



Global Happiness Policy Report 2018

Global Happiness Council

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The Global Happiness Council

The Global Happiness Council (GHC) is a new global network of leading academic specialists in happiness and key practitioners in areas ranging from psychology, economics, urban planning, 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, personal happiness, public health, city design and management) who each produce a chapter of policy recommendations in the Global Happiness Policy Report, published annually and presented at the World Government Summit (WGS) in support the Global Dialogue for Happiness. This report provides evidence and policy advice to participating governments on best practices to promote happiness and wellbeing.

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

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Chapter 1

Good Governance in the 21st Century

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The global movement to put happiness at the center of governance reflects a mix of inspiring idealism and down-to-earth realism. Skeptics of the happiness movement believe that power, not happiness, is the (inevitable) business of government. Yet pursuing happiness is not only idealistic; it is the world's best and perhaps only hope to avoid global catastrophe.

The paradoxical condition of modernity was stated by President John F. Kennedy in his inaugural address of January 20, 1961. "For mankind holds in his mortal hands the ability to end all forms of human poverty, and all forms of human life." When Kennedy uttered those famous words, the grave danger was thermo-nuclear war. Today there are other global dangers as well, most notably human-induced global warming, but also the rapid spread of emerging diseases and the human-caused destruction of biodiversity. Choosing happiness over power is therefore our path to global safety and survival.

The 2018 World Government Summit, an inspiring undertaking of the United Arab Emirates, takes place in the shadow of threatened and actual conflict. World leaders exchange threats and insults that one would expect in a schoolyard, not between nuclear powers and not at the podium of the United Nations General Assembly. Many countries in Africa, the Middle East, and Asia remain trapped in a cycle of war, with major regional and global powers vying for advantage while the local people suffer and die in proxy wars. Modern armaments continue to flood into these proxy wars.

It would seem unlikely that happiness can get much of a hearing in such troubled times. Yet people around the world yearn for happiness, not war, and some very wise politicians understand that their job is to deliver for the common good and common interest. Citizens today do not accept to be the cannon fodder for the wars launched by ambitious politicians. Good governance is nothing less nor more than political leaders acting for the average citizen and pursuing the common good.

The Global Dialogue for Happiness at the World Government Summit enables governments from around the world to discuss and compare best practices to put happiness at the top of the policy agenda. Whether governments will follow through in promoting happiness is a matter of

conjecture and hope; but it is the responsibility of scholars and moral leaders everywhere to encourage the UAE's important initiative and help it grow. On the encouraging side, this year's Nobel Peace Prize to the International Campaign to Abolish Nuclear Weapons recognizes the grassroots work of hundreds of organizations around the world in around 100 countries engaged in the effort to end the threat of nuclear war. On the worrying side, the Bulletin of Atomic Scientists has put the hands of their Doomsday Clock at just 2 minutes 30 seconds to midnight, the closest it's been to midnight since the early 1980s at a dark moment of the Cold War. In short, the Global Dialogue for Happiness has its work cut out for it, at a time of promise but also very high anxiety and risk.

The conditions for achieving happiness within a nation are becoming increasingly well understood, thanks to advances in survey data, psychology, and comparative social analysis. The World Happiness Report has demonstrated that a country's ranking on happiness depends on six key conditions: economic prosperity, including decent work for all who want it; the physical and mental health of the citizens; freedom of individuals to make key life decisions; strong and vibrant social support networks (social capital); shared public values of generosity; and social trust, including confidence in the honesty of business and government.

It's no accident, for example, that the Scandinavian countries routinely top the list of happiest countries in the annual World Happiness Report. These countries are prosperous, healthy, and trusting. Corruption is low. Generosity is high. Individuals feel empowered to make key life choices. The social welfare state limits the inequalities between wealth and poverty, and delivers public services to all citizens. The rich do not run politics.

On the other hand, in some other high-income countries, the happiness ranking is far lower. Wealth may be high, but the wealth is accompanied by an excessive inequality of income, wealth, and political power. Trust, as a result, is often reduced by high inequalities of income. In unequal societies, public services tend to be of highly varying quality, often excellent in rich neighborhoods, and inadequate in poor neighborhoods. The public does not

trust its political class. Violence is often rampant in highly unequal societies.

How can the 193 member states of the UN choose happiness over conflict, the common good over the narrow interest? The work of the Global Happiness Council, a new global network of leading academic specialists in happiness and leading practitioners in areas such as psychology, economics, and urban planning, will be to identify best practices at the national and local level, and most promising diplomatic initiatives at the international level, to promote the cause of happiness. I am deeply honored and grateful to direct this new Council.

This volume contains papers by expert working groups on happiness in six important contexts: education, the workplace, the personal level, public health, city design and management, and metrics for good governance. Each of these working groups describes the state of knowledge about promoting happiness within their respective domain. Prof. John Helliwell, a world-renowned academic economist, co-editor of the World Happiness Report, one of the world's leading specialists in happiness studies, offers a synthesis chapter on best practices drawing on the excellent reports of the six working groups.

In my own short introduction, I would like to direct my thoughts to public officials around the world grappling with the practical challenges of governance in the 21st century. How can these officials keep happiness front and center of their crowded agenda? I will touch briefly on seven broad challenges of good governance: war and peace; mental health and well-being; government for the few or the many; the global environmental crisis; skills and the economy; inequality and redistribution; and the management of global power.

War and Peace

War is the greatest enemy of happiness. It leads to destruction and destitution, a sundering of social ties, the suffering and deaths of children, and a public health calamity. Promoting happiness therefore must begin with promoting peace. For that, we should put our efforts into global diplomacy over unilateral actions by individual governments. The greatest threats to the peace come when major governments take matters into their own hands, sometimes despite the strenuous objections of the UN Security Council.

The UN Charter is the most important document for global happiness. Keeping the peace is indeed the essential mission and purpose of the UN. When the major powers (the Permanent Five members of the UN Security Council, or P5) agree within the Security Council, peaceful solutions can almost always prevail. When the major powers disagree, and one then decides to act unilaterally, the dangers gravely multiply.

We should understand that most of today's major conflicts, even those called civil wars, are really proxy wars in which major global powers take sides with regional powers to stoke violence. Major global powers send in military arms and funds to local combatants, inflaming a local conflict and causing the harms to spill over to the wider region and the world (such as the flood of Middle East and African refugees to Europe). Ending such a conflict almost always requires compromise and power sharing, rather than a reckless quest for "victory" by one side over the other. Such a quest for total victory almost always leads to ongoing violence and instability.

Today, the world is calling on the countries on the brink of conflict to go to the negotiating table to find diplomatic solutions to reduce tensions and satisfy the legitimate security interests of both sides. It's often the case that a miscalculation by either side could lead to war, even nuclear war. Careful diplomacy, supported by the entire UN Security Council, could lead to peace and a normalization of relations between the two countries. In the quest for global happiness today, there is no more urgent cause than diplomatic solutions in the world's hotspot regions.

Mental Health and Well-being

We live in an age of tumultuous change, and have witnessed again and again how modern life creates new conditions that threaten our mental and physical well-being. Social ties, family connections, and social support networks are often deeply strained in the shift from rural to urban life. New products and technologies offer new kinds of excitement but also new kinds of addictions, such as to online gaming and social media. New fast-food diets, filled with sugar additives and ultra-refined grains, are contributing to obesity epidemics around the world. And the pharmaceutical industry, both legal and in the back room, are creating new kinds of addictive drugs, such as synthetic opioids that are spurring new public health crises. It is not surprising that major depressive disorder (MDD) and other affective disorders seem to be on the rise in many countries, including countries with great affluence.

Yet the field of happiness studies also has brought important good news for governance as well. In addition to direct interventions to ensure healthier diets, health-promoting cities, and more robust social support networks, there are also low-cost and highly effective public health interventions that can ameliorate many of the adverse mental and physical health burdens. Mental health counseling is, on the evidence, the single most cost effective intervention for reducing suffering and raising well-being in the population. Shockingly, in many countries, a very significant proportion of individuals suffering from depression and other debilitating affective disorders have no access to professional mental health services. Many governments have generally failed to recognize the powerful advances in mental health treatments that are now available. Moreover, since mental illnesses are often stigmatized, they are often kept hidden from view and from the public policy debate, despite the huge costs they impose on families and on society, and the huge benefits that would accrue to a systematic upscaling of mental health services.

Government for the Few or Many

The path to happiness requires broad social inclusion, meaning that all parts of society benefit from economic development, good health, and strong social capital. Inequality not only creates suffering among those left behind, but also adds considerable social and political stresses to highly unequal societies. To achieve social inclusion, governments must act as an instrument of the common good, rather than as a source of power for one faction or group within society. When parts of society are deprived of power and prosperity, not only do those particular groups suffer, but society as a whole is inevitably destabilized. Deeply divided societies turn to force and trickery to maintain the advantages for the privileged groups. Eventually, everybody loses as the quality of life in the society deteriorates.

Social inclusion is most easily achieved in ethnically homogeneous societies, those with a shared culture, language, religion, and history of relative economic equality. Scandinavia's successes today are at least partly the reflection of their history of such cultural, linguistic, religious, and economic relative homogeneity. Yet even when societies have such favored conditions, maintaining social inclusion in a modern capitalist economy (with all its tendencies towards inequality) requires active and creative politics. One can say that Scandinavia has "earned" its high happiness today through a century of creative social and political innovations that have built on a base of ethnic homogeneity.

For most countries, the starting point today involves significant cultural and ethnic diversity, often with many languages, religions, races, and classes jostling within the society. In the U.S., my own country, racial and ethnic divisions remain a legacy of slavery and the wars between European settlers and their descendants with Native Americans. As a result, on key dimensions of social inequality – wealth, income, education, health, social status, and political power – African-Americans and other minority groups continue to suffer relative deprivation.

I would argue that solving such ethnic puzzles is the single greatest challenge for happiness for many societies, especially the ones deeply divided by race, ethnicity, and language. The path forward, it seems to me, must involve

mutual respect and engagement, local self-government to empower minority groups when such groups are geographically concentrated, multi-lingual politics and public services (including primary education), and universal access for all ethnic groups to high-quality public services including health, education, and the rule of law.

Of course, there are many reasons other than ethnic diversity why politics might favor the few over the many. Plutocracies are governments for the rich over the poor; Corporatocracies are governments for powerful corporations against the interests of consumers; and Despotisms are governments of personal rule, putting the interests of an individual or a family above the rest of society. Plutocracies, Corporatocracies, and Despotisms are guaranteed paths to unhappiness, and all are to be resisted. The rich should not be allowed to dominate politics. Governments must be powerful enough to regulate corporations for the common good. And governments must never become the playthings of individuals who turn their back on the common good.

The Global Environmental Crisis

Governments will find it harder and harder to promote the happiness of their citizens if they continue to neglect the growing environmental crises sweeping the planet and their own countries. Global warming, ocean acidification, land degradation, chemical pollution, and destruction of habitats of other species are all intensifying rapidly, and most of these threats are still poorly understood by governments and their citizens, even as the environmental disasters mount. The costs of environmental disasters is soaring, with 2017 reaching record levels of costs, including extreme hurricanes, forest fires, floods, droughts, heat waves, and other disasters. Even the world's richest country is utterly vulnerable to rapidly intensifying environmental crises.

The implication is clear: happiness of the citizens depends on environmental awareness, environmental policy, and environmental justice. People everywhere need to be helped to cope with a rapidly growing global crisis, one that will impinge on food security; the safety of the infrastructure such as power transmission, roads, and dams; and the productivity of countless livelihoods, from farmers to tourist destinations.

In many countries, powerful lobbies including the coal, oil, and gas industries are using their political clout to slow climate action and to deny climate justice. Some fossil-fuel producers try to slow the transition to renewable energy; some automobile producers try to slow the transition to electric vehicles; some major agricultural companies try to slow the introduction of regulations against land clearing and excess water use; and some politically powerful real estate developers try to slow the transition to sustainable zoning and urban plans. If these powerful lobbies succeed in blocking the transition to sustainability, the results for the world will be calamitous. It will be hard to achieve happiness in a world of more frequent torrential storms, rapidly rising sea levels, and the growing intensity and frequency of other climate catastrophes.

Skills and Technological Change

One of the key challenges facing every society is to benefit from the rapid advances of digital technologies, including artificial intelligence. We are surely in a new world, where machines can learn “superhuman” skills (most recently in the games of Go and Chess) in just a few hours, leading to machine proficiencies that dwarf those of the top human experts. Such rapid technological advances will have enormous impacts on governance (e.g. on the delivery of public services), manufacturing, finance, agriculture, entertainment, health care, education, and much else. Even war will be utterly transformed, in ways that could be terrifying, with advances in cyberwarfare, autonomous weapons systems, war in space, and much else.

Every economy will be affected. Most recently, these technological advances have favored a few of the Digital giants, Amazon, Apple, Alphabet (Google), Facebook, and Microsoft, making these five companies the most highly capitalized corporations in the world, with a combined market valuation in December 2017 of \$3.3 trillion dollars. These companies have pioneered new services and business models, but the evidence is also growing that these business models threaten personal privacy, the faith in our electoral systems, and the exacerbation of inequalities of wealth and income.

We know well that decent work is one of the most important underpinnings of happiness, as described well by the excellent chapter on happiness and the workplace in this volume. Yet the digital revolution will almost surely cause a labor force upheaval in the years ahead. Many existing jobs will be rapidly replaced by smart machines; millions of individuals will struggle to find a viable livelihood, and often will have to accept a much lower wage. Happiness, in short, will be threatened unless societies find creative new ways to ensure basic livelihoods and dignity for all those who seek work. The challenge of happiness in the digital age will be a major theme of the Global Happiness Council in the coming years.

Inequality and Redistribution

There is a basic lesson of market economics that all happiness-promoting governments should take to heart. Even when the population enjoys a broad equality of opportunity, the outcomes of the marketplace will tend to produce rising inequality over time. The rich will tend to become richer by using their various political, social, and economic advantages to invest sooner, better, and faster in emerging sectors; to benefit from political patronage; and to buffer against natural hazards and other shocks to the economy. Maintaining a reasonably low level of social and economic inequality requires creative and continuing efforts.

