisions of Housework and Childcare During COVID-19 Pandemic.
- Chetty, R., Friedman, J., Hendren, N., & Stepner, M. (2020). The economic impacts of COVID-19: Evidence from a new public database built from private sector data. *Opportunity Insights*. Retrieved from: [www.tracktherecovery.org](http://www.tracktherecovery.org)
- Clark, A. E. (2003). Unemployment as a social norm: Psychological evidence from panel data. *Journal of labor economics*, 21(2), 323-351.
- Clark, A. E., & Georgellis, Y. (2013). Back to baseline in Britain: adaptation in the British household panel survey. *Economica*, 80(319), 496-512.
- Clark, A. E., & Lepinteur, A. (2019). The causes and consequences of early-adult unemployment: Evidence from cohort data. *Journal of Economic Behavior & Organization*, 166, 107-124.
- Clark, A. E., Diener, E., Georgellis, Y., & Lucas, R. E. (2008). Lags and leads in life satisfaction: A test of the baseline hypothesis. *The Economic Journal*, 118(529), F222-F243.
- Clark, A. E., Flèche, S., Layard, R., Powdthavee, N., & Ward, G. (2019). *The origins of happiness: the science of well-being over the life course*. Princeton University Press.
- Cotofan, M., Cassar, L., Dur, R., & Meier, S. (2020). Macroeconomic Conditions When Young Shape Job Preferences for Life. *The Review of Economics and Statistics*, 1-20.
- Czeisler et al. (2020). Mental health, substance use, and suicidal ideation during the COVID-19 pandemic—United States, June 24–30, 2020. *Morbidity and Mortality Weekly Report*, 69 (32), 1049.
- Davis, M. A., Ghent, A. C., & Gregory, J. (2021). The Work-at-Home Technology Boon and its Consequences. Available at SSRN 3768847.
- De Neve, J. E., & Ward, G. (2017). Happiness at work. In *World Happiness Report 2017*.
- Del Boca, D., Oggero, N., Profeta, P., & Rossi, M. (2020). Women's Work, Housework and Childcare, before and during COVID-19.
- Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of economic psychology*, 29(1), 94-122.
- Eurostat (2020). COVID-19 labour effects across the income distribution. *European Commission*. Retrieved from: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20201027-2>
- Eurostat (2021). Labour Market in the light of the COVID-19 pandemic — quarterly statistics. *European Commission*. Retrieved from: [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Labour\\_market\\_in\\_the\\_light\\_of\\_the\\_COVID\\_19\\_pandemic\\_-\\_quarterly\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Labour_market_in_the_light_of_the_COVID_19_pandemic_-_quarterly_statistics).
- Falk, G., Romero, P., Nicchitta, I. A., & Nyhof, E. C. (2021). Unemployment Rates During the COVID-19 Pandemic. *Congressional Research Service*. Retrieved from: <https://crsreports.congress.gov/product/pdf/R/R46554>
- Foa, R., Gilbert, S., & Fabian, M. O. (2020). COVID-19 and subjective well-being: Separating the effects of lockdowns from the pandemic. Available at SSRN 3674080.
- Franzen, E. M., & Kassman, A. (2005). Longer-term labour-market consequences of economic inactivity during young adulthood: a Swedish national cohort study. *Journal of youth studies*, 8(4), 403-424.
- Frijters, P., Geishecker, I., Haisken-DeNew, J. P., & Shields, M. A. (2006). Can the large swings in Russian life satisfaction be explained by ups and downs in real incomes?. *Scandinavian Journal of Economics*, 108(3), 433-458.
- Frijters, P., Johnston, D. W., & Shields, M. A. (2011). Happiness dynamics with quarterly life event data. *Scandinavian Journal of Economics*, 113(1), 190-211.



- Furman, J., Kearney, M., & Powell, W. (2021). Working parents and the pandemic labour market recovery in the US. *VoxEU CEPR*. Retrieved from: [www.voxeu.org/article/working-parents-and-pandemic-labour-market-recovery-us](http://www.voxeu.org/article/working-parents-and-pandemic-labour-market-recovery-us)
- Ganong, P., Noel, P., & Vavra, J. (2020). US unemployment insurance replacement rates during the pandemic. *Journal of public economics*, 191, 104273.
- Gottlieb, C., Grobovšek, J., & Poschke, M. (2020). Working from home across countries. *COVID Economics*, 1(8): 71-91.
- Hale, T., Angrist, N., Goldszmidt, R., Kira, B., Petherick, A., Phillips, T., Webster, S., Cameron-Blake, E., Hallas, L., Majumdar, S., & Tatlow, H. (2021). A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker). *Nature Human Behaviour*.
- Happiness Research Institute (2020) *Well-being in the age of COVID-19*, Copenhagen: Happiness Research Institute.
- Hatayama, M., Violaz, M., & Winkler, H. (2020). Jobs' Amenability to Working from Home: Evidence from Skills Surveys for 53 Countries. *COVID Economics*, 1(19): 211-240.
- Helliwell, J. F. (2003). How's life? Combining individual and national variables to explain subjective well-being. *Economic modelling*, 20(2), 331-360.
- Helliwell, J. F., Huang, H., Wang, S., & Norton, M. (2021). World happiness, trust and deaths under COVID-19. *World Happiness Report 2021*, 13-57.
- Helliwell, J., Schellenberg, G., and Fonberg, J. (2020). Life satisfaction in Canada before and during the COVID-19 pandemic. Ottawa: Statistics Canada Analytical Branch Research Paper Series. Retrieved from: <https://www150.statcan.gc.ca/n1/pub/11f0019m/11f0019m2020020-eng.htm>
- Hughes, M. E., Waite, L. J., Hawkey, L. C., & Cacioppo, J. T. (2004). A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Research on aging*, 26(6), 655-672.
- Humphries, J. E., Neilson, C., & Ulyssea, G. (2020). The evolving impacts of COVID-19 on small businesses since the CARES Act.
- Hupkau, C., & Petrongolo, B. (2020). Work, care and gender during the Covid-19 crisis. *CEP Discussion Paper, No. 1723*. Centre for Economic Performance: London.
- Imperial College London and YouGov (2021). Imperial College London YouGov Covid Data Hub, v1.0 [database]. Retrieved from: <https://github.com/YouGov-Data/covid-19-tracker>
- Indeed Hiring Lab (2020). Indeed Hiring Lab Data [database]. Available from: <https://github.com/hiring-lab/data>
- International Labour Organization (2020a). *ILO Monitor: COVID-19 and the world of work. Sixth edition*. Switzerland: ILO.
- International Labour Organization (2020b). *ILO Monitor: COVID-19 and the world of work. Fourth edition*. Switzerland: ILO.
- International Labour Organization (2020c). *ILO Monitor: COVID-19 and the world of work. Fifth edition*. Switzerland: ILO.
- International Labour Organization (2021a). *ILO Monitor: COVID-19 and the World of Work. Seventh edition*. Switzerland: ILO.
- International Labour Organization (2021b). Country policy responses. *COVID-19 and the world of work*. Switzerland: ILO. Retrieved from: [www.ilo.org/global/topics/coronavirus/regional-country/country-responses](http://www.ilo.org/global/topics/coronavirus/regional-country/country-responses)
- International Monetary Fund (2021). *World Economic Outlook Update: Policy Support and Vaccines Expected to Life Recovery*. Washington, DC: IMF. Retrieved from: [www.imf.org/en/Publications/WEO/Issues/2021/01/26/2021-world-economic-outlook-update](http://www.imf.org/en/Publications/WEO/Issues/2021/01/26/2021-world-economic-outlook-update)
- Kahn, L. B. (2010). The long-term labor market consequences of graduating from college in a bad economy. *Labour economics*, 17(2), 303-316.
- Krekel, C., Ward, G., & De Neve, J. E. (2019). Employee well-being, productivity, and firm performance: evidence and case studies. In *Global Happiness and Well-Being Policy Report*.
- Kreyenfeld, M., & Zinn, S. (2020). *Coronavirus & care: How the coronavirus crisis affected fathers' involvement in Germany* (No. 1096). SOEPpapers on Multidisciplinary Panel Data Research.
- Krueger, A. B., & Mueller, A. I. (2012). Time use, emotional well-being, and unemployment: Evidence from longitudinal data. *American Economic Review*, 102(3), 594-99.
- Lipson, R., Northend, J., & Albezreh, J. (2021). Monitoring the Covid-19 Employment Response: Policy Approaches Across Countries. *The Project on Workforce*. Harvard Kennedy School. Retrieved from: [www.pw.hks.harvard.edu/post/monitoring-the-covid-19-employment-response-policy-approaches-across-countries](http://www.pw.hks.harvard.edu/post/monitoring-the-covid-19-employment-response-policy-approaches-across-countries)
- Liu, S., & Parilla, J. (2020). New data shows small businesses in communities of color had unequal access to federal COVID-19 relief. *Brookings Institution Report*.
- Lund, S., Madgavkar, A., Manyika, J., & Smit, S. (2020). What's next for remote work: An analysis of 2,000 tasks, 800 jobs, and nine countries. *McKinsey Global Institute*. Retrieved from: [www.mckinsey.com/featured-insights/future-of-work/whats-next-for-remote-work-an-analysis-of-2000-tasks-800-jobs-and-nine-countries](http://www.mckinsey.com/featured-insights/future-of-work/whats-next-for-remote-work-an-analysis-of-2000-tasks-800-jobs-and-nine-countries)
- Mehrotra, S. (2009). The impact of the economic crisis on the informal sector and poverty in East Asia. *Global Social Policy*, 9(1\_suppl), 101-118.
- Narula, R. (2020). Policy opportunities and challenges from the COVID-19 pandemic for economies with large informal sectors. *Journal of International Business Policy*, 3(3), 302-310.
- Nikolova, M., & Ayhan, S. H. (2019). Your spouse is fired! How much do you care?. *Journal of Population Economics*, 32(3), 799-844.
- Nikolova, M., & Nikolaev, B. N. (2018). Family matters: The effects of parental unemployment in early childhood and adolescence on subjective well-being later in life. *Journal of Economic Behavior & Organization*.
- OECD (2020). *Job retention schemes during the COVID-19 lockdown and beyond*. Paris: Organization for Economic Co-operation and Development.
- OECD (2021a). Unemployment rate [indicator]. *Organization for Economic Co-operation and Development*. Retrieved from: 10.1787/52570002-en
- OECD (2021b). Supporting jobs and companies: A bridge to the recovery phase. *OECD Policy Responses to Coronavirus (COVID-19)*. Paris: Organization for Economic Co-operation and Development.

- OECD (2021c). Scaling up policies that connect people with jobs in the recovery from COVID-19. *OECD Policy Responses to Coronavirus (COVID-19)*. Paris: Organization for Economic Co-operation and Development.
- OECD (2021d). Designing active labour market policies for the recovery. *OECD Policy Responses to Coronavirus (COVID-19)*. Paris: Organization for Economic Co-operation and Development.
- Powdthavee, N. (2007). Are there geographical variations in the psychological cost of unemployment in South Africa?. *Social Indicators Research*, 80(3), 629-652.
- Powdthavee, N., & Vernoit, J. (2013). Parental unemployment and children's happiness: A longitudinal study of young people's well-being in unemployed households. *Labour economics*, 24, 253-263.
- Rudolf, R., & Kang, S. J. (2015). Lags and leads in life satisfaction in Korea: When gender matters. *Feminist Economics*, 21(1), 136-163.
- Saad, L. & Jones, J. M. (2021). Seven in 10 U.S. White-Collar Workers Still Working Remotely. *Gallup*. Retrieved from: [www.news.gallup.com/poll/348743/seven-u.s.-white-collar-workers-still-working-remotely.aspx](http://www.news.gallup.com/poll/348743/seven-u.s.-white-collar-workers-still-working-remotely.aspx)
- Schimmack, U., Schupp, J., & Wagner, G. G. (2008). The influence of environment and personality on the affective and cognitive component of subjective well-being. *Social indicators research*, 89(1), 41-60.
- Schmidtke, J., Hetschko, C., Schöb, R., Stephan, G., Eid, M., & Lawes, M. (2021). The Effects of the COVID-19 Pandemic on the Mental Health and Subjective Well-Being of Workers: An Event Study Based on High-Frequency Panel Data.
- Schotte, S., Danquah, M., Osei, R. D., & Sen, K. (2021). The Labour market impact of COVID-19 lockdowns.
- Schwandt, H., & Von Wachter, T. (2019). Unlucky cohorts: Estimating the long-term effects of entering the labor market in a recession in large cross-sectional data sets. *Journal of Labor Economics*, 37(S1), S161-S198.
- Sevilla, A., & Smith, S. (2020). Baby steps: The gender division of childcare during the COVID-19 pandemic. *COVID Economics*, 1(23): 58-78.
- Shafer, K., Milkie, M., & Scheibling, C. (2020). The Division of Labour Before & During the COVID-19 Pandemic in Canada.
- Shields, M. A., & Price, S. W. (2005). Exploring the economic and social determinants of psychological well-being and perceived social support in England. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 168(3), 513-537.
- Suppa, N. (2021). *Unemployment and subjective well-being* (No. 760). GLO Discussion Paper.
- Taylor, K. & Kiersz, A. (2021). Yes, you can earn more on unemployment instead of working. Here's the gap between average benefits and wages in every US state. *Insider.com*. Retrieved from: [www.businessinsider.com/unemployment-benefits-versus-average-wages-across-the-us-2021-5](http://www.businessinsider.com/unemployment-benefits-versus-average-wages-across-the-us-2021-5)
- Theodossiou, I. (1998). The effects of low-pay and unemployment on psychological well-being: a logistic regression approach. *Journal of health economics*, 17(1), 85-104.
- University College London (2021). Covid-19 Social Study [database]. Private access data. For more information, visit: [www.covidsocialstudy.org](http://www.covidsocialstudy.org)
- Webb, A., McQuaid, R., & Rand, S. (2020). Employment in the informal economy: implications of the COVID-19 pandemic. *International Journal of Sociology and Social Policy*.
- Winkelmann, L. and Winkelmann, R., (1995). Happiness and unemployment: A panel data analysis for Germany, *Applied Economics Quarterly*, 41 (4), 293-307.
- Winkelmann, L., & Winkelmann, R. (1998). Why are the unemployed so unhappy? Evidence from panel data. *Economica*, 65(257), 1-15.
- YouGov (2020). Britain's mood, measured weekly [database]. Available from: <https://yougov.co.uk/topics/science/trackers/britains-mood-measured-weekly>
- Yue, W., & Cowling, M. (2021). The Covid-19 lockdown in the United Kingdom and subjective well-being: Have the self-employed suffered more due to hours and income reductions?. *International Small Business Journal*, 0266242620986763.
- Zhou, M., Hertog, E., Kolpashnikova, K., & Kan, M. Y. (2020). Gender inequalities: Changes in income, time use and well-being before and during the UK COVID-19 lockdown.
- Zhou, Y., Zou, M., Woods, S. A., & Wu, C. H. (2019). The restorative effect of work after unemployment: An intraindividual analysis of subjective well-being recovery through re-employment. *Journal of applied psychology*, 104(9), 1195.

## Endnotes

- 1 This estimate is slightly higher than prior projections given the stronger-than-expected rebound in the third and fourth quarters of 2020 (International Monetary Fund, 2021).
- 2 International Labour Organization (2021a).
- 3 Assumes a 48-hour work week.
- 4 International Labour Organization (2021a).
- 5 International Labour Organization (2020a).
- 6 It is worth noting that declines in GDP are not necessarily representative of the total economic impact of the crisis. Even though declines in economic output are estimated to be larger in high income countries, low-income and middle-income countries experienced larger labour income losses (International Labour Organization, 2021a).
- 7 International Labour Organization (2021a).
- 8 Indeed Hiring Lab (2020); OECD (2021b).
- 9 Dolan et al. (2008).
- 10 De Neve & Ward (2017).
- 11 Clark et al. (2019).
- 12 Angrave & Charlwood (2015); Zhou et al. (2019).
- 13 Low income (<\$27k). Medium income (\$27-60k). High income (>\$60k). For more information, see: Chetty et al. (2020).
- 14 Some of this divergence in rehiring is likely attributable to disparities in access to government assistance. The U.S. government's flagship relief program for businesses affected by the COVID-19 crisis — the Payment Protection Plan (PPP) — was disproportionately distributed to big businesses, which typically employ high-income workers, allowing them to rehire more employees that were initially laid off. Small businesses, particularly those in low-income communities, were more likely to be unaware of government assistance programs, and therefore less likely to receive assistance early on in the pandemic (Humphries et al. 2020; Liu & Parilla, 2020).
- 15 Eurostat (2020, 2021); International Labour Organization (2021a).
- 16 Blundell et al. (2020).
- 17 Adams-Prassl et al. (2020a).
- 18 Hatayama et al. (2020); Gottlieb et al. (2020).
- 19 Humphries et al. (2020); Liu & Parilla (2020)
- 20 Young women, in particular, make up more than half of youth employment in food and accommodation (International Labour Organization, 2020b).
- 21 International Labour Organization (2020b).
- 22 International Labour Organization (2020b).
- 23 International Labour Organization (2021a).
- 24 International Labour Organization (2020b); Helliwell et al. (2020); Czeisler et al. (2020); Happiness Research Institute (2020).
- 25 Schwandt & Von Wachter (2019); Kahn (2010).
- 26 International Labour Organization (2020c); Benzeval et al. (2020); Zhou et al. (2020).
- 27 Eurostat (2021).
- 28 International Labour Organization (2021a).
- 29 Adams-Prassl et al. (2020b); Andrew et al. (2020); Del Boca et al. (2020); Sevilla & Smith (2020).
- 30 Carlson et al. (2020); Sevilla & Smith (2020); Hupkau & Petrongolo (2020); Shafer et al. (2020); Kreyenfeld & Zinn (2020).
- 31 Webb et al. (2020); Narula (2020).
- 32 This does not typically include so-called “gig workers” as they are generally classified as “independent contractors” in official statistics.
- 33 Mehrotra (2009).
- 34 Schotte et al. (2021); Balde et al. (2020).
- 35 Eurostat (2021).
- 36 Yue & Cowling (2021).
- 37 Blundell et al. (2021).
- 38 International Labour Organization (2021a).
- 39 Hale et al. (2021).
- 40 It is worth noting that this score is what one might describe as an “overall” happiness measure rather than a short-term hedonic one, meaning that we would not expect there to be large hour-to-hour or day-to-day swings in the level of happiness.
- 41 For more details on the Indeed Workplace Happiness score, see: [www.indeed.com/about/happiness](http://www.indeed.com/about/happiness)
- 42 Foa et al. (2020).
- 43 Pilipiec et al. (2020).
- 44 Foa et al. (2020).
- 45 YouGov (2020).
- 46 Due to data limitations, we are unable to distinguish between workers who continue to work full-time, part-time, or who have been furloughed.
- 47 Happiness in this context is therefore better understood in terms of the “affective” dimension of subjective well-being as opposed to the “evaluative” dimension. Affect generally refers to ongoing emotional states or moods, while evaluation refers to an overall assessment of life as a whole. Life satisfaction measures would fall into this latter category, although in this case, we are only considering the extent to which workers’ report feeling happy at all the previous week.
- 48 See Section II.
- 49 Barr & Inman (2020).
- 50 However, it is again worth noting that the data presented in Figure 3.10 only plots changes in average happiness levels normalized to a baseline at the beginning of the year. Senior managers are still among the happiest groups of workers in the United Kingdom, even though they seem to have experienced relatively larger declines in happiness compared to other types of employees.

- 51 It is also worth noting that both measures are slightly distinct from one another. In the United States, happiness is assessed using an overall indication of happiness at work, while the United Kingdom happiness is measured as a mood or affective state unrelated to employment specifically.
- 52 For a recent review of relevant research, see Suppa (2021).
- 53 Dolan et al. (2008), Helliwell (2003); Clark & Georgellis (2013); Winkelmann & Winkelmann (1995, 1998).
- 54 Schimmack et al. (2008); Krueger and Mueller (2012).
- 55 Clark & Georgellis (2013); Frijters et al. (2006); Rudolf & Kang (2015); Frijters et al. (2011); Anusic et al. (2014).
- 56 Dolan et al. (2008).
- 57 For partners, see: Winkelmann and Winkelmann (1995); Clark (2003); Bubonya et al. (2014); Nikolova & Ayhan (2019). For families, see: Powdthavee & Vernoit (2013); Nikolova & Nikolaev (2018); Clark & Lepinteur (2019); Bubonya et al. (2014). For social spillovers, see: Shields & Price (2005); Powdthavee (2007); Clark et al. (2008).
- 58 Life satisfaction is measured using the Cantril Ladder question: "Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?"
- 59 Dolan et al. (2008).
- 60 For example: Theodossiou (1998) Clark (2003); Clark & Georgellis (2013).
- 61 In subsequent tests, only the difference between 18-25 year-olds and older cohorts is found to be statistically significant. Differences in effect between other groups are insignificant.
- 62 See "Mean life satisfaction" row in Table 2.1.
- 63 For more information, see Section I.
- 64 There is some evidence to suggest this is the case. For related effects on young people, see: Helliwell et al. (2020); Czeisler et al. (2020); Happiness Research Institute (2020). For related effects on women, see: Adams-Prassl et al. (2020b); Andrew et al. (2020); Del Boca et al. (2020); Sevilla & Smith (2020).
- 65 Clark (2003); Clark et al. (2008); Powdthavee (2007); Shields & Price (2005).
- 66 University College London (2021).
- 67 The variable for work stoppage is phrased as follows: "In the last week, have you lost your job, or been unable to do paid work?"
- 68 Helliwell et al. (2021).
- 69 Author's calculations.
- 70 The interaction for men is significant at a confidence level of 99%. The interaction for women is significant at a confidence level of 95%.
- 71 Overall, we also find that men without children were the most negatively affected by inactivity during the pandemic. For this group, the magnitude of the effect was as large as unemployment.
- 72 Here we consider social connection in terms of subjective loneliness assessed using the three-item UCLA Loneliness Scale. The UCLA Loneliness Scale is measured using the following three questions, scored on a three-point scale from "hardly ever," "some of the time," and "often": (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? Answers to all three questions are aggregated to give an overall indication of loneliness on a 6-point scale from 3 to 9. Respondents are classified as not lonely if they report an overall score of 3, and lonely if they report scores of 7 or higher. For more information, see: Hughes et al. (2004).
- 73 Each driver is again measured on a 5-point Likert scale from "strongly disagree" to "strongly agree".
- 74 Workplace happiness measured as the extent to which workers agree with the following statement: "I feel happy at work most of the time." Responses are recorded from 1 (strongly disagree) to 5 (strongly agree). This number is then rescaled by Indeed to provide an overall indication of workplace happiness from 0 to 100.
- 75 OECD (2020).
- 76 For the first four months of short-time work allowance, employees are entitled to receive 60 percent of their income. This is expanded to 70 percent after four months, and then 80 percent after seven months. Initially, to be eligible for subsidies, employers had to have reduced the hours of 30 percent of their workforce, although this was later reduced to 10 percent (Lipson et al. 2021).
- 77 For more detailed information on short-time work schemes adopted by different countries, see OECD (2020) and Lipson et al. (2021).
- 78 OECD (2020).
- 79 While the Coronavirus Aid, Relief, and Economic Security (CARES) Act did include short-time work provisions, few firms actually took up the program. The program's rollout was limited by administrative bottlenecks, lack of awareness, weak financial incentives, and caps on reductions in working hours (OECD, 2020).
- 80 Lipson et al. (2021) and International Labour Organization (2021b).
- 81 OECD (2021a).
- 82 Taylor & Kiersz (2021).
- 83 Ganong et al. (2020).
- 84 See Table 2.1 and Table 2.2 in Section II.
- 85 In the United Kingdom at least, using additional data from the YouGov Weekly Tracker that extends before the COVID-19 crisis, we do find evidence of these trends (see Figure 3.10 in Section I). These dynamics are likely representative of similar dynamics in other countries.

- 86 For those who are not furloughed with income loss, it seems likely that they have lost their jobs entirely. However, given the nature of the question this variable is based on, we cannot rule out the possibility that these workers may still have maintained an employment contract with their original employer, but have not enrolled in any furlough scheme and are now not working without pay. The variable for work stoppage is phrased as follows: “In the last week, have you lost your job, or been unable to do paid work?”
- 87 De Neve & Ward (2017); Krekel et al. (2019).
- 88 In the appendix, we provide an additional test of this relationship using a fixed effects regression controlling for personal characteristics, finding largely similar results (Table A1). All workers forced to stop work experienced a significant decline in well-being, yet those who did not report income losses proved to be better off overall. While we cannot rule out the possibility that furloughed workers received financial support from other means, we found similar results in an additional robustness check where respondents from the sample who report receiving additional financial help were excluded from the sample.
- 89 This result was also recently echoed in a study of German workers conducted by Schmidtke et al. (2021). In that analysis, workers who were placed on short-time work schemes reported lower levels of well-being than those who were able to remain working at their jobs full-time. The authors’ suggested that this result was likely to be primarily explained by increased feelings of job insecurity for those in the former group.
- 90 Falk et al. (2021). Some commentators initially hypothesized that school closures were likely to blame for the labour shortage — as many parents may feel the need to stay home while their children remain out of school. Yet more recent evidence casts doubt on this interpretation (Furman et al. 2021).
- 91 OECD (2021a; 2021b; 2021c).
- 92 Anayi et al. (2021).
- 93 OECD (2021c).
- 94 See Figure 3.5a and Figure 3.5b in Section I.
- 95 Bell & Blanchflower (2011).
- 96 Cotofan et al. (2020).
- 97 Saad & Jones (2021).
- 98 Lund et al. (2020).
- 99 Krekel et al. (2020).
- 100 Davis et al. (2021).



## Chapter 4

# Tackling the Crisis in Mental Health During and after Covid-19

---

Thematic group: Health

**Richard Layard**

Centre for Economic Performance,  
London School of Economics and Political Science, UK

**J. Hope Corbin**

Department of Health and Community Studies,  
Western Washington University, USA

**Mark van Ommeren**

Department of Mental Health and Substance Use,  
World Health Organization, Switzerland

**Faten Ben Abdelaziz**

Department of Health Promotion,  
World Health Organization, Switzerland

**Ruediger Krech**

Department of Health Promotion,  
World Health Organization, Switzerland

The authors would like to thank Jan-Emmanuel De Neve and James Banks for developmental feedback. The authors alone are responsible for the views expressed in this article and they do not necessarily represent the views, decisions, or policies of the institutions with which they are affiliated.

## Mental health: challenge and response

Worldwide COVID has been a challenge to mental health. It has also revealed the huge injustice and inefficiency involved in the under-treatment of mental illness.

This chapter therefore has two parts. First it shows how countries worldwide can do better at treating the scourge of mental illness. And second, it shows how COVID exacerbated and shone new light on this neglected problem.

### The Crisis We Were Already Facing\*

#### The scale of the problem

According to the latest Global Burden of Disease estimates, 3.8% of the world's population suffers from diagnosable depression and 4.0% from diagnosable anxiety disorders (like PTSD, OCD, panic attacks, social phobia, and general anxiety).<sup>1</sup> In fact depression is amongst the world's biggest single illnesses. Rates of depression and anxiety disorder are quite similar across the world, and in all regions, the rates are higher for women than men. Further, many people suffer from schizophrenia, bipolar disorder, or substance use disorders. Though the numbers here are smaller than for depression and anxiety disorders, these conditions have enormous impacts on people's economic and social lives and are associated with human rights violations, especially when care is in institutions.

#### The effects

Mental illness has devastating effects on people's happiness, their physical health, and the economy. When researchers study the causes of misery, they find that the biggest single explanatory variable is a record of mental illness.<sup>2</sup> This is much more important than either poverty or unemployment. So, it is not surprising that most people who die by suicide are mentally ill—and suicides account for more than 1 percent of all deaths worldwide.<sup>3</sup>

What is less well known is that mental illness has big effects on physical health. For example, there are follow-up studies that show that depression makes one 50% more likely to die in each subsequent year—the same effect as smoking.<sup>4</sup> It also makes people with given health problems use around 50% more healthcare.<sup>5</sup> People with severe mental health conditions die on average 10-20 years younger than the general population.<sup>6</sup>

Mental illness also affects the economy directly, by stopping people working or reducing their productivity. It has been estimated that 42% of all disability and all absenteeism in the OECD is due to mental illness<sup>7</sup> and the OECD estimates that mental illness typically reduces a country's GDP by 4% (OECD, 2012). So, if we can treat or prevent mental illness, we can get huge savings, which help to offset the cost. And good treatments exist, both for depression and anxiety disorders.

#### Good treatments

Brief psychological therapies are recommended for both depression and anxiety and 50% of people who get treated recover.<sup>8</sup> Recommended treatments include cognitive behavioural therapy (CBT) and interpersonal therapy.

Medication is also recommended for moderate and severe depression and for some anxiety conditions—with similar results. For anxiety disorders, few people relapse once they have recovered. And for depression both psychological therapy and medication (if continued) reduce relapse rates by around a half.<sup>9</sup> These are the results when people are treated by well-trained specialists. Poorer countries do not have, and may not be able to afford, as many specialists as rich ones (even though their wages will be lower). In such cases well-trained and supervised lay workers (e.g. community workers) can produce good results.<sup>10</sup> Medication and psychosocial interventions are also recommended for people with psychoses.

WHO has produced a practical guide to what should be provided in primary health care, called

\* Hope Corbin, Department of Health and Community Studies, Western Washington University, USA; Richard Layard, Centre for Economic Performance, London School of Economics and Political Science, UK; Ben Abdelaziz, Department of Health Promotion, World Health Organization, Switzerland; Ruediger Krech, Department of Health Promotion, World Health Organization, Switzerland.



the mhGAP Intervention Guide, and associated psychological intervention manuals, such as CBT-based Problem Management Plus as well as Group Interpersonal Therapy for the management of depression.

Wherever possible, people should be offered psychological therapy (with or without medication). This is not only recommended in terms of outcome but, in many countries, it is what many people want.<sup>11</sup>

### The shocking shortfall

But the tragedy is that these excellent therapies reach only a fraction of those who need them. In no rich country do more than 40% of people with depression/anxiety disorders receive treatment (even “medication only”). This would be considered an outrage for most physical conditions, even if these are less disabling than depression or anxiety.<sup>12,13</sup> In poorer countries treatment coverage is even worse (see Table 1).

Most resources for mental health are poorly distributed and, in most countries, go towards large mental hospitals,<sup>14</sup> which means that most people with severe mental health problems receive either inappropriate institutional care or no mental health care at all in their communities.

### Parity of esteem

There ought to be a simple principle of parity of esteem between physical and mental health. In any country, **a person with mental health problems should be as likely to receive evidence-based treatment as a person with physical health problems.** This is a matter of elementary justice. It is also a matter of economic common sense, for depression and anxiety affect every age group, especially those of working age. When someone is treated successfully, the following savings arise:

- Savings on disability, absenteeism, and ‘presenteeism’
- Savings on physical healthcare.

**Table 4.1: Percentage of people with depression and anxiety being treated**

High-income countries	24
Upper middle-income countries	18
Lower middle-income countries	12
Low-income countries	6

Source: WHO (2015).<sup>15</sup>

In a typical rich-country calculation, each type of saving is roughly enough to cover the cost of the psychological treatment.<sup>16</sup> And WHO has estimated a 5 in 1 return on investment for depression treatment globally.<sup>17</sup> So, the case for a widespread roll-out of these therapies is overwhelming.

### Some examples

There are numerous examples where psychological therapy has been made much more available in a short period of time. To be successful this requires three things.

1. A good training programme for therapists in the evidence-based treatments to be provided.
2. An effective service for delivering therapy (e.g., either within primary or secondary care)
3. An effective system for supervising therapists and for collecting routine data on the outcome of the therapy.

An example of this is England’s programme for Improving Access to Psychological Therapy (IAPT). This was launched in 2008 and by 2021 it was treating over 600,000 people a year, with over 50% recovering. (Recovery is known because each person’s mental state is measured before every session). This service is provided mainly within secondary care. At least 10 advanced countries have shown interest in learning from the initiative.

Among middle income countries, a major initiative was undertaken in Chile in 2001. That year Chile launched a National Depression Detection and Treatment Program.<sup>18</sup> Detection is the responsibility of any healthcare professional engaged in regular medical consultations.

Treatment is then organised by the primary care physician and consists of medication and individual or group psychotherapy. Severe cases are referred to a mental health specialist. The expansion of the service is impressive.

In less developed countries, most major initiatives are more recent. Six countries (including India and South Africa) belong to the EMERALD consortium.<sup>19,20</sup> Treatment is given by non-specialist general healthcare workers, who are given special short courses on the treatment of mental health problems, especially depression. WHO colleagues have proposed a basic minimum effort (target) from every country in their models.<sup>21</sup> This is that **by 2030 an additional 25% of people suffering from depression/anxiety should be in treatment** (on top of the numbers in Table 1). The cost of this would be about 0.1% of GDP in 2030—surely an absolute minimum.

### Child and adolescent mental health

Much (though not all) of mental illness begins before the age of 18. This is especially true of anxiety disorders. Typically, 14% of adolescents have a mental health problem.<sup>22</sup> Again in rich countries, only up to 40% may be in treatment, but in poor countries very few. Obviously, we need at least as large an expansion of child and adolescent mental health services as that of adults.

### Digital treatments

One of the most exciting developments in mental health is digital treatments. These are especially effective for anxiety disorders, and for all conditions, they work best if accompanied by brief telephonic contact with a live therapist. There should be a major programme to produce and translate digital treatments worldwide for depression/anxiety/conduct disorder for children and as well as adults. WHO has developed a CBT-based e-mental health programme called Step-by Step,<sup>23</sup> which has proven effective for depression in Lebanon and will be made available to countries globally.

### Prevention

Of course, we would ideally prevent mental illness before it occurs. Though this is impossible in every case, there are some key changes that could help.

1. First, schools. The mental well-being of the children should be a formal goal of every school. Schools should teach socio-emotional life-skills as an explicit skill, to be learned through formal teaching of at least one hour a week. High-quality materials should be developed for teaching life-skills, and teachers trained to use these materials.
2. Workplaces. Employers should have a duty of care for the mental health of their employees. Line managers should know how to ask 'Are you OK?' and know what help can be provided if the answer is 'No'. And the organisation of work should not be so harsh or pressured as to cause problems of mental health.
3. Parents. The WHO-UNICEF nurturing care framework for early child development should be widely applied.<sup>24</sup>

### A revolution in mental health

This is a massive agenda, but hugely urgent. We can summarise the main steps that are needed.

#### 4. Reorganization of services

Countries whose resources for mental health are mainly in institutions need to reorganize their services so that people can access quality, affordable care near where they live.

#### 5. Parity of esteem

It should be a principle that people with mental health problems are as likely to receive evidence-based treatment as people with physical health problems. This will undoubtedly require that expenditure on mental health should grow faster than on physical health.

## 6. Evidence-based care

Treatments should be based on evidence. There should be large-scale programmes to train psychological therapists and healthcare workers to provide mental health interventions, and well-organised services for them to work in.

## 7. Digital approaches

There should be major funding of digital treatments and their deployment worldwide.

## 8. Schools and society at large

The mental well-being of children should be an explicit goal of every school (with the necessary backup from the government). And line-managers and parents should be offered training in how to promote mental health.

COVID-19 has provided a wake-up call. We need not only better public health but also a revolution in mental health.

## A Crisis in a Crisis\*

The global experience of COVID-19 has created an intense environment for people and societies. The latest *World Happiness Report 2021*—shares evidence of how everyday life has been transformed into a metaphorical pressure cooker for individuals, communities, and policymakers.

The increasingly common kitchen appliance—the pressure cooker—works by triggering a series of environmental shifts that profoundly impact its contents. By preventing the release of steam, mounting pressure raises the boiling point and, thus, accelerates the time required for the cooking process. The smaller the pieces of food inside the pot, the less buffer each individual piece has to resist the heat and pressure, and the more quickly the effects take hold.

The introduction of COVID-19 in late 2019 and its impacts on mental health and policymaking might be likened to the effects of a pressure cooker. The direct stressors of a deadly virus (switching on), the impacts of the lockdown (no escape for the steam), financial concerns and

effects on families (mounting pressure), the unequal experience of groups without buffers of economic or social resources (vulnerability), and the speed at which political actors needed to make crucial decisions (compression of time) have all impacted the experience of COVID-19 on people and societies. This policy brief explores these processes using data from the *World Happiness Report 2021* and other recent research to elaborate.

## Switching on

Within a few months of its emergence, COVID-19 had transformed society. Around the globe, there were disruptions to work, schooling, family life, and access to basic resources and services. While the pandemic posed obstacles to data collection, evidence that has been gathered reflect that fear of catching a deadly virus and the profound interruption of daily life had an immediate impact on the mental health and negative emotions experienced by individuals.<sup>25</sup> A cross-sectional study conducted in the United States in March and April of 2020 observed that symptoms of depression were reported at a rate three times higher than a similar study conducted in 2017-2018.<sup>26</sup> Likewise, reports of severe psychological distress were up to four times higher than those reported in 2018.<sup>27</sup> A longitudinal study from the UK found that significant mental health distress rose from 18.9% in 2018-2019 to 27.3% in late April 2020 as the country experienced its first lockdown.<sup>28</sup>

Interestingly, data from several countries reflect a slight rebound on the experience of mental health impacts once lockdown measures were in place.<sup>29</sup> For instance, several studies examining depression, anxiety, worry, mental illness, and self-harm recorded decreases, plateaus, and levels even lower than expected by late.<sup>30</sup> These trends could reflect relief experienced as people adapted to the new circumstances and the reduction of exposure which may have alleviated fear.<sup>31</sup> There are also a number of protective factors that supported people's well-being during the pandemic—strong relationships, healthy family structures, more social connections,

\* \*Richard Layard, Centre for Economic Performance, London School of Economics and Political Science, UK; Hope Corbin, Department of Health and Community Studies, Western Washington University, USA; Mark van Ommeren, Department of Mental Health and Substance Use, World Health Organization, Switzerland.

ample financial resources, and physical activity.<sup>32</sup> As discussed below, other people living with fewer buffers were impacted much more negatively. It could be that the averages remained steady because some people's circumstances improved during the pandemic (e.g. they had more time to exercise and relax) while others deteriorated.

At the societal level, the pandemic was met with either swift mandates for controls on travel, masking, physical distancing, accessible testing, contact tracing, and the quarantining of infected individuals<sup>33</sup> or little action in efforts to "protect the economy."<sup>34</sup> The latter approach led to higher numbers of cases, increased community transmission, more deaths, and ultimately took a higher toll on the economies of those nations. For instance, countries in the North Atlantic region (Europe and North America) were experiencing an average of 7.6 deaths per day per million population, whereas, countries in the Asia-Pacific region—governments that swiftly adopted non-pharmaceutical suppression strategies—were seeing 0.18 deaths per day per million population (Sachs, 2021). Clearly, early and effective responses to the pandemic determined much in terms of the impact on the life, health, and well-being of residents.

### **No escape for the steam**

In most nations, physical distancing between people has been encouraged and some degree of lockdown and/or quarantine mandates instituted. Stay-at-home orders closed schools and many places of employment driving people into their homes—sometimes without the possibility of even exercise. Frontline workers—health care staff, emergency responders, grocery clerks, and others—were exposed to a greater risk of infections and, in some settings and professions, experienced work-related trauma as hospitalizations and deaths rose.<sup>35</sup>

For others, work switched to an online platform—blurring lines between employment and family, especially as families with children had to juggle work and the supervision of home-based schooling or care of young childcare, a burden shouldered primarily by mothers. A longitudinal study from the UK, conducted from Late March

to Late May 2020 indicated that increased child-care responsibilities corresponded with higher levels of depression and lower life satisfaction.<sup>36</sup>

Another group of workers saw their workplaces shut down indefinitely and were underemployed or unemployed with no prospects or timelines for returning. Some of these measures, in some contexts, were for short durations. Other contexts saw children's school closures for a full year. Often, the timeline for closures was unclear. As such, intolerance for uncertainty was found to be a risk factor for negative well-being in a study of 1,772 people in Turkey.<sup>37</sup>

Despite concerns that physical distancing and lockdown measures would negatively impact people's experiences of loneliness, multiple studies reflect resilience in this area. For instance, a nationally representative sample of 1,468 people surveyed in the US in April 2020 reported 13.8% were experiencing a sense of loneliness, just slightly more than a similar study conducted in April and May 2018 that reported 11%.<sup>38</sup>

### **Mounting pressure**

Of course, the shuttering of workplaces and/or reduced hours resulted in significant financial strain for some individuals and families. A study involving almost 70,000 college students in France found that higher levels of anxiety, distress, stress, depression and suicidal ideation were experienced by people with reductions in income.<sup>39</sup> Higher financial stress was especially grave for people already living in poverty, people working in the highly impacted service industry, and those experiencing food insecurity.<sup>40</sup>

The pressure associated with confinement in the home led to increases in the experience of family violence (although we are still unclear on the extent of that since there has been a significant drop in reporting with schools shuttered, people avoiding basic medical care, and the inability to contact protective services because of access issues.)<sup>41</sup> Contracting COVID-19 has some unexpected, negative impacts for people within their households. In a survey of 44,775 adults, conducted in the UK in late March and late April, reports of abuse were elevated among people

who had been diagnosed with COVID-19 (9%) versus no COVID-19 diagnosis (2.9%).<sup>42</sup>

We also saw societal unrest bubbling to the surface during the pandemic. Notably, in the US, the killing by police officers of several unarmed Black people, coupled with the pandemic and the worst unemployment experienced in almost a century—all coincided to drive people to protest for police reform to address the inequity experienced by Black communities since the days of slavery and colonialism.<sup>43</sup>

### **Vulnerability**

As with the pressure cooker, the people and communities with fewer buffers around them to absorb the effects of the pandemic were most negatively affected in terms of well-being. While some of the most surprising findings of the research into people's well-being during the pandemic has been the resilience in life satisfaction and in suicide rates, the groups who have seen declines represent marginalized communities. Data from the Eurobarometer with more than 30,000 respondents from 34 countries compared life satisfaction from autumn 2019 to Summer 2020 and found very little change.<sup>44</sup> Likewise, suicide rates, on average, have shown no rise as reflected in data collected in the US, Australia, and England. Japan and Norway saw suicide rates fall.<sup>45</sup>

Unfortunately, this resilience in life satisfaction and stable or declining rates of suicide have not been enjoyed by all groups. Analyzing data from the COVID-19 Social Study in the UK, Iob and colleagues found the reported frequency of self-harm and suicidal ideation was higher for women, Black, Asian, and minority ethnic groups, people experiencing poverty, unemployment, disability, chronic health conditions, mental disorders and COVID-19 diagnoses.<sup>46</sup> Since in many contexts, ethnic and racial minorities have experienced disproportionate numbers of infections, severe illness, and death,<sup>47</sup> the impact on these communities compounds.