The most equal high-income economies, such as those in Scandinavia, have devised a range of institutions to “lean against” rising inequality. These institutions especially feature universal access to high-quality public services, including health care, child care, and education. The social norms in these countries also emphasize the value of social equality, and these societies tend to frown upon ostentatious displays of great wealth. The super-wealthy are expected, according to the prevailing social norms, to contribute to well-being through generous philanthropic initiatives and public service.

Few high-income societies outside of northern Europe have—as yet—mastered the arts of such egalitarianism, and most countries suffer from levels of income inequality far higher than in Scandinavia. In most political systems, the rich

have their hands on the levers of power, and try to manipulate public policies to their benefit. Globalization has further amplified the power of the ultra-rich by enabling them to hide their vast wealth in secrecy havens and tax havens around the world. In many parts of the world, the social norms promoted by the ultra-rich try to validate vast inequalities of income and wealth by portraying them (falsely, in my view) as inevitable. They pretend that vast wealth reflects the supposed greater talents, and therefore higher moral worth, of the recipients.

Global Power and National Happiness

Most of the world’s citizens and most of the world’s 193 national governments in the United Nations, yearn for peace, tolerance, and happiness for all. Yet the rich and powerful often act with impunity. The world may want peace but if a great power opts for war, what can stop them from doing so? The world may want prosperity for all, but if the world’s most powerful corporations greedily accumulate profits at the expense of the poor or the environment, what can stop them?

My answer is global public opinion, mobilized through governments and through the diplomatic efforts of the United Nations. The United Nations is a remarkable yet fragile institution. It was envisioned by America’s greatest President, Franklin Delano Roosevelt, as a response to two world wars. The UN Charter sets out a universal framework to achieve peace, while the Universal Declaration of Human Rights, sometimes called the UN’s moral charter, sets out a universal framework to promote dignity, human rights, and well-being for all.

In recent years, the UN has identified Sustainable Development as the overarching and necessary framework for global well-being. The UN member states have unanimously adopted Agenda 2030 and the 17 Sustainable Development Goals (SDGs) as the agreed framework for development during the period 2016-2030. They have adopted the Paris Climate Agreement as the guiding framework for addressing the emergency of global warming. Sustainable Development calls for economic development that is socially inclusive and environmentally sustainable. It is, indeed, a framework for global happiness.

In this context, the UAE's new initiative to promote a dialogue among governments in order to explore and share best practices for happiness is to be universally applauded. The Global Dialogue for Happiness will play an important role in enabling the world to fulfill Agenda 2030, meet the SDGs, achieve the objectives of the Paris Climate Agreement, and more generally, fulfill the hopes of the UN Charter and the Universal Declaration of Human Rights. All of us in the Global Happiness Council, a voluntary network of happiness researchers, experts, and practitioners, look forward to supporting the Global Dialogue for Happiness in the years ahead. The stakes are high and the potential of the Global Dialogue for Happiness to promote human well-being around the world is vast.

Chapter 2

Global Happiness Policy Synthesis 2018

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The *Global Happiness Policy Report 2018* marks a new stage in refocusing the aims and content of government policies with the explicit aim of increasing equitable and sustainable human well-being. This change in policy perspective has been decades in the making, built on a growing dissatisfaction¹ with using GDP per capita as a sufficient measure of human progress, inspired by the Bhutanese choice more than 40 years ago to make happiness a national objective, and fuelled by decades of research aimed at creating a transdisciplinary science of happiness.² These converging threads came together on July 19, 2011, when the United Nations General Assembly adopted a Bhutan-sponsored resolution that “called on United Nations Member States to undertake steps that give more importance to happiness and well-being in determining how to achieve and measure social and economic development.”³

That resolution then led to a High Level Meeting on Well-Being and Happiness: Defining a New Economic Paradigm,⁴ convened by the Prime Minister of Bhutan, at the United Nations on April 2, 2012. That meeting marked the release of the landmark first *World Happiness Report*, which brought together the available global data on national happiness and reviewed related evidence from the emerging science of happiness. That report, which in turn built on many other reviews of the science of well-being, provided strong support for the view that the quality of people’s lives can be coherently, reliably, and validly assessed by a variety of subjective well-being measures, collectively referred to in this report as “happiness”. It also built upon, as did the UN meeting itself, the UK launch of a well-being initiative in November 2010, still unique in combining engagement at the highest level from the political, administrative, and data-gathering pillars of government.

Life evaluations were granted a central role in the *World Happiness Reports*, because they provide an umbrella measure by which the relative importance of the supporting pillars for good lives can be compared. The *OECD Guidelines on Measuring Subjective Well-Being*,⁵ which were previewed as a case study in the first report, also emphasized the need to measure life evaluations as a primary indicator, ideally in concert with monitoring affect (i.e., both positive and negative aspects of people’s more daily emotions and

experiences); “Eudaimonia” (i.e. measures of life purpose); and other factors that have been found to support better lives (e.g. income, health, good jobs, family and friends, welcoming communities, good government, trust, and generosity). Having an umbrella measure of subjective well-being permits the relative importance of these factors supporting well-being to be assessed, making it possible to move beyond a general wish to improve well-being towards some specific policies with established credentials for supporting better lives.

Both before and after the April 2012 UN meeting, attempts were made to sketch the possible implications of happiness research for public policies. A number of national and international efforts also aimed to develop a well-being policy framework, as summarized in the OECD chapter in this volume. The Bhutanese government has been exceptional in carrying out systematic national surveys every four years and using the results to investigate the relationship between various policies, well-being and happiness.⁶ But elsewhere there is much less information about what policies might serve to support a happiness agenda. The Global Happiness Council was formed in early 2017 to facilitate happiness policy development in interested countries. The first order of business was to assemble an inventory of happiness policy strategies and interventions that have been proposed or tested in communities and countries around the world.

This volume, the *Global Happiness Policy Report 2018*, contains the first attempts by the Global Happiness Council to assess the range and quality of evidence on possible best practices for happiness policy, as well as how happiness data are collected and used in policy. The first step was to form six policy theme groups, each with a particular focus: health, education, work, personal happiness, cities, and metrics. The initial work plan for each group envisaged this report and another to follow in 2019. This *Report* is our first attempt to assemble an inventory of happiness policy ideas. It should be seen as both preliminary and partial. It is preliminary because the number of relevant ideas is already larger than there has been time to survey, and is growing. It is partial because each theme group has chosen to start by addressing just a part of their topic area, with plans to expand and balance their coverage in the second report.

The chapters in this first *Global Happiness Policy Report* are devoted to the search for policies that could help to improve the levels and distribution of happiness. The chapters generally accept as a starting point that subjective well-being—especially, but not exclusively, assessed by asking how people evaluate the quality of their own lives—provides a good measure of the quality of life in society as a whole, and is a useful focus for public policy. The scientific basis for that starting point has been laid out over several years in the *World Happiness Reports*, and a host of scientific studies reviewed there and elsewhere. This report is our first effort to assemble global evidence about which policies are likely to be most effective in enabling better lives. Because the process of developing and testing policies for human happiness is still at an early stage, many of the chapters combine a review of current policy suggestions or interventions with recommendations for what needs to be done to select ones that could be considered best practices.

How Does a Focus on Happiness Change Policy Making?

How can evidence from the science of well-being be used to improve the science and practice of policy making? To answer this question requires an understanding of both *why* and *how* an emphasis on happiness changes the policy making process. There is a simple answer to the *why* question. Measures of subjective well-being, and especially life evaluations, provide an overall indicator of the quality of life. Having such an umbrella measure of well-being makes it possible to evaluate and compare the economic and social consequences of policies on a consistent basis.

There are three main answers to the question of *how* the practice of policy making changes when subjective well-being becomes the focus of attention. The first involves a fundamental change in the methods used to compare the results of alternative policies. In the absence of happiness as a policy objective, cost-benefit analysis compares the economic benefits and costs with policies recommended if they give the highest economic return in relation to their costs. One key problem with this procedure is that it is difficult to comparably value the social and

economic consequences, with social consequences in particular treated in footnotes or as complications. This changes when the measurement and analysis of happiness gets to the stage where it is possible to treat health, income, social trust and other features of life comparably as sources of well-being. The cost-benefit analysis can then be done using well-being as the objective, with policies preferred that promise to deliver the greatest net increases in the quality of life.⁷ 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 policy making process, this change provides a method of analysis applicable across a wide range of government agencies and departments.

Second, and perhaps more fundamentally, using happiness as an overarching policy objective has the potential for building cross-government cooperation. Narrower objectives of government departments may be subsumed when greater happiness is the encompassing goal. This in turn may aid the achievement of a wider sense of common purpose.

Third, once happiness is established as the overall goal for policy, it is possible and natural to improve the policy making process in fundamental ways. It will now become important to consider not just the happiness of the recipients of government service but also the impact of the services on the happiness of those designing and delivering them, and those living in the surrounding communities. The various chapters in this volume provide many examples showing that the social context—how highly people think of each other and cooperate with one another—is vitally important to how highly they rate their lives. This is true on the job, on the streets, in families, in schools, and in the institutions of government and politics. This issue will be revisited at the end of this chapter after the evidence has been reviewed and synthesized.

The purpose of this chapter is to synthesize the six main theme chapters of the report, viewed from a central policy making perspective. In short, how do the pieces fit together? What are the best practices that appear repeatedly in the different theme areas? How do the theme areas relate to each other and how can they

best be combined to contribute to the overall policy objectives?

The six theme chapters of this report fall naturally into two groups of three chapters each. Chapters in the first group of three each focus on best practices for happiness policies within the scope of what might be a ministry in the context of a national or sub-national government—namely, health, education, and employment. Most of the policy proposals considered likewise relate mainly to the powers and policies vested in the corresponding ministries. However, in all three cases, and especially education and the workplace, many of the most promising innovations under study are not within government ministries but within individual school districts, work groups, and organizations.

Chapters in the second group each address cross-cutting issues that are likely of interest to multiple ministries and to the center of government: personal happiness, cities, and measurement. Personal happiness is cross-cutting because all happiness is personal. This year's personal happiness chapter emphasizes the importance of social relationships, illustrated by a variety of case studies.

The cities theme is cross-cutting in two different ways. First, it is the only chapter to put spatial relations and geographic proximity on center stage, thereby exposing the great extent to which happiness depends on how one interacts with those nearby on a daily basis. Second, most of the world's population now lives in cities, and the proportion is rising every decade; hence, there is an increasingly strong relation between happy cities and happy populations.

The metrics theme is cross-cutting because in order to change policy to take happiness into account, the way in which such data is used in policy must be recognised and subsequently modified. This year's metrics chapter is mainly concerned with efforts to develop data frameworks relating to people's well-being and their use in policy settings at the national level. Future reviews will then discuss the needs of policy makers (in terms of data, research and analytical tools) and the barriers that must be addressed to firmly embed the widespread use of well-being metrics in policy making.

How can these six quite different chapters be synthesized to provide an understandable catalogue of best practices for happiness policy? First, it must be recognized that in this first *Global Happiness Policy Report*, written when there are still relatively few examples of rigorously evaluated happiness policies to review, our catalogue will have many tentative entries, as well as many places where the relevant policies remain to be developed and supported with evidence. Second, each chapter team has chosen to focus on only some parts of their topic areas, with subsequent reports to fill out and update the coverage. Thus, any synthesis will necessarily be only a snapshot of some part of what is known now about policy interventions that have been tried and tested. The synthesis will be of most use if it can draw some signposts from the current chapters to guide future research and policy development.

The synthesis will start with a brief summary of the main points made in each of these six theme chapters. This section will be followed by a summary of some key common elements, followed by a listing of some key features not found in some or all of the chapters in this first report. This structure naturally leads to highlighting of best practices found in some areas and worth emulating elsewhere. This high-level synthesis is supplemented by a more detailed inventory, comprising Appendix A of this chapter, of scores of specific policy strategies and interventions mentioned in the theme chapters.

Later in this chapter the whole package is viewed from a central agency or cabinet office perspective, paying special attention to how responsibilities for particular policies might be best assigned to different levels of government. The objective here is to identify what governments are currently doing to coordinate their policies so that the efforts of different agencies and citizen groups are aligned to facilitate successful innovation. We then consider what can best be done within and across departments and levels of government to improve the evidence base for the development of policies to enable greater happiness. The chapter ends with a look forward to future progress in how policies for happiness are created, analyzed, and applied to individuals, cities, and nations.

Main Contributions of each Thematic Chapter

Health

This year's health chapter, entitled *Mental Illness Destroys Happiness and is Costless to Treat*, first describes the effects of mental illness on happiness across the globe, and then illustrates how a variety of interventions, and especially cognitive behavioural therapy, can substantially reduce mental illness and thereby increase happiness. The gross costs of the proposed expansion are small, 0.1% of global GDP, relative to the gains in happiness that would result. The chapter stresses that most psychological elements of cognitive behavioural interventions aim not just at removing negative thoughts but at cultivating positive attitudes and activities.

Remarkably, when the standard mental health interventions are made available to an expanded proportion of the adult population, they are estimated to be accompanied by reductions in other health care costs equal to the cost of the mental health treatment expansion. At the same time each dollar of mental health expenditure leads to an extra 2.5 dollars of GDP, made possible by expanded employment of those with improved mental health. Ongoing work suggests that digitally assisted psychological therapies may be at least as effective, and a rapid expansion of their availability (and in a more convenient form for many citizens) could further improve cost-effectiveness by 2- to 5-fold. Happiness-based cost-benefit analysis ranks policy interventions by the amount of extra happiness gained for a given amount of net resources required. But this chapter's proposals for improved mental health treatment are calculated to have a negative net resource cost. Thus, in this case, the happiness-based cost-benefit analysis is not used, because the policies are beneficial even using conventional cost-benefit analysis without considering the amount of happiness created, and misery eliminated, by appropriate treatment.

The chapter goes on to consider the mental health of children, and concludes that the benefits of interventions for children and youth may be even greater than for adults, although they have been evaluated in less detail. Because one half of mental health problems for children

are behavior-related, many common interventions provide training for parents. One widely used parental-training program—the Incredible Years Program—has shown up to an 80% reduction in behavior problems over a follow-up lasting several years. Other promising developments include: building support around financial debt into mental health treatments; enabling more self-directed triage and referral; and a greater focus on subjective quality—being treated with respect and dignity—in the healthcare system more generally.

The final section of the chapter considers what might be done to reduce the incidence of mental illness by creating a happier and more resilient population. The main examples here are from schools and workplaces. The chapter argues that the mental well-being of children should be an explicit objective in every school. There are many examples of positive interventions designed to increase the current and future resilience of students, including, of course, the Positive Education programs surveyed in the education chapter. Furthermore, happier workplaces are the best means for preventing workplace stress, and the best places for spotting future problems before they arise. These issues are examined in more detail in the workplace chapter.

In summary, there is no need to choose between treating present mental illness and implementing positive measures to reduce its incidence, because well-designed interventions for both ultimately save money.

Education

This year's education chapter, entitled *Positive Education 2018*, provides a review of positive education programs in 11 countries around the world. The chapter's scope is limited to programs in primary and secondary schools that teach children validated positive education interventions and use validated indicators of happiness, unhappiness, academic success and other related outcomes. The interventions train students to engage in a variety of activities and exercises. These include remembering what went well today; writing letters of gratitude; learning how to respond constructively; identifying and developing character strengths; and training in meditation, mindfulness, empathy, coping with emotions, decision-making, problem solving, and critical thinking.

A review of positive education interventions around the world reveals that they significantly improve both standardized test scores and scores on a variety of measures of emotional well-being. Most important, from the point of view of happiness policies, is the finding in Mexico, Bhutan, and Peru that the strongest predictors of higher standardized test scores were higher connectedness, more perseverance, and more engagement. The implication of this finding is that there does not have to be a trade-off between academic preparation and the acquisition of skills that enable happier lives, because the increases in connectedness, engagement, and perseverance delivered by positive education interventions produce both academic success and happiness.

The positive education movement is marked by a high degree of international engagement and mutual support. The chapter describes a range of training schemes and conferences that have been effective in creating momentum, transferring best practice methods among schools and countries, and achieving common standards of evaluation. The chapter describes current efforts to accelerate the deployment of positive education in more than 20 countries, and concludes with several key pieces of policy advice. The most important of these is to continue focusing on rigorous evaluation—this is essential to reliably establish both the size and duration of the effects of positive education programs. This information, especially when available in comparable form covering all interventions, will be critical to demonstrate the cost-effectiveness of different aspects of positive education. These estimates, in turn, are likely to determine how much and how quickly the experimental research in positive education will ultimately translate into changes in education policies around the world.

Work

This year's work chapter, entitled *Work and Well-being: A Global Perspective*, first highlights the importance of having a job for several aspects of subjective well-being, including life evaluations and both positive and negative emotions. In all global regions, life evaluations are substantially higher for the employed than for the unemployed. Although the gap is large and highly significant everywhere, it is largest in the industrial countries—more than a full point

on the 0-10 scale used for life evaluations. Those who are employed also report more frequent positive emotions and less frequent negative emotions than those who are unemployed. The frequency difference is twice as large for negative emotions as for positive ones, driven by the tight link between unemployment and negative affect. Once again, these gaps are largest in the industrial countries and smaller elsewhere in world.

The chapter then refers to earlier literature revealing a close association between job satisfaction and life satisfaction as a prelude to using global evidence to show what job characteristics are associated with greater job satisfaction. Of the 12 job characteristics considered, two stand out—namely, interpersonal relationships in the workplace and whether the job is interesting. Each of those characteristics explains twice as much of the difference among employees in their job satisfaction as do pay differentials, and on average four times as much as the other job characteristics studied. Of the remaining job characteristics, two negative ones—work life imbalance and a combination of difficulty, stress, and danger—are the most important, but still less than half as important as the two positive headline items. For workers of all education levels, whether male or female, the evidence is consistent that workplace interpersonal relationships and a job's interest level are the most important determinants of job satisfaction.

To reduce the incidence of work-life imbalance, the chapter recommends more flexible and supportive working time arrangements, supported by a Chinese case study showing a significant performance increase, greater job satisfaction, and a lower quit rate among those given the opportunity to work from home.

For each of the other job characteristics found to be important for job satisfaction, the chapter reports evidence at the company level. This evidence generally shows that companies taking steps to improve working conditions related to these job characteristics (as shown for flexible work practices in their Box 1) achieve higher productivity and profitability. Thus, it appears that there remains in the workplace a considerable amount of low hanging fruit to be harvested, through a variety of measures that simultaneously raise employee happiness and boost conventional financial returns.

Personal Happiness

All happiness is personal happiness. Thus, the content in this chapter can provide a foundation for understanding the mechanisms at work in other chapters. The general coverage of this theme relates to individuals and families as they are affected by happiness policies and as they themselves are actors in the creation of happiness in their communities. This year's chapter, entitled *Social Well-Being*, has a special focus on social ties, especially within the family and community contexts. The quality of close social relationships is shown not only to improve the happiness of those involved, but to create important positive feedback loops for subsequent physical health.

The chapter starts with a review of the evidence showing the importance of good social relationships as supports for happiness, and then proceeds to discuss evidence and policies in three different areas: 1) steps to increase positive social connections within neighborhoods and cities, 2) ways of building justified personal trust in others and in public institutions, and 3) strategies to improve the quality of relations within the family. In each case, the authors emphasize the importance of using a positive framework with an emphasis on creating happiness, while at the same time considering policies designed to remove barriers to happiness and to reduce the misery of those in the worst of circumstances.

This chapter considers ways to create positive social connections within neighborhoods and cities, highlighting both top-down initiatives (e.g., zoning regulations) and bottom-up initiatives by community groups. The three topics they choose for special attention are urban design, green spaces, and housing. In each of these areas, they review a variety of research results and use a case study to illustrate possible best practices.

The chapter's section on trust (and corruption) starts by reviewing evidence of the importance of trust as a direct source of happiness, as well as a fundamental support for successful collaboration in all aspects of life. It also provides evidence that suggests that people may be too pessimistic about the trustworthiness of others, and hence are less willing than they should be to reach out to others. The chapter reviews and recommends a variety of local activities in communities and schools (echoing some of the interventions of positive education) that

demonstrate the power and value of pro-social norms, and show how they can be strengthened.

Perceived corruption, a negative indicator of trust, is shown to differ substantially among and within global regions, but found everywhere to depress well-being. To address corruption, the chapter lists a number of strategies, including anti-corruption laws, stronger investigative powers, greater transparency, and training that promotes ethical behavior and greater citizen input.

The final part of the chapter focuses on family relationships, where happiness is critically impacted by happy marriages and positive parenting. As possible workplace and public policy supports for happier families, the chapter advocates more flexible hours and family leave provisions (echoing the work chapter), a variety of parenting programs (echoing both the health and education chapters), and a number of measures aimed at reducing family violence.

Cities

This year's cities chapter, entitled *Happy Cities in a Smart World*, is intended to advise local governments working to increase levels of happiness and well-being in their cities. The "smart world" aspect comes into play in this chapter through the presentation of case studies of technologies that help to make cities more efficient while also increasing the subjective well-being of their residents.

The core of the chapter is a series of 14 case studies from all over the world, each of which is chosen to reflect one or more aspects of best practice. The first two case studies relate to the establishment of policy feedback loops. The first of the policy feedback cases is the Smart Happiness Project Evaluation (SHAPE) tool, which uses happiness-based weights to combine data from the six dimensions of the Smart Dubai strategy, ultimately providing for each proposal a cost effectiveness ratio representing the amount of happiness delivered per currency unit of cost. The second case study is the Boston CityScore which monitors key outcomes to make sure they are within target ranges.

There are then two case studies in each of six policy areas: the economy (new uses for technology in Dubai and the Local Initiatives Support Plan in the US), people and society (the Healthy Weight

Programme in Amsterdam and the community hub model in Prince Albert, Saskatchewan), governance (online links to government in Dubai, and the Mi Ciudad (My City) platform in Quito, Ecuador), mobility (demand management in Arlington, Virginia and the Autonomous Shuttle in Civaux, France), environment (water quality in Slovenia, and waste sorting and reduction in Seoul, Korea), and living enablers (making places for people in Melbourne, Australia, and a safety reporting system in Quito, Ecuador)

In reviewing their array of interventions, which include many examples beyond the chosen case studies, the chapter authors note the possible trade off required between innovation and rigorous assessment. They advocate a mixed approach that enables relatively unfettered innovation followed by more structured evaluation of particular interventions, as well as their replication at future time points and in other cities.

Metrics

This year's metrics chapter, entitled *Countries' Experiences with Well-Being and Happiness Metrics*, starts with a review of the progress made in a number of countries to move beyond GDP towards broader measures of the well-being of nations. It highlights the similarities and differences among the various national approaches, with a special focus on recent developments in the measurement of subjective well-being in national statistics. As shown in Appendix A, the chapter helpfully summarizes a number of the OECD's previously established principles for the measurement of subjective well-being. This involves widespread collection of a key set of five core variables, including life satisfaction, three affect variables (happy, worried, depressed), and a measure of life purpose. The national experiences in developing well-being measures share several common features, including widespread public consultation, collection of key indicators relating to people's well-being, and widespread collection of subjective well-being data.

The main part of the chapter is devoted to examining some national experiences of integrating well-being frameworks into policy. This includes descriptions of seven case studies in Ecuador, France, Italy, New Zealand, Scotland, Sweden, and the United Kingdom.

Looking at the list of national well-being policy programs and the seven case studies that are the centrepiece of the 2018 chapter, two general conclusions can be drawn.

On the one hand, there has been considerable progress on the well-being measurement agenda, and several governments are taking active steps to introduce these measures, on a systematic basis, into policy decision making. This speaks to the momentum of the *Beyond GDP* agenda, and the desire to give more central positions to a number of social and other factors that have been shown to support happiness. The range of examples featured—from passing laws about the use of alternative indicators in budget processes, through to the establishment of a government ministry focused on well-being—provide a rich variety of insights into the challenges and opportunities of giving well-being metrics a more central role in policy. Nonetheless, the large majority of these initiatives have emerged within the last few years, meaning that most are yet to become firmly established as tried and tested approaches. This makes it difficult, at this stage, to identify “best practice”—and it is not at all clear that just one model will emerge to fit all government contexts.

On the other hand, the degree of emphasis on subjective well-being varies across the examples considered. While most frameworks do incorporate subjective well-being measures, only very rarely do the national programs or case studies under review place subjective well-being at the centre of their data gathering and policy analysis. In that sense, even these leading adopters are not yet able to provide the data and analysis needed to support the selection of policies according to their likely ability to improve human happiness—although the United Kingdom's *What Works Centre for Wellbeing* is working towards this goal. In some cases, for example Germany, the framework does not include subjective data in the range of variables that will be routinely monitored, although the motivation for the development of the German framework is clearly to achieve better lives, “gut leben.” Thus, while there is often a strong role for subjective well-being in the *Beyond GDP* movement, this is not always yet the case.

The case studies also highlight the value of well-being metrics throughout the policy cycle,

from the initial stages of identifying issues and setting strategic priorities, through to policy design, implementation, monitoring and finally evaluation of policy outcomes through the lens of well-being and happiness. This emphasis on the *process* of making policy helps to complement the other chapters which often focus on specific policy interventions and programs to raise happiness.

Policy Synthesis

Common elements

Most chapters highlighted the importance of measuring subjective well-being, and also its key supporting variables, with enough frequency and geographic breakdown to provide subjective well-being data at the level of cities and neighbourhoods. However, there are still only a small number of national statistical agencies that have data collections sufficient to support this degree of analysis; hence, it is common to see still a gap between the data being collected and what would be needed for the design and selection of policies to improve happiness, especially at more local levels.

Several chapters emphasized the importance of a more deliberately experimental approach to the development of a happiness policy agenda. This is for two related reasons. On the one hand, systematically considering the well-being consequences of alternative ways of doing things (as emphasized in the work chapter) broadens the knowledge base supporting the overall science of well-being. Second, several chapters (education, personal happiness, cities) advocated experimentation as the best-practice way to evaluate and rank specific policy interventions.

Several chapters also noted, although sometimes more in passing than as the central message, that the happiness effects and policy effectiveness were likely to be greater where there was greater engagement by all the actors, as contrasted to cases where the policy interventions were designed far away and dropped from above.

As befitting the first global survey of happiness policy interventions, the chapters all take pains to note the variety of national and local circumstances affecting the feasibility and consequences of policy interventions. What works here might not

work there—but then again it might. The implication of this uncertainty is that even the best of policy ideas deserve local testing to check their applicability in local circumstances. This also facilitates the building of a locally engaged set of experimenters, which in itself would help to increase the happiness consequences of the resulting policy choices.

Several chapters stress the value of programs and policies aimed at children, intended to increase their chances for happier and more meaningful lives now and in the future. The mental health chapter describes services targeted directly at children as well as their parents. In the personal happiness chapter the primary focus is on the parents, while in the education chapter the examples mainly relate to building positive attitudes and resilience among students and their teachers, with a few interventions covering parents as well.

Possible missing elements

As documented above, there are still relatively few countries collecting enough subjective well-being data to support the development and validation of policies designed to improve happiness. Perhaps it may be possible to build on the general acceptance of the need to move beyond GDP to gradually move subjective well-being indicators from peripheral positions to their more natural roles as overall summary indicators of the quality of life. There they would be better positioned to help to judge the relative importance of the variety of other social indicators that are already being given central roles in national programs for the development and analysis of well-being. Some of the national case studies in the metrics chapter give prominent enough positions to subjective well-being to provide a strong starting position for an eventual move closer to center stage. For example, Sweden's 15 New Measures of Well-Being, introduced as part of the 2017 Budget Bill and intended as a strong signal from the Swedish government, includes three key subjective indicators among its headline items: life satisfaction, self-assessed health status, and social trust.

There is very little attention thus far to the happiness consequences of different ways of finding and applying policies. What might it mean to pay more attention to how government

policies are delivered? In 2004, the government of Singapore introduced a “No Wrong Door” (NWD) policy designed to ensure that every request for information or services from a government employee would trigger best efforts to either deal directly with the request or find someone who can help. This government-wide policy aimed to redesign the social relationships between citizens and their government by changing the “how” rather than just the “what” of public services. The purpose of such an initiative was no doubt to increase the quality of life for citizens. Given the scale of interactions between people and their governments, closer attention to the “how” aspect of governance deserves more attention, and suitable evaluation of its consequences for the happiness of citizens and public servants alike.