According to the Lancet's COVID-19 Commission Mental Health Task Force's review of studies, people who endured a COVID-19 infection or were near to someone infected, people struggling with pandemic-related financial concerns,

people overseeing homeschooling, engaging in household chores, or consuming COVID-19 news experienced poorer mental health and well-being generally.<sup>48</sup>

### **Compression of time**

With no way out and mounting pressure, policy-makers were forced to accelerate the pace of their decision-making.<sup>49</sup> Contexts with greater confidence in institutions, more social trust (as indicated by income equality and people's beliefs that their wallet would be returned to them), previous experience with pandemics, and women leaders were quicker to implement measures to protect health and well-being.<sup>50</sup> Countries that took decisive action had fewer cases, less death, and ultimately faster economic recoveries than countries that delayed acknowledging the crisis and taking action.<sup>51</sup> The threat of the virus seemed to create a false choice: your money (economic health) or your life (population health)—many women leaders quickly protected the latter, while many male leaders tried to keep the economies open. The irony is that the protection of health drastically improved economic outcomes in the long run.<sup>52</sup>

### **How to survive in a pressure cooker: What lessons can we take forward?**

COVID-19 is just the most recent global crisis. Public health and ecological disasters are projected to become increasingly common as a result of climate change, deforestation, and other ecological transitions. Each of these emergency situations will create its own pressure cooker conditions. What can we learn that can inform our future ability to respond quickly and under pressure in a way that secures the health and well-being of people?

First, the most marginalized groups within society were most profoundly impacted by the pandemic and its mental health impacts. Instituting policy that provides social protections and centers well-being in contexts where they do not already exist will be key to building resilience into the future.

Second, education is an important investment. Public understanding of scientific processes contributed to the acceptance of suppression

strategies that prevented excess infection and death.<sup>53</sup> Ensuring populations have basic scientific and health literacy is essential for navigating future crises.

Third, ensuring universal access to mental health resources is critical to supporting people in typical circumstances, but in times of crisis, it is an absolute necessity. Much work needs to be done to provide comprehensive services.

While we cannot avoid all of the pressure cooker effects of a given crisis—we can create more buffers around those most vulnerable and societies can prioritize well-being in the first place so the decision to protect people (over economic concerns) can be the easy decision even under pressure. It will be an easy decision because it was made in advance.

## References

- Adams-Prassl A, Boneva T, Golin M, Rauh C. Inequality in the impact of the coronavirus shock: Evidence from real time surveys. *J Public Econ*. 2020 Sep 1;189:104245.
- Aknin L, Neve J-ED, Dunn E, Fancourt D, Goldberg E, Helliwell J, et al. A Review and Response to the Early Mental Health and Neurological Consequences of the COVID-19 Pandemic [Internet]. *PsyArXiv*; 2021 [cited 2021 Apr 28]. Available from: <https://psyarxiv.com/zw93g/>
- Araya, R., Alvarado, R., Sepulveda, R., & Rojas, G. (2012). Lessons from scaling up a depression treatment program in primary care in Chile. *Revista Panamericana de Salud Pública* 32(3), 234-240
- Banks J, Fancourt D, Xu X. Mental health and the COVID-19 pandemic [Internet]. [cited 2021 Apr 28]. Available from: <https://worldhappiness.report/ed/2021/mental-health-and-the-covid-19-pandemic/>
- Banks J, Xu X. The mental health effects of the first two months of lockdown and social distancing during the Covid-19 pandemic in the UK [Internet]. IFS Working Papers; 2020 [cited 2021 Apr 28]. Report No.: W20/16. Available from: <https://www.econstor.eu/handle/10419/223292>
- Bhala N, Curry G, Martineau AR, Agyemang C, Bhopal R. Sharpening the global focus on ethnicity and race in the time of COVID-19. *The Lancet*. 2020 May 30;395(10238):1673-6.
- Brahmi N, Singh P, Sohal M, Sawhney RS. Psychological trauma among the healthcare professionals dealing with COVID-19. *Asian J Psychiatry*. 2020 Dec;54:102241.
- Bu F, Steptoe A, Mak HW, Fancourt D. Time-use and mental health during the COVID-19 pandemic: a panel analysis of 55,204 adults followed across 11 weeks of lockdown in the UK. *medRxiv*. 2020 Aug 21;2020.08.18.20177345.
- Carr MJ, Steeg S, Webb RT, Kapur N, Chew-Graham CA, Abel KM, et al. Effects of the COVID-19 pandemic on primary care-recorded mental illness and self-harm episodes in the UK: a population-based cohort study. *Lancet Public Health*. 2021 Feb 1;6(2):e124-35.
- Chisholm, D., Burman-Roy, S., Fekadu, A., Kathree, T., Kizza, D., Luitel, N. P., . . . Lund, C. (2016). Estimating the cost of implementing district mental healthcare plans in five low- and middle income countries: the PRIME study. *The British Journal of Psychiatry*, 208.
- Carswell K, Harper-Shehadeh M, Watts S, Van't Hof E, Abi Ramia J, Heim E, Wenger A, van Ommeren M. (2018). Step-by-Step: a new WHO digital mental health intervention for depression. *Mhealth*. 2018 Aug 13;4:34.
- Chisholm, D., Sweeny, K., Sheehan, P., Rasmussen, B., Smit, F., Cuijpers, P., & Saxena, S. (2016). Scaling-up treatment of depression and anxiety: a global return on investment analysis. *The Lancet Psychiatry*, 3(5), 415-424
- Clark, A., Flèche, S., Layard, R., Powdthavee, N., & Ward, G. (2018). *The origins of happiness*. Princeton University Press.
- Coscieme L, Fioramonti L, Mortensen LF, Pickett KE, Kubiszewski I, Lovins H, et al. Women in power: Female leadership and public health outcomes during the COVID-19 pandemic. *medRxiv*. 2020 Jul 16;2020.07.13.20152397.
- Dobson, K. S., Hollon, S. D., Dimidjian, S., Schmalzing, K. B., Kohlenberg, R. J., Gallop, R. J., ... & Jacobson, N. S. (2008). Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the prevention of relapse and recurrence in major depression. *Journal of consulting and clinical psychology*, 76(3), 468.
- Ettman CK, Abdalla SM, Cohen GH, Sampson L, Vivier PM, Galea S. Prevalence of Depression Symptoms in US Adults Before and During the COVID-19 Pandemic. *JAMA Netw Open*. 2020 Sep 1;3(9):e2019686.
- Evans ML, Lindauer M, Farrell ME. A Pandemic within a Pandemic —Intimate Partner Violence during Covid-19. *N Engl J Med*. 2020 Dec 10;383(24):2302-4.
- Fancourt D, Steptoe A, Bu F. Trajectories of anxiety and depressive symptoms during enforced isolation due to COVID-19 in England: a longitudinal observational study. *Lancet Psychiatry*. 2021 Feb 1;8(2):141-9.
- Fetzer T, Witte M, Hensel L, Jachimowicz J, Haushofer J, Ivchenko A, et al. Perceptions of an Insufficient Government Response at the Onset of the COVID-19 Pandemic are Associated with Lower Mental Well-Being [Internet]. *PsyArXiv*; 2020 [cited 2021 Apr 28]. Available from: <https://psyarxiv.com/3k-fmh/>
- Galea S, Abdalla SM. COVID-19 Pandemic, Unemployment, and Civil Unrest: Underlying Deep Racial and Socioeconomic Divides. *JAMA*. 2020 Jul 21;324(3):227-8.
- Global Happiness Council (Ed.) (2018). *Global Happiness Policy Report 2018*. New York: Sustainable Development Solutions Network.
- Gronholm PC, Chowdhary N, Barbui C, Das-Munshi J, Kolappa K, Thornicroft G, Semrau M, Dua T. (2021). Prevention and management of physical health conditions in adults with severe mental disorders: WHO recommendations. *International Journal of Mental Health Systems*. 2021 Mar 3;15(1):22.
- Gruber J, Prinstein MJ, Clark LA, Rottenberg J, Abramowitz JS, Albano AM, et al. Mental health and clinical psychological science in the time of COVID-19: Challenges, opportunities, and a call to action. *Am Psychol*. 2020 Aug 10
- Harold, G., Acquah, D., Sellers, R., Chowdry, H., & Feinstein, L. (2016). What works to enhance inter-parental relationships and improve outcomes for children.
- Helliwell JF, Huang H, Wang S, Norton M. Happiness, trust, and deaths under COVID-19 [Internet]. [cited 2021 Apr 28]. Available from: <https://worldhappiness.report/ed/2021/happiness-trust-and-deaths-under-covid-19/>
- Helliwell, J. F., Layard, R., and Sachs, J. (eds.) (2017). *World Happiness Report 2017*. New York: UN Sustainable Development Solutions Network.
- Hutter, N., Schnurr, A., & Baumeister, H. (2010). Healthcare costs in patients with diabetes mellitus and comorbid mental disorders—a systematic review. *Diabetologia*, 53, 2470-2479.
- Iob E, Steptoe A, Fancourt D. Abuse, self-harm and suicidal ideation in the UK during the COVID-19 pandemic. *Br J Psychiatry*. 2020 Oct;217(4):543-6.
- John A, Pirkis J, Gunnell D, Appleby L, Morrissey J. Trends in suicide during the covid-19 pandemic. *BMJ*. 2020 Nov 12;371:m4352.

- Kaiser Family Foundation (2018). The economist survey on loneliness and social isolation in the United States, the United Kingdom, and Japan.
- Katon, W. J. (2003). Clinical and health services relationships between major depression, depressive symptoms, and general medical illness. *Society of Biological Psychiatry*, 54, 216-226.
- Lawson M, Piel MH, Simon M. Child Maltreatment during the COVID-19 Pandemic: Consequences of Parental Job Loss on Psychological and Physical Abuse Towards Children. *Child Abuse Negl.* 2020 Dec;110:104709.
- Layard, R., & Clark, D. M. (2014). *Thrive: the power of evidence-based psychological therapies*. Penguin UK.
- Leitch S, Corbin JH, Boston-Fisher N, Ayele C, Delobelle P, Gwanzura Ottemöller F, et al. Black Lives Matter in health promotion: moving from unspoken to outspoken. *Health Promot Int* [Internet]. 2020 [cited 2020 Dec 11]; Advance access. Available from: <https://academic.oup.com/heapro/advance-article/doi/10.1093/heapro/daaa121/6029595>
- McGinty EE, Presskreischer R, Han H, Barry CL. Psychological Distress and Loneliness Reported by US Adults in 2018 and April 2020. *JAMA.* 2020 Jul 7;324(1):93-4.
- McHugh, R. K., Whitton, S. W., Peckham, A. D., Welge, J. A., & Otto, M. W. (2013). Patient preference for psychological versus pharmacologic treatment of psychiatric disorders: a meta-analytic review. *Journal of Clinical Psychiatry*, 74(6), 595-602.
- McManus, S., Bebbington, P., Jenkins, R., & Brugha, T. (2016). Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey 2014.
- Mykletun, A., Bjerkeset, O., Overland, S., Prince, M., Dewey, M. and Stewart, R. (2009), 'Levels of anxiety and depression as predictors of mortality: the HUNT study', *British Journal of Psychiatry*, 195: 118-25.
- Naylor, C., Parsonage, M., McDaid, D., Knapp, M., Fossey, M., & Galea, A. (2012). Long-term conditions and mental health: the cost of co-morbidities. Retrieved from London: [http://www.kingsfund.org.uk/sites/files/kf/field/field\\_publication\\_file/long-term-conditions-mental-health-cost-comorbidities-naylor-feb12.pdf](http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/long-term-conditions-mental-health-cost-comorbidities-naylor-feb12.pdf)
- OECD (2012), *Sick on the job? myths and realities about mental health and work*. Paris: OECD Publishing.
- Okabe-Miyamoto K, Lyubomirsky S. Social Connection and Well-Being during COVID-19 [Internet]. [cited 2021 Apr 28]. Available from: <https://worldhappiness.report/ed/2021/social-connection-and-well-being-during-covid-19/>
- Pierce M, Hope H, Ford T, Hatch S, Hotopf M, John A, et al. Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population. *Lancet Psychiatry.* 2020 Oct 1;7(10):883-92.
- Sachs JD. Reasons for Asia-Pacific Success in suppressing COVID-19 [Internet]. [cited 2021 Apr 28]. Available from: <https://worldhappiness.report/ed/2021/reasons-for-asia-pacific-success-in-suppressing-covid-19/>
- Satici B, Saricali M, Satici SA, Griffiths MD. Intolerance of Uncertainty and Mental Wellbeing: Serial Mediation by Rumination and Fear of COVID-19. *Int J Ment Health Addict.* 2020 May 15;1-12.
- Saxena S, Lora A, Morris J, Berrino A, Esparza P, Barrett T, van Ommeren M, Saraceno B. (2011). Mental health services in 42 low- and middle-income countries: a WHO-AIMS cross-national analysis. *Psychiatric Services.* 2011 Feb;62(2):123-5
- Semrau, M., Evans-Lacko, S., Alem, A., Ayuso-Mateos, J. L., Chisholm, D., Gureje, O., . . . Thornicroft, G. (2015). Strengthening mental health systems in low- and middle-income countries: the Emerald programme. *BMC Medicine*, 13(1), 79.
- Singla, D. R., Kohrt, B. A., Murray, L. K., Anand, A., Chorpita, B. F., & Patel, V. (2017). Psychological Treatments for the World: Lessons from Low- and Middle-Income Countries. *Annual Review Clinical Psychology*, 13, 149-181.
- Thornicroft, G., Chatterji, S., Evans-Lacko, S., Gruber, M., Sampson, N., Aguilar-Gaxiola, S., . . . Kessler, R. C. (2016). Under-treatment of people with major depressive disorder in 21 countries. *The British Journal of Psychiatry*.
- Vigo D, Patten S, Pajer K, Krausz M, Taylor S, Rush B, et al. Mental Health of Communities during the COVID-19 Pandemic. *Can J Psychiatry.* 2020 Oct 1;65(10):681-7.
- Wathelet M, Duhem S, Vaiva G, Baubet T, Habran E, Veerapa E, et al. Factors Associated With Mental Health Disorders Among University Students in France Confined During the COVID-19 Pandemic. *JAMA Netw Open.* 2020 Oct 1;3(10):e2025591.
- Williams, J. M. G. (2001), *Suicide and attempted suicide*. London: Penguin (3rd edn to be published in 2014).
- World Health Organisation (WHO). (2015). *Scaling-up treatment of depression and anxiety: a global return on investment analysis*.



## Endnotes

- 1 IHME estimates for 2019. Institute for Health Metrics and Evaluation.
- 2 For example, Clark et al (2018) Table 16.1.
- 3 (Williams, 2001).
- 4 (Mykletun et al., 2009)
- 5 (Katon, 2003; Hutter et al., 2010; Naylor et al. 2012)
- 6 (Gronholm et al., 2021)
- 7 OECD (2012) see Figures 2.17, 2.18. 2.19.
- 8 (Layard & Clark, 2014)
- 9 (Dobson et al, 2008)
- 10 (Singla et al., 2017)
- 11 (McHugh et al., 2013)
- 12 (McManus et al., 2016).
- 13 40% was the figure for the UK in 2014.
- 14 (Saxena et al, 2011).
- 15 See also Chisholm et al. (2016). For major depressive disorder, Thornicroft, Chatterji, et al. (2016) report higher treatment rates, but these include visits to religious advisers and traditional healers.
- 16 See for example Layard and Clark (2014) Chapter 11.
- 17 (Chisholm, Sweeney et al., 2016).
- 18 (Araya et al., 2012).
- 19 (Semrau et al., 2015).
- 20 See also Chisholm, Burman-Roy et al (2016).
- 21 (Chisholm, Sweeney et al., 2016).
- 22 IHME estimates for 2019.
- 23 (Carswell et al., 2018)
- 24 Ante-natal classes can help parents to become better parents and better partners to each other e.g. using Family Foundations. See Harold et al (2016).
- 25 (Banks et al., 2021).
- 26 (Ettman et al., 2020).
- 27 (McGinty et al., 2020).
- 28 (Pierce et al., 2020).
- 29 (Aknin et al., 2020).
- 30 April (Carr et al., 2021; Fancourt et al., 2021; Fetzer et al., 2020).
- 31 (Adams et al., 2020; Banks & Xu, 2020; Pierce et al., 2020).
- 32 (Banks et al., 2021).
- 33 (Sachs, 2021)
- 34 (Coscieme et al., 2020).
- 35 (Brahmi et al., 2020; Gruber et al., 2020; Vigo et al., 2020).
- 36 (Bu et al., 2020).
- 37 (Satici et al., 2020).
- 38 (Kaiser Family Foundation, 2018; McGinty et al., 2020).
- 39 (Wathelet et al., 2020).
- 40 (Okabe-Miyamoto & Lyubomirsky, 2021).
- 41 (Evans et al., 2020; Lawson et al., 2020)
- 42 (Iob et al., 2020).
- 43 (Galea & Abdalla, 2020; Leitch et al., 2020).
- 44 (Aknin et al., 2020).
- 45 (John et al., 2020).
- 46 (Iob et al., 2020).
- 47 (Bhala et al., 2020).
- 48 (Aknin et al., 2020).
- 49 (Coscieme et al., 2020).
- 50 (Helliwell et al., 2021).
- 51 (Coscieme et al., 2020).
- 52 (Coscieme et al., 2020).
- 53 (Sachs, 2021).



## Chapter 5

# Protecting Mental Health and Well-Being Against Increasing Vulnerabilities and Inequalities

---

Thematic group: Vulnerable Populations

**Ozge Karadag, Ajita Singh, and Jeffrey Sachs**  
Center for Sustainable Development, Columbia University

With acknowledgements to Delanjathan Devakumar, UCL

The COVID-19 pandemic has induced parallel pandemics, including one on mental health and well-being. Across regions and countries, the pandemic has not only clogged the overall health systems but also magnified vulnerabilities, inequities, and related mental health problems. This chapter is divided into three sections. The first section outlines how the pandemic has affected mental health and well-being of vulnerable populations. The second section provides an overview of the policies and practices by which stakeholders have attempted to address the mental health and well-being concerns of vulnerable populations. The third section provides solutions and recommendations to promote mental health and well-being of vulnerable populations at individual, community, national, and international levels through targeted research, policy, and practices. The overall aim of the chapter is to promote a better understanding of how COVID-19 has affected mental health, social health, and well-being of different vulnerable populations, how various governments and institutions have addressed their mental health and well-being concerns, and what policies and practices should be adopted going forward to fulfil the unique needs and challenges of vulnerable populations.

Keywords: COVID-19, pandemic, vulnerable populations, mental health, well-being, inequalities

## **Surviving COVID-19**

This section explains how the COVID-19 pandemic has disproportionately affected vulnerable populations and deepened existing mental health inequalities.

### **Populations, Different Vulnerabilities, and Intersectionalities**

We define vulnerable populations as those people who live in vulnerable conditions and face exclusion and discrimination based on their age, gender, race, ethnicity, socioeconomic status, religion, caste, creed, migratory status, or sexual orientation, as well as incarcerated and homeless populations, and those living with chronic health conditions or disability. As individuals face varied social, economic, and other challenges at personal, community, and national levels, they may fall under more than one vulnerable group, further increasing their overall vulnerability. It is important to understand how these already disadvantaged populations are affected by COVID-19 morbidity, mortality, lockdowns or other public health measures, decreased social interaction, increased stigma and discrimination, unemployment, loss and lack of resources, change in work schedule, and other changes affecting their well-being.

### **COVID-19 Pandemic, Deepening Inequalities and Mental Health**

“Social determinants of health” are key determinants of health inequalities among different population groups. These are defined as the living conditions in which people are born, grow up, live, work, and age, and these living conditions are shaped by the distribution of money, power, and resources at the global, national, and local levels.<sup>1</sup> In societies, health inequalities tend to increase in direct proportion to the distortion of the distribution of resources. As we see in the current pandemic, in countries where social inequalities are high, the prevalence and effects of infection vary to a greater degree among different population groups.

Disaster situations, whether they are natural or man-made, are almost always accompanied by mental health and well-being issues, including

increases in uncertainties, posttraumatic stress disorder (PTSD), other anxiety disorders, depression, and others. The COVID-19 pandemic, as one of the most important disasters of recent human history, appears to have a substantial impact on mental health and well-being indicators. According to the OECD, the prevalence of some mental health problems has increased substantially.<sup>2</sup>

COVID-19 has increased stress, fear, and anxiety for many people,<sup>3</sup> but people living in vulnerable conditions have been affected disproportionately. According to Ettman et al.,<sup>4</sup> the prevalence of depression symptoms in the US increased three-fold during the pandemic, severely affecting individuals with lower social and economic resources and exposing them to stressors (e.g., job loss). In general, the impact of the pandemic was greater for people from lower-income households, those that are unemployed or less securely employed, those battling financial insecurity, those dropped from safety nets:<sup>5</sup> less-educated adults;<sup>6</sup> women, young adults, people with an Asian background;<sup>7</sup> people living with serious mental illness or other chronic diseases, migrant and refugee populations, essential workers;<sup>8</sup> and the elderly.<sup>9</sup>

As rapid technological change, climate crisis, urbanization, and migration continue to drive the global challenges of income, health, wealth, and gender inequalities,<sup>10</sup> COVID-19 has further exacerbated the existing unequal world as it has led to decreases in social connection, access to public services, and employment and educational engagement for young, elderly, and marginalized groups.<sup>11</sup> A World Health Organization (WHO) survey in the second quarter of 2020 found that more than 60% of countries worldwide reported disruptions in mental health services and further worsening mental health and well-being of people.<sup>12</sup>

COVID-19 has caused widespread psychological distress and has added stressors like infection fears, frustration, inadequate supplies, inadequate information, financial loss, and stigma related to race, class, migrant status, and occupation.<sup>13</sup> The pandemic has caused disruptions in the delivery of mental health services that were already stretched prior to the pandemic.<sup>14</sup> Countries with economic and social inequalities have been impacted more severely.<sup>15</sup>

Relatively high rates of symptoms of anxiety (6.3% to 50.9%), depression (14.6% to 48.3%), PTSD (7.0% to 53.8%), and psychological distress (34.4% to 38.0%) have been reported in the general population during the pandemic in China, Spain, Italy, Iran, the US, Turkey, Nepal, and Denmark. In Belgium, France, Italy, Mexico, New Zealand, the United Kingdom, and the United States, the prevalence of anxiety symptoms in early 2020 was double or more than double the level observed in previous years.<sup>16</sup> Another study estimated the prevalence of depression, anxiety, insomnia, PTSD, and psychological distress related to COVID-19 among affected populations to be at 15.9%, 15.2%, 23.9%, 21.9%, and 13.2% respectively.<sup>17</sup> Given the increased challenges of mental health issues, difficult employment prospects, and the suspension of integrated mental health and employment support systems, it is vital to understand the unique needs and challenges of vulnerable populations.

A disproportionately higher prevalence of adverse mental health symptoms (e.g., anxiety, depression, PTSD symptoms) is reported among young people, the elderly, racial and ethnic minorities, essential workers including healthcare professionals, unpaid caregivers for adults, homeless people, refugees, those without social support, those with pre-existing psychiatric conditions, and those infected by COVID-19.<sup>18</sup> Hence, the COVID-19 pandemic is contributing to widening mental health inequities among people who experience health, social, and/or structural vulnerabilities due to age, income, employment, occupation, ethnicity, gender, pre-existing chronic conditions, and disability.<sup>19</sup>

## **Impact of the Pandemic on Mental Health and Well-being of Different Populations**

### **Children and Youth**

Children and youth worldwide faced challenges to cope emotionally with stress, boredom, fatigue, fear, irritability, loneliness, and anxiety; disruptions in social activities, education, daily routine, and delays in academic activities; loss of

interest in school work; loss of family members caused by the pandemic, in addition to increased abuse and neglect at home.<sup>20</sup> Many children had an increased risk for addiction to smartphones, game consoles, and the internet, with potential negative impacts on mental health.<sup>21</sup> Children from low-income families, refugee and migrant children, and children from racial, ethnic, sexual, and gender minority backgrounds<sup>22</sup> have been disproportionately affected by the mental health effects of the pandemic. U.S. young adults aged between 18-30 years reported high levels of depressive symptoms (43.3%), high anxiety scores (45.4%), and high levels of PTSD symptoms (31.8%) during the pandemic.<sup>23</sup> Being under a stay-at-home order, exposure to social media, and social distancing have been associated with higher levels of anxiety, financial worry, and loneliness.<sup>24</sup>

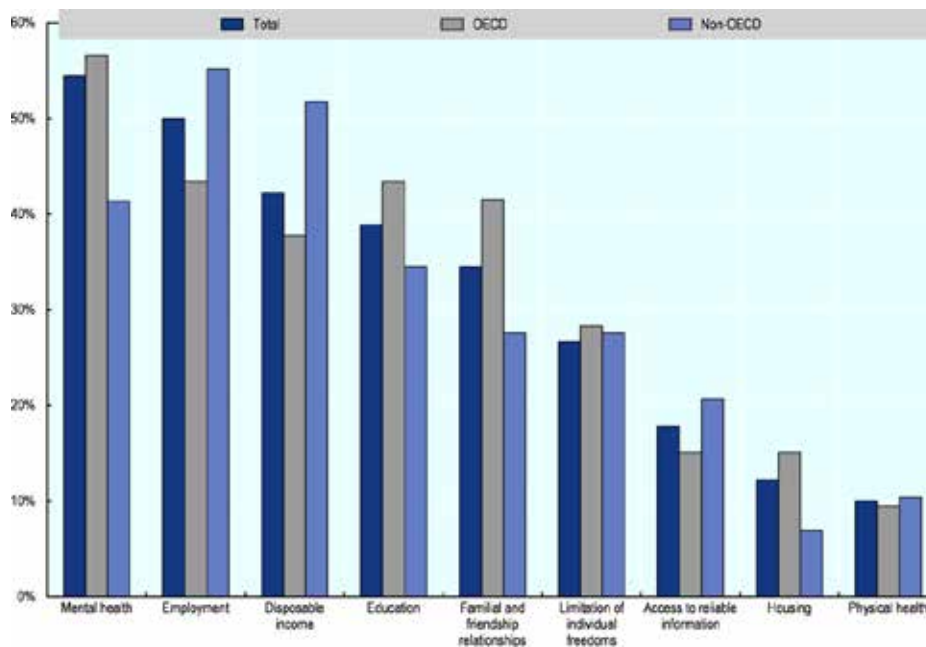
### The Elderly

Mental health symptoms were more prevalent among older adults before COVID-19.<sup>25</sup> The pandemic has exacerbated mental health, as elderly people have screened positive for depression, anxiety symptoms, and loneliness because of factors such as social isolation, lack of environmental stimuli, lack of physical activity, financial difficulties, barriers in accessing services, and problems in monitoring and early diagnosis of chronic health conditions during the pandemic.<sup>26</sup>

### Gender

COVID-19 has widened the existing gender differences in the prevalence of anxiety and depression. Women have reported significantly higher posttraumatic stress symptoms.<sup>27</sup> Depression, anxiety, and stress symptoms

**Figure 5.1 Youth express greatest concerns about mental health, disposable income and employment impacts of the COVID-19 crisis (OECD Survey on COVID-19 and Youth, 2020)**



**Note:** Respondents were asked to identify three aspects they find the most challenging to mitigate the effects of the COVID-19 crisis. “OECD” refers to the average response across 52 respondents based in OECD countries. “Non-OECD” refers to the average response across 29 respondents based in non-OECD countries. “Total” refers to the average response of all 90 respondents: these include respondents from OECD and non-OECD countries, as well as 9 international youth organisations, which are not separately shown in this figure.

**Source:** OECD Survey on COVID-19 and Youth.

among women, especially among mothers with low income and education, those who were exposed to domestic violence, those unemployed, and those who spent long hours on housework and childcare were higher in low- and middle-income countries.<sup>28</sup> In the United States, the gender gap in mental health widened by 66% in the initial stages of the pandemic between March and April 2020.<sup>29</sup> On the other hand, suicidal ideation has been more prevalent among males than among females.<sup>30</sup>

COVID-19 has disproportionately affected and increased depressive symptoms among pregnant and postpartum women, who were already vulnerable to mood and anxiety disorders.<sup>31</sup> In addition, perinatal women with pre-existing mental health diagnoses have shown elevated symptoms during the pandemic.<sup>32</sup>

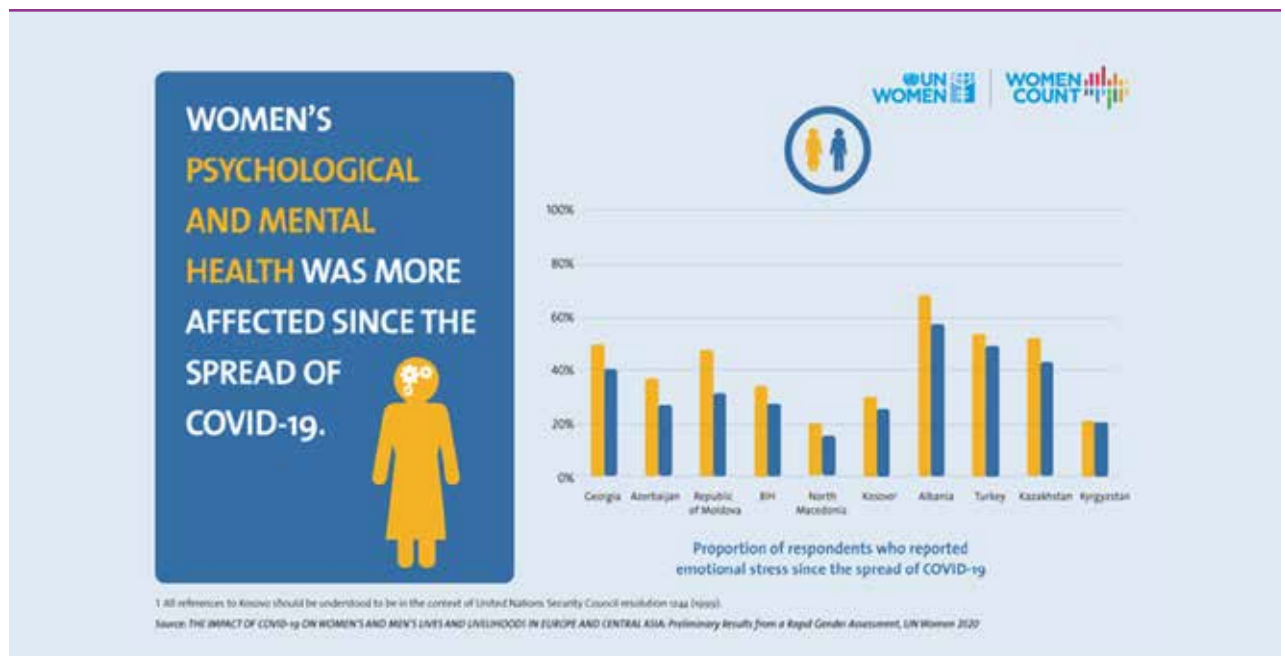
COVID-19 has also disproportionately affected

and further exacerbated the mental health of sexual and gender minorities, due to restrictions in daily life, social isolation, closure of borders, heightened fear of virus transmission, and impacts on health and the economy.<sup>33</sup>

### Racial, ethnic, and other minorities including indigenous peoples

COVID-19 has exacerbated the existing racial divide in mental health among various groups. African Americans, Hispanics, Asians, and other ethnic groups have been disproportionately impacted by stigma, discrimination, and mental health consequences of the pandemic.<sup>34</sup> A study showed that Bangladeshi, Indian, and Pakistani individuals have experienced the highest average increase in mental distress with respect to men in the UK.<sup>35</sup> Some ethnic minority groups have also been at greater risk of comorbidities, for example, higher rates of hypertension and

**Figure 5.2 Women’s Psychological and Mental Health was more affected since the spread of COVID-19**



**Source:** The Impact of COVID-19 on Women’s and Men’s Lives and Livelihoods in Europe and Central Asia: Preliminary Results from a Rapid Gender Assessment, UN Women, 2020

diabetes, affecting mental health and well-being due to disruptions in chronic disease management and increased risk for severe COVID-19.<sup>36</sup>

In addition, there was a rise in COVID-19 related anti-Chinese sentiments.<sup>37</sup> Anti-Asian discrimination and assaults and stigma and discrimination against Chinese and other Asians have increased significantly during COVID-19, causing decreased quality of life and increased mental health problems.<sup>38</sup> Stigma and discrimination have also prevented Asian communities from accessing health services.<sup>39</sup> Income and food insecurity and unstable housing among varied racial and ethnic groups have further exacerbated problems with mental health and well-being.<sup>40</sup>

### **Persons living with a chronic disease and/or disability**

COVID-19 has had wide-ranging effects on people with pre-existing physical and mental health conditions.<sup>41</sup> Individuals with chronic diseases reported more mental health symptoms than the rest of the population.<sup>42</sup> Older age, male sex, hypertension, diabetes, obesity, cancer, cardiovascular diseases (including coronary artery disease and heart failure), and problems in disease management have been particularly significant risk factors for negative mental health outcomes.<sup>43</sup>

Worsening mental health conditions have been noted among individuals with pre-existing mental health conditions during COVID-19.<sup>44</sup> Higher levels of COVID-19-related anxiety, decrease in sleep quality, and poorer reported health-related quality of life have been observed among individuals with suspected or diagnosed mental health problems.<sup>45</sup> Mental health effects among those with previously diagnosed mental health conditions were more than six-fold for depression, and four-to six-fold for anxiety and PTSD compared to those without a previous diagnosis.<sup>46</sup> Also, patients diagnosed with COVID-19 and quarantined persons reported higher incidence of a neurological and/or psychiatric diagnosis in the following six months.<sup>47</sup>

### **Healthcare and other frontline workers**

COVID-19 has put psychological pressures on healthcare and other frontline and essential

workers, including law-enforcement officers, supermarket and grocery store workers, and unpaid caregivers. Factors include increased workload, physical exhaustion, job related stress, inadequate personal protective equipment, fear of becoming infected, perceived stigma and psychological impact of the isolation/quarantine, interpersonal distancing, and low wages.<sup>48</sup>

The prevalence of depression, anxiety, and insomnia among healthcare workers has been high during the COVID-19 pandemic, with greater effects noticed among female healthcare providers and nurses due to gender inequalities and extra pressure and work at home.<sup>49</sup>

### **Migrants, refugees, asylum seekers, and displaced populations**

During the pandemic, refugees, asylum seekers, and other migrants faced difficulties related to socio-cultural, language, and access to information barriers, as well as closure of borders and pre- and post-migration experiences. Many migrants across the world were vulnerable to mental health problems during the pandemic due to the precarious working, living, economic, and health conditions they faced.<sup>50</sup> Refugees and displaced populations already have high rates of PTSD, major depressive disorder, and various forms of anxiety due to multiple experiences of trauma, effects of forced migration, unfavorable living conditions, and barriers in accessing employment opportunities, education, and services.<sup>51</sup>

Disruptions in public services, support by non-governmental organizations, lack of financial aid, safe employment and housing opportunities, fear of infection, social isolation, stigma and discrimination, accusations of contributing to the spread of the disease, and decreased access to health services have further affected mental health and the well-being of refugees and other forced migrants.<sup>52</sup>

The American Psychiatric Association has estimated the prevalence rates of mental health disorders for survivors of forced displacement resettled in high-income countries to be between 20% to 80% percent. Prevalence of up to 44% for anxiety, 44% for depression, and 36% for PTSD for refugees have been documented during



COVID-19.<sup>53</sup> A study in Turkey showed higher odds of depression during the pandemic for Syrian refugees than residents.<sup>54</sup> Researchers have also reported increased depressive symptoms among refugees in Nakivale settlement.<sup>55</sup> Another study showed that Bhutanese and Burmese refugees in the US have experienced high levels of pandemic-related stress.<sup>56</sup> The International Labour Organization (ILO) reports indicate that low-skilled or low-income migrants, migrant and refugee women, girls with special needs, those without family/ community support, children, persons with disabilities, and stateless persons were at higher risk for mental health problems during the pandemic due to their different vulnerabilities.<sup>57</sup>

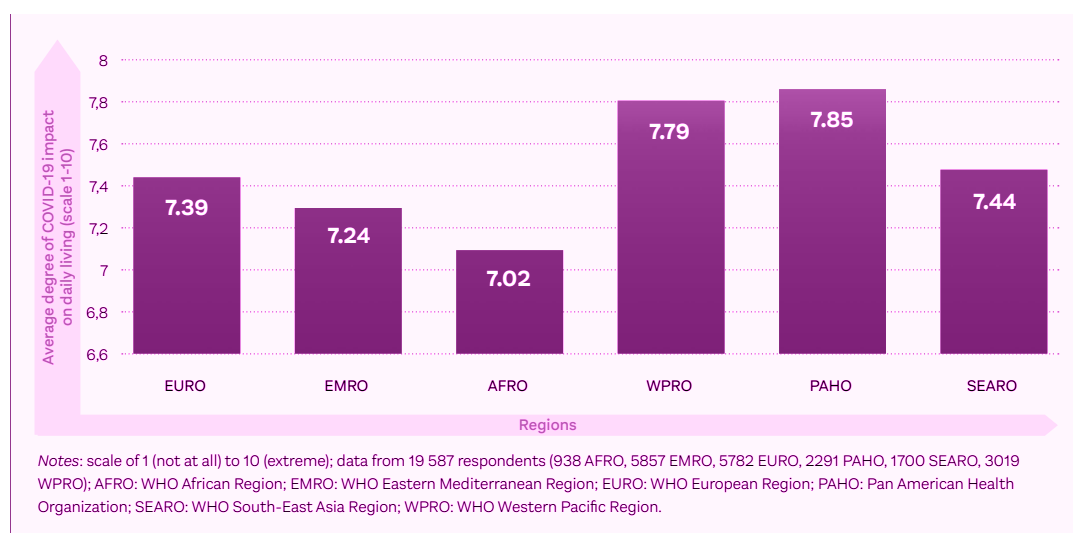
### Institutionalized persons and homeless people

Lack of social support and disruptions in regular health visits increase the likelihood of severe psychological distress and adverse outcomes among people in confinement.<sup>58</sup> The COVID-19 pandemic has resulted in restricted visitation and decreased social contact for institutionalized persons that are likely to negatively impact

psychological well-being.<sup>59</sup> The pandemic has also put homeless people at risk<sup>60</sup> because of their unfavorable living conditions; problems in social distancing, quarantine and isolation; and compounding of existing physical and mental health problems and difficulties with access to appropriate care.<sup>61</sup>

The COVID-19 pandemic caused a widespread disruption of preventive services for mental health and well-being of populations, in addition to disruptions in mental health care for people with existing mental disorders. Social determinants of mental health and well-being were also negatively affected in every corner of the world. Accumulating literature shows that mental health and well-being indicators, as well as access to mental health services, were worse for vulnerable and disadvantaged populations, including children, adolescents, women, older adults, refugees, migrants, and other minorities.<sup>62</sup> Therefore, it is imperative to understand the unique challenges faced by people living in vulnerable conditions to promote their health and well-being with targeted health care and social and economic welfare policies.

**Figure 5.3 Overall impact of COVID-19 among refugees and migrants across WHO regions**



**Source:** Apart Together Survey, Preliminary overview of refugees and migrants self-reported impact of COVID-19, WHO, December 2020

## Resilience in Turbulent Times

The COVID-19 pandemic has increased the demand for mental health services worldwide. Across regions and countries, governments and stakeholders, including health policy makers, hospital managers, and service providers, have stepped up to extend physical and mental health services and transform mental health related legislation, regulation, financing, accountability, and workforce development. This section provides an overview of the policies, practices, and interventions that have been used to address the mental health and well-being concerns of vulnerable populations at individual, community, national, and international levels.

To address mental health needs, nations have been forced to adopt telehealth or remote delivery of mental health services in the midst of the pandemic. Digital platforms and artificial intelligence have been used more widely for mental health screening and tracking in various populations. The use of videoconferencing, online forums, smartphone applications, text-messaging, and emails have been accepted in many circumstances for the delivery of mental health services and have been experiencing exponential growth in utilization.<sup>63</sup> The application of telehealth platforms for remote consultations during COVID-19 for mental health services has been enabled by some legislative changes.<sup>64</sup> Online and digital services have proven to be effective and efficient in terms of usage of scarce resources and the maintenance of service user connections in a time when physical distancing has been enforced.<sup>65</sup> This has driven many mental health professionals towards telepsychotherapy, relying on online consultations to provide continuity of care;<sup>66</sup> however, telehealth and remote delivery options have not been feasible for all vulnerable groups (e.g., homeless, refugees, displaced people, elderly, people living in poverty).