The NWD policy has subsequently been adopted in many places, including services for children and youth in Durham Ontario,⁸ mental health services in Sydney Australia,⁹ services for the elderly in the US Commonwealth of Virginia,¹⁰ and more broadly to streamline access to long-term service options in US states,¹¹ and for young people served by the North Yorkshire County Council. In one application for children and youth services in Ontario, the NWD policy was directly paired with a positive “Warm Hand-Off” approach, with the latter indicating the willingness to go the extra mile, in a friendly way, to ensure that clients get connected to a service provider who can provide what they want and need.¹²

The recent North Yorkshire programme is rare in having been made the focus of a systematic effectiveness evaluation, from its introduction in April 2015 until March 2017.¹³ The evaluation criteria mainly reflected traditional outcomes, but also included significant improvements in overall scores in the Strength and Difficulties Questionnaire, which screens for behavioral and emotional problems in children and youth. More collaborative and forward-looking linkages among government departments and agencies are central to this and other successful applications of the NWD policy. The effects of this closer cooperation on the happiness of the care workers are very likely positive, but remain to be properly evaluated. Similarly, although the children and families kept out of trouble and treatment by these early positive interventions almost surely have happier lives as a consequence, these

effects are still relatively unstudied. This limitation only reflects, as is clear from many of the policies listed in this report, that most of the policies under review have not been developed and evaluated as part of an overall happiness strategy.

There is also scant evidence available yet on the roadblocks that are likely to impede or at least complicate the design and implementation of happiness policies. Introducing a happiness policy agenda would require major changes in the way policies are designed and delivered—changes on a scale large enough to threaten many entrenched methods and objectives. What efforts have and should be made to foresee and forestall the inevitable objections to these changes?

There are some key areas of public policy—such as the justice system (including policing, courts, and prisons) and the management of political institutions—that do not have their own theme groups and have thus far not received much attention in the cross-cutting chapters. Some of the relevant issues are discussed in the trust section of the personal happiness chapter, and an alternative model of policing is central to the Prince Albert Hub example in the cities chapter, but a fuller analysis of policy best practices remains to be completed.

Practices worth emulating in other areas

As highlighted in Appendix A, the various chapters contain several cross-cutting principles designed to facilitate a happiness policy strategy, and worth emulation in all areas. These include regular widespread monitoring of subjective well-being (education, workplace, cities); rigorous happiness-based evaluation of interventions (health, education, workplace); measurement of subjective well-being before and after interventions (personal happiness), and in comparable comparison samples; and using happiness and other outcome data to help set policy priorities on a continual basis (cities).

Several chapters illustrate the value of developing and testing the same program in a number of different countries and contexts. This approach benefits from lessons learned in previous applications, and makes it easier to compare effectiveness in different contexts, which enables faster diffusion of good examples. It deserves fuller application in all theme areas.

The health chapter provides an extended case study showing how cost-benefit analysis can be used to convincingly rank the cost effectiveness of different established treatments for mental illness. In their mental health example, however, the net negative resource costs forbid a full application of cost-benefit analysis based on happiness, because the happiness cost-benefit ratio rises to infinity as the net resource cost approaches zero. Future editions of the health and other theme chapters should provide more detailed examples implementing cost-benefit analysis using happiness as the objective.

The health chapter also is unusual in the specificity of its proposals, thereby facilitating more precise estimates of costs and benefits. Another helpful feature of the health chapter, worth emulating, is its emphasis on the practical but often difficult steps needed—from general approval, and even budget allocations, to delivering the policy on the ground. In the case of mental health, such steps involve identifying the treatments to be delivered, deciding which service is to provide them, and ensuring the necessary training for providers.

The cities chapter is unusual in the number, detail, and specificity of their chosen examples. Each is selected because it adds a fresh element of innovation, coupled with enough experience to enable others to pick up and apply their ideas. The chapter emphasizes the role of technology for happy cities, but in fact, the examples reveal that the key secret for smart cities is human imagination rendered effective by community cooperation.

What are the implications for the structure of governance?

Evaluating policies from a viewpoint based on the science of well-being makes a real difference. Most obviously, policies are thereby evaluated based on their likely impacts on happiness. Perhaps more importantly, the happiness impacts of policy frameworks depend not just on what is done, but how it is done, and for what reasons. The most promising and innovative policies involve open collaboration at the very local level, providing opportunities for individuals and groups to work together to improve their own communities. Even more effective are innovations that are intended to be shared with other groups and communities. Although the primary examples

of such collaborative policy innovations are in the city and community contexts, the same principles seem equally applicable in health, education, workplaces, and even policing, prisons, and public administration. The No Wrong Door interventions described provide good cases in point, as all involve much more open and collaborative relationships among departments and agencies previously more used to operating under their own procedures and rules, and with less regard for whether the system as a whole was working or not to deliver more happiness.

Many of the case studies suggest some specialization of function by level of government, with the higher levels setting the broad policy objectives and designing an institutional framework flexible enough to facilitate innovation at the lower levels. Making room for local innovation is important for all policies, but especially for policies designed to support happiness, given the importance of local circumstances and of collaborative local engagement as sources of happiness.

The variety of case studies provided in these chapters and elsewhere suggest that we consider a broader definition of governance and best practices for creating policy. Sometimes a single individual who simply starts bringing people together, thereby creating social spaces and shared connections where none existed before, can not only make her own neighbourhood happier, but provide an attractive example for others to follow.¹⁴ Within firms or government departments, it is equally possible for innovation to arise from the actions of individuals with no assigned formal roles or authority to develop policies. Yet these examples, if they are emulated elsewhere, build positive social norms and networks and increase social trust, and have strong claims to be treated as best practices. What are the implications of this possibility? Those with more formal responsibilities to shape policy within governments, enterprises, and other organizations need to do all they can to encourage these individual innovations, and to make it easier for them to be understood and copied elsewhere.

The theme chapters together suggest three principles to coordinate policies among ministries and agencies. First, break down the ministerial and disciplinary silo walls to enable front-line delivery-level as well as policy-level collaboration

among agencies designing and delivering policies to their citizens. Second, given this aim, prioritize as candidates for collaboration those policies that look forward with the intention of foreseeing and forestalling bad outcomes and, even more important for the long haul, those with the greatest potential for generating happier outcomes from any starting point. Third, introduce and emphasize a happiness agenda as a central part of these cross-government collaborations, providing a positive encompassing purpose sufficiently attractive to subsume or override narrower ministerial objectives.

What might block faster adoption of happiness-based policy making in national governments? The metrics chapter identifies three general factors that might slow or block progress, and that are evident in some of their case studies. These include lack of a sufficiently legitimate political imperative, lack of sufficient consensus about what should be measured, and variety of structural barriers generally amounting to simple resistance to a new approach to policy making. Removing these blockages is likely to be easier when the whole policy cycle is engaged, from the highest political levels setting strategic directions and signaling the way forward to policy makers, through to the trenches of policy delivery on the ground, and back again to the higher levels.

Improving the evidence base

Taken together, the chapters in this report illustrate the interlocking importance of measurement, innovation, experimentation, and analysis. The examples in the cities chapter together weave a strong case for an essentially iterative process whereby innovation, small scale experimentation, evaluation, redesign, new tests, fresh evaluations, trials in different contexts, and sharing of results together provide a low-cost and low-risk way to test ideas before larger-scale experimentation and policy adoption.

The chapters in this report, in their lists of best practices collected in Appendix A, contain a mix of policies, some aimed at building happiness and others more oriented to reducing misery, stopping crime and curing illness. What is still unclear is to what extent these different policy objectives, and the policies they suggest, have equal claims to be central parts of a happiness

policy strategy. To some degree, they should be seen as mutually supportive, because increasing the happiness of those in life's worst circumstances will raise average happiness, both directly through the increased happiness of the no-longer-miserable and indirectly because people are on average happier when they live in a society where there is a smaller happiness gap between the happiest and least happy members of their communities.¹⁵ Results also show that population-wide efforts to improve social trust are likely to improve the happiness of all, but to have even larger benefits for those who are unemployed, in ill health, or subject to discrimination.¹⁶ Both of these pieces of evidence suggest possible consistency between the misery-reduction and happiness-building policy approaches.

Two important qualifications need to be made, however. The first is a risk that continued emphasis on misery reduction will be accompanied by a failure to consider the possibly greater benefits of broader happiness-focused policies. The second is the argument that the use of narrowly-targeted support policies may lessen their positive impact on happiness, fuelled by resentment among some non-recipients and feelings of stigma by the recipients, accompanied by a loss of the social trust and voter support that a more universal set of safety net policies can induce.¹⁷

A great deal more targeted research is needed to show when and how misery-reduction and happiness-increasing policies can be made to dovetail in ways that do the most to improve the levels and distribution of happiness. This work will first require an expansion of the evidence base to collect more positive measures of subjective well-being alongside the more frequently measured indicators of illness and other bad outcomes. For example, although there are now validated positive measures of mental health suitable for use by medical practitioners,¹⁸ and found to be predictive of subsequent mental illness,¹⁹ they have not yet been taken up widely in medical practice. Second, while many positive interventions have been designed and found to improve social interactions and health,²⁰ including mortality,²¹ in both healthy and unhealthy populations,²² their health and happiness effects are not yet assessed alongside those of treatments of illness. Accordingly, the relative advantages of curing bad outcomes and creating good ones remain more uncertain than they need be.

Looking forward

It is probably fair to conclude that a great deal still remains to be done to develop a robust set of policy proposals suitable for wide application. Although the examples provided in the theme chapters of this report are often inspiring and informative, they can only rarely be said to be policies designed for and tested within a broader happiness policy framework. Many of the example policies have been designed and proposed for quite different objectives, and drawn into the happiness policy review because they have credible claims to support happiness. This is understandable at this early stage, but it is subject to four major limitations.

First, many of the existing evaluations of the proposals in question are based on traditional outcomes, with no explicit measurement of their implications for happiness. As a result, it is hard to decide which ideas might qualify as best practices. To change this will require more regular and widespread collection of data on subjective well-being, thereby improving the scientific basis for evaluating policies intended to improve happiness.

Second, policies developed before the introduction of a happiness policy framework, and without reference to the available research in the science of well-being, are likely to exclude policies that may have their biggest returns through improvements in well-being rather than through more conventional channels.

Third, only recently has more attention been paid to the happiness effects of how policies are designed and delivered—that is, the analysis of the all-important human contacts between those delivering and receiving policies. The No Wrong Door initiatives provide clear examples, equally applicable within and across different agencies and ministries, of policies designed to change how policies are delivered. They deserve both emulation and evaluation within a happiness policy framework.

Fourth, in the absence of a happiness emphasis in the choice and evaluation of policies, the policies chosen for experimentation and evaluation are likely to remain those designed bearing in mind the traditional objectives of the ministry in question; whether they are concerned with economic development, health,

education, the administration of justice, or foreign relations.

Looking forward, there is thus ample scope for happiness-motivated policy strategies to become better coordinated across government activities, better supported by experimental evidence, and more broadly and consistently based on the still emerging science of happiness. Coordination and broad application are more likely where they are supported by government-wide guidelines for happiness-based policy evaluation. Good examples of such government-wide guidelines are provided by Bhutan²³ and the United Arab Emirates.²⁴

What will it take to make a transformative shift towards happiness-based policies across the whole range of government activities? One pathway forward may be through moves by government departments and services to place more focus on how much users like the government services they receive. For example, drawing on ‘net-recommender’ scores in the commercial world, patients and relatives are now regularly asked at UK hospitals whether they would recommend that particular service to friends or relatives. As was found in the Canadian citizen first program a decade earlier, the net-recommender scores are driven substantially by ‘human’ and well-being factors, such as being treated with respect and dignity (not just clinical outcomes). The adoption of such measures more widely in public and private services, particularly when combined with transparency and at least some element of choice, in effect create a new driver for services to focus on the factors that affect subjective well-being.

Generally speaking, it is very difficult for the kind of evidence-based interventions reviewed in these chapters to organically influence cross-government policy making on a broad scale. Significant cross-government presence requires engagement throughout the policy cycle, from the highest political levels through to the delivery of policy and then to the accountable agencies. It may perhaps also require a defining political opportunity with a compelling alternative vision.

Happiness may well provide both a defining opportunity and a compelling vision, but what is needed to fuel such a transformation? Having the most influential central agencies involved will be crucial, including the highest levels of involvement

in the political, administrative, data-gathering and policy-development spheres. Enabled and inspired by this high-level support, the most important innovations are likely to come from those directly and immediately involved in delivering services. This will require a broad transformation of public thinking, coupled with top-level political will to support a widespread culture of local innovation, made effective by shared information, trust, collaboration and a common vision. Local innovation is to be cherished, as it requires less central coordination, unleashes and engages those in the front lines of policy design and delivery, and does more to ensure that the policies are appropriate for local conditions. It also provides the broadest and strongest evidence base for deep-seated policy reforms enabling better lives.

Endnotes

- 1 See Stiglitz et al (2009).
- 2 See www.grossnationalhappiness.com and Ura et al (2015).
- 3 Resolution 65/309. See <http://www.un.org/apps/news/story.asp?NewsID=39084#.WhdODLYZP3h>
- 4 For the report of the meeting, see: <https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=617&menu=35>
- 5 See OECD (2013).
- 6 See, for example, CBS (2016).
- 7 See Chapter 4 of World Happiness Report 2015.
- 8 See <http://www.rfecydurham.com/resourceportal/no-wrong-door>
- 9 See <http://www.pirsws.com.au/no-wrong-door/>
- 10 See <https://www.nowrongdoorvirginia.org>
- 11 See <https://www.acl.gov/programs/connecting-people-services/aging-and-disability-resource-centers-program-no-wrong-door>
- 12 See the posting: <http://www.hpechildrenandyouth.ca/2013/08/what-does-no-wrong-door-and-warm-hand-off-really-mean/>
- 13 See Lushey et al (2017).
- 14 See what Shani did in Hulbert Street, in Freemantle, Western Australia, as recounted in Weiking (2017, 57-63).
- 15 See Goff et al (2016).
- 16 See the evidence in Helliwell, Huang and Wang (2016).
- 17 This argument is made by Kumlin and Rothstein (2005).
- 18 See Su, Tay & Diener (2014).
- 19 See Keyes et al (2010).
- 20 See, for example, Gleibs et al (2011).
- 21 See Holt-Lunstad et al (2010).
- 22 See Jetten et al (2012).
- 23 The Bhutanese Cabinet uses its GNH policy screening tools for rapid assessment of all policy proposals. See Ura et al (2015) and CBS (2016).
- 24 See United Arab Emirates (2017).