In this section, we discuss some of the major policies and practices developed to address the mental health needs of vulnerable populations and related challenges during the pandemic. Although the mental health consequences of COVID-19 have been uneven among different

subgroups of populations, the number of newly introduced policies and practices targeting specific populations was limited at the time this chapter was written.

### Policies

As the pandemic hit in March 2020, WHO created the Department of Digital Health to assess digital technologies and support Member States in integrating and regulating them.<sup>67</sup> Some governments have changed health policies and regulations and passed executive orders and economic recovery bills to cater to the increasing mental health and well-being concerns of vulnerable populations. The CDC has put out mental health guidelines in the United States. In 2020, the American government issued Executive Order (EO) 13594: Saving Lives Through Increased Support for Mental and Behavioral Health Needs to improve mental and behavioral health of Americans through increased education, crisis intervention, follow-up and support services, and increased telehealth and online behavioral health services.<sup>68</sup> The American Psychiatric Association's Serious Mental Illness Adviser Program ([www.smiadviser.org](http://www.smiadviser.org)) released a digital version of a psychiatric advance directive, called My Mental Health Crisis Plan.<sup>69,70</sup> The Office for Civil Rights announced the waiver of penalties embedded in the Health Insurance Portability and Accountability Act against health care providers who serve their patients using "everyday communications technologies."<sup>71</sup> The use of Tele-Mental Health for routine treatment was endorsed by the Office of Mental Health Memorandum.<sup>72</sup>

The National Health Service (NHS) launched a mental health hotline as part of a relief effort to provide psychological support to those on the front line in the United Kingdom.<sup>73</sup> Since January, 2020, the National Health Commission of China has published the notification of principles for emergency psychological crisis intervention for the COVID-19 pandemic, the notice on establishing psychological assistance hotlines for the pandemic, and the guidelines for psychological assistance hotlines during the pandemic.<sup>74</sup>

The European Union (EU) has funded several projects to investigate the long-term behavioral

and health effects of the COVID-19 crisis (i.e. Horizon 2020, SC1-PHE-CORONAVIRUS-2020-2C - Behavioral, social and economic impacts of the outbreak response). This was the case with RESPOND (Improving the PREparedness of Health Systems to Reduce Mental Health and Psychosocial Concerns resulting from the COVID-19 PaNDemic, [www.respond-project.eu/](http://www.respond-project.eu/)), an international study that brought together scientists from 13 universities and research centers from all over Europe. The RESPOND project aimed to identify vulnerable groups that have been affected by the COVID-19 pandemic and to assess the impact on their mental health and well-being.<sup>75</sup>

In May 2020, the Africa Centers for Disease Control and Prevention issued guidance for mental health and psychosocial support during the COVID-19 pandemic to reduce stress, anxiety, stigma, and psychological disorders associated with COVID-19.<sup>76</sup> One study indicated that mental health and psychosocial support (MHPSS) have been integral components of national COVID-19 response plans in the Eastern Mediterranean Region (EMR), and one-third of national plans in the region have allocated additional funding.<sup>77</sup> The Arab MENA world digitally transformed the psychiatric services of many clinics and some hospitals into digital mental health systems.<sup>78</sup>

During the pandemic, numerous countries, including the US, have expanded their social policies. Data showed that the rates of depression and anxiety among households that received supportive social policies, primarily those related to Medicaid, unemployment insurance, and suspended utility shut-offs during the pandemic, had fewer mental health issues than did households without extended social policies.<sup>79</sup>

## Practices

Although countries have adopted a variety of practices to promote mental health and well-being during the pandemic, most targeted the general population with a smaller number of interventions targeting specific populations by the time this chapter was written.

### Strengthening of mental health services and introduction of new provisions

Many governments strengthened their existing mental health services and introduced new provisions at the onset of COVID-19. Various interventions at the individual, community and city level have been adopted for the treatment and prevention of the mental health problems triggered by the COVID-19 pandemic. Emergency psychological crisis treatment, hotline and online counseling services, online mental health courses, outpatient consultation, online applications for mental health counseling, health education about adapting and responding to COVID-19, healthy lifestyle and physical exercise during isolation, and community empowerment have emerged as coping practices.<sup>80</sup>

As the COVID-19 outbreak started, the World Health Organization in Europe endorsed the usage of internet and mobile interventions to deliver psychological first aid and mental health problem-management messages.<sup>81</sup> Telehealth, or more specifically tele-mental health services, have been practically feasible and appropriate for the support of many patients, family members, and health service providers during this pandemic.<sup>82</sup> Telehealth has enabled remote triaging of care and has provided rapidly accessible information through technology, such as chatbots in Singapore<sup>83</sup> and online consultations offered by Lebanese mental health professionals and others.<sup>84</sup>

Telehealth services have been integrated into US healthcare delivery systems as a strategy to improve the treatment of mental problems.<sup>85</sup> Community mental health clinics across New York State redirected services to virtual platforms in March and April 2020.<sup>86</sup> Various states in the U.S. have developed their own emotional support

text lines (e.g., Call4Calm, a free-of-charge texting service made available by the Illinois Department of Human Services' Mental Health Division to English and Spanish-speaking residents).<sup>87</sup> A task force in a large New York City hospital system was created to meet clinician basic daily needs (e.g., donated food, adequate PPE, offsite housing), to increase communication with frontline providers, and to develop psychosocial and mental health support options.<sup>88</sup> Various mobile applications were developed to complement ongoing mental health care in hospitals.<sup>89</sup> Outpatient mental health services for individuals with serious mental illness (SMI) started offering remote and in-person care, integrated behavioral and physical healthcare, and modified safety plans and psychiatric advance directives to include new technologies and broader support systems.<sup>90</sup>

In COVID units, the use of virtual groups and technology has allowed patients to engage in scheduled religious group activities. Mental health and wellness applications have been increasingly available for individual use with topics such as mindfulness, meditation and relaxation, cognitive behavioral skills, and grounding to reduce anxiety.<sup>91</sup>

In some countries, strategies for education and awareness have been made available for reducing tension between parents and children with special needs.<sup>92</sup> In others, mental health interventions have been advocated for elderly people, such as strengthening social support for those with low educational levels, those living alone, those with sleep disorders, and those with a history of mental problems.<sup>93</sup>

Positive coping styles have been reported to promote mental health among individuals, such as using positive reframing, acceptance, and humor.<sup>94</sup> Physical exercise, experiencing nature, and distraction with activities was associated with reduced mental health symptoms during the pandemic.<sup>95</sup> The frequency of greenspace uses and the existence of green window views from within the home has been associated with increased levels of self-esteem, life satisfaction, and subjective happiness and decreased levels of depression, anxiety, and loneliness.<sup>96</sup> Telerehabilitation programs like consultations, exercises,

games, and therapy have shown positive outcomes such as improving patients' functional abilities, mental health, and well-being.<sup>97</sup> For screening purposes, the COVID-19 Anxiety Scale (CAS) was developed to identify adults experiencing dysfunctional anxiety as a result of COVID-19.<sup>98</sup>

UCLA/Duke University National Center for Child Traumatic Stress designed and implemented an extensive 3-tiered system of emotional support to best address the needs of healthcare workers.<sup>99</sup> The Psychological Society of South Africa (PsySSA), a national membership organization of psychology professionals consisting of psychologists, psychiatrists, anesthesiologists, and other health professionals formed the HealthCare Workers Care Network (HWCN) to support health care workers during the COVID-19 pandemic and beyond.<sup>100</sup> A digital learning package was developed within the first three weeks of the UK outbreak, which included evidence-based guidance, support and signposting relating to psychological wellbeing for all UK healthcare employees. The package was perceived to be usable, practical, low cost, and low burden.<sup>101</sup> Online mental health care programs for health-care workers were developed in Canada by medical and psychology associations.<sup>102</sup> In Iran, students of Shiraz Medical School created a social media platform that employed the Near Peer Mentoring method by having senior medical students instruct junior medical students in coping with the anxiety and stress caused by the COVID-19 pandemic. Study results showed that 71% of participants believed the platform had a significant impact on helping them adjust faster to the situation.<sup>103</sup>

China started providing various telemental health services during the pandemic, including remote counseling, supervision, and training, as well as psychoeducation through online platforms (e.g., hotline, WeChat, and Tencent QQ) (Ministry of Education, The People's Republic of China, 2020). The popularization of internet services and smartphones has enabled mental health professionals and health authorities to provide online services during the outbreak.<sup>104</sup>

Internet-based data collection tools were used in Australia to strengthen mental health practice

and policy during the pandemic.<sup>105</sup> In Africa, Ghana Health Service, with support from the Ministry of Health, established the COVID-19 Response Team to provide psychosocial support to deportees/returnees, international students, and travelers who must undergo mandatory quarantine. The Ministry of Health directed counsellors to use Psychological First Aid as the standard intervention model, as noted in the Standard Operating Procedures for Counsellors and Psychologists providing Mental Health and Psychosocial Support for the COVID-19 response in Kenya. The Portuguese Psychologists Association created a task force to assess and disseminate research projects in order to identify and monitor the population's unmet support needs.<sup>106</sup>

Studies show that videoconferencing and other digital technologies improved pre-pandemic digital literacy among the elderly with diagnosed mental health conditions.<sup>107</sup> Telemedicine has been shown to prevent further decline in mental status and provide comfort to caregivers and family members of patients with neurological conditions.<sup>108</sup> It has led to significant reduction in anxiety and depression levels among oncology patients and caregivers.<sup>109</sup>

Project Trust (PT), a 3-year-old program in the US, expanded its services to build a culturally sensitive online community and provide resources to pastors in African-American communities to aid them in conveying accurate public and mental health information about COVID-19.<sup>110</sup>

A mobile application named Muktomon [open one's mind] was developed to provide virtual mental health assistance using an artificial intelligence-based chat bot, videos, and audio. This application was found to have a positive impact on mental health during the COVID-19 pandemic (Islam, Muhammad Nazrul et al., 2021). Another example is a mobile application called PTSD Coach (<https://mobile.va.gov/app/ptsd-coach>), a program based on cognitive behavioral therapy that offers PTSD symptom tracking and skills to cope with common distress reactions such as anger, anxiety, hopelessness, and sleep problems.<sup>111</sup> The feasibility testing of a mobile application-based psychosocial intervention for psychosis (TechCare-P) and a mobile applica-

tion-based intervention for maternal depression (TechMotherCare) is underway in South Asia.<sup>112</sup>

Digital mental healthcare services and resources have been developed in Canada, Iran, Malaysia, New Zealand, South Africa, and UAE, among others. New Zealand developed the HABITs (Health Advances through Behavioral Intervention Technologies) ecosystem for young people, their families, and health workers for digital mental healthcare.<sup>113</sup> The Psychological Society of South Africa developed resources to aid practitioners' response to the pandemic and its mental health ramifications (Psychological Society of South Africa, 2020). It also launched interventional services, such as the Health Workers Network, to offer short-term telephonic counseling to schools and voluntary services to victims and survivors of gender-based violence.<sup>114</sup> Although the aforementioned virtual interventions had a great impact on the well-being of many people around the world, inequity in access to the internet and digital technologies affected populations living in vulnerable conditions.

### **Interventions to train mental health professionals and build individual and institutional capacity**

Medical professionals, trainees, and peer support specialists have had to learn how to use digital and mobile technologies for delivering care at a rapid pace during the COVID-19 pandemic. Training the workforce has been an important intervention to allow building of capacity to support increased access to mental health services, especially for vulnerable and hard-to-reach populations.<sup>115</sup> The pandemic has required clinicians to learn how to use video conferencing systems, identify confidential spaces to conduct clinical practice within their homes, teach technology to their patients, and make rapid changes to reimbursement practices to ensure that insurance companies would reimburse tele-health sessions.<sup>116</sup> Various training programs and capacity-building modules have been developed since the beginning of the pandemic.

Online mental health education with communication programs such as WeChat, Weibo, and TikTok has been widely used during the outbreak for medical staff and the public. In addition,

several artificial intelligence (AI) programs have been put to use as interventions for psychological crises during the pandemic. For example, individuals at risk of suicide can be identified through monitoring and analysis of messages posted on Weibo by the AI program Tree Holes Rescue, which then alerts designated volunteers to act accordingly.<sup>117</sup>

A multi-tier child and adolescent mental health (CAMH) intervention model using an online platform to train mental health professionals was developed in Nepal in 2020.<sup>118</sup> A training program called Digital Opportunities for Outcomes in Recovery Services (DOORS) was created for first-episode psychosis (FEP) patients, and a chronic phase schizophrenia clubhouse to increase the utilization of smartphones to set reminders, download apps, join video calls and connect with peers.<sup>119</sup> The National Mental Health Taskforce of Zimbabwe has been offering training for mental health cadres to be able to deal with issues on the ground.<sup>120</sup>

Integration of mental health services with other health services and transformation of mental health related legislation, regulation, financing, accountability, and workforce development are vital for the prevention and treatment of mental health problems among vulnerable populations. Telemental health, online resources, advocacy and awareness, and educational interventions have emerged as necessary tools to address mental health needs and challenges of the general public and specific population groups. These interventions, including emergency psychological crisis treatment, hotline assistance, online counseling, and outpatient consultation, have strengthened the mental health services during the pandemic.<sup>121</sup> On the other hand, the digital divide caused inequities in access to services for many disadvantaged populations around the world. Despite efforts of governments and non-governmental organizations to increase access of vulnerable populations to digital/mobile technologies, factors such as gender, legal status, income level, and educational attainment continue to affect the accessibility of digital services and point to the need for better policies and practices to decrease digital inequities and other barriers in accessing services.

## Building forward happier

This section provides solutions and recommendations to address the mental health needs and concerns of vulnerable populations through targeted policies, practices, research, training, multi-sectoral partnerships, and inclusion of vulnerable populations. It is vital to learn from best practices that strengthen national health-care and social protection systems and prepare individuals and institutions for the shocks caused by health emergencies like COVID-19. This requires institutions to embed mental health policies and practices in pandemic responses, as both disaster situations and related responses may affect the mental health of vulnerable populations. Targeted mental health and well-being solutions can help prevent disproportionate impacts of pandemics on women, children, youth, the elderly, persons living with a chronic disease and/or disability, racial, ethnic minorities including indigenous peoples, sexual and gender minorities, refugees, asylum seekers, and other migrants, institutionalized persons, and homeless people. Targeted policies, innovative healthcare delivery options, digital technologies, research, training of professionals, multi-sectoral partnerships, and inclusion of vulnerable populations at all levels have the potential to address mental health inequalities deepened by COVID-19 pandemic.

### Policies

COVID-19 has demanded new social norms for human habitation. Stringent restrictions and guidelines on mobility and interactions have taken a toll on the mental health and well-being of all, but have taken an even greater toll on those already suffering due to age, gender, race, poor health, disability, or economic and social conditions. Therefore, the situation requires new policies, legislations, regulations, financing, accountability, and workforce development to address the impact of the pandemic on vulnerable populations.<sup>122</sup> Some of the policies to consider include:

- Developing pandemic preparedness policies and engage with clinicians, mental health service users, and their families in developing, implementing and evaluating policies;

- Adapt policies and regulations and pass executive orders and economic recovery bills to improve social determinants of mental health during health emergencies;
- Include mental health services in policies regarding universal health coverage;
- Develop universal protocols or guidelines for the most effective psychosocial support practices;
- Develop policy changes that can promote digital mental health services such as tele-psychiatric services;<sup>123</sup>
- Finance programs for effective screening, mental health promotion, and mental health services for vulnerable populations;
- Address social isolation, privacy concerns, stigma, discrimination and effects on mental health and well-being for vulnerable populations;
- Address mental health disparities and build social support systems to mitigate mental health consequences;
- Promote family-friendly policies like universal paid sick leave for parents and provide financial support for parents who are frontline workers and are at an elevated risk for contracting the disease;<sup>124</sup>
- Invest in public health media campaigns for proper dissemination of clear and consistent flow of mental health information;
- Monitor and evaluate the implementation and roll-out of new policies.
- Provide digital and other psychoeducation options with information about healthy lifestyles, common emotional reactions to epidemics, coping strategies, and warning signs;
- Launch a mental health hotline as part of a relief effort to provide psychological support;
- Expand mental health screening, including pandemic-specific screening instruments, focusing on high-risk or vulnerable populations to allow for prevention, early diagnosis, and treatment;<sup>126</sup>
- Provide access to physical and mental health care to all regardless of legal status;
- Develop interventions for social support and to decrease health effects of stigma to empower vulnerable/marginalized/stigmatized groups.<sup>127</sup>
- Promote greenspace and outdoor activities and build supportive environments for a healthy lifestyle and better mental health;
- Provide hotlines and social support for survivors of domestic violence;
- Ensure all practices are appropriate to the needs of different populations with respect to culture, language, gender, education, etc.;
- Approach emergency programming with a psychosocial and gender lens;
- Develop peer group interactions, distance learning, and online courses, including other learning and social interaction opportunities for children and adolescents during school closures.<sup>128</sup>

### Practices

As COVID-19 has ravaged economic and social lives, especially of vulnerable populations, certain practices that have proven to be effective in addressing the mental health impacts of COVID-19 must be promoted. Some of these practices include:

- Establish a nationwide system of remote mental health services, including mental health education, psychological support, mobile application platforms, and online outpatient consultation and treatment;<sup>125</sup>

### Research

As we continue to live with COVID-19, research has helped decision-makers to assess needs, professionals to deliver more targeted services, and communities to cope with challenges. Further research is needed to address the mental health and well-being challenges and has an evidence-based response. Some recommendations for this area of research include:

- Increase available resources for more research on the mental health and well-being

impacts of the pandemic on vulnerable populations, including mental health services needs and disruptions;<sup>129</sup>

- Increase involvement of mental health and well-being research institutions and scientists in the pandemic response;
- Collect and monitor disaggregated data on mental health impacts according to age, gender, race, ethnicity, education, occupation, income, health and living condition, legal status, etc.;
- Design studies to evaluate the effectiveness of psychological intervention programs and deploy a wide range of therapeutic modalities and techniques for vulnerable populations;<sup>130</sup>
- Collect and disseminate informed, evidence-based, and culturally sensitive data on effective mental health responses;
- Organize training programs and increase research capacity on mental health research, participatory methods, and community engagement to generate interest in research with vulnerable groups.

### **Training and capacity building**

As the COVID-19 pandemic hit, health agencies and professionals had to suddenly shift to new modes of delivering services and care. Telehealth and digital forms of health services became prominent. Some institutions were able to transition to online delivery with ease, whereas others struggled due to lack of finances, infrastructure, or technology. Some of the most important recommendations to build strong healthcare and social protection systems are related to training and capacity building of health care and social care professionals, and these include:

- Provide training to existing and new professionals to strengthen the existing capacity to deliver remote services and to adapt to online technologies;
- Train and recruit mental health professionals for increased mental health needs;

- Train community leaders/representatives and use a peer-to-peer approach in outreach and mental health promotion for vulnerable populations;
- Leverage video conferencing, mobile applications, and other digital technology for training and capacity building;
- Build individual and institutional capacity by promoting mental health and well-being of professionals.

### **Multi-sectoral partnerships and global collaboration**

Global problems require multi-sectoral partnerships and global solutions. Some of the recommendations for multi-sectoral partnerships and global collaboration include:

- Strengthen international organizations for improved technical guidance for countries and better global health diplomacy on mental health and well-being issues;
- Foster communication and collaboration between governments, academic and research institutions, international organizations, NGOs, and the private sector to share data, best practices, and research on mental health services and needs among vulnerable populations;<sup>131</sup>
- Promote multi-sectoral mental health strategy and action plans at the national and international level;
- Foster communication and collaboration between mental healthcare providers and information technology institutions to adapt to digital mental health technologies.

### **Inclusion of vulnerable populations and civil society**

It is important to include vulnerable populations when forming policies on mental health and well-being, advocating for best practices, and developing, implementing, and evaluating interventions. Evidence-based research on mental health needs will also be stronger with the inclusion of vulnerable populations.



Empowering and enabling active participation of women, children and youth, the elderly, persons living with a chronic disease and/or disability, racial, ethnic, or religious minorities including indigenous people, refugees, asylum seekers, migrants, institutionalized persons, and homeless people will lead to more successful policies and programs to address the diverse mental health needs of different populations.

## **Conclusion**

It is evident that people living in vulnerable conditions experience exacerbated and unique mental health challenges as a result of the COVID-19 pandemic. Some policies, practices, and interventions adopted by various governments and institutions have been effective in promoting mental health and well-being of these populations and decreasing mental health inequalities. Going forward, such policies, practices, and interventions need to be evaluated and tailored to specific populations and settings for sustainability in the long term. Addressing the mental health needs of different population groups in pandemics and other disaster situations requires a multi-sectoral and inclusive approach with innovative and targeted outreach strategies and service delivery options.

## References

- Adams-Prassl, A. et al. (2020), "The Impact of the Coronavirus Lockdown on Mental Health: Evidence from the US", Cambridge Working Papers in Economics, Faculty of Economics, University of Cambridge, <https://www.repository.cam.ac.uk/handle/1810/310906>.
- Adepoju P. (2020). Africa turns to telemedicine to close mental health gap. *The Lancet. Digital health*, 2(11), e571–e572. [https://doi.org/10.1016/S2589-7500\(20\)30252-1](https://doi.org/10.1016/S2589-7500(20)30252-1)
- Adhanom Ghebreyesus T. (2020). Addressing mental health needs: an integral part of COVID-19 response. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)*, 19(2), 129–130. <https://doi.org/10.1002/wps.20768>
- American Psychiatric Association. Mental Health Facts on Refugees, Asylum-seekers, & Survivors of Forced Displacement. Retrieved from file:///C:/Users/as4725/Downloads/Mental-Health-Facts-for-Refugees.pdf.
- American Psychological Association. (2021). Essential workers more likely to be diagnosed with a mental health disorder during pandemic. APA.
- Antonis Kousoulis, Shari McDaid, David Crepez-Keay, Susan Solomon, Chiara Lombardo, Jade Yap, Lauren Weeks, Chris O'Sullivan, Rachel Baird, Richard Grange, Tony Giugliano, Lucy Thorpe, Lee Knifton, Mark Rowland, Tine van Bortel, Ann John, Sze Lee, Alec Morton, Gavin Davidson. (2020) The COVID-19 Pandemic, Financial Inequality and Mental Health. Mental Health Foundation. [https://pureadmin.qub.ac.uk/ws/portalfiles/portal/205127718/Mental\\_Health\\_Foundation\\_2020\\_The\\_COVID\\_19\\_Pandemic\\_financial\\_inequality\\_and\\_mental\\_health.pdf](https://pureadmin.qub.ac.uk/ws/portalfiles/portal/205127718/Mental_Health_Foundation_2020_The_COVID_19_Pandemic_financial_inequality_and_mental_health.pdf)
- Asmundson, G., & Taylor, S. (2020). Coronaphobia: Fear and the 2019-nCoV outbreak. *Journal of Anxiety Disorders*, 70, 102196. <https://doi.org/10.1016/j.janxdis.2020.102196>
- Ayuso-Mateos, J. L., Mediavilla, R., Rodriguez, K. R., & Bravo, M. F. (2021). Informing the response to COVID-19 in Spain: priorities for mental health research. *Revista de Psiquiatria y Salud Mental*, 14(2), 79–82. <https://doi.org/10.1016/j.rpsm.2021.04.001>
- Bambra, C., Riordan, R., Ford, J., & Matthews, F. (2020). The COVID-19 pandemic and health inequalities. *Journal of Epidemiology and Community Health*, 74(11), 964–968. <https://doi.org/10.1136/jech-2020-214401>
- Bhaskar, S., Bradley, S., Chattu, V. K., Adisesh, A., Nurtazina, A., Kyrykbayeva, S., Sakhamuri, S., Moguilner, S., Pandya, S., Schroeder, S., Banach, M., & Ray, D. (2020). Telemedicine as the New Outpatient Clinic Gone Digital: Position Paper from the Pandemic Health System Resilience PROGRAM (REPROGRAM) International Consortium (Part 2). *Frontiers in Public Health*, 8, 410. <https://doi.org/10.3389/fpubh.2020.00410>
- Blake, H., Birmingham, F., Johnson, G., & Tabner, A. (2020). Mitigating the Psychological Impact of COVID-19 on Healthcare Workers: A Digital Learning Package. *International Journal of Environmental Research and Public Health*, 17(9), 2997. <https://doi.org/10.3390/ijerph17092997>
- Bonow, R. O., Fonarow, G. C., O'Gara, P. T., & Yancy, C. W. (2020). Association of Coronavirus Disease 2019 (COVID-19) With Myocardial Injury and Mortality. *JAMA Cardiology*, 5(7), 751–753. <https://doi.org/10.1001/jamacardio.2020.1105>
- Braveman, P. & Gottlieb, L. (2014). "The social determinants of health: it's time to consider the causes of the causes." *Public Health Rep.*; 129 Suppl 2(Suppl 2):19-31. doi: 10.1177/003335491412915206.
- Bray, Michael Johnathan Charles et al. (2021). "Racial Differences in Statewide Suicide Mortality Trends in Maryland During the Coronavirus Disease 2019 (COVID-19) Pandemic." *JAMA Psychiatry* 78(4): 444–47.
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet (London, England)*, 395(10227), 912–920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- C Fong, V., & Iarocci, G. (2020). Child and Family Outcomes Following Pandemics: A Systematic Review and Recommendations on COVID-19 Policies. *Journal of Pediatric Psychology*, 45(10), 1124–1143. <https://doi.org/10.1093/jpepsy/jjaa092>
- Cabarkapa, S., Nadjidai, S. E., Murgier, J., & Ng, C. H. (2020). The psychological impact of COVID-19 and other viral epidemics on frontline healthcare workers and ways to address it: A rapid systematic review. *Brain, Behavior & Immunity - Health*, 8, 100144. <https://doi.org/10.1016/j.bbih.2020.100144>
- Campion, J., Javed, A., Sartorius, N., & Marmot, M. (2020). Addressing the public mental health challenge of COVID-19. *The Lancet Psychiatry*, 7(8), 657–659. [https://doi.org/10.1016/S2215-0366\(20\)30240-6](https://doi.org/10.1016/S2215-0366(20)30240-6)
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*, 287, 112934. <https://doi.org/10.1016/j.psychres.2020.112934>
- Cénat, J. M., Blais-Rochette, C., Kokou-Kpolou, C. K., Noorishad, P. G., Mukunzi, J. N., McIntee, S. E., Dalexis, R. D., Goulet, M. A., & Labelle, P. R. (2021). Prevalence of symptoms of depression, anxiety, insomnia, posttraumatic stress disorder, and psychological distress among populations affected by the COVID-19 pandemic: A systematic review and meta-analysis. *Psychiatry Research*, 295, 113599. <https://doi.org/10.1016/j.psychres.2020.113599>
- Chatterjee, S. S., Barikar C. M., & Mukherjee, A. (2020). Impact of COVID-19 pandemic on pre-existing mental health problems. *Asian Journal of Psychiatry*, 51, 102071. <https://doi.org/10.1016/j.ajp.2020.102071>
- Chatterjee, S. S., Barikar C. M., & Mukherjee, A. (2020). Impact of COVID-19 pandemic on pre-existing mental health problems. *Asian Journal of Psychiatry*, 51, 102071. <https://doi.org/10.1016/j.ajp.2020.102071>
- Chen, J. A., Zhang, E., & Liu, C. H. (2020). Potential Impact of COVID-19-Related Racial Discrimination on the Health of Asian Americans. *American Journal of Public Health*, 110(11), 1624–1627. <https://doi.org/10.2105/AJPH.2020.305858>
- Chen, Q., Liang, M., Li, Y., Guo, J., Fei, D., Wang, L., He, L., Sheng, C., Cai, Y., Li, X., Wang, J., & Zhang, Z. (2020). Mental health care for medical staff in China during the COVID-19 outbreak. *The Lancet Psychiatry*, 7(4), e15–e16. [https://doi.org/10.1016/S2215-0366\(20\)30078-X](https://doi.org/10.1016/S2215-0366(20)30078-X)
- Chung, R. Y., & Li, M. M. (2020). Anti-Chinese sentiment during the 2019-nCoV outbreak. *The Lancet (London, England)*, 395(10225), 686–687. [https://doi.org/10.1016/S0140-6736\(20\)30358-5](https://doi.org/10.1016/S0140-6736(20)30358-5)
- Commonwealth Fund (2020), Do Americans Face Greater

- Mental Health and Economic Consequences from COVID-19? Comparing the U.S. with Other High-Income Countries | Commonwealth Fund, <https://www.commonwealthfund.org/publications/issue-briefs/2020/aug/americans-mental-health-and-economic-consequences-COVID19>
- Coppola, I., Rania, N., Parisi, R., & Lagomarsino, F. (2021). Spiritual Well-Being and Mental Health During the COVID-19 Pandemic in Italy. *Frontiers in Psychiatry*, 12, 626944. <https://doi.org/10.3389/fpsy.2021.626944>
- Corrigan, P. W., & Watson, A. C. (2002). Understanding the impact of stigma on people with mental illness. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)*, 1(1), 16–20.
- Cost, K. T., Crosbie, J., Anagnostou, E., Birken, C. S., Charach, A., Monga, S., Kelley, E., Nicolson, R., Maguire, J. L., Burton, C. L., Schachar, R. J., Arnold, P. D., & Korczak, D. J. (2021). Mostly worse, occasionally better: impact of COVID-19 pandemic on the mental health of Canadian children and adolescents. *European Child & Adolescent Psychiatry*, 1–14. Advance online publication. <https://doi.org/10.1007/s00787-021-01744-3>
- COVID-19 Survivor Impact Brief: LGBTQ+ Survivors. (2020). COVID-19 Survivor Impact Brief: LGBTQ+ Survivors. Retrieved from [https://reachingvictims.org/wp-content/uploads/2020/05/LGBTQ-Survivors-Impact-Brief-April-2020\\_5.19.20.pdf](https://reachingvictims.org/wp-content/uploads/2020/05/LGBTQ-Survivors-Impact-Brief-April-2020_5.19.20.pdf).
- COVID-19: Resources for Employers and HERO Member Spotlights. Health Enhancement Research Organization. 2020. Retrieved from <https://hero-health.org/covid-19/>
- Czeisler MÉ, Lane RI, Petrosky E, et al. Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic – United States, June 24–30, 2020. *MMWR Morb Mortal Wkly Rep* 2020; 69:1049–1057. DOI: [http://dx.doi.org/10.15585/mmwr.mm6932a1external icon](http://dx.doi.org/10.15585/mmwr.mm6932a1external%20icon)
- Czeisler, M. É., Howard, M. E., & Rajaratnam, S. (2021). Mental Health During the COVID-19 Pandemic: Challenges, Populations at Risk, Implications, and Opportunities. *American journal of health promotion: AJHP*, 35(2), 301–311. <https://doi.org/10.1177/0890117120983982b>
- Czeisler, M. É., Lane, R. I., Petrosky, E., Wiley, J. F., Christensen, A., Njai, R., Weaver, M. D., Robbins, R., Facer-Childs, E. R., Barger, L. K., Czeisler, C. A., Howard, M. E., & Rajaratnam, S. (2020). Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic - United States, June 24–30, 2020. *MMWR. Morbidity and Mortality Weekly Report*, 69(32), 1049–1057. <https://doi.org/10.15585/mmwr.mm6932a1>
- Dalexis, R. D., & Cénat, J. M. (2020). Asylum seekers working in Quebec (Canada) during the COVID-19 pandemic: Risk of deportation, and threats to physical and mental health. *Psychiatry research*, 292, 113299. <https://doi.org/10.1016/j.psychres.2020.113299>
- Daly, M., & Robinson, E. (2021). Psychological distress and adaptation to the COVID-19 crisis in the United States. *Journal of Psychiatric Research*, 136, 603–609. <https://doi.org/10.1016/j.jpsychires.2020.10.035>
- Departamento de Análise em Saúde e Vigilância de Doenças não Transmissíveis. (2020). Manejo de corpos no contexto do novo coronavírus COVID-19. Ministério da Saúde, Secretaria de Vigilância em Saúde. Retrieved from, <http://www.saude.gov.br/images/pdf/2020/marco/25/manejo-corpos-coronavirus-ver-sao1-25mar20-rev5.pdf>.
- Department of Health and Human Services (2020). OCR announces notification of enforcement discretion for telehealth remote communications during the COVID-19 nationwide public health emergency. Retrieved from <https://www.hhs.gov/about/news/2020/03/17/ocr-announces-notification-of-enforcement-discretion-for-telehealth-remote-communications-during-the-covid-19.html>
- Devkota, H. R., Sijali, T. R., Bogati, R., Ahmad, M., Shakya, K. L., & Adhikary, P. (2021). The impact of COVID-19 on mental health outcomes among hospital fever clinic attendants across Nepal: A cross-sectional study. *PloS ONE*, 16(3), e0248684. <https://doi.org/10.1371/journal.pone.0248684>
- Dhonju, G., Kunwar, A. R., Karki, U., Devkota, N., Bista, I., & Sah, R. (2021). Identification and Management of COVID-19 Related Child and Adolescent Mental Health Problems: A Multi-Tier Intervention Model. *Frontiers in Public Health*, 8, 590002. <https://doi.org/10.3389/fpubh.2020.590002>
- Dhonju, G., Kunwar, A. R., Karki, U., Devkota, N., Bista, I., & Sah, R. (2021). Identification and Management of COVID-19 Related Child and Adolescent Mental Health Problems: A Multi-Tier Intervention Model. *Frontiers in Public Health*, 8, 590002. <https://doi.org/10.3389/fpubh.2020.590002>
- Donnelly, R., & Farina, M. P. (2021). How do state policies shape experiences of household income shocks and mental health during the COVID-19 pandemic? *Social Science & Medicine*, 269. <https://doi.org/10.1016/j.socscimed.2020.113557>
- Drissi, N., Ouhbi, S., Marques, G., de la Torre Díez, I., Ghogho, M., & Janati Idrissi, M. A. (2021). A Systematic Literature Review on e-Mental Health Solutions to Assist Health Care Workers During COVID-19. *Telemedicine Journal and E-Health: The Official Journal of the American Telemedicine Association*, 27(6), 594–602. <https://doi.org/10.1089/tmj.2020.0287>
- Druss B. G. (2020). Addressing the COVID-19 Pandemic in Populations with Serious Mental Illness. *JAMA Psychiatry*, 77(9), 891–892. <https://doi.org/10.1001/jamapsychiatry.2020.0894>
- Du, J., Dong, L., Wang, T., Yuan, C., Fu, R., Zhang, L., Liu, B., Zhang, M., Yin, Y., Qin, J., Bouey, J., Zhao, M., & Li, X. (2020). Psychological symptoms among frontline healthcare workers during COVID-19 outbreak in Wuhan. *General Hospital Psychiatry*, 67, 144–145. <https://doi.org/10.1016/j.genhosppsy.2020.03.011>
- Duan, L., Shao, X., Wang, Y., Huang, Y., Miao, J., Yang, X., & Zhu, G. (2020). An investigation of mental health status of children and adolescents in china during the outbreak of COVID-19. *Journal of Affective Disorders*, 275, 112–118. <https://doi.org/10.1016/j.jad.2020.06.029>
- Dutra, C., & Rocha, H. S. (2021). Religious Support as a Contribution to Face the Effects of Social Isolation in Mental Health During the Pandemic of COVID-19. *Journal of Religion and Health*, 60(1), 99–111. <https://doi.org/10.1007/s10943-020-01140-2>
- Eaton, J., Rahman, A., Gater, R., Saxena, S., Hammerich, A., & Saeed, K. (2020). From adversity to resilience in the COVID-19 era: strengthening mental health systems in the Eastern Mediterranean Region. *Eastern Mediterranean Health Journal = La Revue de Sante de la Mediterranee Orientale = al-Majallah al-sihhiyah li-sharq al-mutawassit*, 26(10), 1148–1150. <https://doi.org/10.26719/2020.26.10.1148>

- Ebrahimi, O. V., Hoffart, A., & Johnson, S. U. (2021). Physical distancing and mental health during the COVID-19 pandemic: Factors associated with psychological symptoms and adherence to pandemic mitigation strategies. *Clinical Psychological Science*, 9(3), 489–506. <https://doi.org/10.1177/2167702621994545>
- El Hayek, S., Nofal, M., Abdelrahman, D., Adra, A., Al Harthi, M., Al Shamli, S., AlNuaimi, N., Bensid, L., Cheaito, M. A., Emberish, A. M., Larnaout, A., Radwan, A., Slaih, M., Kobeissy, F., & Bizri, M. (2020). Telepsychiatry in the Arab World: A Viewpoint Before and During COVID-19. *Neuropsychiatric Disease and Treatment*, 16, 2805–2815. <https://doi.org/10.2147/NDT.S277224>
- Ettman, C. K., Abdalla, S. M., Cohen, G. H., Sampson, L., Vivier, P. M., & Galea, S. (2020). Prevalence of Depression Symptoms in US Adults Before and During the COVID-19 Pandemic. *JAMA Network Open*, 3(9), e2019686. <https://doi.org/10.1001/jamanetworkopen.2020.19686>
- Fouad, F. M., Barkil-Oteo, A., & Diab, J. L. (2021). Mental Health in Lebanon's Triple-Fold Crisis: The Case of Refugees and Vulnerable Groups in Times of COVID-19. *Frontiers in Public Health*, 8, 589264. <https://doi.org/10.3389/fpubh.2020.589264>
- Galea, S., Merchant, R. M., & Lurie, N. (2020). The Mental Health Consequences of COVID-19 and Physical Distancing: The Need for Prevention and Early Intervention. *JAMA Internal Medicine*, 180(6), 817–818. <https://doi.org/10.1001/jamainternmed.2020.1562>
- Gao, J., Zheng, P., Jia, Y., Chen, H., Mao, Y., Chen, S., Wang, Y., Fu, H., & Dai, J. (2020). Mental health problems and social media exposure during COVID-19 outbreak. *PLoS ONE*, 15(4), e0231924. <https://doi.org/10.1371/journal.pone.0231924>
- Garfin, D. R., Silver, R. C., & Holman, E. A. (2020). The novel coronavirus (COVID-2019) outbreak: Amplification of public health consequences by media exposure. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, 39(5), 355–357. <https://doi.org/10.1037/hea0000875>
- Gavin, B., Hayden, J. C., Quigley, E., Adamis, D., & McNicholas, F. (2021). Opportunities for international collaboration in COVID-19 mental health research. *European Child & Adolescent Psychiatry*, 30(7), 1137–1138. <https://doi.org/10.1007/s00787-020-01577-6>
- Gerst-Emerson, K., & Jayawardhana, J. (2015). Loneliness as a public health issue: the impact of loneliness on health care utilization among older adults. *American Journal of Public Health*, 105(5), 1013–1019. <https://doi.org/10.2105/AJPH.2014.302427>
- Gloster, A. T., Lamnisos, D., Lubenko, J., Presti, G., Squatrito, V., Constantinou, M., Nicolaou, C., Papacostas, S., Aydin, G., Chong, Y. Y., Chien, W. T., Cheng, H. Y., Ruiz, F. J., Garcia-Martin, M. B., Obando-Posada, D. P., Segura-Vargas, M. A., Vasiliou, V. S., McHugh, L., Höfer, S., Baban, A., ... Karekla, M. (2020). Impact of COVID-19 pandemic on mental health: An international study. *PLoS ONE*, 15(12), e0244809. <https://doi.org/10.1371/journal.pone.0244809>
- Go, A. S., Mozaffarian, D., Roger, V. L., Benjamin, E. J., Berry, J. D., Blaha, M. J., Dai, S., Ford, E. S., Fox, C. S., Franco, S., Fullerton, H. J., Gillespie, C., Hailpern, S. M., Heit, J. A., Howard, V. J., Huffman, M. D., Judd, S. E., Kissela, B. M., Kittner, S. J., Lackland, D. T., American Heart Association Statistics Committee and Stroke Statistics Subcommittee (2014). Executive summary: heart disease and stroke statistics--2014 update: a report from the American Heart Association. *Circulation*, 129(3), 399–410. <https://doi.org/10.1161/01.cir.0000442015.53336.12>
- Goldin, D., Maltseva, T., Scaccianoce, M., & Brenes, F. (2021). Cultural and Practical Implications for Psychiatric Telehealth Services: A Response to COVID-19. *Journal of Transcultural Nursing*, 32(2), 186–190. <https://doi.org/10.1177/1043659620973069>
- Goldman, M. L., Druss, B. G., Horvitz-Lennon, M., Norquist, G. S., Kroeger Ptakowski, K., Brinkley, A., Greiner, M., Hayes, H., Hepburn, B., Jorgensen, S., Swartz, M. S., & Dixon, L. B. (2020). Mental Health Policy in the Era of COVID-19. *Psychiatric Services (Washington, D.C.)*, 71(11), 1158–1162. <https://doi.org/10.1176/appi.ps.202000219>
- Goularte, J. F., Serafim, S. D., Colombo, R., Hogg, B., Caldieraro, M. A., & Rosa, A. R. (2021). COVID-19 and mental health in Brazil: Psychiatric symptoms in the general population. *Journal of Psychiatric Research*, 132, 32–37. <https://doi.org/10.1016/j.jpsychires.2020.09.021>
- Green, A. S., Ruchman, S. G., Katz, C. L., & Singer, E. K. (2020). Piloting forensic tele-mental health evaluations of asylum seekers. *Psychiatry Research*, 291, 113256. <https://doi.org/10.1016/j.psychres.2020.113256>
- Gruber, J., Prinstein, M. J., Clark, L. A., Rottenberg, J., Abramowitz, J. S., Albano, A. M., Aldao, A., Borelli, J. L., Chung, T., Davila, J., Forbes, E. E., Gee, D. G., Hall, G., Hallion, L. S., Hinshaw, S. P., Hofmann, S. G., Hollon, S. D., Joormann, J., Kazdin, A. E., Klein, D. N., ... Weinstock, L. M. (2020). Mental health and clinical psychological science in the time of COVID-19: Challenges, opportunities, and a call to action. *The American Psychologist*, 10.1037/amp0000707. Advance online publication. <https://doi.org/10.1037/amp0000707>
- Gupta, S., & Sahoo, S. (2020). Pandemic and mental health of the front-line healthcare workers: a review and implications in the Indian context amidst COVID-19. *General Psychiatry*, 33(5), e100284. <https://doi.org/10.1136/gpsych-2020-100284>
- Halstead, M. (2020). Stressed over COVID-19? Text new hotline for help from local counselors. *The Southern Illinoisian*. Retrieved from [https://thesouthern.com/news/local/stressed-over-covid-19-text-new-hotline-for-help-from-local-counselors/article\\_7faa59f1-6296-568e-9c3c-90df43b80f89.html](https://thesouthern.com/news/local/stressed-over-covid-19-text-new-hotline-for-help-from-local-counselors/article_7faa59f1-6296-568e-9c3c-90df43b80f89.html)
- Hermann, A., Fitelson, E. M., & Bergink, V. (2021). Meeting Maternal Mental Health Needs During the COVID-19 Pandemic. *JAMA Psychiatry*, 78(2), 123–124. <https://doi.org/10.1001/jamapsychiatry.2020.1947>
- Hoffman, L., Wisniewski, H., Hays, R., Henson, P., Vaidyam, A., Hendel, V., Keshavan, M., & Torous, J. (2020). Digital Opportunities for Outcomes in Recovery Services (DOORS): A Pragmatic Hands-On Group Approach Toward Increasing Digital Health and Smartphone Competencies, Autonomy, Relatedness, and Alliance for Those with Serious Mental Illness. *Journal of Psychiatric Practice*, 26(2), 80–88. <https://doi.org/10.1097/PRA.0000000000000450>
- The International Labour Organization. (2020). Impact of COVID-19 on Migrants and Refugees in the Arab Region. [https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms\\_764756.pdf](https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_764756.pdf)
- Islam, Muhammad Nazrul et al. 2021. "A Mobile Application for Mental Health Care During COVID-19 Pandemic: Development and Usability Evaluation with System Usability Scale." In

- Computational Intelligence in Information Systems, eds. Wida Susanty Haji Suhaili, Nor Zainah Siau, Saiful Omar, and Somnuk Phon-Amuausuk. Cham: Springer International Publishing, 33–42.
- Islam, S., Bodrud-Doza, M., Khan, R. M., Haque, M. A., & Mamun, M. A. (2020). Exploring COVID-19 stress and its factors in Bangladesh: A perception-based study. *Heliyon*, 6(7), e04399. <https://doi.org/10.1016/j.heliyon.2020.e04399>
- Jenkins, E. K., McAuliffe, C., Hirani, S., Richardson, C., Thomson, K. C., McGuinness, L., Morris, J., Kousoulis, A., & Gadermann, A. (2021). A portrait of the early and differential mental health impacts of the COVID-19 pandemic in Canada: Findings from the first wave of a nationally representative cross-sectional survey. *Preventive Medicine*, 145, 106333. <https://doi.org/10.1016/j.ypmed.2020.106333>
- Júnior, J. G., de Sales, J. P., Moreira, M. M., Pinheiro, W. R., Lima, C., & Neto, M. (2020). A crisis within the crisis: The mental health situation of refugees in the world during the 2019 coronavirus (2019-nCoV) outbreak. *Psychiatry Research*, 288, 113000. <https://doi.org/10.1016/j.psychres.2020.113000>
- Kabunga A. & Anyayo L. (2021). Depression and Associated Factors Among Refugees Amidst Covid-19 in Nakivale Refugee Camp in Uganda. *Journal of Neurology Research Review & Reports*. SRC/JNRRR-145
- Kamal, K., Li, J. J., Hahm, H. C., & Liu, C. H. (2021). Psychiatric impacts of the COVID-19 global pandemic on U.S. sexual and gender minority young adults. *Psychiatry Research*, 299, 113855. <https://doi.org/10.1016/j.psychres.2021.113855>
- Karadag Caman & Karabey (2020). What a Pandemic Reveals: Health Inequalities and Their Reflection on Policies. Retrieved from [https://www.tesev.org.tr/wp-content/uploads/report\\_What-a-Pandemic-Reveals-Health-Inequalities-and-Their-Reflection-on-Policies.pdf](https://www.tesev.org.tr/wp-content/uploads/report_What-a-Pandemic-Reveals-Health-Inequalities-and-Their-Reflection-on-Policies.pdf).
- KavDiD, T., Avsec, A., & Zager Kocjan, G. (2021). Psychological Functioning of Slovene Adults during the COVID-19 Pandemic: Does Resilience Matter? *The Psychiatric Quarterly*, 92(1), 207–216. <https://doi.org/10.1007/s11126-020-09789-4>
- Kazour, F., Zahreddine, N. R., Maragel, M. G., Almustafa, M. A., Soufia, M., Haddad, R., & Richa, S. (2017). Post-traumatic stress disorder in a sample of Syrian refugees in Lebanon. *Comprehensive Psychiatry*, 72, 41–47. <https://doi.org/10.1016/j.comppsy.2016.09.007>
- Khatatbeh, M., Khasawneh, A., Hussein, H., Altahat, O., & Alhalaiaq, F. (2021). Psychological Impact of COVID-19 Pandemic Among the General Population in Jordan. *Frontiers in Psychiatry*, 12, 618993. <https://doi.org/10.3389/fpsy.2021.618993>
- Kidd, J. D., Jackman, K. B., Barucco, R., Dworkin, J. D., Dolezal, C., Navalta, T. V., Belloir, J., & Bockting, W. O. (2021). Understanding the Impact of the COVID-19 Pandemic on the Mental Health of Transgender and Gender Nonbinary Individuals Engaged in a Longitudinal Cohort Study. *Journal of Homosexuality*, 68(4), 592–611. <https://doi.org/10.1080/00918369.2020.1868185>
- Kirzinger, A., Kearney, A., Hamel, L., & Brodie, M. (2020). KFF health tracking poll—Early April 2020: The impact of coronavirus on life in America. Kaiser Family Foundation. Kluge, H. H. P. (2020, March 26). Statement—Physical and mental health key to resilience during COVID-19 pandemic. Retrieved from <http://www.euro.who.int/en/media-centre/sections/statements/2020/statement-physical-and-mental-health-key-to-resilience-during-covid-19-pandemic>
- Kobayashi, L. C., O'Shea, B. Q., Kler, J. S., Nishimura, R., Palavicino-Maggio, C. B., Eastman, M. R., Vinson, Y. R., & Finlay, J. M. (2021). Cohort profile: the COVID-19 Coping Study, a longitudinal mixed-methods study of middle-aged and older adults' mental health and well-being during the COVID-19 pandemic in the USA. *BMJ Open*, 11(2), e044965. <https://doi.org/10.1136/bmjopen-2020-044965>
- Kopelovich, S. L., Monroe-DeVita, M., Buck, B. E., Brenner, C., Moser, L., Jarskog, L. F., Harker, S., & Chwastiak, L. A. (2021). Community Mental Health Care Delivery During the COVID-19 Pandemic: Practical Strategies for Improving Care for People with Serious Mental Illness. *Community Mental Health Journal*, 57(3), 405–415. <https://doi.org/10.1007/s10597-020-00662-z>
- Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., Wu, J., Du, H., Chen, T., Li, R., Tan, H., Kang, L., Yao, L., Huang, M., Wang, H., Wang, G., Liu, Z., & Hu, S. (2020). Factors Associated with Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. *JAMA Network Open*, 3(3), e203976. <https://doi.org/10.1001/jamanetworkopen.2020.3976>
- Lebano A, Hamed S, Bradby H, et al. Migrants' and refugees' health status and healthcare in Europe: a scoping literature review. *BMC Public Health*. 2020;20(1):1039. doi:10.1186/s12889-020-08749-8
- Lestari, R., & Setyawan, F. (2021). Mental health policy: protecting community mental health during the COVID-19 pandemic. *Journal of Public Health Research*, 10(2), 2231. <https://doi.org/10.4081/jphr.2021.2231>
- Liang, L., Ren, H., Cao, R., Hu, Y., Qin, Z., Li, C., & Mei, S. (2020). The Effect of COVID-19 on Youth Mental Health. *The Psychiatric Quarterly*, 91(3), 841–852. <https://doi.org/10.1007/s11126-020-09744-3>
- Liebkind, K., & Jasinskaja-Lahti, I. (2000). The influence of experiences of discrimination on psychological stress: A comparison of seven immigrant groups. *Journal of Community & Applied Social Psychology*, 10(1), 1–16. [https://doi.org/10.1002/\(SICI\)1099-1298\(200001/02\)10:1<1::AID-CASP521>3.0.CO;2-5](https://doi.org/10.1002/(SICI)1099-1298(200001/02)10:1<1::AID-CASP521>3.0.CO;2-5)
- Liu, C. H., Erdei, C., & Mittal, L. (2021). Risk factors for depression, anxiety, and PTSD symptoms in perinatal women during the COVID-19 Pandemic. *Psychiatry Research*, 295, 113552. <https://doi.org/10.1016/j.psychres.2020.113552>
- Liu, C. H., Erdei, C., & Mittal, L. (2021). Risk factors for depression, anxiety, and PTSD symptoms in perinatal women during the COVID-19 Pandemic. *Psychiatry Research*, 295, 113552. <https://doi.org/10.1016/j.psychres.2020.113552>
- Liu, C. H., Stevens, C., Conrad, R. C., & Hahm, H. C. (2020). Evidence for elevated psychiatric distress, poor sleep, and quality of life concerns during the COVID-19 pandemic among U.S. young adults with suspected and reported psychiatric diagnoses. *Psychiatry Research*, 292, 113345. <https://doi.org/10.1016/j.psychres.2020.113345>
- Liu, C. H., Stevens, C., Wong, S., Yasui, M., & Chen, J. A. (2019). The prevalence and predictors of mental health diagnoses and suicide among U.S. college students: Implications for addressing disparities in service use. *Depression and Anxiety*, 36(1), 8–17. <https://doi.org/10.1002/da.22830>
- Liu, C. H., Zhang, E., Wong, G., Hyun, S., & Hahm, H. C. (2020). Factors associated with depression, anxiety, and PTSD symptomatology during the COVID-19 pandemic: Clinical implications for U.S. young adult mental health. *Psychiatry*

- Research, 290, 113172.  
<https://doi.org/10.1016/j.psychres.2020.113172>
- Liu, N., Zhang, F., Wei, C., Jia, Y., Shang, Z., Sun, L., Wu, L., Sun, Z., Zhou, Y., Wang, Y., & Liu, W. (2020). Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: Gender differences matter. *Psychiatry Research*, 287, 112921.  
<https://doi.org/10.1016/j.psychres.2020.112921>
- Liu, S., Yang, L., Zhang, C., Xiang, Y. T., Liu, Z., Hu, S., & Zhang, B. (2020). Online mental health services in China during the COVID-19 outbreak. *The Lancet Psychiatry*, 7(4), e17-e18.  
[https://doi.org/10.1016/S2215-0366\(20\)30077-8](https://doi.org/10.1016/S2215-0366(20)30077-8)
- Loades, M. E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., Linney, C., McManus, M. N., Borwick, C., & Crawley, E. (2020). Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19. *Journal of the American Academy of Child and Adolescent Psychiatry*, 59(11), 1218-1239.e3. <https://doi.org/10.1016/j.jaac.2020.05.009>
- Malkawi, S. H., Almhawi, K., Jaber, A. F., & Alqatarneh, N. S. (2021). COVID-19 Quarantine-Related Mental Health Symptoms and their Correlates among Mothers: A Cross Sectional Study. *Maternal and Child Health Journal*, 25(5), 695-705.  
<https://doi.org/10.1007/s10995-020-03034-x>
- McIntyre, R. S., & Lee, Y. (2020). Projected increases in suicide in Canada as a consequence of COVID-19. *Psychiatry Research*, 290, 113104. <https://doi.org/10.1016/j.psychres.2020.113104>
- McKay, D., Heisler, M., Mishori, R., Catton, H., & Kloiber, O. (2020). Attacks against health-care personnel must stop, especially as the world fights COVID-19. *The Lancet (London, England)*, 395(10239), 1743-1745.  
[https://doi.org/10.1016/S0140-6736\(20\)31191-0](https://doi.org/10.1016/S0140-6736(20)31191-0)
- McKnight-Eily, L. R., Okoro, C. A., Strine, T. W., Verlenden, J., Hollis, N. D., Njai, R., Mitchell, E. W., Board, A., Puddy, R., & Thomas, C. (2021). Racial and Ethnic Disparities in the Prevalence of Stress and Worry, Mental Health Conditions, and Increased Substance Use Among Adults During the COVID-19 Pandemic - United States, April and May 2020. *MMWR. Morbidity and Mortality Weekly Report*, 70(5), 162-166.  
<https://doi.org/10.15585/mmwr.mm7005a3>
- Mendes-Santos, C., Andersson, G., Weiderpass, E., & Santana, R. (2020). Mitigating COVID-19 Impact on the Portuguese Population Mental Health: The Opportunity That Lies in Digital Mental Health. *Frontiers in Public Health*, 8, 553345.  
<https://doi.org/10.3389/fpubh.2020.553345>
- Meng, H., Xu, Y., Dai, J., Zhang, Y., Liu, B., & Yang, H. (2020). Analyze the psychological impact of COVID-19 among the elderly population in China and make corresponding suggestions. *Psychiatry research*, 289, 112983.  
<https://doi.org/10.1016/j.psychres.2020.112983>
- Merry, S. N., Cargo, T., Christie, G., Donkin, L., Hetrick, S., Fleming, T., Holt-Quick, C., Hopkins, S., Stasiak, K., & Warren, J. (2020). Debate: Supporting the mental health of school students in the COVID-19 pandemic in New Zealand - a digital ecosystem approach. *Child and Adolescent Mental Health*, 25(4), 267-269. <https://doi.org/10.1111/camh.12429>
- Ministry of Education of the People's Republic of China. (2020). In response to the epidemic, the Psychology Department of Beijing Normal University has opened a psychological support hotline and online counselling service (in Chinese).  
 Ministry of Education, The People's Republic of China. (2020). Mental health service platform provides around-the-clock psychological support during COVID-19 outbreak.
- Miotto, K., Sanford, J., Brymer, M. J., Bursch, B., & Pynoos, R. S. (2020). Implementing an emotional support and mental health response plan for healthcare workers during the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice and Policy*, 12(S1), S165-S167.  
<https://doi.org/10.1037/tra0000918>
- Misra, S., Le, P. D., Goldmann, E., & Yang, L. H. (2020). Psychological impact of anti-Asian stigma due to the COVID-19 pandemic: A call for research, practice, and policy responses. *Psychological Trauma: Theory, Research, Practice and Policy*, 12(5), 461-464. <https://doi.org/10.1037/tra0000821>
- Moreno, C., Wykes, T., Galderisi, S., Nordentoft, M., Crossley, N., Jones, N., Cannon, M., Correll, C. U., Byrne, L., Carr, S., Chen, E., Gorwood, P., Johnson, S., Kärkkäinen, H., Krystal, J. H., Lee, J., Lieberman, J., López-Jaramillo, C., Männikkö, M., Phillips, M. R., ... Arango, C. (2020). How mental health care should change as a consequence of the COVID-19 pandemic. *The Lancet Psychiatry*, 7(9), 813-824. [https://doi.org/10.1016/S2215-0366\(20\)30307-2](https://doi.org/10.1016/S2215-0366(20)30307-2)
- Morrey, L. B., Roberts, W. O., & Wichser, L. (2020). Exercise-related Mental Health Problems and Solutions during the COVID-19 Pandemic. *Current Sports Medicine Reports*, 19(6), 194-195. <https://doi.org/10.1249/JSR.0000000000000725>
- Naeem, F., Husain, M. O., Husain, M. I., & Javed, A. (2020). Digital psychiatry in low- and middle-income countries post-COVID-19: Opportunities, challenges, and solutions. *Indian Journal of Psychiatry*, 62(Suppl 3), S380-S382.  
[https://doi.org/10.4103/psychiatry.IndianJPsychiatry\\_843\\_20](https://doi.org/10.4103/psychiatry.IndianJPsychiatry_843_20)
- NatCen Social Research (2021), Society Watch 2021: Mental health report, NatCen Social Research,  
<https://www.natcen.ac.uk/media/2050456/Society-Watch-2021-Mental-Health-Should-We-Be-Worried.pdf>
- National Health Service. (2020). NHS launches mental health hotline for staff tackling COVID-19 Retrieved from  
<https://www.england.nhs.uk/2020/04/nhs-launches-mental-health-hotline-for-staff-tackling-covid-19/>
- Nemecek, R., Huber, P., Schur, S., Masel, E. K., Baumann, L., Hoeller, C., Watzke, H., & Binder, M. (2019). Telemedically augmented palliative care: Empowerment for patients with advanced cancer and their family caregivers. *Wiener Klinische Wochenschrift*, 131(23-24), 620-626.  
<https://doi.org/10.1007/s00508-019-01562-3>
- Nguyen, A. L., Brown, B., Tantawi, M. E., Ndembi, N., Okeibunor, J., Mohammed, A., & Folayan, M. O. (2021). Time to Scale-up Research Collaborations to Address the Global Impact of COVID-19 - A Commentary. *Health Behavior and Policy Review*, 8(3), 277-280. <https://doi.org/10.14485/hbpr.8.3.9>
- Niederkrötenhaler, T., Gunnell, D., Arensman, E., Pirkis, J., Appleby, L., Hawton, K., John, A., Kapur, N., Khan, M., O'Connor, R. C., Platt, S., & International COVID-19 Suicide Prevention Research Collaboration (2020). Suicide Research, Prevention, and COVID-19. *Crisis*, 41(5), 321-330.  
<https://doi.org/10.1027/0227-5910/a000731>
- Niedzwiedz, C. L., Green, M. J., Benzeval, M., Campbell, D., Craig, P., Demou, E., Leyland, A., Pearce, A., Thomson, R., Whitley, E., & Katikireddi, S. V. (2021). Mental health and health behaviours

- before and during the initial phase of the COVID-19 lockdown: longitudinal analyses of the UK Household Longitudinal Study. *Journal of Epidemiology and Community Health*, 75(3), 224–231. <https://doi.org/10.1136/jech-2020-215060>
- OECD Policy Responses to Coronavirus (COVID-19). Tackling the mental health impact of the COVID-19 crisis: An integrated, whole-of-society response. (2021). OECD. Retrieved from <https://www.oecd.org/coronavirus/policy-responses/tackling-the-mental-health-impact-of-the-covid-19-crisis-an-integrated-whole-of-society-response-0caca0b/#figure-d1e205>.
- Orcutt, M., Patel, P., Burns, R., Hiam, L., Aldridge, R., Devakumar, D., Kumar, B., Spiegel, P., & Abubakar, I. (2020). Global call to action for inclusion of migrants and refugees in the COVID-19 response. *The Lancet* (London, England), 395(10235), 1482–1483. [https://doi.org/10.1016/S0140-6736\(20\)30971-5](https://doi.org/10.1016/S0140-6736(20)30971-5)
- Orgilés, M., Morales, A., Delvecchio, E., Mazzeschi, C., & Espada, J. P. (2020). Immediate Psychological Effects of the COVID-19 Quarantine in Youth from Italy and Spain. *Frontiers in Psychology*, 11, 579038. <https://doi.org/10.3389/fpsyg.2020.579038>
- Pappa, S., Ntella, V., Giannakas, T., Giannakoulis, V. G., Papoutsis, E., & Katsaounou, P. (2020). Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. *Brain, Behavior, and Immunity*, 88, 901–907. <https://doi.org/10.1016/j.bbi.2020.05.026>
- Perzow, S., Hennessey, E. P., Hoffman, M. C., Grote, N. K., Davis, E. P., & Hankin, B. L. (2021). Mental health of pregnant and postpartum women in response to the COVID-19 pandemic. *Journal of Affective Disorders Reports*, 4, 100123. <https://doi.org/10.1016/j.jadr.2021.100123>
- Pfefferbaum, B., & North, C. S. (2020). Mental Health and the Covid-19 Pandemic. *The New England Journal of Medicine*, 383(6), 510–512. <https://doi.org/10.1056/NEJMp2008017>
- Pieh, C., Budimir, S., & Probst, T. (2020). The effect of age, gender, income, work, and physical activity on mental health during coronavirus disease (COVID-19) lockdown in Austria. *Journal of Psychosomatic Research*, 136, 110186. <https://doi.org/10.1016/j.jpsychores.2020.110186>
- Ping, N., Shoesmith, W. D., James, S., Nor Hadi, N. M., Yau, E., & Lin, L. J. (2020). Ultra Brief Psychological Interventions for COVID-19 Pandemic: Introduction of a Locally-Adapted Brief Intervention for Mental Health and Psychosocial Support Service. *The Malaysian Journal of Medical Sciences: MJMS*, 27(2), 51–56. <https://doi.org/10.21315/mjms2020.27.2.6>
- Power, E., Hughes, S., Cotter, D., & Cannon, M. (2020). Youth mental health in the time of COVID-19. *Irish Journal of Psychological Medicine*, 37(4), 301–305. <https://doi.org/10.1017/ipm.2020.84>
- Priede, A., López-Álvarez, I., Carracedo-Sanchidrián, D., & González-Blanch, C. (2021). Mental health interventions for healthcare workers during the first wave of COVID-19 pandemic in Spain. *Revista de Psiquiatria y Salud Mental*, 14(2), 83–89. <https://doi.org/10.1016/j.rpsm.2021.01.005>
- Priya S. Singapore government launches COVID-19 chatbot. <https://www.opengovasia.com/singapore-government-launches-covid-19-chatbot/>
- Proto E, Quintana-Domeque C (2021) COVID-19 and mental health deterioration by ethnicity and gender in the UK. *PLoS ONE* 16(1): e0244419. <https://doi.org/10.1371/journal.pone.0244419>
- Psychological Society of South Africa. (2020, June 2). Online press launch of the healthcare workers care network. <https://www.psyssa.com/online-press-launch-of-the-healthcare-workers-care-network/>
- Psychological Society of South Africa. (2020a, August 6). Call to action! Initiative to support South African schools. <https://www.psyssa.com/call-to-action-initiative-to-support-south-african-schools/>
- Psychological Society of South Africa. (2020b, August 19). Call to action! Initiative to support South African victims of violence. <https://www.psyssa.com/call-to-action-initiative-to-support-south-african-victims-of-violence/>
- Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B., & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *General Psychiatry*, 33(2), e100213. <https://doi.org/10.1136/gpsych-2020-100213>
- Rahman, M., Ahmed, R., Moitra, M., Damschroder, L., Brownson, R., Chorpita, B., Idele, P., Gohar, F., Huang, K. Y., Saxena, S., Lai, J., Peterson, S. S., Harper, G., McKay, M., Amugune, B., Esho, T., Ronen, K., Othieno, C., & Kumar, M. (2021). Mental Distress and Human Rights Violations During COVID-19: A Rapid Review of the Evidence Informing Rights, Mental Health Needs, and Public Policy Around Vulnerable Populations. *Frontiers in Psychiatry*, 11, 603875. <https://doi.org/10.3389/fpsyg.2020.603875>
- Rajkumar R. P. (2020). COVID-19 and mental health: A review of the existing literature. *Asian Journal of Psychiatry*, 52, 102066. <https://doi.org/10.1016/j.ajp.2020.102066>
- Rastegar Kazerooni, A., Amini, M., Tabari, P., & Moosavi, M. (2020). Peer mentoring for medical students during the COVID-19 pandemic via a social media platform. *Medical Education*, 54(8), 762–763. <https://doi.org/10.1111/medu.14206>
- Reid, Graeme. 2020. LGBTQ Inequality and Vulnerability in the Pandemic. *Foreign Policy in Focus*, June 17. <https://fpif.org/lgbtq-inequality-and-vulnerability-in-the-pandemic/>
- Reynolds, K., Pietrzak, R. H., El-Gabalawy, R., Mackenzie, C. S., & Sareen, J. (2015). Prevalence of psychiatric disorders in U.S. older adults: findings from a nationally representative survey. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)*, 14(1), 74–81. <https://doi.org/10.1002/wps.20193>
- Ripp, J., Peccoralo, L., & Charney, D. (2020). Attending to the Emotional Well-Being of the Health Care Workforce in a New York City Health System During the COVID-19 Pandemic. *Academic Medicine: Journal of the Association of American Medical Colleges*, 95(8), 1136–1139. <https://doi.org/10.1097/ACM.0000000000003414>
- Rosenbaum, E. (2020) Robotic Medicine May Be the Weapon the World Needs to Combat the Coronavirus. <https://www.cnbc.com/2020/02/26/robotic-medicine-may-be-the-weapon-needed-to-combat-the-coronavirus.html/>
- Sahebi, A., Nejati-Zarnaqi, B., Moayedi, S., Yousefi, K., Torres, M., & Golitaleb, M. (2021). The prevalence of anxiety and depression among healthcare workers during the COVID-19 pandemic: An umbrella review of meta-analyses. *Progress in Neuro-psychopharmacology & Biological Psychiatry*, 107, 110247. <https://doi.org/10.1016/j.pnpb.2021.110247>
- Santini, Z. I., Jose, P. E., York Cornwell, E., Koyanagi, A., Nielsen, L., Hinrichsen, C., Meilstrup, C., Madsen, K. R., & Koushede, V. (2020). Social disconnectedness, perceived isolation, and

- symptoms of depression and anxiety among older Americans (NSHAP): a longitudinal mediation analysis. *The Lancet Public Health*, 5(1), e62–e70. [https://doi.org/10.1016/S2468-2667\(19\)30230-0](https://doi.org/10.1016/S2468-2667(19)30230-0)
- Saunders, R., Buckman, J., Fonagy, P., & Fancourt, D. (2021). Understanding different trajectories of mental health across the general population during the COVID-19 pandemic. *Psychological Medicine*, 1–9. Advance online publication. <https://doi.org/10.1017/S0033291721000957>
- Sevinc, M., Hasbal, N. B., Sakaci, T., Basturk, T., Ahbap, E., Ortoboz, M., Mazi, E. E., Pirdogan, E., Ling, J., & Unsal, A. (2021). Frequency of depressive symptoms in Syrian refugees and Turkish maintenance hemodialysis patients during COVID-19 pandemic. *PLoS ONE*, 16(1), e0244347. <https://doi.org/10.1371/journal.pone.0244347>
- Shi, S., Qin, M., Shen, B., Cai, Y., Liu, T., Yang, F., Gong, W., Liu, X., Liang, J., Zhao, Q., Huang, H., Yang, B., & Huang, C. (2020). Association of Cardiac Injury with Mortality in Hospitalized Patients With COVID-19 in Wuhan, China. *JAMA Cardiology*, 5(7), 802–810. <https://doi.org/10.1001/jamacardio.2020.0950>
- Singh, S., Roy, D., Sinha, K., Parveen, S., Sharma, G., & Joshi, G. (2020). Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Research*, 293, 113429. <https://doi.org/10.1016/j.psychres.2020.113429>
- Smith, A. C., Thomas, E., Snoswell, C. L., Haydon, H., Mehrotra, A., Clemensen, J., & Caffery, L. J. (2020). Telehealth for global emergencies: Implications for coronavirus disease 2019 (COVID-19). *Journal of Telemedicine and Telecare*, 26(5), 309–313. <https://doi.org/10.1177/1357633X20916567>
- Smith, Chief Medical Officer, T. (2020). Office of mental health memorandum. [Memorandum]. Retrieved from New York State Office of Mental Health <https://omh.ny.gov/omhweb/guidance>
- Smith, T. E., Sullivan, A. T., & Druss, B. G. (2021). Redesigning Public Mental Health Systems Post-COVID-19. *Psychiatric Services (Washington, D.C.)*, 72(5), 602–605. <https://doi.org/10.1176/appi.ps.202000400>
- Sodi, T., Modipane, M., Oppong Asante, K., Quarshie, E. N.-B., Asatsa, S., Mutambara, J., & Khombo, S. (2021). Mental health policy and system preparedness to respond to COVID-19 and other health emergencies: a case study of four African countries. *South African Journal of Psychology*, 51(2), 279–292. <https://doi.org/10.1177/00812463211012177>
- Soga, M., Evans, M. J., Tsuchiya, K., & Fukano, Y. (2021). A room with a green view: the importance of nearby nature for mental health during the COVID-19 pandemic. *Ecological Applications*, 31(2), 1–10. <https://doi.org/10.1002/eap.2248>
- Stangl, A. L., Earnshaw, V. A., Logie, C. H., van Brakel, W., C Simbayi, L., Barré, I., & Dovidio, J. F. (2019). The Health Stigma and Discrimination Framework: a global, crosscutting framework to inform research, intervention development, and policy on health-related stigmas. *BMC Medicine*, 17(1), 31. <https://doi.org/10.1186/s12916-019-1271-3>
- Substance Abuse and Mental Health Services Administration. (2020). Executive Order (EO) 13594, Saving Lives Through Increased Support for Mental and Behavioral Health Needs. Retrieved from <https://www.samhsa.gov/sites/default/files/saving-lives-mental-behavioral-health-needs.pdf>
- Suen, Y. T., Chan, R. C. H., & Wong, E. M. Y. (2020). Effects of general and sexual minority-specific COVID-19-related stressors on the mental health of lesbian, gay, and bisexual people in Hong Kong. *Psychiatry Research*, 292, N.PAG. <https://doi.org/10.1016/j.psychres.2020.113365>
- Taquet, M., Geddes, J. R., Husain, M., Luciano, S., & Harrison, P. J. (2021). 6-month neurological and psychiatric outcomes in 236 379 survivors of COVID-19: a retrospective cohort study using electronic health records. *The Lancet Psychiatry*, 8(5), 416–427. [https://doi.org/10.1016/S2215-0366\(21\)00084-5](https://doi.org/10.1016/S2215-0366(21)00084-5)
- Taylor, S., Landry, C. A., Rachor, G. S., Paluszek, M. M., & Asmundson, G. (2020). Fear and avoidance of healthcare workers: An important, under-recognized form of stigmatization during the COVID-19 pandemic. *Journal of Anxiety Disorders*, 75, 102289. <https://doi.org/10.1016/j.janxdis.2020.102289>
- Thompkins, F., Goldblum, P., Lai, T., Hansell, T., Barclay, A., & Brown, L. M. (2020). A culturally specific mental health and spirituality approach for African Americans facing the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice and Policy*, 12(5), 455–456. <https://doi.org/10.1037/tra0000841>
- Toh, W. L., Meyer, D., Phillipou, A., Tan, E. J., Van Rheenen, T. E., Neill, E., & Rossell, S. L. (2021). Mental health status of health-care versus other essential workers in Australia amidst the COVID-19 pandemic: Initial results from the collate project. *Psychiatry Research*, 298, 113822. <https://doi.org/10.1016/j.psychres.2021.113822>
- Tohme, P., De Witte, N., Van Daele, T., & Abi-Habib, R. (2021). Telepsychotherapy During the COVID-19 Pandemic: The Experience of Lebanese Mental Health Professionals. *Journal of Contemporary Psychotherapy*, 1–7. Advance online publication. <https://doi.org/10.1007/s10879-021-09503-w>
- Torous, J., & Wykes, T. (2020). Opportunities From the Coronavirus Disease 2019 Pandemic for Transforming Psychiatric Care With Telehealth. *JAMA Psychiatry*, 77(12), 1205–1206. <https://doi.org/10.1001/jamapsychiatry.2020.1640>
- Torous, J., Jän Myrick, K., Rauseo-Ricupero, N., & Firth, J. (2020). Digital Mental Health and COVID-19: Using Technology Today to Accelerate the Curve on Access and Quality Tomorrow. *JMIR Mental Health*, 7(3), e18848. <https://doi.org/10.2196/18848>
- Tsai, J., Gelberg, L., & Rosenheck, R. A. (2019). Changes in Physical Health After Supported Housing: Results from the Collaborative Initiative to End Chronic Homelessness. *Journal of General Internal Medicine*, 34(9), 1703–1708. <https://doi.org/10.1007/s11606-019-05070-y>
- Tsamakis, K., Tsiptsios, D., Ouranidis, A., Mueller, C., Schizas, D., Terniotis, C., Nikolakakis, N., Tyros, G., Kypourouopoulos, S., Lazaris, A., Spandidos, D. A., Smyrnis, N., & Rizos, E. (2021). COVID-19 and its consequences on mental health (Review). *Experimental and Therapeutic Medicine*, 21(3), 244. <https://doi.org/10.3892/etm.2021.9675>
- Tull, M. T., Edmonds, K. A., Scamaldo, K. M., Richmond, J. R., Rose, J. P., & Gratz, K. L. (2020). Psychological Outcomes Associated with Stay-at-Home Orders and the Perceived Impact of COVID-19 on Daily Life. *Psychiatry Research*, 289, 113098. <https://doi.org/10.1016/j.psychres.2020.113098>
- Tymoszuk, U., Perkins, R., Fancourt, D., & Williamon, A. (2020). Cross-sectional and longitudinal associations between receptive arts engagement and loneliness among older adults.



- Social Psychiatry and Psychiatric Epidemiology, 55(7), 891-900. <https://doi.org/10.1007/s00127-019-01764-0>
- UNDESA (2020). The World Social Report 2020. Retrieved from <https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/01/World-Social-Report-2020-FullReport.pdf>
- UNHCR Regional Bureau for MENA. Mental Health and Psychosocial Response during COVID-19 Outbreak. (2020). Retrieved from: <https://data2.unhcr.org/en/documents/download/77112>
- United Nations. 2020. Policy Brief: COVID-19 and the Need for Action on Mental Health. United Nations. [https://www.un.org/sites/un2.un.org/files/un\\_policy\\_brief-covid\\_and\\_mental\\_health\\_final.pdf](https://www.un.org/sites/un2.un.org/files/un_policy_brief-covid_and_mental_health_final.pdf).
- van Agteren, J., Bartholomaeus, J., Fassnacht, D. B., Iasiello, M., Ali, K., Lo, L., & Kyrios, M. (2020). Using Internet-Based Psychological Measurement to Capture the Deteriorating Community Mental Health Profile During COVID-19: Observational Study. *JMIR Mental Health*, 7(6), e20696. <https://doi.org/10.2196/20696>
- van Houwelingen, C. T., Ettema, R. G., Antonietti, M. G., & Kort, H. S. (2018). Understanding Older People's Readiness for Receiving Telehealth: Mixed-Method Study. *Journal of medical Internet research*, 20(4), e123. <https://doi.org/10.2196/jmir.8407>
- Wang, Y., Duan, Z., Ma, Z., Mao, Y., Li, X., Wilson, A., Qin, H., Ou, J., Peng, K., Zhou, F., Li, C., Liu, Z., & Chen, R. (2020). Epidemiology of mental health problems among patients with cancer during COVID-19 pandemic. *Translational Psychiatry*, 10(1), 263. <https://doi.org/10.1038/s41398-020-00950-y>
- Ward-Miller, S., Farley, E. M., Espinosa, L., Brous, M. E., Giorgi-Cipriano, J., & Ferguson, J. (2021). Psychiatric mental health nursing in the international year of the nurse and COVID-19: One hospital's perspective on resilience and innovation - Past, present and future. *Archives of Psychiatric Nursing*, 35(3), 303-310. <https://doi.org/10.1016/j.apnu.2020.11.002>
- Wildeman, C., & Andersen, L. H. (2020). Solitary confinement placement and post-release mortality risk among formerly incarcerated individuals: a population-based study. *The Lancet Public health*, 5(2), e107-e113. [https://doi.org/10.1016/S2468-2667\(19\)30271-3](https://doi.org/10.1016/S2468-2667(19)30271-3)
- Wong, A. H., Pacella-LaBarbara, M. L., Ray, J. M., Ranney, M. L., & Chang, B. P. (2020). Healing the Healer: Protecting Emergency Health Care Workers' Mental Health During COVID-19. *Annals of Emergency Medicine*, 76(4), 379-384. <https://doi.org/10.1016/j.annemergmed.2020.04.041>
- World Health Organization. (2019). WHO releases first guideline on digital health interventions, April 17, 2019. Retrieved from <https://www.who.int/news/item/17-04-2019-who-releases-first-guideline-on-digital-health-interventions#:~:text=On%206%20March%202019%2C%20Dr.prioritizing%2C%20integrating%20and%20regulating%20them.>
- World Health Organization. (2020). COVID-19 disrupting mental health services in most countries, WHO survey. Retrieved from <https://www.who.int/news/item/05-10-2020-covid-19-disrupting-mental-health-services-in-most-countries-who-survey>.
- World Health Organization. (2020). Mental health and psychosocial considerations during the COVID-19 outbreak. Geneva: WHO.
- World Health Organization. (2020a). Infection Prevention and Control for the safe management of a dead body in the context of COVID-19: Interim guidance [fact sheet]. Retrieved from, <https://apps.who.int/iris/handle/10665/331538>
- World Health Organization. (2020). The impact of COVID-19 on mental, neurological and substance use services: results of a rapid assessment, World Health Organization, Geneva. Retrieved from <https://www.who.int/publications/i/item/978924012455>.
- Wu, P. E., Styra, R., & Gold, W. L. (2020). Mitigating the psychological effects of COVID-19 on health care workers. *CMAJ: Canadian Medical Association journal = Journal de l'Association Medicale Canadienne*, 192(17), E459-E460. <https://doi.org/10.1503/cmaj.200519>
- Wu, T., Jia, X., Shi, H., Niu, J., Yin, X., Xie, J., & Wang, X. (2021). Prevalence of mental health problems during the COVID-19 pandemic: A systematic review and meta-analysis. *Journal of Affective Disorders*, 281, 91-98. <https://doi.org/10.1016/j.jad.2020.11.117>
- Xiang, Y. T., Jin, Y., & Cheung, T. (2020). Joint International Collaboration to Combat Mental Health Challenges During the Coronavirus Disease 2019 Pandemic. *JAMA Psychiatry*, 77(10), 989-990. <https://doi.org/10.1001/jamapsychiatry.2020.1057>
- Xiong, J., Lipsitz, O., Nasri, F., Lui, L., Gill, H., Phan, L., Chen-Li, D., Lacobucci, M., Ho, R., Majeed, A., & McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of Affective Disorders*, 277, 55-64. <https://doi.org/10.1016/j.jad.2020.08.001>
- Xue, B., & McMunn, A. (2021). Gender differences in unpaid care work and psychological distress in the UK Covid-19 lockdown. *PloS ONE*, 16(3), e0247959. <https://doi.org/10.1371/journal.pone.0247959>
- Yancy C. W. (2020). COVID-19 and African Americans. *JAMA*, 323(19), 1891-1892. <https://doi.org/10.1001/jama.2020.6548>
- Yao, H., Chen, J. H., Zhao, M., Qiu, J. Y., Koenen, K. C., Stewart, R., Mellor, D., & Xu, Y. F. (2020). Mitigating mental health consequences during the COVID-19 outbreak: Lessons from China. *Psychiatry and Clinical Neurosciences*, 74(7), 407-408. <https://doi.org/10.1111/pcn.13018>
- Yeasmin, S., Banik, R., Hossain, S., Hossain, M. N., Mahumud, R., Salma, N., & Hossain, M. M. (2020). Impact of COVID-19 pandemic on the mental health of children in Bangladesh: A cross-sectional study. *Children and Youth Services Review*, 117. <https://doi.org/10.1016/j.childyouth.2020.105277>
- Zhang, M., Gurung, A., Anglewicz, P., Baniya, K., & Yun, K. (2021). Discrimination and Stress Among Asian Refugee Populations During the COVID-19 Pandemic: Evidence from Bhutanese and Burmese Refugees in the USA. *Journal of Racial and Ethnic Health Disparities*, 1-9. Advance online publication. <https://doi.org/10.1007/s40615-021-00992-y>
- Zhang, W. R., Wang, K., Yin, L., Zhao, W. F., Xue, Q., Peng, M., Min, B. Q., Tian, Q., Leng, H. X., Du, J. L., Chang, H., Yang, Y., Li, W., Shangguan, F. F., Yan, T. Y., Dong, H. Q., Han, Y., Wang, Y. P., Cosci, F., & Wang, H. X. (2020). Mental Health and Psychosocial Problems of Medical Health Workers during the COVID-19 Epidemic in China. *Psychotherapy and Psychosomatics*, 89(4), 242-250. <https://doi.org/10.1159/000507639>