References

- CBS. (2016). *A Compass Towards a Just and Harmonious Society: 2015 GNH Survey Report*. Thimphu, Bhutan: Centre for Bhutan Studies & GNH.
- Gleibs, I. H., Haslam, C., Haslam, S. A., & Jones, J. M. (2011). Water clubs in residential care: Is it the water or the club that enhances health and well-being? *Psychology & Health*, 26(10), 1361-1377.
- Goff, L., Helliwell, J. F., & Mayraz, G. (2016). *The Welfare Costs of Well-being Inequality* (No. w21900). National Bureau of Economic Research.
- Helliwell, J. F., Huang, H., & Wang, S. (2016). *New Evidence on Trust and Well-being* (No. w22450). National Bureau of Economic Research.
- Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS medicine*, 7(7), e1000316.
- 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.
- Kumlin, S., & Rothstein, B. (2005). Making and breaking social capital: The impact of welfare-state institutions. *Comparative political studies*, 38(4), 339-365.
- Lushey, C., Hyde-Dryden, G., Holmes, L. & Blackmore, J. (2017). *Evaluation of the No Wrong Door Innovation Programme*. UK Department of Education: Children's Social Care Innovation Programme Evaluation Report 51. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/625366/Evaluation_of_the_No_Wrong_Door_Innovation_Programme.pdf
- OECD. (2013). *OECD guidelines on measuring subjective well-being*. Paris: OECD Publishing.
- Stiglitz, J., Sen, A., & Fitoussi, J. P. (2009). *The measurement of economic performance and social progress revisited: Reflections and overview*. Paris: Commission on the Measurement of Economic Performance and Social Progress.
- Su, R., Tay, L., & Diener, E. (2014). The development and validation of the Comprehensive Inventory of Thriving (CIT) and the Brief Inventory of Thriving (BIT). *Applied Psychology: Health and Well-Being*, 6(3), 251-279.
- Ura, K., Alkire, S., Zangmo, T., & Wangdi, K. (2015). Provisional Findings of 2015 GNH Survey. Thimphu, Bhutan: Centre for Bhutan Studies & GNH Research.
- United Arab Emirates. (2017). *Happiness Policy Manual*.
- Wiking, M. (2017). *The Little Book of Lykke: the Danish Search for the World's Happiest People*. London: Penguin.

Chapter 3

Mental Illness Destroys Happiness And Is Costless To Treat

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Executive Summary

The bad news

1. Mental illness is one of the main causes of unhappiness in the world. It produces nearly as much of the misery that exists as poverty does, and more than is caused by physical illness. Treating it should be a top priority for every government, as should the promotion of good mental health.
2. Mental illness is a major block on the economy; treating it would save billions. It is the main illness among people of working age. It reduces national income per head by some 5 per cent - through non-employment, absenteeism, lowered productivity, and extra physical healthcare costs. Mental illness accounts for a third of disability worldwide.
3. Mental illness can also kill. People with depression or anxiety disorders die on average 5 years earlier than other people. This is partly because mental illness is the main cause of suicide, but primarily because of the damaging effects of mental illness on physical health.
4. More than 500 million people in the world suffer from common mental disorders, yet under one fifth of them are in treatment (and even fewer are in treatments that correspond to best practices).

The good news

1. The United Nations Sustainable Development Goal 3 commits governments to promote mental health and well-being; to treat substance abuse; reduce suicide; and to achieve universal health coverage, including for mental health.
2. Cost-effective treatments exist for depression and for anxiety disorders. They yield good recovery rates and are not expensive. Moreover, the savings in restored employment and productivity outweigh the costs. So this investment has a negative net cost to society.
3. Good models of widespread availability exist and can readily be copied (for example, in Chile; Madhya Pradesh, India; and the UK).

Our proposals

1. Every country should have a mental health plan, which ensures an additional quarter of mentally ill people receive treatment by 2030. The gross cost of the proposed expansion is only 0.1% of GDP in 2030—a tiny expenditure to bring a massive benefit. And the net cost is negative.
2. Mental illness is best tackled when it first arises, in most cases by the age of 20. Good treatments should be readily available. The most natural place for early treatment is at schools, and major programmes are needed to train healthcare workers to provide early treatment to young people in distress. Schools should also teach positive life skills, using evidence-based programmes to prevent the development of mental illness.
3. All employees, including governments, should manage their workers in a positive way that does not cause mental illness. Line managers should be trained to recognise mental illnesses and ensure that workers in distress get help and can successfully continue their work.
4. Governments should take the lead in talking openly about mental illness and ensuring that it gets a new and higher priority in public policy.

Introduction

One of the major causes of unhappiness world-wide is mental illness. Reducing mental illness is one of the key ways to increase the happiness of the world. This requires two new priorities for governments. The first is to ensure that people with mental illness get treated (using the many evidence-based forms of treatment that are available). The second is to use all possible avenues (and especially schools) to help people develop the skills that buffer against mental illness. In this chapter we discuss both these challenges. We begin by outlining the problem before making specific proposals about how to best tackle it.

The Bad News

Mental illness is a leading cause of misery

The most common mental disorders are depression and anxiety disorders, affecting some 7% and 4% of the world's population respectively —11% in all.¹ Over their lifetimes, at least a quarter of the world's population will experience these conditions.

Anxiety and depression are known as common mental disorders and are the main subject of this chapter. In addition, at least 2% suffer from severe mental illness (schizophrenia or bipolar disorder) or severe drug or alcohol dependence. Rates of mental illness are very similar in countries at different levels of average income.²

So how far does diagnosable mental illness account for the scale of misery in the world (defining misery as the lowest levels of life satisfaction)? In rich countries, it is the single

most important contributor to misery (other things being equal), and in nearly all countries mental illness accounts for more unhappiness than does physical illness.

The evidence for this comes from population surveys where people are asked about their life satisfaction and aspects of their mental health. In Table 1, the measure of mental health for the USA and Australia is whether the person has ever been diagnosed with depression or an anxiety disorder, and for Britain whether they saw a doctor in the last year for emotional reasons. The table looks at how much of the misery in each country can be explained by different factors. (Each number shows the partial correlation coefficient between the factor in question and whether the person is in misery.)

Mental health stands out as a crucial factor, holding all else constant.³ For the world as a whole, we have to rely on the Gallup World Poll, where the nearest question to mental health is “Were you depressed yesterday?” Except in the poorest countries, this

Table 1. How much misery is explained by each factor in three nations⁴

	USA	Australia	Britain
Low income	.12	.09	.05
Unemployment	.06	.06	.03
Physical illness	.05	.16	.05
Mental illness	.19	.14	.09

Table 2. How much misery is explained by each factor in the world⁵

	High income countries	Upper middle income countries	Lower middle income countries	Lower income countries
Low income	.09	.12	.12	.10
Unemployment	.06	.04	.03	.02
Physical illness	.10	.07	.06	.06
Mental illness	.17	.12	.10	.07

again emerges as a crucially important factor, and more important than physical illness (see Table 2).

Mental illness reduces output

Mental illness is also bad for the economy. Most mentally ill people are of working age, but many of them cannot work due to their condition. Mental illness causes nearly 50% of registered disability in OECD countries, and worldwide it accounts for a third of all disability.⁶ This alone reduces GDP by roughly 2%.

In addition, even if someone is employed, mental illness makes them much more likely to go off sick. One half of sickness absence is caused by mental illness, reducing GDP by 1%.⁷ And even when people go to work, their mind is less focused on the job and their productivity is reduced. This factor reduces GDP by another 1%. GDP is reduced by about 4% altogether.

The effect is similar across countries at different levels of income, because rates of mental illness are similar everywhere. But due to more developed welfare states, the governments of rich countries bear about half of this cost, while the governments of poorer countries bear less.

Mental health problems also cause worse physical health and therefore greater expenditure on physical healthcare. In richer countries, mental health problems add some 50% to the physical healthcare resources that a person consumes⁸—further reducing net GDP by another 1% (see Table 3).

Table 3. Economic cost of mental illness (OECD countries)⁹

	% of GDP
Disability	2
Absenteeism	1
Presenteeism	1
Extra physical healthcare	1
Total	5

Mental illness can kill

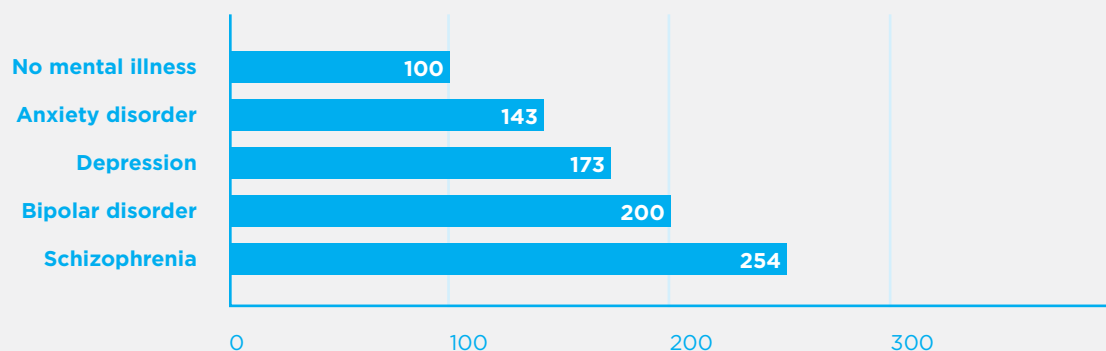
In addition, mental illness shortens life. There are at least 200 reported studies worldwide that compare the mortality of people with and without mental illness.¹⁰ These studies show that, in any year, people who are mentally ill are much more likely to die than people who aren't. (see Figure 1 below).

Translating these figures into years of life lost due to earlier death, the result on average is roughly as follows.¹²

Schizophrenia or bipolar disorder: 10 years lost
Depression or anxiety disorder: 5 years lost

One third of these earlier deaths are due to suicide. Suicide is a uniquely horrible death, and the reduction of its rates is one of the objectives

Figure 1. Age- and gender-adjusted death rates per year (no mental illness = 100)¹¹



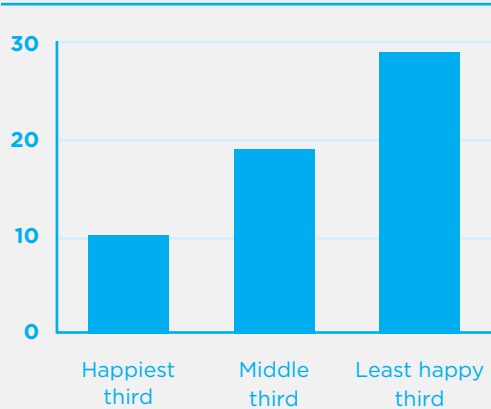
of both the Sustainable Development Goals and the WHO's Mental Health Action Plan. Appendix 2 shows current levels of suicide by country.

Mood affects physical health

While suicide is the clearest and most direct means by which mental illness can kill, two thirds of premature deaths due to mental illness are in fact due to natural causes. Mentally ill people are more likely to develop physical illnesses¹³ and, if they have a physical illness, are more likely to die.¹⁴ There are many reasons for this, including life-style differences and under-treatment. But a major reason is the direct effect of psychological stress on the production of cortisol, the furring of the arteries and the immune system.¹⁵ In a striking experiment, when people were given a small wound, mentally ill people healed more slowly.¹⁶

With this in mind, it is not surprising that increased happiness reduces mortality. This is illustrated in Figure 2.¹⁷ A representative group of English people aged over 50 were asked a variety of questions, including how happy they were. The study then examined how many died in the next nine years. In the least happy third, three times more people died than in the happiest third. Even controlling for initial morbidity, 50% more died.¹⁸ These findings illustrate the immense impact of mood on physical health, and the importance of taking mental health seriously.¹⁹

Figure 2. Percentage of people dying in the next 9 years (People initially over 50, England)



Mental illness is mainly untreated

So mental illness is a huge problem throughout the world. In addition, as we shall show, good treatments exist which in most cases involve no net cost. Yet, despite all this, most mentally ill people receive no treatment for their condition. This is deeply shocking. Even in rich countries, only a quarter of those who are mentally ill are in treatment and in the poorest countries the rate is as low as 6% (see Table 4). And of those who are treated, well under half received minimally adequate treatment.²⁰

Table 4. Percentage of people with depression and anxiety being treated²¹

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

These levels of under-treatment would be considered intolerable for any physical condition. In most countries there are long waiting times for treatment, reflecting massive unmet demand.²² There are quite simply

- too few mental health care workers, and
- very low levels of expenditure.

Table 5 shows the very small number of workers involved in caring for the mentally ill, especially in poor countries. (Detail by country is in Appendix 3). The deplorable levels of expenditure on mental health are shown in Table 6.