**Endnotes**

- 1 (Braveman & Gottlieb, 2014)
- 2 (OECD, 2021; Galea, Merchant & Lurie, 2020; Rajkumar, 2020)
- 3 (WHO, 2020; Kirzinger, Kearney, Hamel, & Brodie, 2020; Goularte et al., 2021; Asmundson & Taylor, 2020)
- 4 (Ettman et al. 2020)
- 5 (OECD, 2021; Fancourt, Steptoe & Bu, 2020; NatCen Social Research, 2021; McIntyre & Lee, 2020; Kousoulis et al., 2020; Devkota et al., 2021)
- 6 (KavDiD, Avsec & Zager, 2021; Liang, Ren, Cao et al., 2020)
- 7 (Niedzwiedz et al., 2021; Saunders, Buckman, Fonagy & Fancourt, 2021)
- 8 (Saunders, Buckman, Fonagy & Fancourt, 2021)
- 9 (Druss, 2020; Saunders, Buckman, Fonagy & Fancourt, 2021; Caman & Karabey, 2020)
- 10 (UNDESA, 2020)
- 11 (OECD, 2021; Gauthier, Smith, Garcia, Garcia & Thomas, 2021)
- 12 (WHO, 2020)
- 13 (United Nations, 2020; Brooks, Webster & Smith et al., 2020; Stangl, Earnshaw, Logie, Brakel, Simbayi, Barré & Dovidio 2019)
- 14 (OECD, 2021)
- 15 (Karadag Caman & Karabey, 2020)
- 16 (OECD, 2021)
- 17 (Cénat, Blais-Rochette, Kokou-Kpolou, Noorishad, Mukunzi, McIntee, Dalexis, Goulet & Labelle 2021).
- 18 (Czeisler, Howard & Rajaratnam, 2021; Gloster, Lamnisos & Lubenko et al., 2020; Tsamakidis et al., 2021; Bambra, Riordan, Ford & Matthews, 2020)
- 19 (Jenkins, McAuliffe & Hirani et al., 2021; Xiong, Lipsitz & Nasri et al., 2020; Islam, Bodrud-Doza, Khan, Haque & Mamun, 2020).
- 20 (Loades et al., 2020; Orgilés, Morales, Delvecchio, Mazzeschi & Espada, 2020; Cao et al., 2020; Power, Hughes, Cotter & Cannon, 2020)
- 21 (Duan et al., 2020; Yeasmin et al., 2020)
- 22 (Liu, Stevens, Wong, Yasui & Chen, 2019)
- 23 (Liu Zang & Wong et al., 2020)
- 24 (Tull et al., 2020; Okruszek, Aniszewska-StańczukPiejka, Wiśniewska & Ćurek, 2020; Gao, Zheng & Jia et al., 2020)
- 25 (Reynolds, Pietrzak, & El-Gabalawy et al., 2015; Gerst-Emerson & Jayawardhana, 2015)
- 26 (Kobayashi, O'Shea & Kler et al., 2021; Santini, Jose, Cornwell et al., 2020; Tymoszuk, Perkins, Fancourt & Williamon, 2020)
- 27 (Liu et al., 2020; KavDiD, Avsec, & Zager, 2021; Liu, Zhang & Wei et al., 2020)
- 28 (Khatatbeh, Khasawneh & Hussein et al., 2021; Pieh, Budimir & Probst, 2020; Malkawi, Almhawi & Jaber et al., 2021; Xue & McMunn, 2021)
- 29 (Adams-Prassl et al., 2020)
- 30 (Czeisler, Lane, & Petrosky et al., 2020)
- 31 (Hermann, Fitelson, & Bergink, 2021; Perzow, Hennessey & Hoffman et al., 2021)
- 32 (Liu, Erdei & Mittal, 2021)
- 33 (Reid, 2020; COVID-19 Survivor Impact Brief: LGBTQ+ Survivors, 2020; Kamal, Li, Hahm & Liu, 2021; Suen, Cha, & Wong, 2020; Kidd et al., 2021)
- 34 (Bray & Michael Johnathan Charles et al., 2021; Czeisler, Lane & Petrosky, et al., 2020; Qiu et al., 2020; Go, Mozaffarian & Roger et al., 2014; Czeisler, Howard & Rajaratnam, 2021)
- 35 (Proto & Quintana-Domeque, 2021)
- 36 (Go, Mozaffarian & Roger et al., 2014)
- 37 (Chung & Li, 2020)
- 38 (Chen, Zhang & Liu, 2020; Qiu et al., 2020; Misra, Le, Goldmann & Yang, 2020)
- 39 (Wynaden et al., 2005)
- 40 (McKnight-Eily et al., 2021)
- 41 (Campion, Javed & Sartorius et al., 2020; Druss, 2020)
- 42 (Ozamiz-Etxebarria, Dosil-Santamaria, Picaza-Gorrochategui & Idoiaga-Mondragon, 2020)
- 43 (Shi et al., 2020; Bonow, Fonarow, O'Gara, & Yancy, 2020; Grasselli et al., 2020; Wang et al., 2020).
- 44 (Daly & Robinson, 2021; Chatterjee, Barikar & Mukherjee, 2020; Gloster, Lamnisos & Lubenko et al., 2020)
- 45 (Liu, Stevens, Conrad & Hahm, 2020)
- 46 (Liu, Conrad & Hahm, 2020; Czeisler, Howard & Rajaratnam, 2021)
- 47 (Taquet, Geddes, Husain, Luciano & Harrison, 2021; Wu et al., 2021)
- 48 (Chen, Liang & Li et al., 2020; Pappa et al., 2020; Czeisler, Howard & Rajaratnam, 2021; Czeisler, Lane & Petrosky et al., 2020; Cabarkapa, Nadjidai, Murgier & Ng, 2020; Gupta & Sahoo, 2020; American Psychological Association, 2021; Toh et al., 2021)
- 49 (Pappa et al., 2020; Lai et al., 2020; Sahebi, Nejati-Zarnaqi, Moayedi, Yousefi Torres & Golitaleb, 2021)
- 50 (Orcutt, Patel & Burns et al., 2020)
- 51 (Lamkaddem et al., 2014; Lebano, Hamed & Bradby et al., 2020; El-Khatib, Al Nsour, Khader & Abu Khudair, 2020; Kazour et al., 2017; Dalexis & Cenat, 2020; UNHCR, 2020)
- 52 (Júnior et al., 2020; Garfin, Silver & Holman, 2020; Pfefferbaum & North, 2020; Galea, Merchant & Lurie, 2020; Druss, 2020; Rees & Fisher, 2020; Liebkind & Jasinskaja-Lahti, 2000)
- 53 (Júnior, de Sales & Moreira et al, 2020)
- 54 (Sevinc, Hasbal & Sakaci et al., 2021)
- 55 (Kabunga & Anyayo, 2021)
- 56 (Zhang, Gurung, Anglewicz, Baniya & Yun, 2021)

- 57 (ILO, 2020)
- 58 (Wildeman & Andersen, 2020)
- 59 (Stewart, Cossar & Stooové, 2020; Fouad, Barkil & Diab, 2021; UNHCR, 2020)
- 60 (Tsai & Wilson, 2020)
- 61 (Tsai, Gelberg, & Rosenheck, 2019)
- 62 (WHO, 2020; Moreno, Wykes & Galderisi et al., 2020)
- 63 (Goldin, Maltseva, Scaccianoce & Brenes, 2021)
- 64 (Torous & Wykes, 2020)
- 65 (Goldin, Maltseva, Scaccianoce & Brenes, 2021)
- 66 (Tohme, De Witte, Van Daele & Abi-Habib, 2021)
- 67 (WHO, 2019)
- 68 (Executive Order, 2020)
- 69 (SMI Advisor, 2020)
- 70 (Kopelovich et al., 2021)
- 71 (Department of Health and Human Services, 2020)
- 72 (Smith, 2020)
- 73 (National Health Service, 2020)
- 74 (Liu et al., 2020)
- 75 (Ayuso-Mateos, Mediavilla, Rodriguez & Bravo, 2021)
- 76 (Adepoju, 2020)
- 77 (Eaton et al., 2020)
- 78 (El Hayek et al., 2020)
- 79 (Donnelly & Farina, 2021)
- 80 (Lestari & Setyawan, 2021)
- 81 (Kluge, 2020)
- 82 (Smith et al., 2020)
- 83 (Priya, 2020)
- 84 (Tohme, De Witte, Van Daele & Abi-Habib, 2021)
- 85 (Goldin, Maltseva, Scaccianoce & Brenes, 2021)
- 86 (Smith, Sullivan & Druss, 2021)
- 87 (Halstead, 2020)
- 88 (Ripp, Peccoraro & Charney, 2020)
- 89 (Rosenbaum, 2020)
- 90 (Kopelovich et al., 2021)
- 91 (Ward-Miller et al., 2021)
- 92 (Du et al., 2020)
- 93 (Meng, Xu, Dai, Zhang, Liu & Yang, 2020)
- 94 (Gurvich et al., 2020)
- 95 (Ebrahimi, Hoffart & Johnson, 2021; Morrey, Roberts & Wichser, 2020)
- 96 (Soga, Evans, Tsuchiya & Fukano, 2021)
- 97 (Bhaskar et al., 2020)
- 98 (Zhang et al., 2020)
- 99 (Miotto, Sanford, Brymer, Bursch & Pynoos, 2020)
- 100 (Sodi et al., 2021)
- 101 (Blake, Bermingham, Johnson & Tabner, 2020)
- 102 (Wu, Styra & Gold, 2020)
- 103 (Rastegar Kazerooni, Amini, Tabari, & Moosavi, 2020)
- 104 (Thompkins et al., 2020)
- 105 (van Agteren et al., 2020)
- 106 (Mendes-Santos, Andersson, Weiderpass & Santana, 2020)
- 107 (van Houwelingen, Ettema, Antonietti, & Kort, 2018)
- 108 (Bhaskar et al., 2020)
- 109 (Nemecek et al., 2019)
- 110 (Thompkins et al., 2020)
- 111 (Wong, Pacella-LaBarbara, Ray, Ranney & Chang, 2020)
- 112 (Naeem, Husain, Husain & Javed, 2020)
- 113 (Merry et al., 2020)
- 114 (Psychological Society of South Africa, 2020a; Psychological Society of South Africa, 2020b)
- 115 (Torous, Jän Myrick, Rauseo-Ricupero, & Firth, 2020)
- 116 (Gruber et al., 2020)
- 117 (Liu et al., 2020)
- 118 (Dhonju, Kunwar, Karki, Devkota, Bista & Sah 2021)
- 119 (Hoffman et al., 2020)
- 120 (Sodi et al., 2021)
- 121 (Lestari & Setyawan, 2021)
- 122 (Goldman et al., 2020)
- 123 (Chatterjee, Barikar & Mukherjee, 2020)
- 124 (Fong & Larocci, 2020; Coppola, Rania, Parisi & Lagomarsino, 2021)
- 125 (Yao et al., 2020)
- 126 (Czeisler et al., 2020)
- 127 (Druss, 2020)
- 128 (Singh et al., 2020; Cost et al., 2021)
- 129 (Niederkröthenthaler et al., 2020)
- 130 (Priede, López-Álvarez, Carracedo-Sanchidrián & González-Blanch, 2021)
- 131 (Xiang, Jin & Cheung, 2020; Gavin, Hayden, Quigley, Adamis & McNicholas, 2021; Nguyen et al., 2021; Ghebreyesus, 2020)



## Chapter 6

# The Information Society and the Future of Digital Well-being

---

Thematic group: Digital Well-being

**Stefano Quintarelli**

Computer Security Professor and former chairman of the Advisory Group on Advanced Technologies at UN-CEFACT and former chairman of the Italian Digital Agency

**Gianluca Misuraca**

Founder and Vicepresident on Technology Diplomacy, Inspiring Futures

**Luca De Biase**

Knowledge Management Professor, University of Pisa

**Keegan McBride**

Postdoctoral Researcher,  
Hertie School Centre for Digital Governance, Berlin

## Introduction

As the COVID-19 pandemic has shown, crises can strike at any moment. The pandemic has led to a rapid reconfiguration of our world, societies, communities, economies, and our day-to-day lived experiences.

Turbulence is inevitable.

However, statistics appear to show that in many ways, society is becoming less turbulent than at any other point in history.<sup>1</sup> Though some aspects of turbulence are disappearing, there are also new risks emerging that have the potential to radically affect the trajectory of our society, such as climate change. Technology will certainly play a role in our efforts to combat such risks as the world is more networked and interconnected today than at any point in history. Thus, we must understand how these systems work, what effects they have on our society, and how they can be made more resilient.

*Society is completely dependent on technology and networks*

Today's digital systems have been built to drive efficiency, decrease costs, and increase profits, and do not emphasize effectiveness, sustainability, or well-being. Technology tracks what we do, what we watch, and how we live, and opens new possibilities for exploitation, privacy violations, and other detrimental consequences for our well-being and happiness.

A society where technologies dominate in this way are technological, informational, digital — they are part of a global network society. The main characteristic of such a network society is “the spread of networks linking people, institutions, and countries,”<sup>2</sup> and that these “networks do not stop at the border of the nation-state, the network society constituted itself as a global system, ushering in the new form of globalization characteristic of our time”. In this society, networks and information reign supreme, and cities grow in importance as central network nodes. Suburbs and smaller towns and cities also grow, as technology enables new organizational structures, remote work, and a transition to new forms of “informational labor.”<sup>3</sup>

This is exactly what has been seen during the COVID-19 pandemic: a reconfiguration of society based around digital networks so that society could continue, at least in some semblance of its former self.<sup>4</sup> As a result of this rapid reconfiguration across all sectors, and the reliance on digital tools and collaborative systems, the economic damage and slowdown many experts expected has not been as severe as initially predicted.<sup>5</sup> However, recent research appears to show that increased usage, reliance, and integration with technology decrease well-being and happiness.<sup>6</sup> Thus, while it is undeniable that digital technologies have played a crucial role in coping with and managing the ongoing COVID-19 pandemic,<sup>7</sup> it is important to weigh these benefits with the potentially negative consequences for well-being and happiness.<sup>8</sup>

At the height of the pandemic, up to 1.6 billion children were affected by educational disruptions and started learning via digital methods.<sup>9</sup> Companies allowed employees to work from home, if possible, and in many countries, this meant well over half the labor force was working from home.<sup>10</sup> Medical consultations took place via telemedicine platforms due to the closure of medical facilities. Governments also relied heavily on digital channels for service delivery and communication.

Services focusing on connecting people via digital channels encountered rapid growth throughout the pandemic. In March 2020, the number of daily active users on Microsoft Teams grew by 38%; in the same month, Zoom had 26.8 million new downloads, and Facebook messaging and video traffic doubled.<sup>11</sup> While many remained in physical isolation, for those with access to technology, it was possible to be more connected than before, as friends, families, and colleagues were just a click away in a new digital dimension of our existence.<sup>12</sup>

Though important, digital connections are not the same as offline or physical connections — something is missing. The replacement of physical connections with digital ones often has a negative effect on well-being and happiness.

Recent research has found that increased usage of video conferencing has led to a boom in demand for cosmetic surgery,<sup>13</sup> increasing levels

of fatigue, and decreasing levels of self-esteem.<sup>14</sup> For children, who may now spend a large portion of their day in online learning environments, their health (both mental and physical) is probably at risk.<sup>15</sup> Previous research has also shown that the Internet and excessive online activity have the potential to “impair brain and verbal development” and can lead to an increased prevalence of mental health issues.<sup>16</sup>

In a wide variety of contexts and situations, the pandemic and the increased reliance on digital technologies have further perpetuated already existing inequalities,<sup>17</sup> worsened mental health,<sup>18</sup> increased stress,<sup>19</sup> and decreased well-being.<sup>20</sup>

Such issues can be grouped together under the term digital well-being, which describes “the impact of technologies and digital services on people’s mental, physical, social, and emotional health”.<sup>21</sup>

The question that must be asked is not only how to limit the potential harms and negative effects that digital technologies may have on an individual’s well-being, but **how our digital sphere can be redesigned, rebuilt, and refocused to prioritize, develop, and foster higher levels of well-being?**

This chapter explores this issue by answering a series of questions:

- How has COVID-19 played a role in driving a global digital transition?
- How has such a digital transition affected well-being?
- What are the implications for the future of digital well-being? How can digital systems be built in a more resilient and well-being-oriented fashion?

To answer these questions, this chapter is divided into three primary sections.

The first acknowledges that digitalization is a cross-cutting and multi-sectoral issue and therefore focuses on four concrete areas that are important for the management of the COVID-19 pandemic and have been heavily digitalized. These four areas are healthcare, education, work, and government.

The second section argues that there are four key components for building a new digital dimension: data and digital archives, digital identity, interoperability, and flexibility. Digital systems that are built considering such components have the potential to be more resilient and more apt and are able to drive improvements in well-being while also limiting the potential for negative effects on well-being.

The third section offers practical steps and policy recommendations for building a happier digital future.

## Representative cases

### Healthcare

An individual’s health is heavily related to their own subjective well-being<sup>22</sup> and as the COVID-19 pandemic is first and foremost a health-related crisis, healthcare conditions during the pandemic are likely to have a large influence on well-being.

Throughout the pandemic, medical services have been limited and many medical service providers were either shut down or reoriented towards treating COVID-19 patients. This left many without access to proper healthcare and has had a negative impact on overall societal health.<sup>23</sup> To prevent such negative impacts, and thereby potentially limit decreases in well-being, a strong, resilient, and innovative healthcare sector is needed.

The effects of the pandemic have made it increasingly clear that healthcare systems supported by digital health information systems, telemedicine capabilities, and a strong digital health infrastructure perform better. With further development, such systems can provide the basis for future health monitoring based on big data analytics and Artificial Intelligence systems. The development of digital healthcare is thus a critical component for the future of well-being.

There are several examples in which digital health initiatives clearly had a strong positive effect on the management of the crisis. For example, **Singapore**, which has a history of digital healthcare and pandemic management,<sup>24</sup> was able to quickly manage and track outbreaks

of COVID-19. **Taiwan** utilized its experience with digital government to develop a public health campaign that fought fake news and misinformation with humor.<sup>25</sup> Numerous countries around the world have also begun to experiment with telemedicine and digital health solutions to digitally connect citizens with their doctors so that they are able to raise their concerns, receive prescriptions, and receive advice on how to treat or monitor any ongoing ailment.

By managing the pandemic better using digital means, fighting fake news, and creating new and innovative ways for the healthcare sector to function digitally, it is possible to increase well-being.

While there are likely clear benefits for well-being and happiness when it comes to a digitally-enabled healthcare system, it is important to highlight that having digital tools is not enough. Digital tools must be applied correctly and be supported by strong and capable staff, or else errors may follow.

Two of the clearest examples of these contact tracing applications and the EU's development and usage of digital vaccination certificates. Many countries have launched their own applications, generally supported by Google and Apple. The direct management of contact-related data from these contact tracing applications was given by both companies to only one agency per country. This is the first time in history that access to a function of the mobile devices operating system has been denied to other independent developers,<sup>26</sup> which poses a challenge to digital democratic oversight and data sovereignty. While contact tracing applications are common, research has shown that the adoption and impact of many such applications have been low, partly due to low trust in government, and partly due to the limited precision of the technology, thus limiting their effectiveness.<sup>27</sup>

There are also a few examples of how technology was misapplied and inhibited the management of the pandemic. The **United Kingdom**, for example, relied heavily on Excel for their contact tracing initiatives, which led to the under-reporting of case numbers due to software limitations.<sup>28</sup>

**Estonia**, a country known globally for its digital government, also struggled to reorient its digital health system to fight the pandemic, with several shortcomings identified at the beginning of the pandemic due to missing internal capacities.<sup>29</sup>

Reflections on these challenges show that digital solutions are likely to be critical for the future and resilience of healthcare systems, and they may also have strong positive impacts on well-being, though current research exploring this topic is limited.

Even so, there are still several risks that must be considered, as they may have negative impacts on well-being and happiness. Health data is private and sensitive and must be protected. Any digital solution that relies on digitalized information runs the risk of improperly releasing or using such information. In all cases, attention must be paid to minimizing potential privacy and surveillance violations by using technologies to empower citizens' control of data. A clear example of this is contained within the increasingly popular concept of "self-sovereign identity," which gives individuals more control over their own data, its management, and how consent is given.<sup>30</sup>

This is especially true for contact tracing applications and other digital surveillance methods used to fight the COVID-19 pandemic, in which there are clear risks for enhancing government surveillance of citizens. Which checks and balances must be enacted? Which oversight bodies should be put in place, and what powers will these bodies have? This raises the fundamental question of how we design future governance institutions to prevent widespread harms to well-being originating from digital technologies, while also creating an environment that can maximize potential benefits.

Any digital health initiative must be accompanied by necessary legal and regulatory safeguards, strong informational security, institutional interoperability, internal governmental capacity and transparency, and citizens' oversight, or it risks severe governmental overreach, citizen privacy breaches, and potential loss of trust, which is hard to rebuild once lost.



## Education

Many education systems were able to rapidly implement and adopt some form of urgent digital response to the pandemic: recent statistics put the number of educational ministries engaging in such a response at over 90%.<sup>31</sup> This approach varied by country and different approaches have been trialed, from broadcasting educational material on TV and radio channels, to fully digitalized education systems.<sup>32</sup>

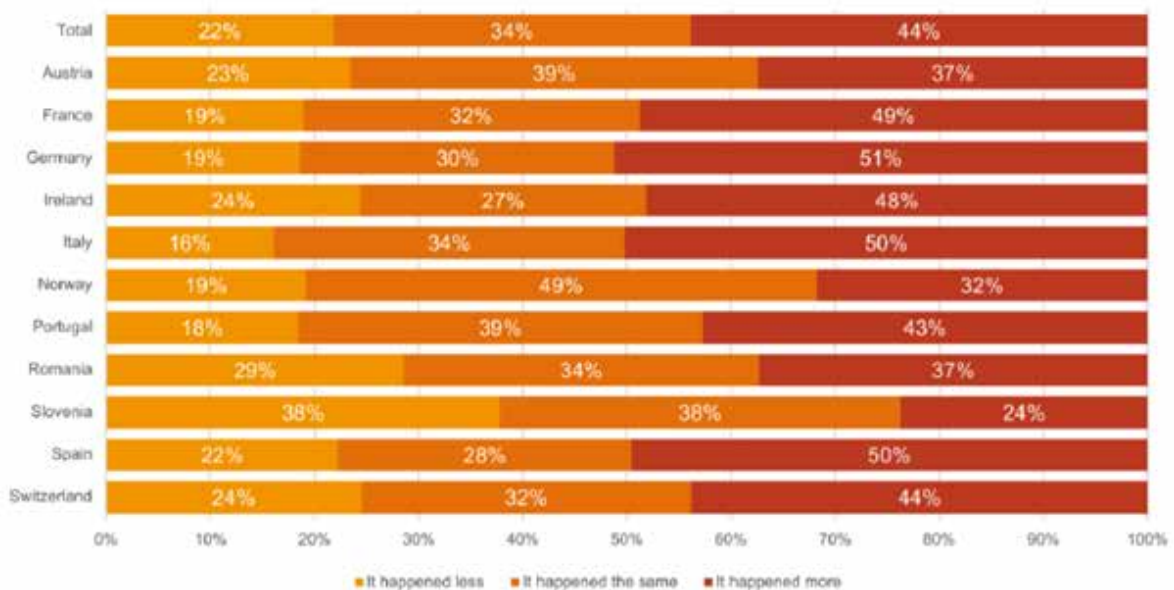
A number of positive benefits, such as increased access, increased retention, increased learning speed, the ability to keep up with studies, and increased flexibility have been associated with digital education and innovative digital teaching methods.<sup>33</sup> However, it is also clear that while technology enabled the continuity of education, it was not available to all, exacerbating inequalities, and educational quality suffered.<sup>34</sup>

One of the clearest issues is that those who need education the most, including younger children, those who are impoverished, and those who live in less developed areas, are the least likely to benefit from digital education due to the digital

divide, lack of access to the internet, or the lack of access to a computer.<sup>35</sup> In cases where the internet exists, students still must have access to the physical infrastructure necessary for engaging in their lessons. At a minimum, this means access to a computer, but it is increasingly important to have access to a microphone and a camera, as well. Space at home is also an issue, especially for families with many children and parents working from home. In such instances, it is simply not enough to have one computer.

There are also issues associated with digital education itself, with some students and teachers feeling that digital learning decreases the quality of education compared to in-person learning.<sup>36</sup> This puts students at a potential future disadvantage due to decreased learning and social outcomes. There is increasing potential for risks related to cyberbullying, encountering inappropriate content, downloading objectionable content, or sharing private information for younger students who use technology for digital education.<sup>37</sup> An overview of how COVID-19 lockdowns affected cyberbullying is shown in Figure 6.1. Furthermore, students miss out on

**Figure 6.1: Changes in being a victim of cyberbullying during the Covid-19 lockdown (compared with the previous period) (spring, 2020)**



Source: <https://publications.jrc.ec.europa.eu/repository/handle/JRC124034>

critical time for socialization in the transition to a digital learning environment, which is a necessary aspect of growth and development.

Digital education also influences both parents and teachers. Parents must be more involved in remote schooling than for normal schooling, yet as parents are often working remotely as well, it can be hard to manage, increasing stress and decreasing well-being for the entire family.<sup>38</sup> Many teachers did not have the technical expertise or competence to adequately provide digital education at the start of the pandemic,<sup>39</sup> causing stress for educators and decreased educational performance for students.

Moving forward, digital education will likely continue to have an impact and transform educational systems. Exactly how this will look and the net effect on well-being and happiness will depend on the quality of design and delivery.

## Work

In response to shutdowns, many organizations switched to a remote working environment. For example, in the European Union (EU), almost 40% of all respondents to a recent survey reported that they were working from home during the crisis; for those working in a city or suburb, close to 60% of respondents started to work from home due to the crisis.<sup>40</sup> In the United States, a survey showed that while before the pandemic 20% of respondents worked from home, now 71% work from home.<sup>41</sup>

In many cases, employees have reported happiness with the new arrangement.<sup>42</sup> Working from home provides advantages in flexibility, accessibility, and work continuity. For businesses themselves, remote work also provides a number of advantages like savings on office costs, more global teams, increased communication, and innovative organizational designs and management structures.

However, not everyone is able to work from home, and such digital arrangements may perpetuate already existing divisions and inequalities because those who are affluent and more highly educated are more likely to be able to work successfully online, enabled by appropriate equipment and connections.

Research has shown that in both the short- and long-term, digital work has a number of detrimental effects on an individual's well-being.<sup>43</sup> The separation between work and home life begins to dissipate, leading to poor work-life balance; there is a pressure to always be available, online, and responsive.<sup>44</sup> Furthermore, there are issues of fine-grained micromanagement and control of work due to the surveillance use of these enabling technologies.

For both men and women, working from home leads to a noticeable increase in working hours.<sup>45</sup> For parents, and women especially, working in a remote environment led to decreased productivity, increased stress, more time spent on child care, and a feeling of inequality or disadvantage compared to their male colleagues.<sup>46</sup> Additionally, there appear to be increased incidences and opportunities for surveillance of employees by their employees using digital tools,<sup>47</sup> raising ethical and legal issues.

The combination of such factors causes fatigue, increases risks of mental health problems, and could decrease one's sense of happiness. For this reason, the European Parliament has recently called for a new EU-wide fundamental right: the right to disconnect. Such a right would allow "workers to refrain from engaging in work-related tasks — such as phone calls, emails, and other digital communication — outside working hours".<sup>48</sup>

## Government

Government is at the forefront of the response to the COVID-19 pandemic, and public administrations have a duty to their citizens to protect their well-being, prosperity, and quality of life. In order to accomplish this goal, governments have turned towards digital methods to augment their ability to meet citizen expectations and perform state functions. While the idea of digital government is not new, the importance of digitalized public administration has become more apparent during the COVID-19 pandemic.<sup>49</sup>

Governments that had strong digital capacities before the pandemic were able to better manage their response, gather and disseminate data, continue operations via digital channels, ensure service stability, and increase opportunities for interacting and engaging citizens in their

response to the pandemic. However, being digital and having digital services is not enough; there must also be government capacity.<sup>50</sup> Governments that invested in developing the necessary internal capacity to manage and implement digital services and technologies worked better during the pandemic.<sup>51</sup> Rushing to digitalize in response to the pandemic may have severe long-term and detrimental effects for governmental transformation and digitalization efforts.<sup>52</sup>

Transforming into a more digital administration is a long process. It is contextually sensitive and requires strong support and trust from citizens. When rushed, digitalization initiatives have the potential to cause a loss of trust in government, damage the rights of citizens, and ultimately, limit government effectiveness. It is for this reason that many digitalization initiatives during the COVID-19 pandemic have focused on engaging and including citizens in the process, building trust, and strengthening administrative capacity.

One of the clearest examples of such initiatives is the release and maintenance of open government data related to the pandemic. Early in the pandemic, many governments decided to release their pandemic data in an open format to encourage interested stakeholders to use the data to conduct statistical analyses or develop visualizations.<sup>53</sup> The opening up of data serves a number of purposes, such as increasing trust and encouraging innovation.<sup>54</sup>

Though there are several benefits for well-being of government digitalization, there are also a few potential negative implications for well-being. This is especially true in the current unstable pandemic environment.

The first risk is related to data security, as poorly built and implemented information systems may create cybersecurity vulnerabilities and allow data to leak. Second, many of the world's citizens do not have access to computers or the internet, requiring expanded efforts to provide such access, while keeping alternative forms of service delivery functioning at the same time. This is not simple and it requires large and sustained investments in infrastructure.

There are no guarantees that more digitalized government or digital service availability leads to increased well-being, satisfaction, or quality of life. However, the availability of robust digital infrastructure and secure digital identity systems may represent important enablers for the capacity of governments to be resilient in case of crisis and to protect citizens' rights, thus their well-being.

## Building resilient digital systems

As digital systems are going to be an increasingly common aspect of our lives, it is of the utmost importance to increase the resiliency of such systems and gain insight into the risks and benefits associated with such systems.

Resilience, as a concept, can be explored at several scales.

At the societal level, resilience has been defined as “the ability to face shocks and persistent structural changes in such a way that societal well-being is preserved, without compromising the heritage for future generations.”<sup>55</sup>

At the organizational level, resilience may be understood as “the ability of an organization to absorb and adapt in a changing environment to enable it to deliver its objectives and to survive and prosper.”<sup>56</sup>

In the context of the digital network society, resilience applies not just to the technological systems themselves, but an organization's ability to “move quickly and seamlessly to adopt new digital technology solutions and then to recover, rebound and move forward if things go wrong”.<sup>57</sup>

Put simply, resilience is the ability to meet and overcome crisis or chaos and continue to function. In the digital context, however, the focus of policymakers must also take into account not only the presence and usage of digital systems, but also the ability to rapidly change, develop, and reorganize these digital infrastructures quickly, and to understand how such systems interact and influence (and are influenced by) societal contexts.<sup>58</sup> The following subsections highlight four necessary components for the future of digitally resilient systems: data and digital archives, digital identity, interoperability, and flexibility.

## Data and Digital Archives

Data and digital archives are one clear and important pillar of digitally-enabled resilience. There are several clear contemporary and relevant examples demonstrating this.

In Estonia, it has been argued that there is a need for “digital continuity,” and that this should ensure that there is “a solution whereby the Estonian state would endure even despite an occupation of its territory”.<sup>59</sup> The solution was a digital embassy, which maintains a copy of Estonia’s critical data and allows for the seamless provision of digital services should the country be occupied.<sup>60</sup> This represents not only technical resilience but societal resilience, as well.

GitHub has launched the “GitHub Arctic Code Vault,” which archived every active public open-source GitHub repository 250 meters deep in Svalbard, ensuring that in the future, open-source computer code could always be revisited.<sup>61</sup>

There are also initiatives to maintain important cultural and heritage aspects of society.<sup>62</sup>

The existence of data and archives in such forms relates to resilience in two ways:

- First, it ensures that there is always a digital copy that can be brought back and utilized in future digital systems.
- Second, it provides opportunities for cultures to be resilient and regain potentially lost knowledge.

## Digital Identity

A second key aspect of digitally-enabled resilience is that of a digital identity. In the United Nations Sustainable Development Goals (SDGs), SDG 16.9 highlights the necessity for all people to have a legal identity.<sup>63</sup> One of the clearest ways to reach such a goal is through widespread availability and adoption of digital identities.

Digital identities are necessary for a user to identify and authenticate themselves securely online. For a society to truly digitalize, the availability of online digital identity is a necessity. Such digital identities not only improve the resilience of society, but also that of the technical systems themselves. Digital identities:

- enable increased levels of technical and cyber security,
- enable new forms of innovation and delivery,
- enable new forms of economic advancement and innovation,
- support community and human development, and
- provide several new ways for societies and communities to prosper and thrive.<sup>64</sup>

The availability of digital identities is rapidly expanding from both public governments and private sector providers. From the private sector, companies such as Google and Facebook have become instrumental to the identity ecosystem by enabling businesses and organizations to allow customers and clients to sign up for services using their SSO (Single Sign-On) toolset. At the public level, one can look to the EU’s eIDAS regulation that sets in place the rules and regulations for an interoperable digital identity in Europe.<sup>65</sup> Yet, in many countries, legal digital identity is still hard to obtain.

As the world becomes increasingly digital and more of life requires digital support, the presence and availability of digital identity will become increasingly important. Therefore, the absence of such identities has implications for the continuance and furtherance of systemic inequality and limits opportunities for advancement and development.<sup>66</sup>

## Interoperability

A third key aspect of digitally enabled resilience is that of interoperability. Interoperability implies that different systems can exchange, use, and display the same information and data.<sup>67</sup> The internet, at its core, is about interoperability, and therefore, the global network society (which is based first and foremost around the internet) is about interoperability.

Interoperable systems allow organizations to communicate freely with one another, enable the rapid spread of information, lead to better dissemination of knowledge, and drastically improve the efficiency and effectiveness of digital ecosystems.

Increasingly interoperable systems will hasten the development of innovation and digital advances and increase resilience; however, they simultaneously increase failure risks for poorly designed networks in times of chaos or crisis without proper fail-safes in place.

Due to the importance of interoperability, new technological developments and advances are now beginning to place interoperability at their core. This has given rise to new development and technological paradigms for developing interoperable systems such as cloud computing, containerized architectures, or the “API-first” mentality, where interoperability, enabled by APIs (Application Programming Interfaces), is placed as the first step of software development.<sup>68</sup>

Highlighting the importance of interoperability for resilience, eu-LISA, the organization responsible for the management and organization of large-scale IT projects and systems in Europe, organized an event titled “Interoperability as the Essential Building Block for Digital Resilience”.<sup>69</sup>

Why is interoperability a necessary building block for resilience?

There are at least two clear reasons. The first is that **true interoperability requires a large number of governance, regulatory, legal, societal, and technical changes that must be made to create truly interoperable digital societies and digital systems.**

The second is that **interoperable systems can, during times of crisis, be integrated, adopted, changed, or innovated at a quicker pace.** This not only allows for digital systems to meet crises and turbulence from a stronger position, but also bounce back, recover, and innovate after the crisis has passed.

### **Flexibility**

One of the great advantages of digital technologies is that new and innovative services, infrastructures, innovations, and solutions can be developed and implemented quickly — if done correctly.

The global “Hack the Crisis” event, where thousands of technical prototypes were built to respond to the COVID-19 pandemic in a number of days, demonstrates the flexible and resilient nature of

technology.<sup>70</sup> While not all solutions ended up in use, many were brought on board by governmental organizations and aided in the fight against the pandemic.

In many countries, schools quickly moved to digital education methods, utilizing already existing software such as Microsoft Teams, Skype, Zoom, or Google Hangouts.<sup>71</sup> While this was not the initial intended purpose of such software, it further demonstrates how technical tools, once built, can be pivoted to fit other needs.

One way to ensure that such services or other technical programs can remain flexible, agile, and adaptive is through the use of cloud computing, which enables services to scale horizontally and vertically almost instantaneously, helping to ensure they do not fail.<sup>72</sup>

Many cloud providers, such as Amazon Web Services or Microsoft Azure, have demonstrated throughout the crisis the key role in their cloud infrastructures play for enabling resilience. Such influence is demonstrated in a recently released report, “How Governments can Build Resilience,” which explored several public sector responses to COVID-19 with cloud-computing enabled resilience, in healthcare, education, finance, unemployment.<sup>73</sup>

Nevertheless, an overreliance on large cloud-providing corporations can create the risk of a “winner takes all” approach. To avoid this, work should be done to ensure more distributed systems under the coordinated responsibility of national and local authorities within defined governance jurisdictions, such as advocated for in Europe for GAIA-X, a cloud interoperability framework.

Though the cloud is important for enabling flexibility in the digital age, it is certainly not the only way. Other strategies to improve the flexibility of digital systems are related to the use and development of free and open-source software (FOSS)<sup>74</sup> and adopting modular software development methods.<sup>75</sup>

FOSS projects put flexibility at their core by allowing developers to change, improve, or innovate their software so that it can be adapted or used for any purpose.

Modular systems break up core components into different modules, which can be built by different teams, or substituted with different modules to rapidly drive innovation and improve flexibility.<sup>76</sup>

Governments should push for increased adoption of Cloud services and FOSS when developing their own digital solutions and should also push for the development of modular architectures for future digital service developments. By adopting such approaches to improve flexibility, resilience will also improve because flexible systems will be better able to adapt or continue to function during turbulent times.

### Imagining a better digital future — key building blocks and navigable risks

There is increasing interest in the study and theorization of the economics of happiness and well-being.<sup>77</sup> Happiness and well-being are linked to a number of variables, such as the quality of social relationships, the quality of the environment, personal connections, sense of community, usability of cultural assets, and other such measures.<sup>78</sup>

Such measures are not included in traditionally monitored development metrics such as GDP or personal consumption. Happiness and well-being are important metrics for understanding a wide number of societal dynamics, such as voting preferences or support for populism.<sup>79</sup> This has led a small number of governments including New Zealand, Scotland, Iceland, and Wales to invest in community well-being and happiness and make this a political priority.<sup>80</sup> While such debates often do not yet extend to the digital world or to digital well-being, **the digital and non-digital dimensions are no longer separable. To understand well-being, we must also look to the digital dimension.**

In this policy brief, it has been shown that digital technologies can have a positive effect on well-being and happiness, but there are also many risks and challenges. It is certainly the case that our global and networked society is increasingly defined by its reliance on technologies, interactions, and networks. It is also true that

technology has allowed for a rapid restructuring of how the world works, the ways in which people live and work, and how value is created. Exploring the risks that have emerged with this transformation, the following have become apparent:

- Digital technologies are dependent on the availability of information. At the governmental level, this implies that services have access to a vast amount of personal, private, and sensitive information. At the employer level, digital work from home arrangements increases the likelihood of privacy violations. In fact, recent studies have shown that over the past year there has been a rapid increase in both employer<sup>81</sup> and government surveillance.<sup>82</sup>
- Finding harmony between a technology-enabled society and the development of happiness and well-being is an essential task, as the recent emergence of the so-called “Facebook Files” strongly demonstrates.<sup>83</sup>
- In a digitalized future, there are new risks for data privacy or data leaks due to improperly configured servers or malicious actors. Similarly, as data becomes increasingly digitalized, it becomes easier for organizations, private and public alike, to improperly use, watch, or monitor personal data.
- The interconnectivity necessary to make most large-scale technological systems functional and interoperable may be a risk unto itself. Small changes in data or the environment can cause major breakdowns in systems. Even if the technologies themselves can be improved, it may take time for such changes to spread throughout the entire ecosystem.
- The necessity of digital identities for a digital future poses potential risks to privacy. Improper digital identities may reveal too much information or enable discrimination or persecution.<sup>84</sup>
- Social interaction is a core component of physical, emotional, and mental well-being.<sup>85</sup> While digital technologies can enable such interactions,<sup>86</sup> more effort is needed to understand better how digital relationships compare to traditional physical ones.

- Increased reliance on digital services and digital solutions can exacerbate already existing inequalities and continue to drive inequality and further the already-existing digital divide.
- Digital technologies can negatively affect environmental health, for example, by leading to increased energy consumption or environmental destruction due to the mining of precious metals needed for technical hardware.<sup>87</sup> Thus, the digital transformation has implications for the future health and sustainability of the environment, potentially weakening the well-being of future generations.
- How can such challenges and risks be overcome? What could a digital future that is oriented towards well-being and happiness look like?
- An over-reliance on technology, and an under-reliance on structure, regulation, and human networks will reduce resilience. Thus, it is important to take a holistic approach to technological developments, taking into account speed, and the scale of the effects of possible adverse events.
- It is not possible to look at digital and society separately; they are connected, socially constructed, and directly intertwined. Digital technologies may provide new tools to maintain and build well-being in the face of shocks, crises, and turbulence, but only as part of a broader and systemic response.
- There is a need for increased international and cross-border cooperation for interoperability rules, standardization, and data governance. By increasing the uptake of data vocabularies and standards, it is possible to rapidly scale interoperable systems and support the cross-border exchange of data at the global level.

In order to avoid such risks to digital well-being, **governments need to enact supportive legislation, regulation, and strategic governance mechanisms to drive digitalization in such a way that it enhances, supports, and fosters a person's ability to grow, thrive, and be happy.** As an initial starting point, governments could begin by making strategic steps to address current infrastructural and technological access problems and by committing to including well-being analysis when planning new developments.

Further suggestions and policy recommendations include:

- Any successful digital initiative must be based on a reliable digital identity infrastructure and provide interoperability, ensure transparency on how data is collected and used, prevent misuse, and ensure that privacy is protected.
- It is of paramount importance that when developing new digital services, proper transparency and accountability provisions are in place. Governments should engage with citizens, understand their needs, and ensure that newly developed initiatives positively influence the well-being and quality of life of all citizens.
- Technology must be reliable and trustworthy. Due to the potential for privacy violations, surveillance, and abuse, any new digital transformation initiative must pay attention to ethical concerns and potential effects on well-being and morale.
- Concepts such as “self-sovereign identity,”<sup>88</sup> which gives individuals more control over their own data, its management, and how consent is given,<sup>89</sup> and “protected anonymity”<sup>90</sup> which gives users more control over their identity and data and allows them to authenticate and utilize online services under legally accepted pseudonyms, disclosed only upon court order, should be investigated and implemented.
- Backups and maintenance are important. For new digital developments, ensure sufficient funding is provided for future maintenance and support. The absence of such funding can rapidly reduce the resilience and robustness of technological systems.

- Put interoperability and flexibility at the core of new technological developments to improve resilience. Focusing on these characteristics first, rather than on efficiency or cost, will likely lead to stronger systems that are more resilient and provide greater benefits.
- Workers' rights must be updated to function in the new hybrid online and offline work environment ushered in during the pandemic. A right to disconnect must be guaranteed, along with privacy and equal treatment.
- Engage in training and education for public servants to improve overall digital and data literacy, thus enabling smarter policy-making and governance.
- Limits to surveillance and employee monitoring must be considered. New governance and policy mechanisms will be needed to ensure the mental health and well-being of employees does not suffer due to new digital or remote working arrangements.

Should such recommendations be implemented, the first steps would be in place for the development of a well-being-oriented, flexible, and resilient digital society.

## Conclusions

The proposed recommendations can be best interpreted by considering a broad perspective framework. The convergence of the digital transformation and the pandemic with the need to ensure an industrial transition that protects the environment has created a new dynamic in which the well-being of each individual and group in society, and the ecosystems that characterize it (including human beings, animals, or “emerging digital objects”), are inextricably interconnected. **The challenges associated with this dynamic are demanding, profound, and unprecedented.**

The “digital” has a role in a few more matters that cannot be addressed here. For instance, the development of autonomous weapons is worrying. Additionally, digital has a role to play in the timing and efficiency of the world's process towards creating a carbon-neutral set of solutions for production and mobility, with the massive introduction of new power generation from clean sources and its distribution. The way digital solutions are designed in those matters has the potential to radically change the future and can generate problems, which can be solved.

For relationships and communications, architecturally speaking, it would be ideal to build up the world's digital infrastructure in a decentralized manner that is rich in diversity and based upon similar values as those ascribed to the Habermasian public sphere where community rules based around mutual respect are the norm rather than the exception.

Similarly, from a regulatory perspective, governments must work together to foster a digital environment that ensures certain aspects such as net neutrality, service interoperability, respect for privacy, and both digital and data sovereignty.

Finally, due to the potential environmental impact of an increasingly digitalized world, there is a need to address environmental and sustainability concerns. Efforts to fund and encourage digital innovations that take into account and overcome such issues should thus be encouraged.



From this perspective, the overall debate around the concepts of human-centered digital transformation poses the questions:

- What type of society do we really want? and
- How we can nurture democratic governance and systems that utilize digital technologies to serve people and guarantee the respect of fundamental rights, while at the same time enabling innovation?
- These should not and must not be mutually exclusive!

In this sense, the global infrastructure of digital governance will need to embrace the opportunities that digital technologies offer, while ensuring strong protection of digital identities and security of network systems from potential harms and cyberattacks, increasing the digital well-being of individuals and society and guaranteeing an effective participatory approach.

The key issue is that digital technology has become such an important part of the overall ecosystem affecting the evolution of human life, and it is not only the subject of engineers and technologists. Digital technology affects the whole society, so decisions must be made more broadly and inclusively, fully acknowledging the social nature of technological development.

## References

- 60 strong Self Sovereign Identity group targets COVID-19 immunity passports, credentials (2020). Ledger Insights. <https://www.ledgerinsights.com/sovereign-identity-covid-19-immunity-passports-credentials/>.
- Adjovi, J., & Flores, A. (2020). COVID-19: the telecoms industry will suffer less than many others, and can thus help to support the economy. *Analysis Mason, April*.
- Ahrendt, D., Mascherini, M., Nivakoski, S., & Sándor, E. (2021). Living, Working and COVID-19 (Update April 2021): Mental Health and Trust Decline across EU as Pandemic Enters Another Year. Eurofound Report.
- Alon, T., Doepke, M., Olmstead-Rumsey, J., & Tertilt, M. (2020). *The impact of COVID-19 on gender equality* (No. w26947). National Bureau of economic research.
- Anderson, J., & Rainie, L. (2018). The future of well-being in a tech-saturated world. *Pew Research Center*. <https://www.pewresearch.org/internet/2018/04/17/the-future-of-well-being-in-a-tech-saturated-world/>.
- Apple Inc. (2022). *Apple Exposure Notification*. Developer. apple. <https://developer.apple.com/exposure-notification>.
- AWS Institute. (2020). *How Governments Can Build Resilience in a New Normal*. [https://d1.awsstatic.com/WWPS/pdf/AWS\\_How\\_Governments\\_Can\\_Build\\_Resilience\\_Whitepaper.pdf](https://d1.awsstatic.com/WWPS/pdf/AWS_How_Governments_Can_Build_Resilience_Whitepaper.pdf)
- Baldwin, C. Y., & Clark, K. B. (2003). Managing in an age of modularity. *Managing in the modular age: Architectures, networks, and organizations*, 149, 84-93. <https://hbr.org/1997/09/managing-in-an-age-of-modularity>.
- Bateman, N., & Ross, M. (2020). Why has COVID-19 been especially harmful for working women. *Brookings.edu*. <https://www.brookings.edu/essay/why-has-covid-19-been-especially-harmful-for-working-women/>.
- Berkman, L. F., & Syme, S. L. (1979). Social networks, host resistance, and mortality: a nine-year follow-up study of Alameda County residents. *American journal of Epidemiology*, 109(2), 186-204.
- Brody, J. E. (2017). Social interaction is critical for mental and physical health. *The New York Times*.
- Broom D (2019) Flexible jobs can make work-life balance worse, a German study finds | World Economic Forum. <https://www.weforum.org/agenda/2019/03/flexible-working-can-make-work-life-worse-germany/>.
- Browne, R. (2020) Why coronavirus contact-tracing apps haven't been a "game changer." *CNBC*. <https://www.cnbc.com/2020/07/03/why-coronavirus-contact-tracing-apps-havent-been-a-game-changer.html>.
- Campbell, M., & Gavett, G. (2021). What covid-19 has done to our well-being, in 12 charts. *Harvard Business Review*, 10.
- Carlsson-Szlezak, P., Swartz, P., & Reeves, M. (2020). Why the global economy is recovering faster than expected. *Harvard Business Review-Economics & Society*. <https://hbr.org/2020/11/why-the-global-economy-is-recovering-faster-than-expected>
- Castells, M. (2011). *The rise of the network society* (Vol. 12). John Wiley & Sons. *changed the way Americans work. Pew Research Center*.
- Cheng, T. C., Kim, S., & Koh, K. (2020). The impact of COVID-19 on subjective well-being: Evidence from Singapore.
- Collins, C., Landivar, L. C., Ruppner, L., & Scarborough, W. J. (2021). COVID-19 and the gender gap in work hours. *Gender, Work & Organization*, 28, 101-112. <https://doi.org/10.1111/gwao.12506>
- Collins, J. (2015). Doing-it-together: Public history-making and activist archiving in online popular music community archives. In *Preserving Popular Music Heritage* (pp. 77-90). Routledge. <https://doi.org/10.4324/9781315769882-6>
- Czeisler, M. É., Marynak, K., Clarke, K. E., Salah, Z., Shakya, I., Thierry, J. M., ... & Howard, M. E. (2020). Delay or avoidance of medical care because of COVID-19-related concerns—United States, June 2020. *Morbidity and mortality weekly report*, 69(36), 1250.
- Czymara, C. S., Langenkamp, A., & Cano, T. (2021). Cause for concerns: gender inequality in experiencing the COVID-19 lockdown in Germany. *European Societies*, 23(sup1), S68-S81. <https://doi.org/10.1080/14616696.2020.1808692>
- Das, D., & Zhang, J. J. (2021). Pandemic in a smart city: Singapore's COVID-19 management through technology & society. *Urban Geography*, 42(3), 408-416. <https://doi.org/10.1080/02723638.2020.1807168>
- Das, S. & Kersey, J. (2021) Jumpstart the Global Travel Industry Using Self-Sovereign Identity for COVID-19 Immunity Credentials. TCS. <https://www.tcs.com/perspectives/articles/self-sovereign-identity-implementation-travel-industry>.
- de Marcellis-Warin, N., Munoz, J. M., & Warin, T. (2020). Coronavirus and the widening educational digital divide: The perfect storm for inequalities. *California Management Review*. <https://cmr.berkeley.edu/2020/07/covid-education>.
- De Neve, J. E., Diener, E., Tay, L., & Xuereb, C. (2013). The objective benefits of subjective well-being. *World happiness report*.
- Drechsler, W. (2019). The reality and diversity of Buddhist economics. *American Journal of Economics and Sociology*, 78(2), 523-560. <https://doi.org/10.1111/ajes.12271>
- Dumford, A. D., & Miller, A. L. (2018). Online learning in higher education: exploring advantages and disadvantages for engagement. *Journal of Computing in Higher Education*, 30(3), 452-465.
- Dumortier, J. (2017). Regulation (EU) No 910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation). In *EU Regulation of E-Commerce*. Edward Elgar Publishing.
- Engzell, P., Frey, A., & Verhagen, M. D. (2021). Learning loss due to school closures during the COVID-19 pandemic. *Proceedings of the National Academy of Sciences*, 118(17).
- eu-LISA. (2020, November 26). *eu-LISA - Interoperability as the Essential Building Block for Digital Resilience* [Press release]. <https://www.eulisa.europa.eu/Newsroom/PressRelease/Pages/eu-LISA---Interoperability-as-the-Essential-Building-Block-for-Digital-Resilience.aspx>.

- Findling, M. G., Blendon, R. J., & Benson, J. M. (2020, December). Delayed care with harmful health consequences—Reported experiences from national surveys during coronavirus disease 2019. In *JAMA Health Forum* (Vol. 1, No. 12, pp. e201463–e201463). American Medical Association.
- Finnegan, M. (2020). The New Normal: When work-from-home means the boss is watching. *Computer World*. <https://www.computerworld.com/article/3586616/the-new-normal-when-work-from-home-means-the-boss-is-watching.html>.
- Fisher, D. (2020). *Wellbeing worldbeaters: New Zealand, Scotland and Iceland*. Institute of Welsh Affairs. <https://www.iwa.wales/agenda/2019/10/wellbeing-worldbeaters-new-zealand-and-scotland/>.
- Gasteiger, N., Vedhara, K., Massey, A., Jia, R., Ayling, K., Chalder, T., ... & Broadbent, E. (2021). Depression, anxiety and stress during the COVID-19 pandemic: results from a New Zealand cohort study on mental well-being. *BMJ open*, *11*(5), e045325.
- Giovannini, E., Benczur, P., Campolongo, F., Cariboni, J., & Manca, A. R. (2020). *Time for transformative resilience: the COVID-19 emergency* (No. JRC120489). Joint Research Centre (Seville site).
- Goal 16 | Department of Economic and Social Affairs. (2021). United Nations Department of Economic and Social Affairs. <https://sdgs.un.org/goals/goal16>.
- Goedhart, N. S., Broerse, J. E., Kattouw, R., & Dedding, C. (2019). 'Just having a computer doesn't make sense': The digital divide from the perspective of mothers with a low socio-economic position. *New media & society*, *21*(11-12), 2347-2365. <https://doi.org/10.1177/1461444819846059>
- González-Zapata, F., Rivera, A., Chauvet, L., Emilsson, C., Zahuranec, A. J., Young, A., & Verhulst, S. (2021). Open data in action: initiatives during the initial stage of the COVID-19 pandemic. Available at SSRN 3937613.
- Greyling, T., Rossouw, S., & Adhikari, T. (2021). A Tale of Three Countries: What is the Relationship Between COVID-19, Lockdown and Happiness?. *South African Journal of Economics*, *89*(1), 25-43.
- Hack the Crisis. (2020). Garage48. <https://garage48.org/hackthecrisis>.
- Helliwell, J. F. (2006). Well-being, social capital and public policy: what's new?. *The economic journal*, *116*(510), C34-C45. <https://doi.org/10.1111/J.1468-0297.2006.01074.X>
- Helliwell, J. F. (2015). The economics of happiness. *The National Bureau of Economic Research Reporter*, *2*, 14-17.
- Hu, Z., Lin, X., Kaminga, A. C., & Xu, H. (2020). Impact of the COVID-19 epidemic on lifestyle behaviors and their association with subjective well-being among the general population in mainland China: Cross-sectional study. *Journal of medical Internet research*, *22*(8).
- Iivari, N., Sharma, S., & Ventä-Olkkonen, L. (2020). Digital transformation of everyday life—How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care?. *International Journal of Information Management*, *55*, 102183. <https://doi.org/10.1016/j.ijinfomgt.2020.102183>
- International Organization for Standardization. (2017). *Security and resilience-Organizational resilience-Principles and attributes*. ISO. 22316.
- Janssen, M., & Charalabidis, Y. A. Zuiderwijk (2012). 'Benefits, Adoption Barriers and Myths of Open Data and Open Government'. *Information systems management*, *29*(4), 258-268. <https://doi.org/10.1080/10580530.2012.716740>
- Jisc. (2020). *Towards happy and healthy students: digital well-being and COVID-19*. Jisc.
- Jisc. (2021). *Digital well-being: Building digital capability*. Jisc. <https://www.digitalcapability.jisc.ac.uk/what-is-digital-capability/digital-well-being/>.
- Kelion, L. (2020) Excel: Why using Microsoft's tool caused Covid-19 results to be lost. *BBC*. <https://www.bbc.com/news/technology-54423988>.
- Kostenbaum, S., & Dener, C. (2020). Digital services help governments deliver solutions during COVID-19. *World Bank blog*, 26.
- Kotka, T, Liiv, I. (2015). Concept of Estonia Government Cloud and Data Embassies. Department of Informatics. Tallinn University of Technology. Tallinn, Estonia. p. 152.
- Kotka, T., & Liiv, I. (2015, August). Concept of Estonian Government cloud and data embassies. In *International Conference on Electronic Government and the Information Systems Perspective* (pp. 149-162). Springer, Cham.
- Lau, E. Y. H., & Lee, K. (2021). Parents' views on young children's distance learning and screen time during COVID-19 class suspension in Hong Kong. *Early Education and Development*, *32*(6), 863-880.
- Lee, A. (2020) If Bluetooth doesn't work for contact-tracing apps, what will? *WIRED*. <https://www.wired.co.uk/article/bluetooth-contact-tracing-apps>.
- Li, C., & Lalani, F. (2020.) The rise of online learning during the COVID-19 pandemic. World Economic Forum. <https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>.
- Liu, R., Gailhofer, P., Gensch, C. O., Köhler, A., & Wolff, F. Impacts of the digital transformation on the environment and sustainability. URL: [https://ec.europa.eu/environment/enveco/resource\\_efficiency/pdf/studies/issue\\_paper\\_digital\\_transformation\\_20191220\\_final.pdf](https://ec.europa.eu/environment/enveco/resource_efficiency/pdf/studies/issue_paper_digital_transformation_20191220_final.pdf) (hämtad 2021-05-03).
- Lobe, B., Velicu, A., Staksrud, E., Chaudron, S., & Di Gioia, R. (2021). How children (10-18) experienced online risks during the Covid-19 lockdown-Spring 2020. *Key findings from surveying families in 11 European countries*.
- Lomanowska, A. M., & Guitton, M. J. (2016). Online intimacy and well-being in the digital age. *Internet interventions*, *4*, 138-144. <https://doi.org/https://doi.org/10.1016/j.invent.2016.06.005>
- Martellozzo, E. (2020) Life is digital by default — so what's the impact on young people's mental health? London School of Economics.
- Martin, J. A., & Fargo, A. L. Anonymity as a Legal Right: Where and Why It Matters'(2015). *North Carolina Journal of Law and Technology*, *16*, 311.
- Mazzucato, M., & Kattel, R. (2020). COVID-19 and public-sector capacity. *Oxford Review of Economic Policy*, *36*(Supplement\_1), S256-S269.

- Mazzucato, M., & Quaggiotto, G. (2020). The big failure of small government. *Project syndicate*, 19. <https://www.project-syndicate.org/commentary/small-governments-big-failure-covid19-by-mariana-mazzucato-and-giulio-quaggiotto-2020-05?barrier=accesspaylog>.
- McBride, K. (2021) Image of 'digital Baltics' cracks under weight of pandemic. *New Eastern Europe*. <https://nueasterneurope.eu/2021/03/11/image-of-digital-baltics-cracks-under-weight-of-pandemic/>.
- Meijer, A., & Webster, C. W. R. (2020). The COVID-19-crisis and the information polity: An overview of responses and discussions in twenty-one countries from six continents. *Information Polity*, (Preprint), 1-32. <https://doi.org/10.3233/ip-200006>
- Metcalfe, J. (2020, July 16). *GitHub Archive Program: the journey of the world's open source code to the Arctic*. The GitHub Blog. <https://github.blog/2020-07-16-github-archive-program-the-journey-of-the-worlds-open-source-code-to-the-arctic/>.
- Miller, N. (2020). *Why Covid-19 might set digital government back*. Apolitical. <https://apolitical.co/solution-articles/en/why-covid-19-might-set-digital-government-back>.
- Misuraca, G. (2020, January). Rethinking Democracy in the "Pandemic Society" A Journey in Search of the Governance with, of and by AI. In *IFDaD* (pp. 1-13).
- Misuraca, G., Barcevičius, E., & Codagnone, C. (2020). *Exploring Digital Government transformation in the EU aD"Understanding public sector innovation in a data-driven society* (No. JRC121548). Joint Research Centre (Seville site).
- Möhrling, K., Naumann, E., Reifenscheid, M., Wenz, A., Rettig, T., Krieger, U., & Blom, A. G. (2021). The COVID-19 pandemic and subjective well-being: longitudinal evidence on satisfaction with work and family. *European Societies*, 23(sup1), S601-S617. <https://doi.org/10.1080/14616696.2020.1833066>
- Moore, S. M. H. (2020). *Women risk losing decades of workplace progress due to COVID-19 — here's how companies can prevent that*. The Conversation. <https://theconversation.com/women-risk-losing-decades-of-workplace-progress-due-to-covid-19-heres-how-companies-can-prevent-that-145073>.
- Mühle, A., Grüner, A., Gayvoronskaya, T., & Meinel, C. (2018). A survey on essential components of a self-sovereign identity. *Computer Science Review*, 30, 80-86. <https://doi.org/10.1016/J.COSREV.2018.10.002>
- Ngamaba, K. H., Panagioti, M., & Armitage, C. J. (2017). How strongly related are health status and subjective well-being? Systematic review and meta-analysis. *The European Journal of Public Health*, 27(5), 879-885.
- Nguyen, M. H., Gruber, J., Fuchs, J., Marler, W., Hunsaker, A., & Hargittai, E. (2020). <? covid19?> Changes in Digital Communication During the COVID-19 Global Pandemic: Implications for Digital Inequality and Future Research. *Social Media+ Society*, 6(3), 2056305120948255. <https://doi.org/10.1177/2056305120948255>
- Norris, J. S. (2004). Mission-critical development with open source software: Lessons learned. *IEEE software*, 21(1), 42-49. <https://doi.org/10.1109/MS.2004.1259211>
- OECD. (2021). Tackling the Mental Health Impact of the COVID-19 Crisis: An Integrated, Whole-of-Society Response.
- Osborne, H. (2021). Home workers putting in more hours since Covid. *The Guardian*, 5. <https://www.theguardian.com/business/2021/feb/04/home-workers-putting-in-more-hours-since-covid-research>.
- Pan, S. L., Pan, G., & Devadoss, P. R. (2005). E-government capabilities and crisis management: Lessons from combating SARS in Singapore. *MIS Quarterly Executive*, 4(4), 385.
- Pandey, N., & Pal, A. (2020). Impact of digital surge during Covid-19 pandemic: A viewpoint on research and practice. *International journal of information management*, 55, 102171.
- Papautsky, E. L., Rice, D. R., Ghoneima, H., McKowen, A. L. W., Anderson, N., Wootton, A. R., & Veldhuis, C. (2021). Characterizing Health Care Delays and Interruptions in the United States During the COVID-19 Pandemic: Internet-Based, Cross-sectional Survey Study. *Journal of Medical Internet Research*, 23(5), e25446.
- Parker, K., Horowitz, J. M., & Minkin, R. (2020). How the coronavirus outbreak has—and hasn't—changed the way Americans work. *Pew Research Center*.
- Parker, K., Horowitz, J.M., & Minkin, R. (2020) How Coronavirus Has Changed the Way Americans Work. Pew Research Center. <https://www.pewresearch.org/social-trends/2020/12/09/how-the-coronavirus-outbreak-has-and-hasnt-changed-the-way-americans-work/>.
- Parnas, D. L. (1972). On the criteria to be used in decomposing systems into modules. In *Pioneers and Their Contributions to Software Engineering* (pp. 479-498). Springer, Berlin, Heidelberg.
- Pietrobruno, S. (2013). YouTube and the social archiving of intangible heritage. *new media & society*, 15(8), 1259-1276.
- Pihlak, H. (2018). *Estonia to open the world's first data embassy in Luxembourg*. E-Estonia. <https://e-estonia.com/estonia-to-open-the-worlds-first-data-embassy-in-luxembourg/>.
- Poon, Y.X. (2020). How Taiwan used memes to fight pandemic rumours. *GovInsider*. <https://govinsider.asia/inclusive-gov/audrey-tang-digital-minister-how-taiwan-used-memes-to-fight-pandemic-rumours/>.
- Powdthavee, N., Ward, G., Clark, A., Flèche, S., & Layard, R. (2019). The Origins of Happiness. In *The Origins of Happiness*. Princeton University Press.
- Prokhorenko, V., & Babar, M. A. (2020). Architectural resilience in cloud, fog and edge systems: A survey. *IEEE Access*, 8, 28078-28095. <https://doi.org/10.1109/ACCESS.2020.2971007>
- Ramsetty, A., & Adams, C. (2020). Impact of the digital divide in the age of COVID-19. *Journal of the American Medical Informatics Association*, 27(7), 1147-1148.
- Right to disconnect should be an EU-wide fundamental right, MEPs say | News | European Parliament*. (2021). [Press release]. <https://www.europarl.europa.eu/news/en/press-room/20210114IPR95618/right-to-disconnect-should-be-an-eu-wide-fundamental-right-meps-say>.
- Riso, S. (2020). *COVID-19: Fast-forward to a new era of employee surveillance*. Eurofound. <https://www.eurofound.europa.eu/publications/blog/covid-19-fast-forward-to-a-new-era-of-employee-surveillance>.

- Robinson, L., Schulz, J., Blank, G., Ragnedda, M., Ono, H., Hogan, B., ... & Drabowicz, T. (2020). Digital inequalities 2.0: Legacy inequalities in the information age. <https://doi.org/10.5210/fm.v25i7.10842>
- Rosling, H., Rosling, O., & Rönnlund, A. R. (2019). *Factfulness: ten reasons we're wrong about the world - and why things are better than you think*. Flatiron Books, New York City.
- Rosner, D., Rocchetti, M., & Marfia, G. (2014). The digitization of cultural practices. *Communications of the ACM*, 57(6), 82-87. <https://doi.org/10.1145/2602695.2602701>
- Saad, L., Hickman, A. (2021) Majority of U.S. Workers Continue to Punch In Virtually. Gallup. <https://news.gallup.com/poll/329501/majority-workers-continue-punch-virtually.aspx>.
- Sahi, R. S., Schwyck, M. E., Parkinson, C., & Eisenberger, N. I. (2021). Having more virtual interaction partners during COVID-19 physical distancing measures may benefit mental health. *Scientific reports*, 11(1), 1-9. <https://doi.org/10.1038/s41598-021-97421-1>.
- Shahbaz A, Funk A. (2021). *Freedom on the Net 2021: The Global Drive to Control Big Tech*. Freedom House. <https://freedomhouse.org/report/freedom-net/2021/global-drive-control-big-tech>.
- Shuaib, M., Alam, S., Nasir, M. S., & Alam, M. S. (2021). Immunity credentials using self-sovereign identity for combating COVID-19 pandemic. *Materials Today: Proceedings*.
- Sostero, M., Milasi, S., Hurley, J., Fernandez-Macias, E., & Bisello, M. (2020). *Teleworkability and the COVID-19 crisis: a new digital divide?* (No. 2020/05). JRC working papers series on labour, education and technology.
- Stephoe, A., Deaton, A., & Stone, A. A. (2015). Subjective wellbeing, health, and ageing. *The Lancet*, 385(9968), 640-648.
- Strengthening online learning when schools are closed—OECD*. (2020). [https://read.oecd-ilibrary.org/view/?ref=136\\_136615-013x4bkowa&title=Strengthening-online-learning-when-schools-are-closed](https://read.oecd-ilibrary.org/view/?ref=136_136615-013x4bkowa&title=Strengthening-online-learning-when-schools-are-closed)
- Taylor, P., Scholarios, D., & Howcroft, D. (2021). Covid-19 and Working from Home Survey: Preliminary Findings.
- Taylor, S., Landry, C. A., Paluszczek, M. M., Fergus, T. A., McKay, D., & Asmundson, G. J. (2020). COVID stress syndrome: Concept, structure, and correlates. *Depression and anxiety*, 37(8), 706-714.
- The Economist International. (2021). *Covid-19 is fuelling a Zoom-boom in cosmetic surgery*. The Economist.
- The Economist. (2021). A new study suggests that “Zoom fatigue” is worse for women than men. *The Economist*.
- Ting, D. S. W., Carin, L., Dzau, V., & Wong, T. Y. (2020). Digital technology and COVID-19. *Nature medicine*, 26(4), 459-461.
- Toussaert, S. (2021). Upping uptake of COVID contact tracing apps. *Nature Human Behaviour*, 5(2), 183-184.
- Trustworthy digital identity*. (2021). The Alan Turing Institute. <https://www.turing.ac.uk/research/interest-groups/trustworthy-digital-identity>.
- Turna, J., Zhang, J., Lamberti, N., Patterson, B., Simpson, W., Francisco, A. P., ... & Van Ameringen, M. (2021). Anxiety, depression and stress during the COVID-19 pandemic: Results from a cross-sectional survey. *Journal of Psychiatric Research*, 137, 96-103.
- Tušl, M., Brauchli, R., Kerksieck, P., & Bauer, G. F. (2021). Impact of the COVID-19 crisis on work and private life, mental well-being and self-rated health in German and Swiss employees: a cross-sectional online survey. *BMC public health*, 21(1), 1-15. <https://doi.org/10.1186/s12889-021-10788-8>
- Twenge, J. M. (2019). More time on technology, less happiness? Associations between digital-media use and psychological well-being. *Current Directions in Psychological Science*, 28(4), 372-379. <https://doi.org/10.1177/0963721419838244>
- United Nations Children's Fund and International Telecommunication Union. (2020). COVID-19 and School Closures: Are children able to continue learning. UNICEF Data. <https://data.unicef.org/resources/remote-learning-reachability-factsheet/>
- United Nations Children's Fund and International Telecommunication Union. (2020). “How many children and young people have internet access at home? Estimating digital connectivity during the COVID-19 pandemic.” UNICEF, New York.
- United Nations Department of Economic and Social Affairs (2021). *Digital technologies critical in facing COVID-19 pandemic*. United Nations Department of Economic and Social Affairs.
- United Nations. (2021). No winners but fewer losers in global economy from COVID than expected. UN News. In: United Nations. <https://news.un.org/en/story/2021/03/1087712>.
- Vaquero, L. M., Rodero-Merino, L., & Buyya, R. (2011). Dynamically scaling applications in the cloud. *ACM SIGCOMM Computer Communication Review*, 41(1), 45-52. <https://doi.org/10.1145/1925861.1925869>
- Villani, L., Pastorino, R., Molinari, E., Anelli, F., Ricciardi, W., Graffigna, G., & Boccia, S. (2021). Impact of the COVID-19 pandemic on psychological well-being of students in an Italian university: a web-based cross-sectional survey. *Globalization and health*, 17(1), 1-14.
- Wagner, J. (2021). *Understanding the API-First Approach to Building Products*. Swagger. <https://swagger.io/resources/articles/adopting-an-api-first-approach/>.
- Ward, G., De Neve, J. E., Ungar, L. H., & Eichstaedt, J. C. (2021). (Un) happiness and voting in US presidential elections. *Journal of Personality and Social Psychology*, 120(2), 370. <https://doi.org/10.1037/PSPI0000249>.
- Watermeyer, R., Crick, T., Knight, C., & Goodall, J. (2021). COVID-19 and digital disruption in UK universities: Afflictions and affordances of emergency online migration. *Higher Education*, 81, 623-641.
- Webster, F. (2006). *Theories Of The Information Society*. Routledge, 1st ed.
- Wegner, P. (1996). Interoperability. *ACM Computing Surveys (CSUR)*, 28(1), 285-287.
- Wheeler, D. A. (2011). Why Free-Libre/Open Source Software (FLOSS)? Look at the Numbers!.
- Whitelaw, S., Mamas, M. A., Topol, E., & Van Spall, H. G. (2020). Applications of digital technology in COVID-19 pandemic planning and response. *The Lancet Digital Health*.
- Williamson, B., Macgilchrist, F., & Potter, J. (2021). Covid-19 controversies and critical research in digital education. *Learning, Media and Technology*, 46(2), 117-127.
- Worklife, B. B. C. (2020, October). Coronavirus: how the world of work may change forever. *BBC. Com. October*.

Yuan, E. J., Hsu, C. A., Lee, W. C., Chen, T. J., Chou, L. F., & Hwang, S. J. (2020). Where to buy face masks? Survey of applications using Taiwan's open data in the time of coronavirus disease 2019. *Journal of the Chinese Medical Association*.

Zheng, Y., & Walsham, G. (2021). Inequality of what? An intersectional approach to digital inequality under Covid-19. *Information and Organization*, 31(1), 100341.

**Endnotes**

- 1 (Rosling, Rosling, & Rönnlund, 2019)
- 2 (Webster, 2006)
- 3 (Castells, 2011)
- 4 On this see for instance <https://blog.quintarelli.it/2021/05/the-epidemiological-impact-of-the-nhs-covid-19-app-nature-contact-tracing/>
- 5 (United Nations, 2021); (Carlsson-Szlezak et al., 2020)
- 6 (Robinson et al., 2020); (Goedhart et al., 2019); (Anderson & Rainie, 2018); (Twenge, 2019); (Whitelaw et al., 2020)
- 7 (Whitelaw et al., 2020), (Meijer et al., 2020), (Iivari et al., 2020), (Das et al., 2021), (Kostenbaum et al., 2020); (United Nations Department of Economic and Social Affairs, 2021); (Ting et al., 2020)
- 8 (Misuraca, 2020)
- 9 (United Nations Children's Fund and International Telecommunication Union, 2020)
- 10 (Worklife, B. B. C. 2020)
- 11 (Adjovi & Flores, 2020)
- 12 See, for example, *Capitalismo Immateriale*, Bollati & Bornglieri, 2019.
- 13 (The Economist International, 2021)
- 14 (The Economist, 2021)
- 15 (Jisc, 2020)
- 16 (Martellozzo, 2020)
- 17 (Nguyen et al., 2020), (Zheng & Walsham, 2021), (Pandey & Pal, 2020), (Ramsetty & Adams, 2020)
- 18 (OECD, 2021), (Ahrendt, Mascherini, Nivakoski, & Sándor, 2021)
- 19 (Taylor, et al., 2020), (Turna et al., 2021), (Gasteiger et al., 2021)
- 20 (Hu et al., 2020), (Greyling et al., 2021), (Cheng et al., 2020), (Campbell & Gavett, 2021), (Villani et al., 2021)
- 21 (Jisc, 2021)
- 22 (Ngamaba et al., 2017); (Steptoe et al., 2015)
- 23 (Papautsky et al., 2021); (Czeisler et al., 2020); (Findling et al., 2020)
- 24 (Findling et al., 2020)
- 25 (Poon, 2020)
- 26 (Apple, 2022)
- 27 Importantly, research has also shown that if there were a high adoption of such software, it may well have the potential for higher benefits. See (Pollinger, 2020); (Browne, 2020); (Toussaert, 2021); (Lee, 2020)
- 28 (Kelion, 2020)
- 29 (McBride, 2021)

- 30 (Shuaib et al., 2021); (Das & Kersey, 2021); (Insights, 2020)
- 31 (UNICEF, 2020)
- 32 A large list of digital education innovations is available here.
- 33 (Li & Lalani, 2020); Dumford & Miller, 2018); (Watermeyer et al., 2021)
- 34 (Iivari et al., 2020); (Zheng et al., 2021); (Watermeyer et al., 2021); (Williamson et al., 2021); (de Marcellis-Warin et al., 2020)
- 35 (UNICEF, 2020); (de Marcellis-Warin et al., 2020); (OECD, 2020)
- 36 (OECD, 2020); (Engzell et al., 2021)
- 37 (Lobe et al., 2021)
- 38 (Lau & Lee, 2021)
- 39 (OECD, 2020)
- 40 (Sostero et al., 2020)
- 41 (Parker et al., 2020)
- 42 (Saad et al., 2021); (Parker et al., 2020); (Taylor et al., 2021)
- 43 (Tušl et al., 2021); (Möhrling et al., 2021)
- 44 For a recent article on how to do remote work better, please see: <https://hbr.org/2021/12/remote-work-should-be-mostly-asynchronous>
- 45 (Broom, 2019); (Osborne, 2021)
- 46 (Nguyen et al., 2020); (Bateman et al., 2020); (Moore, 2020); (Alon et al., 2020); (Czymara et al., 2021); (Collins et al., 2021)
- 47 (Riso, 2020); (Finnegan, 2020)
- 48 (European Parliament, 2021)
- 49 (Misuraca et al. 2020)
- 50 (Mazzucato et al. 2020)
- 51 (Mazzucato et al. 2020)
- 52 (Miller, 2020)
- 53 (González-Zapata et al., 2021); (Yuan et al., 2020)
- 54 (Janssen et al. 2012)
- 55 (Giovannini et al. 2020)
- 56 (ISO, 2017)
- 57 (Misuraca, 2020)
- 58 (Misuraca, 2020)
- 59 (Kotka & Liiv, 2015. p. 152)
- 60 (Pihlak, 2018)
- 61 (Metcalf, 2020)
- 62 (Pietrobruno, 2013); (Collins, 2015); (Rosner et al., 2014)
- 63 (United Nations, 2021)
- 64 (Alan Turing Institute, 2021)
- 65 (Dumortier, 2017)
- 66 (Alan Turing Institute, 2021)
- 67 (Dumortier, 2017)
- 68 (Wagner, 2021)
- 69 (eu-LISA, 2020)
- 70 (Garage48, 2020)
- 71 (UNICEF, 2020); (Li & Lalani, 2020)
- 72 (Prokhorenko et al., 2020); (Vaquero et al., 2011)
- 73 (AWS Institute, 2020)
- 74 (Norris, 2004); (Wheeler, 2011)
- 75 (Parnas, 1972)
- 76 (Baldwin et al., 2003)
- 77 (Powdthavee et al., 2019); (Helliwell, 2006); (De Neve et al., 2013)
- 78 (Ngamaba et al., 2017); (Helliwell, 2015); (Drechsler, 2019)
- 79 (Ward et al., 2021)
- 80 (Fisher, 2020)
- 81 (Riso, 2020)
- 82 (Shahbaz et al., 2021)
- 83 For instance: MIT Technology Review found that despite Facebook's significant investment in security, by October 2019, Eastern European troll farms reached 140 million people a month with propaganda — and 75% of those users saw it not because they followed a page, but because Facebook's recommendation engine served it to them. ProPublica investigated Facebook Marketplace and found thousands of fake accounts participating in a wide variety of scams. The New York Times revealed that Facebook has sought to improve its reputation in part by pumping pro-Facebook stories into the News Feed, an effort known as "Project Amplify." On this topic there are many news accounts, including for instance the Editorial of the online magazine The Verge by Casey Newton on 23 September 2021 titled "Why these Facebook research scandals are different - How the company found itself in its biggest crisis since Cambridge Analytica, <https://www.theverge.com/2021/9/23/22688976/facebook-research-scandals>
- 84 (Alan Turing Institute, 2021)
- 85 (Berkman et al., 1979); (Brody, 2017)
- 86 (Lomanowska et al., 2016); (Sahi et al., 2021)
- 87 (Liu et al. 2019)
- 88 (Mühle et al. 2018)
- 89 (Shuaib et al., 2021); (Das & Kersey, 2021); (Insights, 2020)
- 90 (Martin et al. 2015)

celpax

# How was your day?



Together we can improve our workplace

Your logo here



## Chapter 7

# Measuring Happiness amid the COVID-19 Pandemic

---

Thematic group: Well-being Measurement for Public Policy

**Shun Wang**

Professor, KDI School of Public Policy and Management

**Seonga Kim**

Associate Research Fellow,  
Korea Institute for Health and Social Affairs

**Mingming Ma**

Assistant Professor, Shanghai University  
of Finance and Economics

**Fengyu Wu**

Assistant Professor, East China Normal University

The COVID-19 pandemic has caused more than 4.7 million recorded deaths worldwide as of late September 2021, and has cast phenomenal impacts on all aspects of life. As part of the national and international responses to COVID-19, governments, private organizations, and institutions across the globe have made various efforts to measure and track the well-being of people as the pandemic evolved. This chapter has three objectives. First, we summarize current measures of happiness initiated by public and private sectors across the globe and the innovation in the data collection during the COVID-19 pandemic. Second, we present how happiness was affected during the pandemic using various types of data from different sources. We try to answer the following questions: was happiness resilient to the shocks of COVID-19 and government responses? Are there differences across regions or countries? Did the measurements from different sources yield consistent results? Lastly, we discuss the policy implications.

We start with an overview of the national statistics of well-being during the COVID-19 pandemic in major economies, most of which followed or were consistent with the *OECD Guidelines on Measuring Subjective Well-being* published by the Organisation for Economic Co-operation and Development (OECD).<sup>1</sup> As countries under investigation were affected differently by COVID-19 and the mitigating measures, they also made efforts of various degrees in tracking the well-being of residents. We then present other sources of happiness measures, including international and national surveys conducted by private companies and academic institutions, as well as information extracted from social media and big data.

We find that different surveys give largely consistent results. In general, happiness in Europe and North America was fluctuating substantially during the pandemic, yet many Asian countries show happiness resilience in 2020. The difference in coping strategies and the outcomes of pandemic response across countries and regions may help to explain the difference in dynamics resilience.

Our analysis is limited by the type, frequency, and scope of data available. We call for more

coordinated measuring efforts across countries, using consistent survey questions and collecting data with a higher frequency. Moreover, we find that the surveys and big data on happiness are mostly from developed nations in Europe and North America. We thus call for more measurement efforts in developing nations, and more collaboration between universities, research institutions, governments, and private sectors in tracking people's happiness during the pandemic and in more normal times.

### **Happiness Measures from Governments and International Organizations**

Before COVID-19 struck, many countries, especially the OECD member states, had developed frameworks to measure human well-being.<sup>2</sup> In particular, the OECD introduced a national and multidimensional framework for measuring well-being, which includes indicators of quality of life and material conditions.<sup>3</sup> Among the national well-being indicators within these frameworks, special attention was paid to the collection of comparable happiness indicators by national statistical offices, which was supported by the *OECD Guidelines on measuring subjective well-being*.<sup>4</sup> Three dimensions of happiness metrics and related question modules designed for routine surveys of national statistical offices were included in the *Guidelines*: life evaluation, affect and eudaimonia, which capture the assessment of life, feelings or emotional state, and the meaning and purpose of life of people respectively. Most national statistical offices of the OECD countries (34 out of 35) were collecting data on life evaluation, and some were also collecting data on affect and eudaimonia.<sup>5</sup>

### **Continuing Measurements**

The collection and publishing of happiness data in many countries were made difficult by the pandemic and lockdowns across the globe. The less frequent happiness surveys in some countries also hampered the timely measurements necessary for tracking well-being changes due to the COVID-19 pandemic. However, we still observe great and ongoing efforts from governments in

continuing to measure happiness during the pandemic. National statistical offices in many OECD countries continued to routinely collect and publish national statistics on happiness at various frequencies. The *Annual Population Surveys* carried out by the Office of National Statistics (ONS) in the UK have, since 2011, provided annual and quarterly estimates for well-being evaluated on a scale of 0 to 10 by overall life satisfaction, happiness and anxiety yesterday, and meaningfulness and purpose of life of adults aged 16 years and over. To further assess the impact of the pandemic on life in the UK, ONS also converted a monthly omnibus survey, *Opinions and Lifestyle Survey*, into a weekly survey. ONS has been reporting well-being estimates based on these weekly data since May 2020.<sup>6</sup> Similarly, France has reported quarterly estimates of well-being in dimensions of life evaluation, emotional well-being and eudaimonia since 2016, using data from a module on “Well-being of households” in the consumer confidence survey carried out by Institut national de la statistique et des études économiques (INSEE) every March, June, September, and December, and this was continued throughout the pandemic.<sup>7</sup> Some other national statistical offices also collected and published annual measurements of happiness. For example, Statistics Netherlands (CBS) managed to carry out its annual survey on social cohesion and well-being in 2020 by conducting interviews via the internet and telephone.<sup>8</sup> The statistical offices of Mexico and Hungary recently published their estimates on happiness measured by overall life satisfaction, domain satisfactions, affect and eudaimonia from 2020 and/or 2021.<sup>9</sup> At the European Union (EU) level, although the *EU Statistics on Income and Living Conditions* (EU SILC) had only published data on life satisfaction from an ad-hoc module which is available for 30 countries in 2013 and 2018, with the amendment of the EU Regulation for EU SILC, from 2021, the question of the overall life satisfaction will be asked annually for all countries that participate in the survey.<sup>10</sup>

## New Initiatives during the Pandemic

A few national statistical offices and international organizations also started to carry out new surveys, in particular online surveys, for more timely evaluation of the impact of the COVID-19 pandemic on people’s well-being. The Central Statistics Office of Ireland (CSO), for example, conducted in April/August/November 2020 and February 2021 the *Social Impact of COVID-19 Survey*, which includes personal well-being for a sample of individuals aged 18 years and over living in private households selected from the original *Labour Force Survey* sample.<sup>11</sup> Questions on overall life satisfaction with responses on a scale from 0 to 10 were asked in the surveys, following the *OECD Guidelines*. Statistics Austria conducted the *COVID-19 Prevalence Studies* in April and May 2020 which examined two questions from the WHO-5 mental well-being index as well.<sup>12</sup> In March 2020, Statistics Norway (SSB) also conducted a national survey on *Quality of Life* for the first time, asking life evaluation, affect, and eudaimonia questions.<sup>13</sup> New Zealand’s national statistics office (Stats NZ) included a set of well-being questions as part of a supplement to the quarterly *Household Labour Force Survey* (HLFS) from June 2020 to the March 2021 editions, allowing for non-face-to-face interviews.<sup>14</sup> Overall life satisfaction (scale 0-10), happiness yesterday (scale 0-10), loneliness in the past four weeks, how worthwhile life was (scale 0-10), and mental well-being were asked to HLFS respondents aged 18 or over. These new well-being measurements helped track the changes in well-being due to the pandemic and can be compared to the *General Social Survey* (NZGSS) in previous years. Statistics Canada carried out the *Canadian Perspectives Survey Series* (CPSS) survey, which is an experimental project aiming to collect data on important social issues.<sup>15</sup> The surveys were fielded online over a period of one year, starting from January 15, 2020, until March 15, 2021, with different topics of focus. In particular, the June CPSS survey provided information on people’s happiness during the pandemic, measured by overall life satisfaction (scale: 0-10). At the EU level, three rounds of the *Living, Working and COVID-19 Survey* (LWCS) were implemented by the European Foundation for the Improvement

of Living and Working Conditions (Eurofound), a tripartite European Union Agency.<sup>16</sup> The survey was conducted online in April/May 2020, June/July 2020 and February/March 2021.<sup>17</sup> The surveys included questions on life satisfaction (scale: 1-10) and happiness (scale: 1-10) as well as WHO-5 mental well-being index, based on the Eurofound's *European Quality of Life Survey* (EQLS) and *European Working Conditions Survey* (EWCS) and other sources, such as the EU SILC.<sup>18</sup>

The efforts of public sectors to measure well-being are growing as COVID-19 continues to spread, so our study is at best a subset of the ongoing measurements of happiness by governments across the globe. In addition, initiatives by public health institutions were largely neglected in this chapter. For example, national health surveys conducted by centers for disease control in many countries (e.g., United States) include variants of well-being measures, such as depression and anxiety.<sup>19</sup> However, this chapter still provides an overview of the continuous and new efforts in measuring happiness by national statistics offices during the COVID-19 pandemic, most of which are available in OECD and other developed countries, yet largely missing in governments of developing countries.