Even stranger and more deplorable is the pattern of aid and charity. The international response to mental illness in poorer countries is deplorable, and the contrast with AIDS is extraordinary. AIDS is of course a killer but so is mental illness. The WHO has a methodology that combines the effects of each disease on the length of life and the quality of life to produce an estimate of the disability-adjusted life-years lost (DALYs). As Figure 3 shows, mental illness wreaks over twice the havoc caused by AIDS. Yet it receives in aid

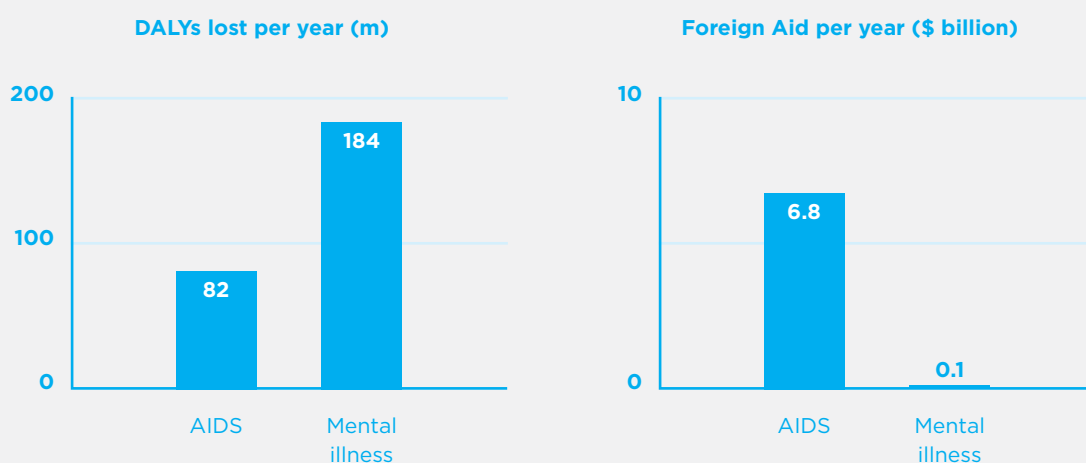
Table 5. Mental health workforce per 100,000 head of population²³

High-income countries	52
Upper middle-income countries	16
Lower middle-income countries	3
Low-income countries	1
GLOBAL	9

Table 6. Mental health expenditure²⁴

	Expenditure per head of population (\$)	Expenditure as % of GNP	Britain
High-income countries	58.7	0.18	.05
Upper middle-income countries	2.0	0.03	.03
Lower middle-income countries	1.5	0.06	.05

Figure 3. Different treatment of AIDS and mental illness (2010)²⁵



under 2% of the aid given to AIDS—barely more than \$0.1 billion a year, compared with \$6.8 billion for AIDS. This disparity reflects the worldwide discrimination among governments (and insurers) against mental illness.

The Good News

The SDGs help

The Sustainable Development Goals now provide an explicit framework for reversing this discrimination. In the Health Goal, labelled Goal 3, the following targets cover mental health (see Table 7).

Effective treatments exist

But these commitments only make sense because we now have effective treatments for common mental illnesses. Most treatments have success rates of 50% or more, which is high compared with many physical treatments.²⁷ For high-income countries, the recommendations of Britain’s National Institute for Health and Care Excellence (NICE) provide good guidance.²⁸ For moderate to severe depression, anti-depressants are recommended, combined with Cognitive Behavioral Therapy (CBT) or Interpersonal Therapy (IPT). For mild to moderate depression, only psychosocial treatments are recommended (including CBT, IPT, behavioural activation, behavioural couples therapy, counselling, short-term psychodynamic therapy and guided self-help for mild cases). For some anxiety conditions, anti-depressants are recommended but mainly CBT. It is important to stress that the aim of most

psychological treatments is not just removing negative thoughts but cultivating positive attitudes and activities.

For poorer countries, these psychosocial treatments need to be adapted to local conditions (see below). In these countries, the real cost of labour is lower than in rich countries, so the case for psychosocial approaches is particularly strong in poor countries (relative to the case for medication).²⁹ The WHO has produced an excellent guide to what should be provided in what is called the mhGAP Intervention Guide.³⁰ It has also produced a Comprehensive Mental Health Action Plan 2013-2020 in which every member country has undertaken to produce a mental health plan.

Proposed targets

The central aim of mental health policy should be to make these treatments more widely available. Researchers at the WHO have calculated the cost of doing this in a way that is practicable.³¹ Drawing on this work, our proposal is that by 2030 an additional quarter of people with depression or anxiety disorders should be in treatment. A phased pattern of expansion is shown in Table 8.

Table 7. Mental health in UN Sustainable Development Goal 3

Target 3.4
By 2030, reduce by one third premature mortality from non-communicable diseases (which include mental health) through prevention and treatment, and promote mental health and well-being. (One indicator is the reduction of suicide rates.) ²⁶
Target 3.5
Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.
Target 3.8
Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

Table 8. Recommended treatment rates for anxiety and depression (percentage)³³

	Currently	2030
High-income countries	24	48
Upper middle-income countries	18	42
Lower middle-income countries	12	36
Low-income countries	6	27

Table 9. The cost of expansion³⁴

	Extra cost in 2030 per head of population (\$)	GDP per head in 2015 (\$)	Extra cost in 2030 as % of GDP in 2015
	(1)	(2)	(1)/(2)
High-income countries	35.0	32,000	0.11
Upper middle-income countries	7.6	7,800	0.10
Lower middle-income countries	2.2	2,500	0.09
Low-income countries	0.4	800	0.05

The treatments in the proposed package are these:³²

- for mild cases: basic psychosocial treatments
- for moderate/severe cases: psychosocial treatments (basic or intensive) plus medication

The gross cost of these outlays is very small, as Table 9 shows. Even by 2030 it is only 0.1% of current GDP.

The net cost of treatment is negative

But, more importantly, the **net** cost is **negative**. This is because people who are mentally ill become seriously unproductive. So when they are successfully treated, there are substantial gains in output. And these gains exceed the cost of therapy and medication.

This conclusion has been repeatedly supported,³⁵ and it emerges clearly in the costs of the expansion

package we are proposing (see Figures 4a and 4b). In these estimates, for every \$1 spent on treating depression, production is restored by the equivalent of \$2.5. So the result of spending \$1 is a net saving of \$1.5. For anxiety disorders, the net saving is even bigger. On top of this, there are savings on physical healthcare costs, which (in rich countries at least) are of the order of \$1 per \$1 spent. Not all the savings accrue to the public/social sector but enough do so to ensure that there is no net cost to the public/social sector either. It is a no-brainer.³⁶

Figure 4a. Net cost per \$1 spent on treating depression (\$)

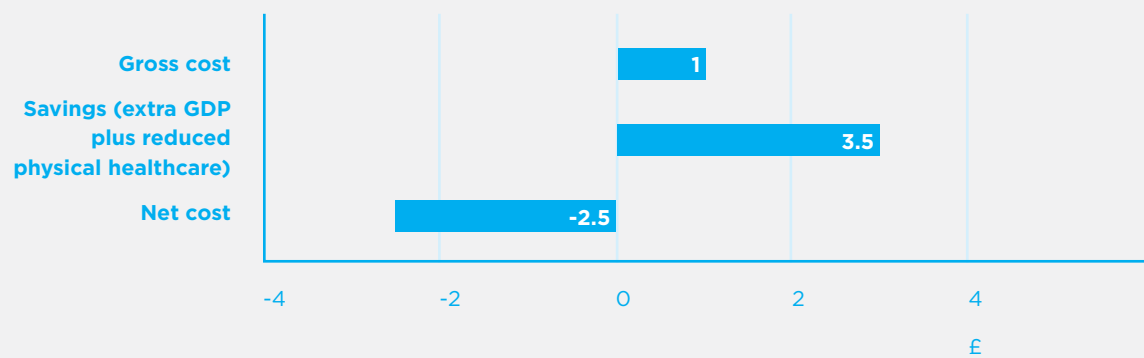
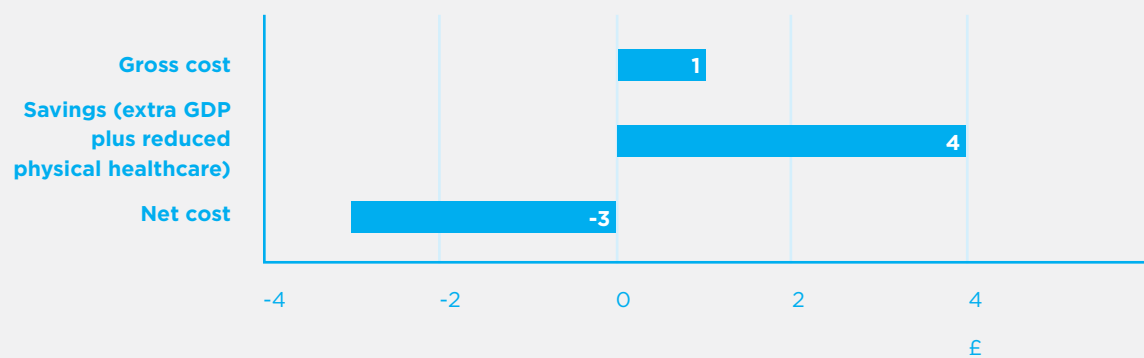


Figure 4b. Net cost per \$1 spent on treating anxiety (\$) ³⁷



Organising Expanded Access To Treatment

It is however one thing to decide on an expansion and to allocate the funds. It is quite another to make it happen on the ground. That involves

- (i) specific decisions about the **treatments** to be offered, and to how many people
- (ii) **training** people to deliver them
- (iii) providing or identifying the **services** where the treatments are to be offered.

Good examples exist around the world where this has been successfully done. In rich countries, a good example is the English programme of Improving Access to Psychological Therapies (IAPT). Before the programme began in 2008, it was virtually impossible for a person with depression or anxiety disorder to get evidence-based psychological treatment in the National Health Service (NHS), unless they were at risk for suicide. This situation was particularly shocking because of the existence of the National Institute for Health and Care Excellence (NICE), which, for every medical problem, reviews the evidence about which treatments are cost-effective and specifies those which should be provided by the NHS. From 2004 onwards, it specified that evidence-based psychological therapy should be offered for everyone with depression or anxiety disorders. However, until the IAPT programme

began, such treatment was almost completely unavailable within the NHS, except for the most severe levels of illness. IAPT was set up to remedy the situation.³⁸ So far (in a country of 55 million people), it has trained 7,000 therapists on one-year courses of training (involving college and supervised practice), and in 2016 the programme treated nearly 600,000 patients (see Figure 5).³⁹

For every patient, a record of progress is maintained session-by-session, and 50% of patients recover from their condition during the period of treatment. Treatment averages 6£ sessions, mostly one-on-one. Patients are either referred by their general practitioner or they can refer themselves. And one reason for the success of the programme is that the services are led by psychological therapists and have a great deal of autonomy (while medication, if desired, is prescribed by the family physician).

At least 10 other advanced countries have shown an interest in learning from this initiative. One of them is Norway where there are now 13 local services following the IAPT model.

Among middle income countries, a major initiative was undertaken in Chile in 2001.⁴¹ That year Chile launched a National Depression Detection and Treatment Program. Detection is the responsibility of any healthcare professional engaged in regular medical consultations. Treatment is then

Figure 5. Number of people treated in the English IAPT programme (new cases per quarter)⁴⁰

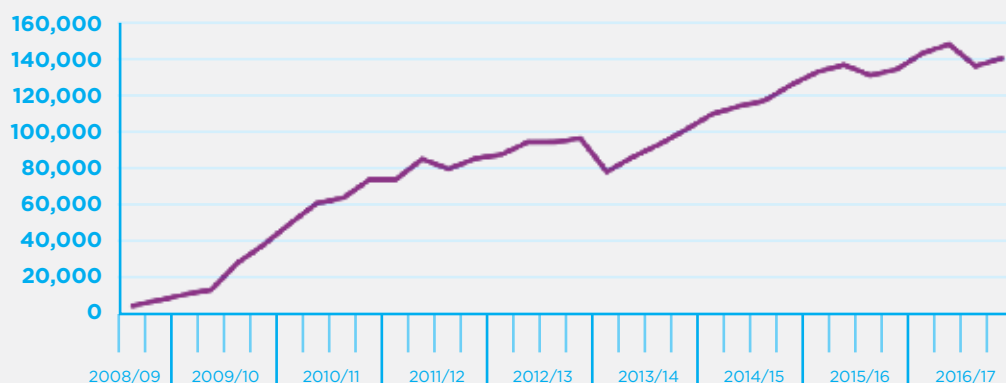
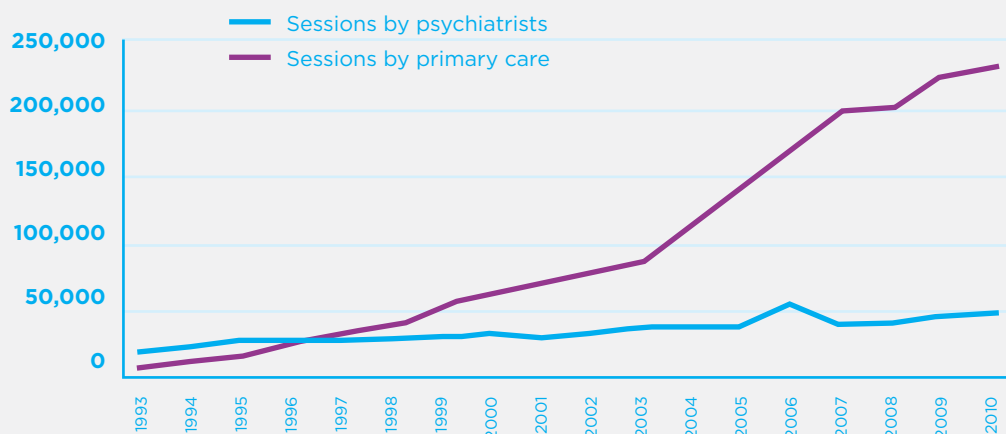


Figure 6. Number of patients seen for mental health reasons in Chile (public sector)⁴²



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 (see Figure 6).

In less developed countries, most major initiatives are more recent. Six countries belong to the EMERALD consortium (which is closely related to the PRIME consortium).⁴³ They are South Africa, Ethiopia, Uganda, Nigeria, Nepal and India. In selected districts, these countries all adopted ambitious expansion targets similar to those now proposed by WHO and described earlier. The distinctive character of these proposals is that treatment is given by non-specialists (via what is called “task-sharing”), who are typically general health staff offered short courses in the recognition and treatment of mental health problems, especially depression. Trials show that such treatments can deliver good results.⁴⁴

Digital treatments

Treatment can of course be digital as well as face-to-face. This approach makes it much easier to close the treatment gap. For many patients, digital treatment (e.g., online or via apps) can also be more convenient:

- they choose the time
- they can do it anywhere
- it can be less stigmatising, and less threatening, especially for people with anxiety disorders.

It is also much less expensive. It works best when partially supported by a live therapist, often by phone or online. But even so, the cost is only a fraction of face-to-face treatment even in groups.

There are already thousands of such apps, but the problem is deciding which are most effective. The English NICE is setting up a system of recommended programmes. When digital systems are better established, they will offer a great deal of hope to millions of sufferers who would otherwise go untreated. Governments should help to distribute advice about digital treatments to the people they serve.⁴⁵

Children

A third of all the people in the world are children or adolescents, and 80% of these young people live in middle or low-income countries. Their lives are supremely important both in themselves and as preparation for adult life. The majority of people who experience mental illness as adults have already experienced it by the age of 15.⁴⁶ And yet most of these ill children are not in treatment; in rich countries, only a quarter are treated and elsewhere many fewer.⁴⁷ This situation makes no sense.

In the typical country, about 10% of young people under 19 have diagnosable levels of mental illness—with similar rates in rich and poor countries.⁴⁸ Some 5% have behavioural problems, sometimes accompanied by Attention Deficit Hyperactivity Disorder (ADHD), and another 5% have mood disorders, mainly various types of serious anxiety conditions like social phobia, panic attacks, obsessive-compulsive disorder (OCD) and of course post-traumatic stress disorder (PTSD), which is especially common in conflict zones.

The cost of these problems is large. For example, in Britain, the least-happy tenth of children are 7% poorer as adults than they would otherwise be.⁴⁹ This is partly because emotional problems greatly interfere with their education and with their physical health.

Equally, children with conduct disorder become 4 times more likely to commit crime, take drugs, become teenage parents, depend on welfare, and attempt suicide. It has been estimated that in Britain such children may cost the taxpayer in criminal justice costs an amount equal to 3 years' average wages.⁵⁰

Effective treatments exist

Effective treatments exist for children, as for adults. For anxiety, which often develops at an early age, treatments based on CBT yield recovery rates of 50% or over for children over 8. Depression does not normally develop until the teen years and then responds to the same psychological treatments as recommended for adults.⁵¹

But among children one half of mental health problems are connected with behaviour. Here, the standard treatment for children under 10 is

training the parent(s). The best known therapy is the Incredible Years programme—involving 12-26 two-hour group training sessions with parents.⁵² These sessions proceed through a carefully-researched sequence of steps: first learning how to play with the child, then how to praise the child, then how to set boundaries, and only finally how to punish, or ignore, the breaking of rules. Children whose parents were trained in this way have been followed up for as many as seven years, and those treated in this way (as opposed to treatment as usual) were 80% less likely to have serious behaviour problems (i.e., oppositional defiant disorder).⁵³ The treatment has been used in countries as different as the USA, Hong Kong, Portugal, Russia, Norway and the Palestinian West Bank, and has been found to be as effective when transported to another culture as it is in the USA, where it was first developed.⁵⁴ It is also as effective with children from deprived backgrounds as with other children.⁵⁵

In Table 10, we present the treatments that Britain's NICE recommend for use in richer countries. For poorer countries, the WHO produces an excellent manual of recommended treatments known as the mhGAP Intervention Guide. In these countries, much of the treatment has to be given by non-specialists—general health care workers or others, often with a minimum amount of training in a single generalised treatment for mental health problems. Such a treatment has been found to be surprisingly effective.⁵⁶

Treatments bring savings

As with adults, there are huge savings to be obtained if young people receive early help with their mental health problems. In rich countries, the Incredible Years Programme produces enough savings on healthcare alone to pay for itself.⁵⁸ And on top of that major savings accrue to the criminal justice system.

Another major problem affecting children is depression of the mother during pregnancy. The average cost to society of one case of perinatal depression has been estimated in Britain to equal the average annual wage.⁵⁹ By contrast, the cost of successful psychological treatment (assuming a 50% success rate⁶⁰) is one twentieth of that.⁶¹ The savings exceed the cost by a factor of twenty to one.

Table 10. NICE recommended treatments for child and adolescent disorders⁵⁷

Condition	Treatment	Overall recovery rate with treatment (spontaneous recovery rate)*
Conduct disorders	Parent training	70% (10%)
ADHD	Parent training and methylphenidate medication	75% (10%)
Anxiety	CBT	80% (30%)
PTSD	Trauma-based CBT	85% (40%)
Depression	CBT, fluoxetine medication	80% (55%)
Anorexia	Family therapy	80% (25%)

*Recovery rate refers to percentage no longer meeting diagnostic criteria 6 months after starting treatment.

Organising treatment

In many countries, there is barely any system of evidence-based child mental healthcare. But with determination such systems can be developed reasonably quickly. As for adults, the needs are to

- (i) decide the **treatments** to be provided
- (ii) **train** people to deliver them, and
- (iii) create **services** where they can work.

An example of what can be done comes from the development of the Incredible Years® programmes in many countries.⁶² These programmes work on the cascade principle. Therapists (i.e., group leaders) must have some prior child development education and clinical experience working with parents, teachers, or children in regard to child mental health problems. They are initially trained in a 3-day training workshop by an accredited mentor or trainer, followed by ongoing consultation and support by accredited peer coaches, mentors, and/or trainers. It is recommended that therapists have a consultation every 2 weeks when they first start to deliver groups. This can be provided either via skype calls or in-person consultation workshops, depending on whether agencies have peer coaches or mentors. Therapists are encouraged to review videos of their group sessions with each other in order to develop a system of peer support and to bring about successful therapist accreditation. The more talented therapists who have become accredited are eligible for further training as peer coaches, and the most talented of these may become mentors (of the coaches) who are trained to deliver the training workshops. Worldwide the

programme has now trained 57,447 therapists/group leaders, 104 peer coaches, and 90 mentors.⁶³

Another example is the treatment of maternal depression in Pakistan. Community health workers have been trained to identify and treat maternal depression using methods based on CBT. The system is called the Thinking Healthy Programme and involves 16 visits to the mother, including active listening, collaboration with the family, guided discovery, and homework. This reduces the percentage of mothers who are depressed six months later by 30 percentage points.⁶⁴ The programme has been rolled out widely in Pakistan.

Promoting Mental Health For All

Thus far, we have focussed on treating those who are in serious distress. But we should also do all we can to enable people to avoid distress in the first place, or to develop the inner means to handle distress themselves when it arises. In other words, we should aim at a society in which people have the inner resources to flourish. This means new goals for schools, for employers, and for the community at large.

Schools

Outside the family, the school system offers the most powerful opportunity to influence the mental health of the population (since nearly every child now goes to school).⁶⁵ The mental well-being of the pupils should be an explicit goal of every school. Most children in the world

go to school, and to a degree parents can also be reached through schools. Schools can make a real difference if they spread the right messages about mental health and well-being. Above all, this means the children acquiring

- compassionate and cooperative values and behaviour, and
- understanding their own emotions and those of others, and developing the skills to manage those emotions.

The message has to be positive (what “to do” more than what “not to do”), and it is crucial that all the teachers in a school, as well as the pupils, and hopefully the parents, accept these messages.

Every school in every country will have its own way of promoting these healthy attitudes and skills. But many programmes have been developed that have been found to have significant positive effects (see Table 11). Most of these have been ongoing for 20 years or more, and rolled out in many countries at national, state, or district level

(including in many cases low- and middle-income countries). An alternative approach is to use a shorter period of time to teach the practice of mindfulness which can then become a regular practice throughout life.⁶⁶

Most of these programmes show significant effects on depression, anxiety, behaviour, bullying, and academic performance. Because the programmes are fairly short, the average effects per pupil are in such cases small. But small average effects are well worth having when the costs per pupil are also small. A small average effect can include a substantial effect upon a few children in every school—producing a substantial change in the overall health of the population. In terms of cost-effectiveness, these programmes may well pay for themselves in terms of reduced healthcare costs, improved behaviour in school, reduced crime, and increased earnings.

Table 11. Large school-based mental health programmes⁶⁷

Programme	No. of years since started	No. of students to date (million)	Target population	Treatment	Overall recovery rate with treatment (spontaneous recovery rate)*
(Year of schooling)	Primary focus	Dosage (in hours)		Parent training	70% (10%)
Positive Behavior Interventions and Supports (PBIS)	21	10.5	K-12	Behavior	Continuous support
FRIENDS	19	8.0	K-Adult	Anxiety, depression, resilience	17-21
Positive Action	34	5.0	PreK-12	Overall mental health	47
Promoting Alternative Thinking Strategies (PATHS)	15	2.0	K-6	Behavior (General SEL)	18-26
Skills for Life	18	1.0	1-4	Behavior, overall mental health (secondary goals include academic achievement)	5-7
MindMatters	18	0.3	PreK-Adult	Overall mental health	Continuous support
Good Behavior Game	47	0.2	K-6	Behaviour, overall mental health	90
Cognitive-Behavioral Intervention for Trauma in Schools	14	0.1	5-12	Trauma	11-16

Note: K indicates Kindergarten

The main costs involve the additional training of teachers. At the same time, pupils are diverted from studying other subjects, but the evidence is that their overall academic performance benefits from the extra time directed to life skills. Given the success of these relatively short programmes, efforts are now in place to develop evidence-based teaching of life skills for at least an hour a week throughout school life. An example of this in secondary schools is the British programme called Healthy Minds.⁶⁸ Pupils also benefit if their teachers are trained to maintain calm in the classroom through, for example, a version of the Incredible Years parent training directed explicitly at teachers.⁶⁹

A second major benefit arises when teachers are more aware of mental health issues: They can more easily identify children who are in distress and need therapeutic support. As we have already mentioned, middle- and low-income countries often fail to provide therapeutic support through the healthcare system, and the school is the natural place where non-specialist counsellors can do their work. Such counsellors are also often excellent ambassadors for mental health promotion within the school as a whole.

By contrast, in richer countries such interventions can more readily be delivered by specialist therapists. There is every reason that child mental health services should serve not only the most unwell children (often in clinics) but children with mild to moderate problems, who are most easily seen in schools, as are their parents.⁷⁰

In workplaces

After growing up, people spend much of their time at work. The workplace can be a place of flourishing or of bullying; and it can be a place where mental illness is detected and treated or where it is ignored.

Considerable evidence suggests that people work better when they are happy.⁷¹ It has even been found that firms in the best 100 Places to Work in the USA experienced a 50% gain in stock-market value over 25 years compared with other firms.⁷² Therefore, numerous programmes aim to promote mental health via the workplace. Some are aimed solely at individuals but the most effective are aimed at whole teams and especially at the line manager. For it is the line manager who sets the tone of the organisation

and should also be responsible for identifying individual workers who are struggling with mental health problems and helping them to get help.⁷³ Every line manager should feel able to say to a worker “Are you OK?” and to feel comfortable in offering advice if the answer is No.

Reducing stigma

A key need is to reduce the stigma associated with mental illness. Anti-stigma campaigns have produced significant results,⁷⁴ especially when they involve celebrities who have come out to talk about their own mental health problems (such as Prince Harry and those working with the Time to Change programme in England⁷⁵). But above all, what will reduce stigma will be the understanding that mental illness is treatable. When cancer became treatable, it became possible to discuss it straightforwardly. The same will be true of mental illness. Stigma reduction will lead to more people seeking help and receiving care.⁷⁶

Conclusion

Change can begin at any level, but governments have a special responsibility. It is their job to insist that mental health becomes a central policy area, both for treatment and prevention. Mental illness causes as much misery as physical illness. It is treatable and, to a degree, preventable. It arises in every country and in every social class. A particularly horrible form of mental illness is the trauma caused by conflict and violence.⁷⁷ But mental illness exists everywhere and touches almost every extended family.

A primary objective should be to extend evidence-based treatment to a further 25% of those in need, and to do it as soon as possible. This would involve no net cost. If governments care about the happiness of their people, the attack on mental illness should be a top priority.

Endnotes

- 1 Layard, Chisholm, Patel, & Saxena (2013), p.41. See also World Health Organisation (WHO) (2017). One definition of mental illness is 'significant and persistent distress and impairment of functioning, with causes that are psychological or psycho-physical'.
- 2 Layard & Clark, (2014), p.41.
- 3 This does not mean that all mentally ill people have low life-satisfaction, see Goodman, Doorley, & Kashdan (2017).
- 4 Source: USA: BRFSS, all ages. Australia: HILDA, all ages. Britain: BCS, ages 34 and 42. See Clark, Flèche, Layard, Powdthavee, & Ward (2018), Table 6.2 for controls. Mental illness means diagnosed mental illness (Yes/No). Physical illness means the number of conditions in USA and Britain, and in Australia the physical components of SF36 with a lag.
- 5 Source: Gallup World Poll. Regressions by George Ward. All regressions control for education, partnership status, gender, age, age squared and country fixed effects. Misery covers the lowest 20% or so of life-satisfaction in each specific country. The question on physical health is Do you have any health problems that prevent you from doing any of the things people your age normally do?
- 6 See Vigo, Thornicroft, & Atun (2016), Fig. 1. This is the authors' revised estimate of the share of mental health in the total of "years lived with disability".
- 7 OECD (2012).
- 8 Layard & Clark, (2014), p.84.
- 9 Source: Mainly OECD (2014).
- 10 Walker, McGee, & Druss (2015).
- 11 Source: Walker et al. (2015). Rates are standardised for age and gender.
- 12 See Walker et al. (2015), supplement Table 4. The three studies of common mental disorders all reported a difference of 5 years in length of life. The other 25 studies were on psychotic patients, with a median average loss of life of 10 years.
- 13 Patten et al. (2008), Table 1. On strokes, see also Pan, Sun, Okereke, Rexrode, & Hu (2011), Figure 3. On coronary heart disease, see also Nicholson, Kuper, & Hemingway (2006). Chida, Hamer, Wardle, & Steptoe (2008). Such people were also more likely to die. (But the authors warn against possible bias, since positive findings are more likely to get published.) See also Satin, Linden, & Phillips (2009), who in their meta-analysis find depressed patients 39% more likely to die than other cancer patients.
- 14 Thornicroft (2006).
- 15 Layard & Clark (2014), p69-71. For a full discussion of the impact of subjective wellbeing on physical health, see Diener, Pressman, Hunter, & Delgado-Chase (2017).
- 16 Kiecolt-Glaser, Marucha, Malarkey, Mercado, & Glaser (1995) administered a small punch biopsy wound to more and less stressed subjects, and observed the rate of healing. Cole-King & Harding (2001) studied patients at a wound clinic and observed the effect of mood on the rate of healing (a 'natural' experiment).
- 17 Steptoe & Wardle (2012).
- 18 Steptoe & Wardle (2012).
- 19 Your underlying happiness also has a huge effect on whether a personal disaster makes you mentally ill or resilient enough to cope (Diener, Lucas, & Oishi (2017)).
- 20 See Thornicroft, Chatterji, et al. (2016) on major depressive disorder. The percentages are 44% in HICs, 37% in UMICs, 21% in LMICs.
- 21 WHO (2015). 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.
- 22 Layard & Clark (2014), p.54.
- 23 WHO (2014). All figures relate to the proportion of sufferers currently in treatment.
- 24 WHO (2014). As a percentage of total health expenditure, mental health receives on average 5% in high-income countries, 2.5% in upper middle income, 2% in lower middle income, and 0.6% in low-income countries (Layard & Clark, (2014), p.87).
- 25 Gilbert, Patel, Farmer, & Lu (2015); Charlson, Dieleman, Singh, & Whiteford (2017).
- 26 Our additions in brackets. For further discussion of SDGs see Thornicroft & Votruba (2016); Thornicroft & Votruba (2015); Gureje & Thornicroft (2014); Votruba & Thornicroft (2016).
- 27 Layard et al. (2007).
- 28 For details of recommended treatments in HICs, see Layard & Clark (2014) and World Health Organisation (WHO) (2016).
- 29 On the comparative efficacy of medication for physical and mental disorders see Leucht, Hierl, Kissling, Dold, & Davis (2012), Fig. 1.
- 30 WHO (2016).
- 31 Chisholm, Sweeny, et al. (2016).
- 32 See Chisholm, Sweeny, et al. (2016). The costs for treating depression are shown in Appendix 4.
- 33 Chisholm, Sweeny, et al. (2016), Table 1.
- 34 Source: Chisholm, Sweeny, et al. (2016).
- 35 See for example Layard & Clark (2014), Chapter 11.
- 36 The total cost of the expansion on a per head basis is shown in Appendix 5.
- 37 Source: Chisholm, Sweeny, et al. (2016). Present value terms.
- 38 D. M. Clark (forthcoming); Layard & Clark (2014), Chapter 11.
- 39 D. M. Clark (forthcoming).
- 40 D. M. Clark (forthcoming).
- 41 Araya, Alvarado, Sepulveda, & Rojas (2012).
- 42 Patel, Saxena, De Silva, & Samele (2013). Source of data: Ministry of Health, Chile. www.mhinnovation.net/innovation/chile-depression-treatment.
- 43 On PRIME see Lund et al. (2012) and Chisholm, Burman-Roy et al. (2016) and on EMERALD, see Semrau et al. (2015).
- 44 Singla et al. (2017).
- 45 See Naslund et al. (2017).