## Dynamics of Happiness Measured by Governments and International Organizations

This section presents the happiness dynamics prior to and during the COVID-19 pandemic for overall life satisfaction and three affect indicators in some of the surveys discussed in the previous section. To mitigate the limitations in the comparability of measures, frequencies, and survey modes, we only compare the dynamics of happiness evaluated on the same scales with the same survey questions.

### Dynamics of Happiness in the EU

We begin our analysis using several surveys carried out across a large number of European countries (The happiness survey during the pandemic is *LWCS*. For happiness in the pre-COVID period, we use the EQLS 2016, and EVS/WVS 2017-2021 for EU member states, which

were collected between 2017 and 2020.<sup>20</sup>) The different surveys used the same question on life satisfaction: "All things considered, how satisfied would you say you are with your life these days?" Life satisfaction is measured on a scale of 1 to 10, where 1 means very/completely dissatisfied and 10 means very/completely satisfied. For each individual country, its mean value of life satisfaction from EQLS 2016 or EVS/WVS 2017-2021 is used as the baseline of happiness before the COVID-19 pandemic, while the measurements of life satisfaction from *LWCS* in 2020 and 2021 track the trajectories of happiness during the pandemic.

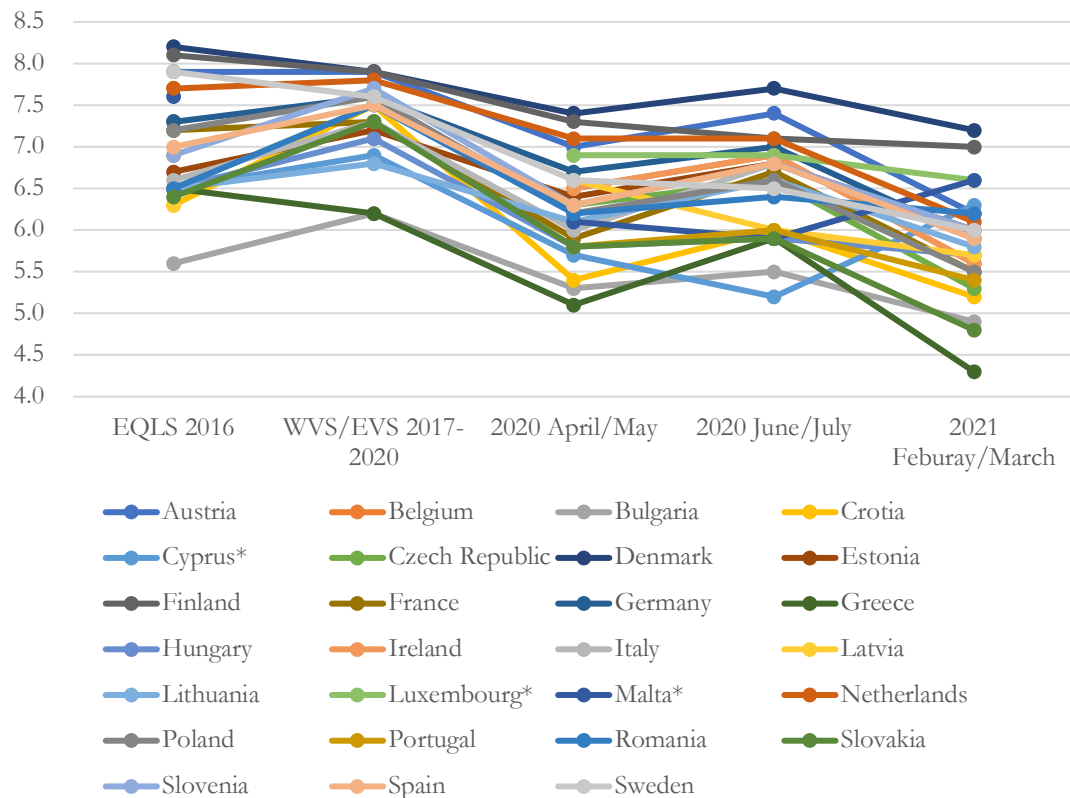
Notes: 1. European Quality of Life Survey (EQLS 2016) was carried out with face-to-face interviews in 2016 and 2017. The data refer to the population aged 18 and over and are weighted to account for unequal selection probabilities at primary sampling unit, household and respondent level, and unequal response in different groups in terms of region, urbanization, age, gender, employment status and household size.

2. Joint European Value Study/World Value Survey (EVS/WVS 2017-2021) was carried out between 2017 and 2020 for the countries under analysis. Most countries had the fieldwork between 2017 and 2018. Portugal is the only country with fieldwork conducted during the pandemic and is treated as missing values for the purpose of this chapter. Survey modes in EVS/WVS include CAPI, CAWI, PAPI, Mail and Post. Data refer to the population aged 18 and over, and are weighted to be representative of each respondent's country's demographic profile in terms of age, gender, region and education.

3. The three rounds of *Living, Working and COVID-19 Survey* were online surveys, carried out in April/May and June/July 2020, and February/March 2021. Low reliability (\*) in June/July 2020 and February/March 2021 for Luxembourg. Low reliability (\*) in June/July 2020 for Cyprus, Malta. The data refer to the population aged 18 and over. All individual responses were weighted to be representative of each respondent's country's demographic profile in terms of age, gender, region and education.

We find that compared with pre-COVID levels, lower overall life satisfaction was recorded in 26 out of 27 EU member states (except for Latvia) in April/May 2020, when most member states

**Figure 7.1: Life Satisfaction in Europe (LWCS compared to EQLS & WVS/EVS)**



Notes:

1. European Quality of Life Survey (EQLS 2016) was carried out with face-to-face interviews in 2016 and 2017. The data refer to the population aged 18 and over and are weighted to account for unequal selection probabilities at primary sampling unit, household and respondent level, and unequal response in different groups in terms of region, urbanization, age, gender, employment status and household size.

2. Joint European Value Study/World Value Survey (EVS/WVS 2017-2021) was carried out between 2017 and 2020 for the countries under analysis. Most countries had the fieldwork between 2017 and 2018. Portugal is the only country with fieldwork conducted during the pandemic and is treated as missing values for the purpose of this chapter. Survey modes in EVS/WVS include CAPI, CAWI, PAPI, Mail and Post. Data refer to the population aged 18 and over, and are weighted to be representative of each respondent's country's demographic profile in terms of age, gender, region and education.

3. The three rounds of Living, Working and COVID-19 Survey were online surveys, carried out in April/May and June/July 2020, and February/March 2021. Low reliability (\*) in June/July 2020 and February/March 2021 for Luxembourg. Low reliability (\*) in June/July 2020 for Cyprus, Malta. The data refer to the population aged 18 and over. All individual responses were weighted to be representative of each respondent's country's demographic profile in terms of age, gender, region and education.

Data source: 1. Eurofound (2017, 2020) and EVS/WVS (2021).

were in their first lockdowns. The EU average of life satisfaction was rated at 6.3 on a scale of 1 to 10 in the first round of LWCS, while it was rated at 7.0 in EQLS 2016 and even higher in EVS/WVS for most countries. It is noteworthy that direct comparison between pre-COVID mean life satisfaction with the online survey results during the COVID-19 pandemic is difficult due to changes in survey mode and sampling methodology, which we will discuss later.

However, remarkable improvements in overall life satisfaction were observed in the EU member states as economies started re-opening and mobility restrictions were eased in June/July 2020. The average life satisfaction score at the EU level increased to 6.7 in summer 2020. 21 out of 27 countries reported higher overall life satisfaction than their ratings in April/May 2020, and the increase is statistically significant in 16 countries, among which France, Greece, and Italy experienced the largest improvement of 0.7.<sup>21</sup> Nonetheless, the improvement was short-lived. The most recent life satisfaction measurement in LWCS showed a more dismal change in the well-being of European residents by March 2021. After about one year of social distancing, restrictions on economic activity and mobility, and a series of national lockdowns in a few countries, on top of successive waves of COVID-19, most Europeans saw declines in mean life satisfaction levels.<sup>22</sup> 25 out of 27 EU member states reported lower ratings of life satisfaction in February/March 2021 than in summer 2020 and 23 of them had lower mean life satisfaction than their first measurement in April/May 2020. Czech Republic, Slovakia, and the Netherlands are among the countries with the largest declines since April 2020.

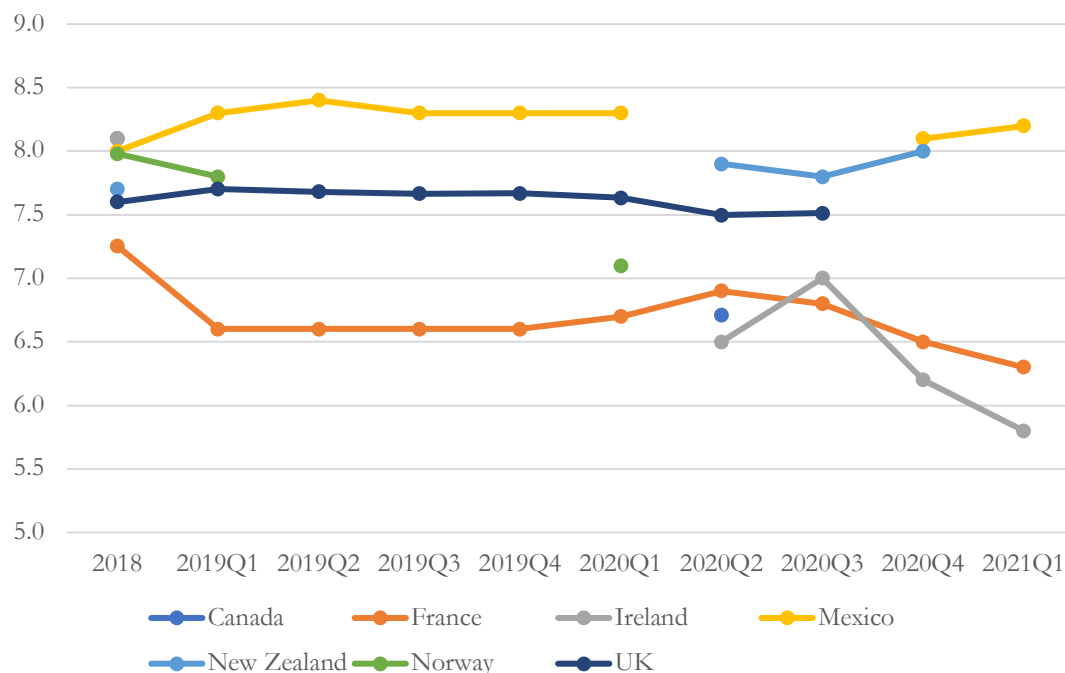
### **Dynamics of Happiness in the UK, France, Ireland, New Zealand, Canada, Mexico and Norway**

We now turn to some OECD countries, namely, the UK, France, Ireland, New Zealand, Canada, Mexico, and Norway. These nations vary in, culture, COVID-19 infection and government responses to the pandemic, but had harmonized national happiness measurements largely consistent with the *OECD Guidelines on Measuring Subjective Well-being*.<sup>23</sup> For happiness before

and during the COVID-19 pandemic, we rely on national surveys or statistics from individual countries, which collected and reported overall life satisfaction in 2019, 2020, or 2021 at varying frequencies. For happiness pre-COVID, we utilize annual life satisfaction data from the year 2018 compiled by the OECD in *How's Life? 2020* f based on multiple surveys.<sup>24</sup> In general, these countries reported estimates of life evaluations, and some of affect and eudaimonia aspects, however, we focus on overall life satisfaction measures in order to facilitate comparisons between surveys, countries, and over time. The question on life satisfaction utilized in these countries is in general as follows: "Overall, how satisfied are you with your life nowadays?", with a response scale ranging from 0 to 10, where 0 means completely dissatisfied/very dissatisfied/not at all satisfied and 10 means completely/very satisfied. We show the dynamics of happiness in these countries using 2019 or 2018 as the base year, depending on data availability. These countries also differ in the frequency and timing of the collection of happiness data, but all countries under analysis except Norway and Canada had more than two measurements during the pandemic.

For France, the UK, and Mexico, which reported happiness estimates quarterly, the mean levels of life satisfaction remain quite stable in 2019 before the pandemic and in the early days of the pandemic.<sup>25</sup> However, in the UK, with the beginning of the first COVID-19 lockdown, the average ratings of life satisfaction declined to 7.50 in the second quarter (April to June) of 2020, a 1.8% fall from the average rating of 7.63 in the first quarter (January to March) and a 2.3% decrease compared with the same quarter in 2019.<sup>26</sup> There was no significant improvement in life satisfaction of UK residents in the third quarter (July to September) of 2020 and average ratings of life satisfaction were 1.95% lower than the third quarter of 2019. In contrast, France reported better national happiness in the first two quarters of 2020, and in particular a jump in life satisfaction in June 2020, reflecting a similar increase of happiness as in LWCS. However, in the first quarter of 2021, this indicator fell sharply, indicating wear and tear in the morale of the French<sup>27</sup> and worsening of happiness as the

**Figure 7.2: Life Satisfaction in Selected OECD Countries (various national surveys)**



Notes:

1. The pre-COVID base year refers to 2018 for Canada and Ireland, and to 2019 for France, Mexico, New Zealand and UK. Data refer to the population aged 18 and older in Mexico; 15 and older in Canada, and New Zealand; and 16 and older in all other cases. Data are (weighted to be) nationally representative of the target population.

2. For the year 2019, 2020 and 2021, data refer to the population aged 18 and older in Ireland, Mexico, New Zealand and Norway; 16 and older in UK; 17 and older in France; 15 and older in Canada. Data are (weighted to be) nationally representative of the target population, except that Mexican data are representative of 32 major cities of the Mexican Republic (national-urban).

Data source: 1. The 2018 data are from OECD's *How's Life? 2020*. <https://doi.org/10.1787/9870c393-en>. OECD and national statistical office calculations, based on the European Union Statistics on Income and Living Conditions 2018 (EU SILC 2018), <https://ec.europa.eu/eurostat/data/database>; the Canadian Community Health Survey; the Mexican National Survey of Household Income and Expenditure (Socioeconomic Conditions Module) and New Zealand General Social Survey.

2. The happiness data of the year 2019, 2020 or 2021 are from the Canadian Perspectives Survey Series (online), <https://www.statcan.gc.ca/eng/survey/household/5311>; the French Monthly Consumer Confidence survey (Well-being of Households Module), <http://www.cepremap.fr/en/bien-etre-travail-et-politiques-publiques/well-being-observatory/a-quarterly-survey-of-well-being-in-france/>; the Social Impact of COVID-19 Survey of Ireland, <https://www.cso.ie/en/statistics/socialconditions/socialimpactofcovid-19survey/>; Mexican National Survey of Consumer Confidence (MÓDULO DE BIENESTAR AUTORREPORTADO, Self-reported Well-being Module, face-to-face), <http://en.www.inegi.org.mx/investigacion/bienestar/basico/>; New Zealand Household Labour Force Survey (face-to-face and telephone), <http://datainfolplus.stats.govt.nz/item/nz.govt.stats/b7c39358-aa03-446f-a27d-91c37caac35d/92/#/nz.govt.stats/95ce07e3-7810-406c-9aa8-0821658551ef/28>; European Union Statistics on Income and Living Conditions 2019 (for Norway only, EU SILC 2019); the Norwegian Quality of Life Survey 2020, <https://www.ssb.no/en/sosiale-forhold-og-kriminalitet/artikler-og-publikasjoner/life-quality-in-norway-2020>; Annual Population Surveys of UK (face-to-face and telephone), <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/personalwellbeingintheukquarterly/april2011toseptember2020>.

pandemic entered another year. In Mexico, on the other hand, the average ratings of life satisfaction in January 2020, October 2020, and January 2021 remained high and stable, relative to the previous year. Norway was among the happiest countries in the world; however, their first quality of life survey revealed a significant drop in life satisfaction from 7.8 in EU SILC 2019 to 7.1 in March 2020,<sup>28</sup> a larger deterioration in happiness than the results shown in *World Happiness Report 2021*.<sup>29</sup>

Compared with their mean life satisfaction levels in 2018, Canada and Ireland also experienced worsening of overall life satisfaction among the general population during the pandemic, while overall life satisfaction remained high in 2020 among New Zealanders. In particular, the Canadian CPSS in June 2020 recorded the lowest life satisfaction (6.71 on a scale of 0 to 10) over the period between 2003 to 2020 with comparable data, which represents a decline of 1.38 from the average life satisfaction in 2018 (8.09).<sup>30</sup> The national statistics on happiness from Ireland showed similar trends as in LWCS. The average overall life satisfaction rating decreased from 8.1 in 2018 to 6.5 in April 2020, when COVID-19 control measures were first introduced in Ireland. The mean overall life satisfaction bounced back to 7.0 in August when mobility restrictions were lifted, but further dropped to 6.2 in November 2020 and 5.8 in February 2021, the lowest rating recorded since 2013.<sup>31</sup> On the contrary, in New Zealand, the average overall life satisfaction rating was 7.9, 7.8, and 8.0 on a scale of 0 to 10 in the second (June), third (September), and fourth (December) quarter of 2020 respectively, which is slightly higher than the rating of 7.7 recorded in the 2018 New Zealand General Social Survey.<sup>32</sup>

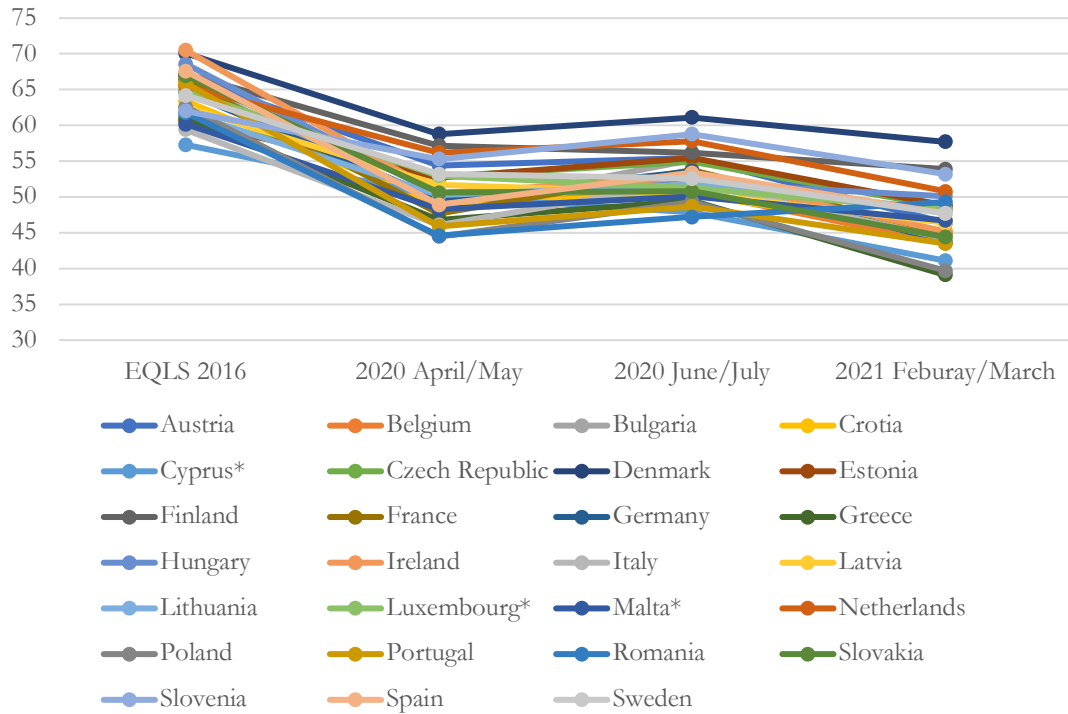
### Alternative Measures

Emotional well-being is also an important dimension of happiness. To bolster our analysis on the happiness dynamics during the pandemic, we provide evidence on changes in three indicators of affect from the Eurofound's EQLS 2016 and LWCS: WHO-5 mental well-being scale, loneliness, tension, and depression. The WHO-5 well-being scale measures positive affect based on five statements of positive feelings over the past two weeks, including "I have felt cheerful and in good spirits", "I have felt calm and relaxed", "I have felt active and vigorous", "I woke up feeling fresh and rested", "My daily life has been filled with things that interest me". The WHO-5 well-being scale ranges from 0 to 100, and a score of 50 or lower is considered at risk of depression. For the negative affect measures, we show the fraction of people reporting feeling lonely/tense/depressed for "all of the time" or "most of the time".<sup>33</sup>

A comparison between EQLS 2016 and LWCS reveals a similar trend of emotions among European residents, measured by positive and negative affect. For most EU member states, positive affect (WHO-5 mental well-being scale) declined, and negative affect (feeling of loneliness, tension, and depression all or most of the time) increased during the first lockdowns, with a recovery of emotional well-being during summer 2020, followed by a further deterioration into spring 2021.



**Figure 7.3a: WHO-5 Mental Well-being Scale**



**Figure 7.3b: Loneliness**

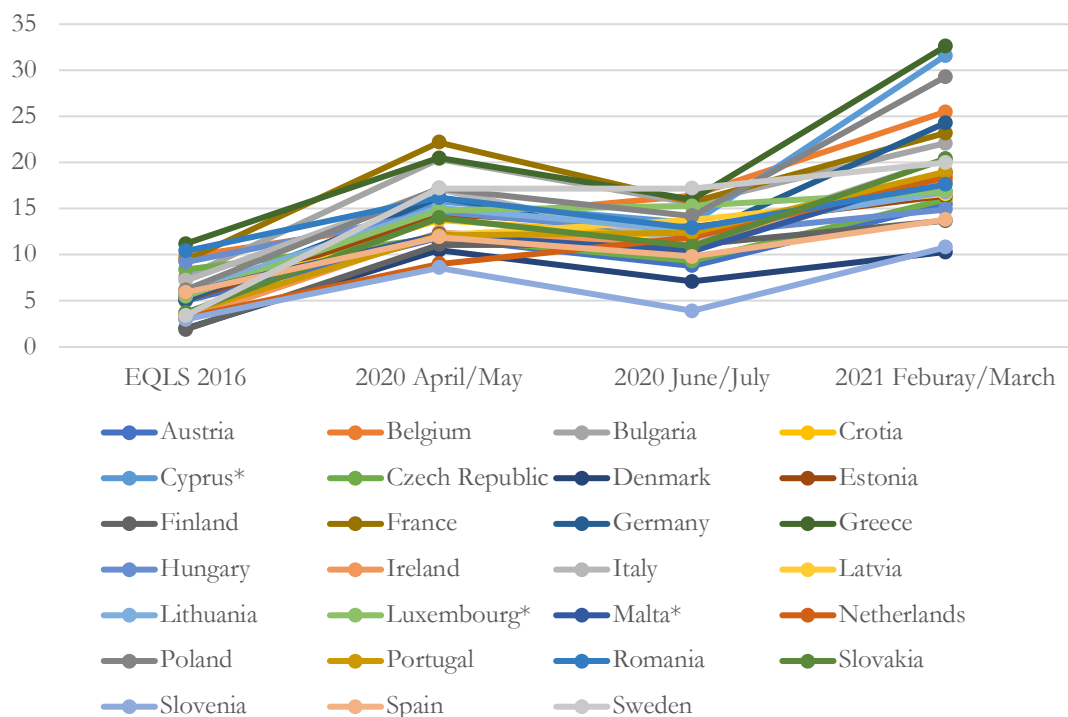


Figure 7.3c: Tension

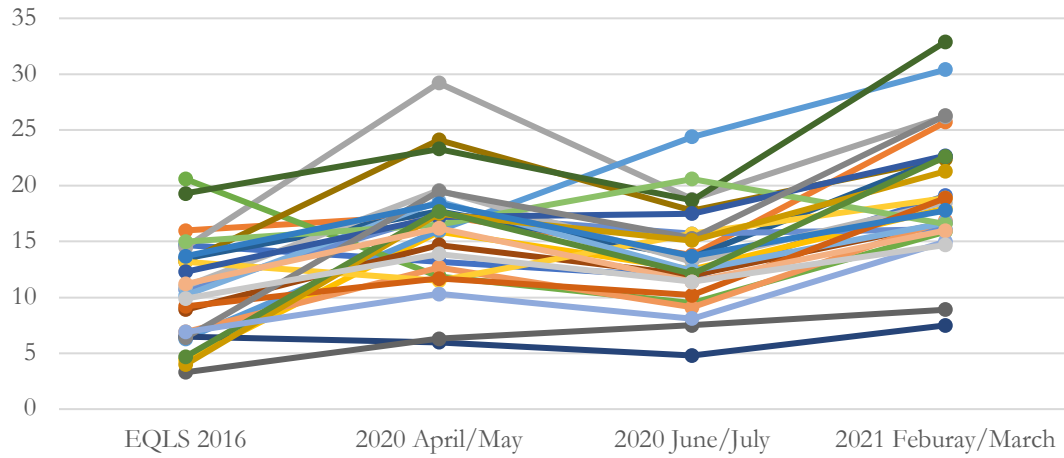
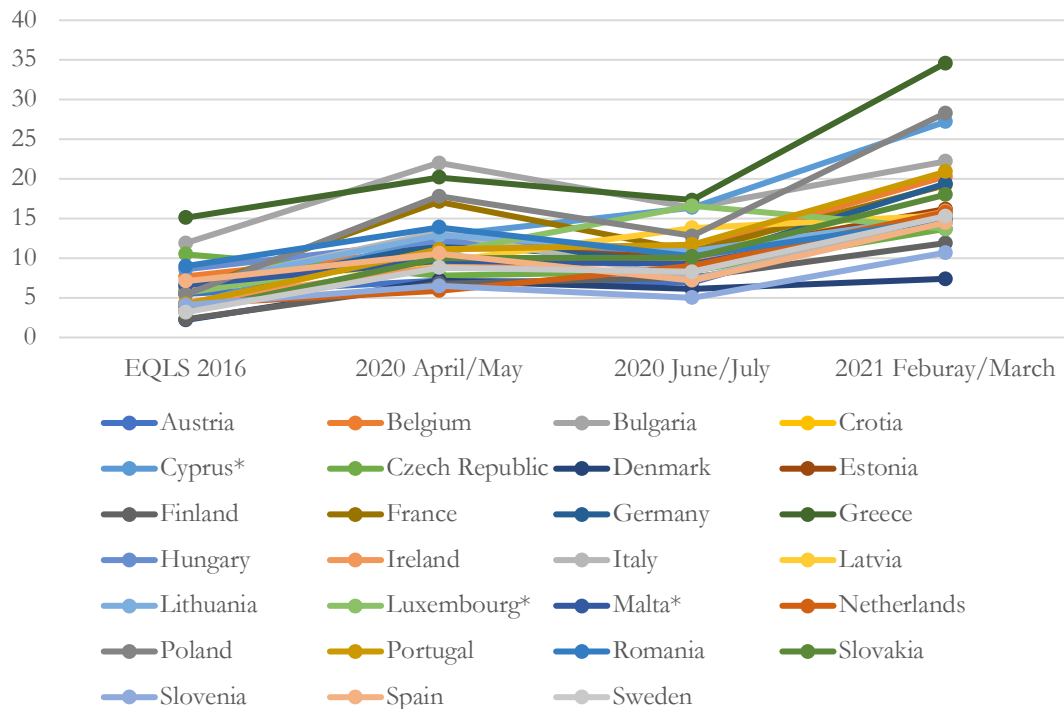


Figure 7.3d Depression



Notes:

1. The pre-COVID base year refers to 2018 for Canada and Ireland, and to 2019 for France, Mexico, New Zealand and UK. Data refer to the population aged 18 and older in Mexico; 15 and older in Canada, and New Zealand; and 16 and older in all other cases. Data are (weighted to be) nationally representative of the target population.

2. For the year 2019, 2020 and 2021, data refer to the population aged 18 and older in Ireland, Mexico, New Zealand and Norway; 16 and older in UK; 17 and older in France; 15 and older in Canada. Data are (weighted to be) nationally representative of the target population, except that Mexican data are representative of 32 major cities of the Mexican Republic (national-urban).

Data source: 1. The 2018 data are from OECD's *How's Life? 2020*. <https://doi.org/10.1787/9870c393-en>. OECD and national statistical office calculations, based on the European Union Statistics on Income and Living Conditions 2018 (EU SILC 2018), <https://ec.europa.eu/eurostat/data/database>; the Canadian Community Health Survey; the Mexican National Survey of Household Income and Expenditure (Socioeconomic Conditions Module) and New Zealand General Social Survey.

2. The happiness data of the year 2019, 2020 or 2021 are from the Canadian Perspectives Survey Series (online), <https://www.statcan.gc.ca/eng/survey/household/5311>; the French Monthly Consumer Confidence survey (Well-being of Households Module), <http://www.cepremap.fr/en/bien-etre-travail-et-politiques-publiques/well-being-observatory/a-quarterly-survey-of-well-being-in-france/>; the Social Impact of COVID-19 Survey of Ireland, <https://www.cso.ie/en/statistics/socialconditions/socialimpactofcovid-19survey/>; Mexican National Survey of Consumer Confidence (MÓDULO DE BIENESTAR AUTORREPORTADO, Self-reported Well-being Module, face-to-face), <http://en.www.inegi.org.mx/investigacion/bienestar/basico/>; New Zealand Household Labour Force Survey (face-to-face and telephone), <http://datainfolplus.stats.govt.nz/item/nz.govt.stats/b7c39358-aa03-446f-a27d-91c37caac35d/92/#/nz.govt.stats/95ce07e3-7810-406c-9aa8-082165851ef/28>; European Union Statistics on Income and Living Conditions 2019 (for Norway only, EU SILC 2019); the Norwegian Quality of Life Survey 2020, <https://www.ssb.no/en/sosiale-forhold-og-kriminalitet/artikler-og-publikasjoner/life-quality-in-norway-2020>; Annual Population Surveys of UK (face-to-face and telephone), <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/personalwellbeinginthequarterly/april2010toseptember2020>.

## Happiness Measures from Non-government Sources

Many non-government organizations, such as universities, research organizations, and survey companies, have been measuring and tracking happiness both before and during the COVID-19 pandemic.

### Surveys Conducted by Research Organizations

Labor panels in a few developed countries now contain survey questions on life satisfaction. They are the *German Socio-Economic Panel* (GSEOP), the *Korean Labor & Income Panel Study* (KLIPS), the *Korea Welfare Panel Study* (KoWePS), the *Swiss Household Panel* (SHP), the *British Household Panel Survey* (BHPS), and the *National Longitudinal Survey* (NLS) and the *Health and Retirement Study* (HRS) from the United States, the *Russia Longitudinal Monitoring Survey* (RLMS), and the *Household, Income and Labour Dynamics in Australia* (HILDA). Their surveys conducted in 2020 could be good sources for studying happiness during the pandemic.

Happiness has also been measured periodically by international surveys covering many countries. For example, the *European Values Study* (EVS) is a large-scale, cross-national, repeated cross-sectional survey with happiness measures, covering European countries.<sup>34</sup> The *World Values Survey* (WVS) grew out of the EVS and had been conducted between 1981 and 2020 at five-year intervals, measuring the affective happiness and life satisfaction of about 1,000 individuals over 100 countries.<sup>35</sup> The two organizations agreed to cooperate in joint data collection from 2017. The data collected were constructed as the EVS/WVS 2017-2021 Dataset.<sup>36</sup>

The Human Flourishing Program of Harvard University introduces 12 flourishing questions in five domains: happiness and life satisfaction, mental and physical health, meaning and purpose, character and virtue, and close social relationships.<sup>37</sup> The survey covers a broader set of questions on people's well-being. The survey was conducted both before the pandemic (January 2-13, 2020) and during the pandemic (May 28-June 10, 2020) in the US when participants were recruited and

surveyed via *Qualtrics Online Panels*.<sup>38</sup>

There are many other surveys conducted by researchers aiming to examine the impact of COVID-19 on happiness, in Germany<sup>39</sup>, Sweden<sup>40</sup>, and in Switzerland<sup>41</sup>.

### Surveys Conducted by Polling Companies

There are surveys covering happiness before and during the pandemic, conducted by polling companies, such as The *Gallup World Poll* (GWP) and *IPSOS's Global Happiness Study*<sup>42</sup>. GWP is an annual global survey conducted by Gallup Inc. covering over 150 countries/regions in the world starting from 2005.<sup>43</sup> The study surveys approximately 1,000 nationally representative residents aged 15 or over per country. The main happiness survey measure is the Cantril ladder, to evaluate the quality of their lives on an 11-point ladder scale running from 0 to 10, with 0 being the worst possible life for them and 10 being the best possible. In addition, GWP includes several questions covering both positive (enjoyment, laughter) and negative affect (anger, sadness, worry). The responses to these affective measures are binary, indicating whether each emotion is felt a lot by the respondent on the previous day.

There has been a mode change in some countries from personal to telephone interviews due to surveying difficulties caused by the pandemic. Research shows that the answers to well-being questions are subject to very small mode effects. For example, recent UK national survey shows that life satisfaction is only 0.04 points lower with in-person than telephone interviewing.<sup>44</sup> However, the shift from personal to phone interviews may change the pool of respondents in some countries, which might pose challenges in comparing happiness in 2020 with that in previous years. Note that the mode change does not affect the developed countries since most of them have already been surveyed by telephone in previous waves.

*IPSOS's Global Happiness Study* has accumulated annual happiness data in over 20 countries since 2011. Its happiness measure is given by the question: "Taking all things together, would you say you are: very happy, rather happy, not very happy, or not happy at all?" The 2020 survey

sample consists of 19,516 adults aged 18-74, via Ipsos' Global Advisor online survey platform from July 24 – August 7.

### Joint Efforts

Research organizations and private polling companies have made joint efforts in tracking happiness. For example, the Department of Politics and International Studies of Cambridge University launched a joint research center, the YouGov-Cambridge Centre for Public Opinion Research, in collaboration with a polling company, YouGov. They report on a weekly basis the past week's mood of about 2,000 residents in England, Scotland, and Wales since June 2019.<sup>45</sup> YouGov- Imperial College London's *Covid-19 Behaviour Tracker* surveyed the Cantril ladder question in 39 countries from late April 2020, in collaboration with the World Happiness Report team.

### Dynamics of Happiness Measured by Non-governmental Sectors

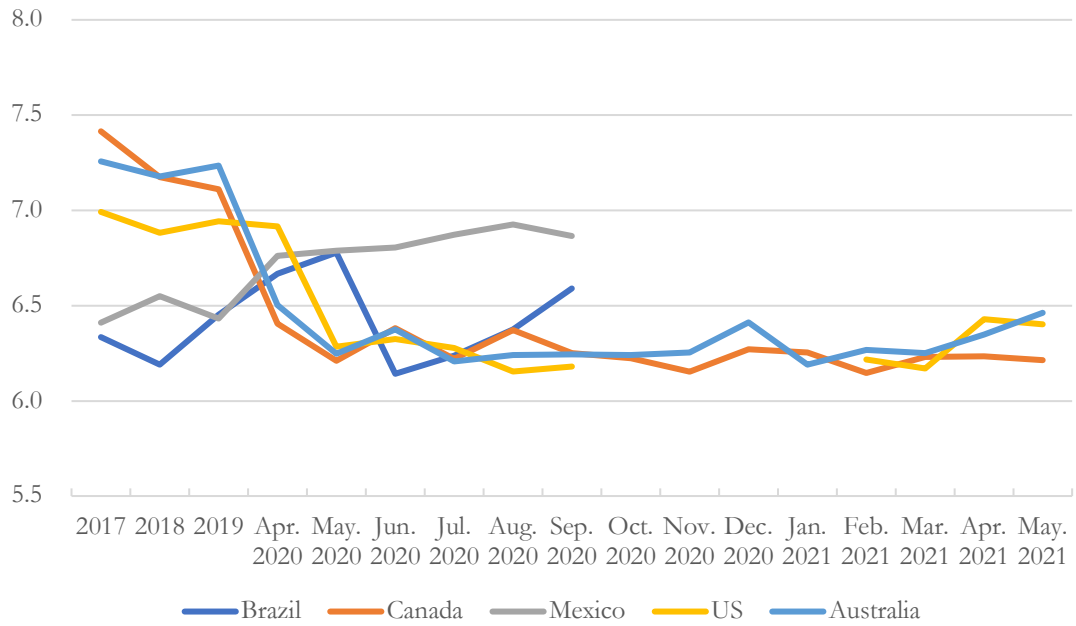
This section discusses happiness dynamics in surveys conducted by survey companies and academic institutions. We use the same measures to compare happiness before and during the pandemic to increase comparability. We focus on 26 countries during the pandemic, using happiness measures from *COVID-19 Public Monitor*, a survey jointly implemented by Imperial College London's Institute of Global Health Innovation and YouGov, an international research data and analytics group headquartered in London. The main objective of the *Monitor* is to track how the public's behaviours and attitudes in relation to COVID-19 are evolving over time. The happiness measure was introduced into the survey in late April 2020, in collaboration with the Sustainable Development Solutions Network (SDSN) and the World Happiness Report editors. The happiness measure is the Cantril ladder, asking individuals to rate themselves on a scale of 0-10, with 0 representing the worst possible life and 10 being the best. The 29 nations included in the happiness survey include Australia, Brazil, Canada, China, Denmark, Finland, France, Germany, Hong Kong, India, Indonesia, Italy, Japan,

Malaysia, Mexico, Netherlands, Norway, Philippines, Saudi Arabia, Singapore, South Korea, Spain, Sweden, Taiwan, Thailand, United Arab Emirates, UK, US, and Vietnam. Surveys are nationally representative with sample sizes of approximately 1,000 individuals per survey per week (ranging from 500 to 2,000), except that samples are only representative of the online population in China and the urban online population in India. We produce monthly averages to show the dynamics.

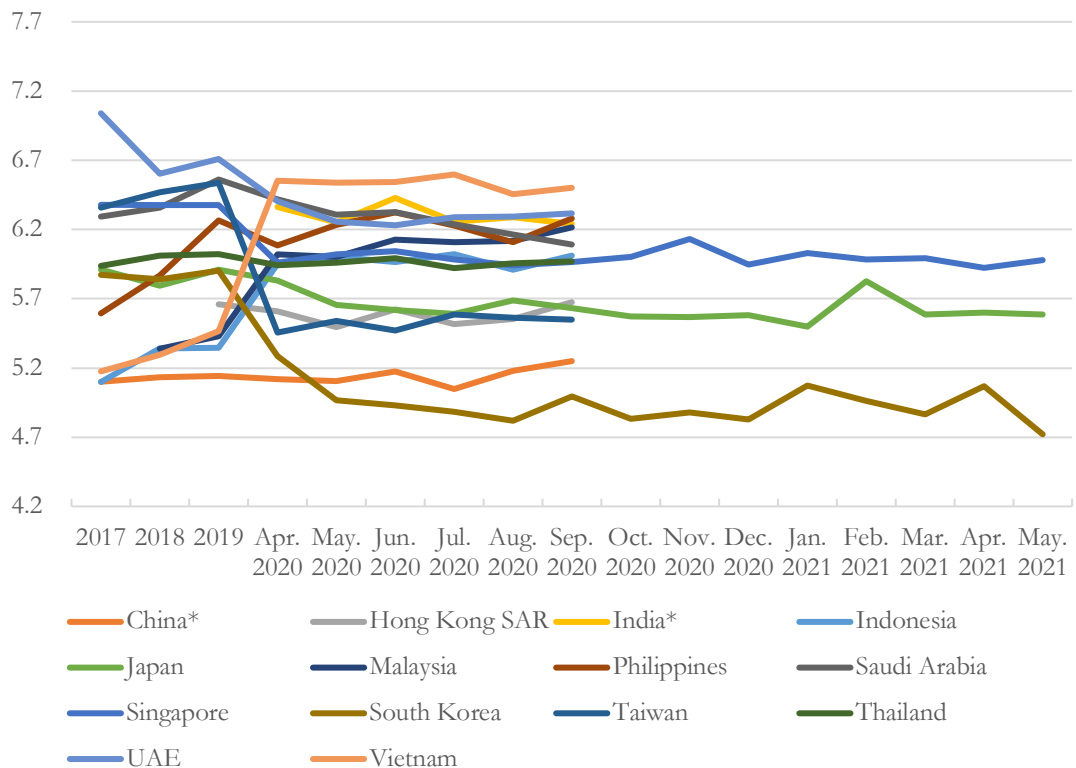
The first average happiness data is available in April 2020, and the last average is either in September 2020 or in May 2021 (the most recent data available when conducting this study). For happiness in the pre-COVID period, we use the *Gallup World Poll (GWP)* collected during 2017–2019. The GWP is a nationally-representative annual survey covering over 150 countries in the world. The three panels of Figure 7.4 show the happiness dynamics in 2020 in comparison to the GWP annual averages in the pre-crisis period, in the Americas and Australia, Asia, and Europe respectively.

Figure 7.4a shows the trends in Australia and four countries in the Americas. Compared to pre-COVID happiness in 2017 to 2019, lower overall life satisfaction was recorded in Canada (from April 2020), Australia (from April 2020), the US (from May 2020), and Brazil (in June 2020), but not in Mexico. The drop in Canada from 2019 to April 2020 was large, 0.71 points on a scale of 0 to 10. There was no significant recovery in Canada until May 2021, though some mild temporary recoveries were observed in June and August 2020. The dynamics in Australia are very similar to those in Canada, with mild temporary recoveries in June and December 2020, and an upward trend since early 2021. The drop in the US from April and May 2020 was also very big (0.62 points). There was no recovery in the US till September 2020. There were no data between October 2020 and January 2021, we thus are not able to tell the dynamics during the period, however, there was a mild recovery after April 2020. Brazil documented a big drop (0.64 points) from May to June 2020 but then had a mild recovery till September. Mexico's averages in the few months in 2020 remained rather stable.

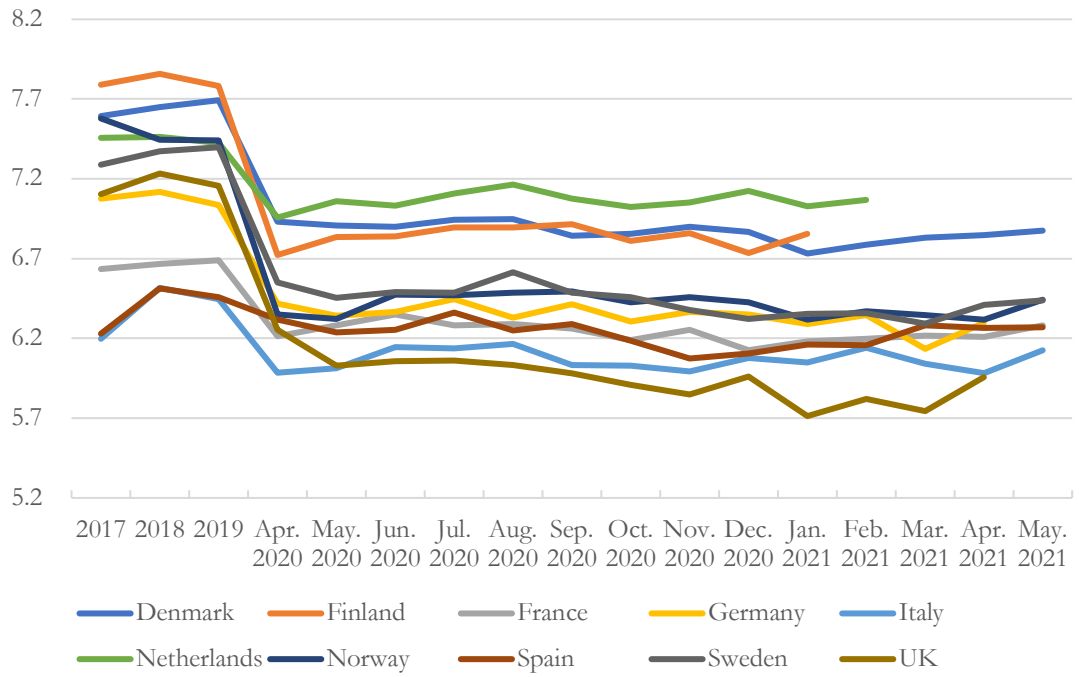
**Figure 7.4a Cantril ladder in America and Australia  
(ICL-YouGov ICL-YouGov compared to GWP)**



**Figure 7.4b Cantril ladder in Asia  
(ICL-YouGov ICL-YouGov compared to GWP)**



**Figure 7.4c Cantril ladder in Europe (ICL-YouGov ICL-YouGov compared to GWP)**



**Notes:**

1. COVID-19 Public Monitor was conducted by ICL-YouGov online. They are nationally representative except for China and India.
2. Gallup World Poll was collected all over the world by Gallup Inc. Their samples are nationally representative.

Figure 7.4b shows the trends in 14 countries or regions in Asia. They can be roughly categorized into three groups. The first group shows a drop in happiness from 2019 to 2020. There was either no recovery or only mild temporary recovery in 2020. Singapore, South Korea, and Taiwan experienced big drops in happiness (0.42, 0.61 and 1.08 respectively) in April 2020 compared to that in 2019. A small recovery was observed in October 2020 in Singapore. Korea's average happiness further decreased to 4.97 in May 2020, and then fluctuated around 5 for a year. There was no significant recovery in Taiwan till September 2020. Japan's happiness did not drop much in April, but the level in May 2020 is 0.25 points lower than that in 2019. Saudi Arabia shows a continuous but mild decline till September 2020. The United Arab Emirates shows a similar trend as Saudi Arabia, except for a small recovery since June 2020. The Philippines experienced a small decrease in April 2020 (0.18 points), but recovered in May and June, before another drop and recovery later. The second group shows an increase in happiness from 2019 (or 2018) to 2020, including Hong Kong SAR, Indonesia, Malaysia, and Vietnam. Happiness remains largely stable in 2020. The third group comprises Thailand and mainland China, where happiness was relatively stable from 2019 to September 2020, though China's happiness showed a small increase after July 2020. India is excluded from the three groups since its happiness cannot be compared with the pre-crisis level due to different sample representativeness. Its happiness shows a mild decrease in 2020 except for a small bump in June.

Different from the divergent pattern observed in Asia and America, the happiness dynamics in the 10 European countries all show sharp decreases in happiness from 2019 to April 2020, indicating a big shock from the pandemic in the beginning. The decrease ranged from 0.14 (Spain) to 1.06 (Finland). Mild temporary recoveries were documented in a few countries such as Finland, France, Netherlands, and Italy from May, and Germany, Norway, Spain, Sweden, and the UK from June, and Denmark after July 2020. The recovery ranges in size from the UK (0.03) to the Netherlands (0.2). Among these countries, the recovery from the first wave of infection and

lockdown generally reached its peak around August 2020. France is the only country that peaked in June 2020, where the second COVID shock wave came earlier than in other countries. These patterns are largely consistent with the results from governmental survey data. A second wave of decrease is generally shown around November and December. Spain has been most affected in the second wave.

## Happiness Measures from Social Media

Furthermore, researchers have extracted data from social media platforms or search engines to assess real-time happiness of people without requiring survey questionnaires. *Twitter* and *Facebook* are two large international platforms that have been used by many researchers. *Google Trends* and its local equivalents are also valuable data sources for happiness measurement.

### Twitter, Facebook and Their Equivalents

*Twitter* and *Facebook* have been widely used by international researchers to extract sentiment, or overall scores of positive and negative emotion.<sup>46</sup> Two types of methods have been applied to extract sentiment: word-level methods and data-driven methods.<sup>47</sup> Word-level methods (e.g., Linguistic Inquiry and Word Count and Language Assessment by Mechanical Turk) involve the use of predetermined or annotated dictionaries that are expected to represent positive and negative emotion and count the frequency of words appearing in the dictionary. On the other hand, data-driven methods involve the use of machine learning to identify the association between the linguistic information contained in the text and its emotional content. The prediction of emotional content in the data-driven methods is based on sentences/documents rather than words in isolation. Comparing *Twitter*-based happiness measures with those from public-opinion surveys, researchers generally find data-driven methods offer performance improvements over word-based methods for predictive problems.<sup>48</sup> One recent study on COVID-19 derives the Gross National Happiness Index from *Twitter* through a data-driven method (Natural Language

Processing) and investigates the relationship between lockdown and expressed happiness in South Africa, New Zealand, and Australia.<sup>49</sup> Since *Twitter* is generally not accessible in mainland China, similar research on mainland China uses data from *Sina Weibo*, the largest social media platform in mainland China and known as the Chinese equivalent of *Twitter*<sup>50</sup> (Wang et al., 2020).

Nevertheless, *Twitter*-type data have a few limitations: First, although the messages are geo-tagged, there are some possibilities of “migration bias”: a statement from the message about a specific location could be sent from a completely different location and different time; Second, there can be a problem of sample selection since *Twitter* users may be significantly different from general populations in terms of some demographic and socioeconomic characteristics, such as age, income, gender, and access to mobile phones.

### Google Trends and Its Equivalents

A number of recent studies on the changes in happiness during the COVID-19 pandemic have used data from *Google Trends*.<sup>51</sup> *Google Trends* provides an unfiltered sample of search requests made to *Google* and an index for search intensity (or relative popularity) by topic or term over the time period requested in a geographical area. The index of relative popularity of each topic/term ranges from 0 to 100, where 100 indicates the peak popularity for that topic/term over the time period, and 0 means there was not enough search volume for the topic/term in a given time period. A search term query on *Google Trends* provides searches for an exact search term, while a topic query includes related search terms in any language. Data for topics were more widely used than those for terms because they not only provide more comprehensive information on search interests but also take into account language differences across countries/regions.

The relative popularity of several topics of negative affect, such as apathy, boredom, frustration, fear, irritability, and sadness, has been found to be a good proxy for the corresponding negative mood state. A “negative affect search index” can be derived by taking the simple

average of the relative popularity of topics of negative affect. On the other hand, the data on topics related to positive mood states, such as happiness, well-being, optimism, and contentment, have been found to be poor proxies for positive emotional states based on both qualitative and quantitative investigations into the related queries of each search topic query.<sup>52</sup>

Even though *Google* has maintained around 90 percent share of the global search engine market from 2010 onward, *Google* is not the dominant search engine due to political or linguistic issues in some countries such as China, South Korea, and Russia.<sup>53</sup> Therefore, there are also equivalents of *Google Trends* in those countries, including *Baidu Index* from China, *Yandex*’s Keyword Statistics from Russia, and *Naver Trends* from South Korea.

### Dynamics of Expressed Happiness from Social Media

Social media data show that people in different countries have had different emotional reactions during the first wave of the COVID-19 pandemic. One of the recent studies, using *Google Trends* data over the period January 1, 2020, to April 10, 2020, and the same period in 2019, finds that the searches for the topic of sadness did not increase significantly during the pandemic (compared with the same period in 2019) in 9 Western European countries, including Austria, Belgium, France, Ireland, Italy, Luxembourg, Portugal, Spain, and the UK, nor in the United States (Figure 7.5).<sup>54</sup> However, searches for the topic of boredom significantly increased during the pandemic and the effects did not disappear throughout their study period (i.e., 3 or 4 weeks after the lockdown in each country) in either the Western European countries or the United States. An increase in searches for loneliness during the first wave lasted about 7 weeks in the Western European countries while the searches did not increase in the United States. Another recent study derives a “negative affect search index”<sup>55</sup> from *Google Trends* for 8 English-speaking countries, including the United Kingdom, Ireland, Canada, Australia, the United States, New Zealand, India, and South Africa, and covers the

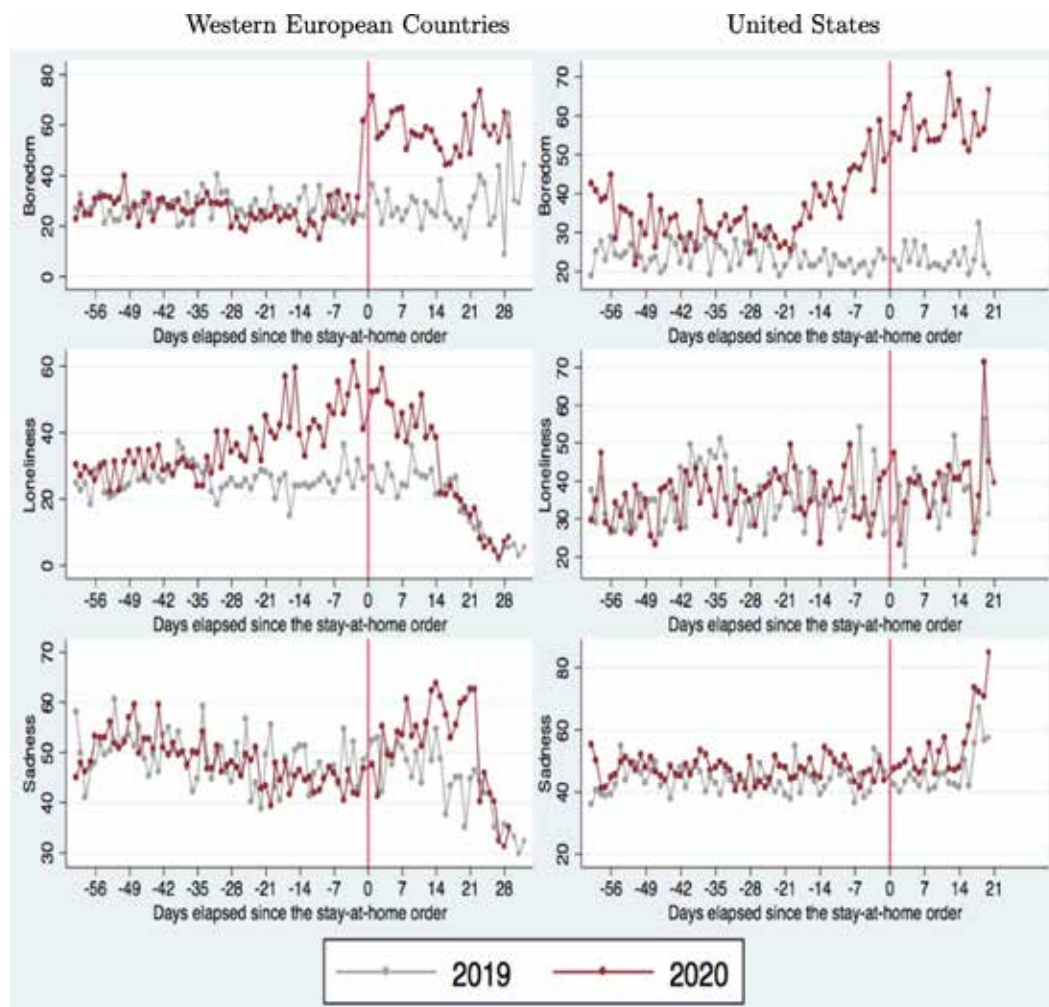


period from June 30, 2019, to June 21, 2020.<sup>56</sup> The authors observe that, in each of these countries, there was a sharp increase in the “negative affect search index” before the lockdown as the pandemic accelerated, followed by a steady decrease after lockdown measures were put in place.

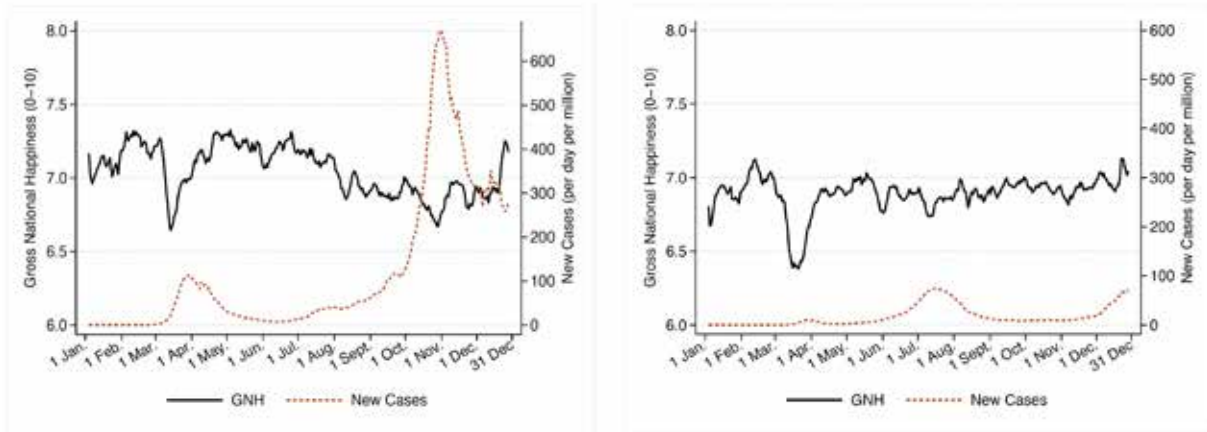
Studies using data from *Twitter* also suggest the negative shock of the pandemic and subsequent recovery. The Gross National Happiness (GNH) Index derived from *Twitter* shows that, in Australia, New Zealand, and South Africa, the level of happiness sharply decreased and then recovered within about a month during the first wave of the

pandemic.<sup>57</sup> A more recent study looks further into the Gross National Happiness Index during the second wave of the pandemic and finds that the index declined slightly and recovered afterward in the three countries (Figure 7.6).<sup>58</sup> The study shows that for 7 European countries, including Belgium, France, Germany, Great Britain, Italy, Luxembourg, and Spain, the GNH index dipped in correspondence with the two pandemic peaks of March and November 2020. During the first wave, the GNH dropped suddenly and recovered quickly afterward. In comparison, during the second wave when there was a slow but steady increase in the number of new cases,

**Figure 7.5: Google Trends in boredom, loneliness, and sadness**



**Notes:** This figure is Figure 1 of Brodeur et al. (2021). The vertical axis shows the average searches (on a scale from 0 to 100) in the days before (negative values) and after (positive values) the stay-at-home order was announced (set equal to day zero) in 2020 (red dots) and the same date in 2019 (grey dots) for 9 European countries (left) and 42 US States (right).

**Figure 7.6: Gross National Happiness and New COVID-19 cases per day in 2020**

(a) Average daily data across seven European countries.

(b) Average daily data across Australia, New Zealand and South Africa.

**Notes:** This figure is Figure 2 in Sarracino et al. (2021). GNH and new cases are presented using seven-day (centered) moving averages.

the GNH declined steadily, culminating with a sharp fall at the beginning of November when infections reached a second peak. It then gradually recovered. Generally speaking, in Australia, New Zealand, South Africa, and 7 European countries, even though happiness levels changed with the number of new cases during the study period, we could still observe some people's resilience for two reasons. First, the level of happiness went relatively quickly back to the level before the pandemic right after the pandemic peaks. Second, although the second wave was much more severe than the first one in these countries, the drops in happiness during the second wave were much smaller. Using data from *Baidu Index*, one recent study on China finds that the searches for several negative keywords, such as depression, scare, fear, anxiety, and stress, increased substantially from the outbreak of the pandemic in Hubei Province but started to decrease in about ten days.<sup>59</sup>

## Conclusions and Policy Implications

This chapter shows similar trends in happiness during the pandemic, using data from various sources. For most European countries, we observe a significant decline in average life evaluations (either measured by life satisfaction or Cantril ladder) and emotional well-being among the general population in the second quarter of 2020, when those countries started to be affected by the pandemic and related restrictions and lockdowns were first introduced. It was then followed by a short-lived recovery in happiness with varying magnitudes across countries in the summer with lower new infection rates, easing mobility restrictions, and the re-opening of economies. The results from social media, which mainly focused on the first half year of 2020, show similar results to surveys. A further drop in life evaluations and emotional well-being was observed in the fourth quarter of 2020. On average, deterioration in happiness during the pandemic was prevalent in these European countries in 2020, which persists into the year 2021 in many of them. Australia, Canada, and the US show a similar pattern to European countries. The failure to control the pandemic in those countries not only hurt the economy, but also has severe happiness implications.

Our findings of lack of resilience in national happiness in Europe and North America stand in contrast with the World Happiness Report 2021 and a recent report by *The Lancet's* COVID-19 Commission Mental Health Task Force, which report notable signs of resilience in life satisfaction across the globe.<sup>60</sup> For example, the Task Force cited data from 34 countries surveyed by the Eurobarometer showing very small changes in life satisfaction in July-August 2020 compared with September – December 2019. However, as our analysis covers a longer time span in 2020 and early 2021 and collect more frequent measurements of life satisfaction during the pandemic, our results indicate more fluctuations and varying degrees of resilience of happiness at different stages of the pandemic. Yet we find some evidence in the resilience of happiness in some countries. For instance, overall life satisfaction in New Zealand and Mexico, as well as Cantril ladder responses in China, Hong Kong SAR, and Thailand remained largely stable in 2020 compared to the previous years. Cantril ladder responses in Indonesia, Malaysia, the Philippines, and Vietnam remained largely stable in 2020, and the levels were even higher than in previous years.

The resilience in some countries might depend on the pandemic control in the study period. It shows that country-specific pandemic severity was the major contributor to the increases in negative emotions, and lockdowns, in contrast, were beneficial for mood overall. Other factors that contribute to people's resilience in some countries include an increase in generalized trust. We shall also point out that several inconsistencies in the happiness measurements prior to and during the COVID-19 pandemic warrants caution in interpreting the happiness dynamics shown in this chapter. First is the change of survey mode in many countries or surveys from mainly face-to-face interviews to mainly telephone, mail, or online surveys (e.g., EU member states in the *LWCS*, the Netherlands, UK, New Zealand, Ireland, Canada). There is some evidence for very small effects of survey mode (in-person vs. telephone) on responses to well-being questions, as shown by data in 2019 from *Annual Population Survey* of UK where average life satisfaction from face-to-face interviews was slightly lower (0.04

on a scale of 0 to 10) than that from telephone interviews. We shall still be cautious since there is thus far a lack of systematic analysis on the possible impact of online survey mode on well-being measurements. In addition, shifting from face-to-face interviews to telephone/mail/online surveys may have also changed the composition and representativeness of the sample. To cope with the problem, our analysis of survey data is mainly based on nationally-representative samples with consistent happiness measures. Nonetheless, there remains the possibilities of selection bias that might not be adjusted for by weighting techniques. Therefore, the comparison between happiness measured before and after the pandemic is less precise than the dynamics of happiness ratings during the pandemic when the survey mode is fixed.

Despite the unprecedented challenge of tracking well-being during the COVID-19 pandemic, we still observe great and ongoing efforts from both government and non-government sectors in continuing happiness measurement during the pandemic. National statistical offices in most of the OECD countries still routinely collected and published national statistics on happiness, and a few national statistical offices and international organizations (e.g., Eurofound) initiated new surveys to promptly evaluate the impact of the pandemic on people's well-being. These initiatives from the public sector include measurements of life satisfaction, emotional well-being, and eudaimonia as suggested by the OECD *Guidelines on Measuring Subjective Well-being*, and some have been measured with high frequency during the pandemic (e.g., UK, France, and Eurofound). The availability of these happiness metrics makes it possible for governments to make more informed and timely decisions in implementing anti-COVID interventions and re-opening policies. In addition, non-government sectors, including universities, research institutes, non-profit international research programs, and survey companies, also maintained their efforts in collecting happiness data during the pandemic.

The inconsistency of happiness measures in our analysis points out that the most important problem in measuring happiness is that residents' happiness has been insufficient in terms of scope, comparability, and frequency. Limited

happiness statistics have been reported in developing countries. More efforts are needed from developing countries to measure and track happiness during the pandemic and in normal times. This may involve the collaboration between government and non-government sectors and guidance from developed countries or international organizations.

Even among more developed countries with happiness measurements, lack of comparability in the survey question and survey mode across countries and over time has impeded meaningful and comprehensive comparison of subjective well-being trajectories before and during the COVID-19 pandemic. Infrequent measurements of happiness by many governments throughout the pandemic might also mask important fluctuations in national well-being that call for policy interventions.

Although a growing number of researchers have obtained data from social media to measure, track, and compare people's expressed happiness across time and space, the data have not been utilized by policymakers or governments yet. Compared to the traditional survey instruments for measuring happiness, social media data and big data analytics not only offer a broader and international coverage but also enable researchers and policymakers to assess real-time happiness

of people. However, happiness measures from social media data do have limitations, including, for instance, only providing information on people's emotional states, and potentially lacking national representativeness. Despite the potential limitations, expressed happiness measures from social media data could complement the happiness measures from conventional surveys and act as valuable measures for emotional states. Further, under certain emergency circumstances, such as pandemics and natural catastrophes that may prevent policymakers from tracking people's well-being through other channels, social media data would be able to provide timely information.

In addition to life evaluations, emotions, eudaimonia, and expressed happiness from social media, we should evaluate the cost of government response to the pandemic in a more commensurable way. We should consider new metrics and approaches for assessing the overall well-being of nations. For example, Layard et al. (2020) proposed to use the number of Wellbeing-Years (WELLBYs) as a single metric for evaluating the net benefit of lifting lockdowns and times to facilitate policy decisions. The WELLBYs metric provides a general framework for comparing the impact of multiple factors, such as income, unemployment, mental health, and national well-being, helping in public policy decisions.

## References

- Aknin, L. B., De Neve, J. E., Dunn, E. W., Fancourt, D., Goldberg, E., Helliwell, J., ... Amor, Y. B. (2021, February 19). Mental health during the first year of the COVID-19 Pandemic: A review and recommendations for moving forward. <https://doi.org/10.31234/osf.io/zw93g>
- Brodeur, A., Clark, A. E., Fleche, S., & Powdthavee, N. (2021). COVID-19, lockdowns and well-being: Evidence from Google Trends. *Journal of Public Economics*, 193, 104346.
- CBS (2021a). Personal well-being ratings virtually unchanged. <https://www.cbs.nl/en-gb/news/2021/13/personal-well-being-ratings-virtually-unchanged>
- CBS (2021b). Well-being: core indicators, background characteristics. <https://www.cbs.nl/nl-nl/cijfers/detail/82634ENG>
- CEPREMAP (2021a). *A quarterly survey of well-being in France*. <http://www.cepremap.fr/en/bien-etre-travail-et-politiques-publiques/well-being-observatory/a-quarterly-survey-of-well-being-in-france/>
- CEPREMAP (2021b). Note de l'Observatoire du Bien-être n°2021-04: Le Bien-être des Français — Mars 2021. <http://www.cepremap.fr/en/2021/04/note-de-lobservatoire-du-bien-etre-n2021-04-le-bien-etre-des-francais-mars-2021/>
- Coates, S., & Aston, H. (2021). *Data collection changes due to the pandemic and their impact on estimating personal well-being*. <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/datacollectionchangesduetothePandemicandtheirimpactonestimatingpersonalwellbeing#mode-effects-on-personal-well-being-estimates>
- CSO (2020a). *Social impact of COVID-19 survey*. <https://www.cso.ie/en/statistics/socialconditions/socialimpactofcovid-19survey/>
- CSO (2020b). Social Impact of COVID-19 Survey April 2020. <https://www.cso.ie/en/releasesandpublications/ep/p-sic19/socialimpactofcovid-19surveyapril2020/well-being/>
- CSO (2020c). Social Impact of COVID-19 Survey November 2020 Well-being and Lifestyle under Level 5 Restrictions. <https://www.cso.ie/en/releasesandpublications/ep/p-sic19wbl5/socialimpactofcovid-19surveynovember2020well-beingandlifestyleunderlevel5restrictions/well-being/>
- CSO (2021). Social Impact of COVID-19 Survey February 2021: Well-being. <https://www.cso.ie/en/releasesandpublications/ep/p-sic19wbg/socialimpactofcovid-19surveyfebruary-2021well-being/introductionandsummaryofmainresults/>
- Curini, L., Iacus, S., & Canova, L. (2015). Measuring idiosyncratic happiness through the analysis of Twitter: An application to the Italian case. *Social Indicators Research*, 121(2), 525–542.
- Devlin, J., Chang, M. W., Lee, K., & Toutanova, K. (2018). Bert: Pre-training of deep bidirectional transformers for language understanding. arXiv: 1810.04805.
- Durand, M (2018). Countries' experiences with well-being and happiness metrics. In *Global happiness policy report*. New York: UN Sustainable Development Solutions Network.
- Eurofound (2017), European Quality of Life Survey 2016: Quality of life, quality of public services, and quality of society, Publications Office of the European Union, Luxembourg.
- Eurofound (2020). Living, working and COVID-19, COVID-19 series. Luxembourg: Publications Office of the European Union.
- Eurofound (2021). Living, working and COVID-19 (Update April 2021): Mental health and trust decline across EU as pandemic enters another year. Luxembourg: Publications Office of the European Union.
- EVS/WVS (2021). European Values Study and World Values Survey: Joint EVS/WVS 2017-2021 Dataset (Joint EVS/WVS). JD Systems Institute & WVSA. Dataset Version 1.1.0, doi:10.14281/18241.11
- Foa, R., Gilbert, S., & Fabian, M. O. (2020). COVID-19 and subjective well-being: Separating the effects of lockdowns from the pandemic. Cambridge, United Kingdom: Bennett Institute for Public Policy. SSRN 3674080.
- Greyling, T., Rossouw, S., & Adhikari, T. (2021). A Tale of three countries: What is the relationship between COVID19, lockdown and happiness?. *South African Journal of Economics*, 89(1), 25–43.
- Helliwell, John F., Huang, Haifeng, Wang, Shun, & Norton, Max (2021). Happiness, trust, and deaths under COVID-19. In Helliwell, John F., Richard Layard, Jeffrey Sachs, and Jan-Emmanuel De Neve (eds). *World happiness report 2021* (pp.13–56). New York: Sustainable Development Solutions Network.
- Helliwell, J. F., Layard, R., & Sachs, J. (2012). *World happiness report*. New York: The Earth Institute, Columbia University.
- Helliwell, J. F., Layard, R., Sachs, J., De Neve, J., Aknin, L., & Wang, S. (2021). *World happiness report 2021*. New York: UN Sustainable Development Solutions Network.
- Helliwell, J. F., Schellenberg & Fonberg, J. (2020). The COVID-19 pandemic and life satisfaction in Canada. <https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00093-eng.htm>
- INEGI (2021). Población según nivel de satisfacción: general y por dominios específicos. <http://en.www.inegi.org.mx/investigacion/bienestar/basico/>
- Jaidka, K., Giorgi, S., Schwartz, H. A., Kern, M. L., Ungar, L. H., & Eichstaedt, J. C. (2020). Estimating geographic subjective well-being from Twitter: A comparison of dictionary and data-driven language methods. *Proceedings of the National Academy of Sciences*, 117(19), 10165–10171.
- Jun, S. P., Yoo, H. S., & Choi, S. (2018). Ten years of research change using Google Trends: From the perspective of big data utilizations and applications. *Technological Forecasting and Social Change*, 130, 69–87.
- Kim, B., & Zhao, Y. (2020). *Psychological suffering owing to lockdown or fear of infection? Evidence from the COVID-19 outbreak in China* (No. 2008).
- Kivi, M., Hansson, I., & Bjälkebring, P. (2021). Up and about: Older adults' well-being during the COVID-19 pandemic in a Swedish longitudinal study. *The Journals of Gerontology: Series B*, 76(2), e4–e9.
- Kristina Strand Støren, Elisabeth Rønning og Karin Hamre Gram (2020). *Livskvalitet i Norge 2020*. Oslo-Kongsvinger: Statistics Norway. [https://www.ssb.no/en/sosiale-forhold-og-kriminalitet/artikler-og-publikasjoner/\\_attachment/433414?\\_ts=17554096418](https://www.ssb.no/en/sosiale-forhold-og-kriminalitet/artikler-og-publikasjoner/_attachment/433414?_ts=17554096418)

- KSH (2021). Life satisfaction by sex, age groups, educational attainment, income quintile, economic activity, household type and dwelling tenure status. [http://www.ksh.hu/stadat\\_eng?lang=en&theme=ele](http://www.ksh.hu/stadat_eng?lang=en&theme=ele)
- Kramer, A. D. (2010, April). An unobtrusive behavioral model of “gross national happiness”. In Proceedings of the SIGCHI conference on human factors in computing systems (pp. 287–290).
- Layard, R., Clark, A., De Neve, J. E., Fancourt, D., Hey, N., Krekel, C., & O’Donnell, G. (2020). When to release the lockdown: a well-being framework for analysing costs and benefits. Centre for Economic Performance, LSE. (Occasional Paper No. 049).
- Luhmann, M. (2017). Using big data to study subjective well-being. *Current Opinion in Behavioral Sciences*, 18, 28–33.
- Ma, M., Wang, S., & Wu, F. (2021). COVID-19 Prevalence and Well-being: Lessons from East Asia. In J. F. Helliwell, R. Layard, J. Sachs, J. De Neve, L. Akinin, & S. Wang (eds.), *World happiness report 2021* (pp. 57–90), New York: UN Sustainable Development Solutions Network.
- Macdonald, B., & Hülür, G. (2021). Well-being and loneliness in Swiss older adults during the COVID-19 pandemic: The role of social relationships. *The Gerontologist*, 61(2), 240–250.
- Mitchell, L., Frank, M. R., Harris, K. D., Dodds, P. S., & Danforth, C. M. (2013). The geography of happiness: Connecting twitter sentiment and expression, demographics, and objective characteristics of place. *PLoS ONE*, 8(5), e64417.
- Miura, A., Komori, M., Matsumura, N., & Maeda, K. (2015). Expression of negative emotional responses to the 2011 Great East Japan Earthquake: Analysis of big data from social media. *Japanese Journal of Psychology*, 86(2), 102–111.
- National Center for Health Statistics (2021). Percentage of regularly having feelings of worry, nervousness, or anxiety for adults aged 18 and over, United States, 2019 Q1, Jan–Mar—2020 Q2, Apr–Jun. National Health Interview Survey. Retrieved from [https://wwwn.cdc.gov/NHISDataQueryTool/ER\\_Quarterly/index\\_quarterly.html](https://wwwn.cdc.gov/NHISDataQueryTool/ER_Quarterly/index_quarterly.html) on April 24, 2021.
- Nguyen, Q. C., Li, D., Meng, H. W., Kath, S., Nsoesie, E., Li, F., & Wen, M. (2016). Building a national neighborhood dataset from geotagged Twitter data for indicators of happiness, diet, and physical activity. *JMIR public health and surveillance*, 2(2), e158.
- OECD (2011). *Compendium of OECD well-being indicators*. Paris: OECD publishing. <http://dx.doi.org/10.1787/9789264191655-en>
- OECD (2013). *OECD Guidelines on measuring subjective well-being*. Paris: OECD publishing. <http://dx.doi.org/10.1787/9789264191655-en>
- OECD (2020). *How’s life? 2020: measuring well-being*, OECD Publishing, Paris, <https://doi.org/10.1787/9870c393-en>.
- ONS (2021). *Personal well-being in the UK, quarterly: April 2011 to September 2020*. <https://www.ons.gov.uk/peoplepopulation-andcommunity/wellbeing/bulletins/personalwellbeingintheu-ukquarterly/april2011toseptember2020>
- Quercia, D., Séaghdha, D. Ó., & Crowcroft, J. (2012, May). Talk of the city: Our tweets, our community happiness. In Proceedings of the International AAAI Conference on Web and Social Media (Vol. 6, No. 1).
- Sarracino, F., Greyling, T., O’Connor, K., Peroni, C., & Rossouw, S. (2021). *A year of pandemic: levels, changes and validity of well-being data from Twitter. Evidence from ten countries* (No. 831). GLO Discussion Paper.
- Schwartz, H. A., Eichstaedt, J. C., Kern, M. L., Dziurzynski, L., Ramones, S. M., Agrawal, M., ... & Ungar, L. H. (2013). Personality, gender, and age in the language of social media: The open-vocabulary approach. *PLoS ONE*, 8(9), e73791.
- Settanni, M., & Marengo, D. (2015). Sharing feelings online: studying emotional well-being via automated text analysis of Facebook posts. *Frontiers in psychology*, 6, 1045.
- SSB (2020). *Life quality in Norway, 2020*. <https://www.ssb.no/en/sosiale-forhold-og-kriminalitet/artikler-og-publikasjoner/life-quality-in-norway-2020>
- Statistics Austria (2020). *Wie geht’s Österreich? 2020 Indikatoren und Analysen sowie COVID-19-Ausblick*. [http://www.statistik.at/web\\_de/statistiken/wohlstand\\_und\\_fortschritt/wie\\_gehts\\_oesterreich/was\\_ist\\_wie\\_gehts\\_oesterreich/index.html](http://www.statistik.at/web_de/statistiken/wohlstand_und_fortschritt/wie_gehts_oesterreich/was_ist_wie_gehts_oesterreich/index.html)
- Statistics Canada (2020). Canadian Perspectives Survey Series (CPSS). <https://www.statcan.gc.ca/eng/survey/household/5311>
- Stats NZ (2020a). Wellbeing statistics: June 2020 quarter. <https://www.stats.govt.nz/information-releases/wellbeing-statistics-june-2020-quarter>
- Stats NZ (2020b). Wellbeing statistics: September 2020 quarter. <https://www.stats.govt.nz/information-releases/wellbeing-statistics-september-2020-quarter>
- Stats NZ (2020c). Wellbeing statistics: December 2020 quarter. <https://www.stats.govt.nz/information-releases/wellbeing-statistics-december-2020-quarter>
- VanderWeele, T. J. (2017). On the promotion of human flourishing. *Proceedings of the National Academy of Sciences of U.S.A.*, 31, 8148–8156.
- VanderWeele, T. J., Fulks, J., Plake, J. F., & Lee, M. T. (2021). National well-being measures before and during the COVID-19 pandemic in online samples. *Journal of General Internal Medicine*, 36(1), 248–250.
- Wang, Y., Wu, P., Liu, X., Li, S., Zhu, T., & Zhao, N. (2020). Subjective well-being of Chinese Sina Weibo users in residential lockdown during the COVID-19 pandemic: Machine learning analysis. *Journal of medical Internet research*, 22(12), e24775.
- Zacher, H., & Rudolph, C. W. (2020). Individual differences and changes in subjective wellbeing during the early stages of the COVID-19 pandemic. *American Psychologist*, 76(1), 50–62.

## Endnotes

- 1 See OECD (2013).
- 2 See Durand (2018).
- 3 See OECD (2011).
- 4 See OECD (2013).
- 5 See Durand (2018).
- 6 See ONS (2021).
- 7 See CEPREMAP (2021a).
- 8 See CBS (2021a, b).
- 9 See INEGI (2021) and KHS (2021).
- 10 See Statistics Austria (2020).
- 11 See CSO (2020a).
- 12 See Austria Statistics (2020).
- 13 See SSB (2020).
- 14 See Stats NZ (2020a, b, c).
- 15 See Statistics Canada (2020).
- 16 See Eurofound (2017).
- 17 See Eurofound (2020).
- 18 See Eurofound (2020).
- 19 For example, see National Center for Health Statistics (2021).
- 20 See EVS/WVS (2021). These surveys are collected by research organizations. More details are introduced in the later section “Surveys Conducted by Research Organizations”.
- 21 See Eurofound (2020).
- 22 See Eurofound (2021).
- 23 See OECD (2013).
- 24 See OECD (2020).
- 25 See CEPREMAP (2021b).
- 26 See ONS (2021).
- 27 See CEPREMAP (2021b).
- 28 See Kristina Strand Støren, Elisabeth Rønning og Karin Hamre Gram (2020).
- 29 See Helliwell et al. (2021).
- 30 See Helliwell et al. (2020).
- 31 See CSO (2020b, 2020c, 2021).
- 32 See Stats NZ (2020a, 2020b, 2020c).
- 33 See Eurofound (2020).
- 34 <https://europeanvaluesstudy.eu/>.
- 35 <https://www.worldvaluessurvey.org/wvs.jsp>
- 36 See EVS/WVS (2021).
- 37 See VanderWeele (2017) and the website of Harvard Flourishing Program: <https://hfh.fas.harvard.edu/measuring-flourishing>.
- 38 See VanderWeele et al. (2021).
- 39 See Zacher and Rudolph (2020).
- 40 See Kivi, Hansson, and Bjälkebring (2021).
- 41 See Macdonald and Hülür (2021).
- 42 <https://www.ipsos.com/en/global-happiness-study-2020>
- 43 The World Happiness Report always use the GWP Cantril ladder averages for their global ranking of happiness (e.g. see Helliwell, Layard, & Sachs, 2012; Helliwell et al., 2021).
- 44 See Coates and Aston (2021).
- 45 See Foa, Gilbert, and Fabian (2020).
- 46 See Curini et al. (2015), Kramer (2010), Luhmann (2017), Mitchell et al. (2013), Miura et al. (2015), Nguyen et al. (2016), and Settanni and Marengo (2015).
- 47 See Jaidka et al. (2020), Mitchell et al. (2013), and Quercia et al. (2012).
- 48 See Devlin et al. (2018) and Schwartz et al. (2013).
- 49 See Greyling et al. (2021).
- 50 See Wang et al. (2020).
- 51 See Brodeur et al. (2021), Foa et al. (2020), and Ma et al. (2021).
- 52 See Foa et al. (2020) and Ma et al. (2021).
- 53 See Jun et al. (2018).
- 54 See Brodeur et al. (2021)
- 55 The “negative affect search index” takes average mentions from the list of possible negative states, including sadness, apathy, frustration, stress, boredom, loneliness, and fear.
- 56 See Foa et al. (2021)
- 57 See Greyling et al. (2021)
- 58 See Sarracino et al. (2021)
- 59 See Kim and Zhao (2020)
- 60 See Aknin et al. (2021)