- 46 Kim-Cohen et al. (2013) and Kessler et al. (2005).
- 47 Layard & Clark (2014), p.51.
- 48 Layard & Hagell (2015).
- 49 Layard, Clark, Cornaglia, Powdthavee, & Vernoit (2014).
- 50 Fergusson, Horwood, & Ridder (2005), Table 1; Scott, Knapp, Henderson, & Maughan (2001); Beecham (2014).
- 51 Layard & Clark, (2014), p.215, Roth & Fonagy (2005).
- 52 Webster-Stratton & Bywater (2016, in press); Menting, Orobio de Castro, & Matthys (2013).
- 53 Scott, Briskman, & O'Connor (2014). See also Drugli, Larsson, Fossum, & Mørch (2010) and Webster-Stratton, Rinaldi, & Jamila (2011).
- 54 Leijten, Melendez-Torres, Knerr, & Gardner (2016), Table 2.
- 55 Leijten, Raaijmakers, Orobio de Castro, van den Ban, & Matthys (2017).
- 56 Singla et al. (2017).
- 57 Source: Stephen Scott.
- 58 McDaid, Bonin, Evans-Lacko, & Knapp (2017). For an analysis of a school-based intervention in Canada (Better Beginnings, Better Futures) which paid for itself see Society for Research in Child Development (2010). For a general survey of the economic case for investing in the wellbeing of young people, see McDaid, Park, Currie, & Zanotti (2014). See also McGilloway et al. (2014).
- 59 Bauer, Parsonage, Knapp, Iemmi, & Adelaja (2014), Tables 1 and 2.
- 60 Dobson et al. (2008).
- 61 Assuming an average cost of a course of CBT to be £650; so, if 50% recover, the cost of a recovery is £1,300. This is roughly one twentieth of the average annual wage.
- 62 Webster-Stratton & McCoy (2015).
- 63 For further information about the roadmap to accreditation see <http://www.incredibleyears.com/certification-gl/>
- 64 Zafar et al. (2014). See also Chowdhary et al. (2013).
- 65 Fazel, Patel, Thomas, & Tol (2014); Fazel, Hoagwood, Stephan, & Ford (2014); Petersen et al. (2016).
- 66 For a preliminary study, see Kuyken et al. (2013). A major randomised trial is now under way in England.
- 67 Murphy, Abel, Stephan, Jellinek, & Fazel (2017).
- 68 <http://www.healthymindsinschools.org/>
- 69 For children aged 4-8 this is called the IY Teacher Classroom Management Programme and for children 1-5 it is called Incredible Beginnings. For experimental evidence, see Baker-Henningham, Scott, Jones, & Walker (2012).
- 70 Layard (2017).
- 71 De Neve, Diener, Tay, & Xuereb (2013).
- 72 Edmans (2011).
- 73 See for example, Robertson & Cooper (2011); Lundberg & Cooper (2011) and Action for Happiness' course Doing Well from the Inside Out (<http://www.actionforhappiness.org/10-keys-to-happier-living/at-work/doing-well-from-the-inside-out>)
- 74 Thornicroft, Mehta, et al. (2016).
- 75 <https://www.time-to-change.org.uk/>
- 76 Clement et al. (2015).
- 77 M. J. Jordans et al. (2010); M. Jordans et al. (2011); Tol, Komproe, Susanty, Jordans, & De Jong (2008); M. Jordans et al. (2013); Tol et al. (2014); Fazel & Betancourt (2017).

References

- 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.
- Baker-Henningham, H., Scott, S., Jones, K., & Walker, S. (2012). Reducing child conduct problems and promoting social skills in a middle-income country: Cluster randomised controlled trial. *British Journal of Psychiatry*, 201, 101-108.
- Bauer, A., Parsonage, M., Knapp, M., Lemmi, V., & Adelaja, B. (2014). *The costs of perinatal mental health problems*. Retrieved from https://www.nwscnsenate.nhs.uk/files/3914/7030/1256/Costs_of_perinatal_mh.pdf
- Beecham, J. (2014). Annual research review: Child and adolescent mental health interventions: a review of progress in economic studies across different disorders. *Journal of Child Psychology and Psychiatry*, 55(6), 714-732.
- Charlson, F. J., Dieleman, J., Singh, L., & Whiteford, H. A. (2017). Donor Financing of Global Mental Health, 1995–2015: An Assessment of Trends, Channels, and Alignment with the Disease Burden. *PLoS ONE*, 12(1), e0169384. doi:10.1371/journal.pone.0169384
- Chida, Y., Hamer, M., Wardle, J., & Steptoe, A. (2008). Do stress-related psychosocial factors contribute to cancer incidence and survival? *Nature Clinical Practice (Oncology)*, 5(8), 466-475. doi:10.1038/ncponc1134
- 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(Suppl 56), s71-s78. doi:10.1192/bjp.bp.114.153866
- 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. doi:[https://doi.org/10.1016/S2215-0366\(16\)30024-4](https://doi.org/10.1016/S2215-0366(16)30024-4)
- Chowdhary, N., Sikhandar, S., Atif, N., Sing, N., Fuhr, D., Rahman, A., & Patel, V. (2013). The content and delivery of psychological interventions for perinatal depression by non-specialist health workers in low and middle income countries: A systematic review. *Best Practice & Research Clinical Obstetrics and Gynaecology*, 28, 113-133.
- Clark, A. E., Flèche, S., Layard, R., Powdthavee, N., & Ward, G. (2018). *The Origins of Happiness: The Science of Wellbeing over the Life Course*. Princeton University Press.
- Clark, D. M. (forthcoming). Realising the Mass Public Benefit of Evidence-Based Psychological Therapies: The IAPT Program. *Annu Rev Clin Psychol*.
- Clement, S., Schauman, O., Graham, T., Maggioni, F., Evans-Lacko, S., Bezborodovs, N., . . . Thornicroft, G. (2015). What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies. *Psychological Medicine*, 45(1), 11-27.
- Cole-King, A., & Harding, K. G. (2001). Psychological factors and delayed healing in chronic wounds. *Psychosomatic Medicine*, 63, 216-220.
- De Neve, J.-E., Diener, E., Tay, L., & Xuereb, C. (2013). The Objective Benefits of Subjective Well-Being. In J. Helliwell, R. Layard, & J. Sachs (Eds.), *World Happiness Report 2013* (pp. 58-89). New York: Columbia Earth Institute.
- Diener, E., Lucas, R. E., & Oishi, S. (2017). Advances and Open Questions in the Science of Subjective Well-Being. *University of Virginia mimeo*.
- Diener, E., Pressman, S. D., Hunter, J., & Delgadillo-Chase, D. (2017). If, Why, and When Subjective Well-Being Influences Health, and Future Needed Research. *Applied Psychology: Health and Well-Being*, 9(2), 133-167. doi:10.1111/aphw.12090
- Dobson, K. S., Hollon, S. D., Dimidjian, S., Schmalting, K. B., Kohlenberg, R. J., Gallop, R., . . . 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), 468-477. doi:10.1037/0022-006X.76.3.468
- Drugli, M. B., Larsson, B., Fossum, S., & Mørch, W. T. (2010). Five- to six-year outcome and its prediction for children with ODD/CD treated with parent training. *J Child Psychol Psychiatry*, 51(5), 559-566. doi:10.1111/j.1469-7610.2009.02178.x
- Edmans, A. (2011). Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial Economics*, 101, 621-640. doi:10.1016/j.jfineco.2011.03.021
- Fazel, M., & Betancourt, T. S. (2017). Preventive Mental Health Interventions for Refugee Children in High-income Settings: a narrative review. *Working paper, University of Oxford*.
- Fazel, M., Hoagwood, K., Stephan, S., & Ford, T. (2014). Mental health interventions in schools in high-income countries. *The Lancet Psychiatry*, 1(5), 377-387.
- Fazel, M., Patel, V., Thomas, S., & Tol, W. (2014). Mental health interventions in schools in low-income and middle-income countries. *The Lancet Psychiatry*, 1(5), 388-398.
- Fergusson, D. M., Horwood, L. J., & Ridder, E. M. (2005). Show me the child at seven: the consequences of conduct problems in childhood for psychosocial functioning in adulthood. *Journal of Child Psychology and Psychiatry*, 46(8), 837-849. doi:10.1111/j.1469-7610.2004.00387.x
- Gilbert, B. J., Patel, V., Farmer, P. E., & Lu, C. (2015). Assessing Development Assistance for Mental Health in Developing Countries: 2007–2013. *PLOS Medicine*, 12(6), e1001834. doi:10.1371/journal.pmed.1001834
- Goodman, F. B., Doorley, J. D., & Kashdan, T. B. (2017). Well-being and psychopathology: A deep exploration into positive emotions, meaning and purpose in life, and social relationships. In E. Diener, S. Oishi, & L. Tay (Eds.), *e-Handbook of Subjective Well-Being*: NobaScholar.
- Gureje, O., & Thornicroft, G. (2014). Health equity and mental health in post-2015 sustainable development goals. *The Lancet Psychiatry*, 2(1), 12-14. doi:10.1016/S2215-0366(14)00094-7
- Jordans, M., Komproe, I., Tol, W., Susanty, D., Vallipuram, A., Ntamatumba, P., . . . de Jong, J. (2011). Practice-driven evaluation of a multi-layered psychosocial care package for children in areas of armed conflict. *Community Mental Health Journal*, 47267-47277.
- Jordans, M., Tol, W., Susanty, D., Ntamatumba, P., Luitel, N., Komproe, I., & de Jong, J. (2013). Implementation of a mental health care package for children in areas of armed conflict: A case study from Burundi, Indonesia, Nepal, Sri Lanka, and Sudan. *PLOS Medicine*, 10(1), e1001371.

- Jordans, M. J., Tol, W. A., Komproe, I. H., Susanty, D., Vallipuram, A., Ntamatumba, P., . . . Jong, J. d. (2010). Development of a multi-layered psychosocial care system for children in areas of political violence. *International Journal of Mental Health Systems*, 4(15). doi:10.1186/1752-4458-4-15
- Kiecolt-Glaser, J. K., Marucha, P. T., Malarkey, W. B., Mercado, A. M., & Glaser, R. (1995). Slowing of wound healing by psychological stress. *Lancet*, 346, 1194-1196.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of *DSM-IV* disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62, 593-602.
- Kim-Cohen, J., Caspi, A., Moffitt, T. E., Harrington, H., Milne, B. J., & Poulton, R. (2003). Prior juvenile diagnoses in adults with mental disorder: Developmental follow-back of a prospective-longitudinal cohort. *Archives of General Psychiatry*, 60, 709-717.
- Kuyken, W., Weare, K., Ukoumunne, O. C., Vicary, R., Motton, N., Burnett, R., . . . Huppert, F. (2013). Effectiveness of the Mindfulness in Schools Programme: Non-randomised controlled feasibility study. *British Journal of Psychiatry*, 203(2), 126-131. doi:10.1192/bjp.bp.113.126649
- Layard, R. (2017). Child Mental Health Care: The Next Big Step. *LSE CEP mimeo*.
- Layard, R., Chisholm, D., Patel, V., & Saxena, S. (2013). Mental illness and unhappiness. In J. F. Helliwell, R. Layard, & J. Sachs (Eds.), *World Happiness Report 2013* (pp. 38-53). New York: Sustainable Development Solutions Network.
- Layard, R., Clark, A. E., Cornaglia, F., Powdthavee, N., & Vernoit, J. (2014). What predicts a successful life? A life-course model of well-being. *Economic Journal*, 124(F720-738).
- Layard, R., Clark, D. M., Knapp, M., & Mayraz, G. (2007). Cost-benefit analysis of psychological therapy. *National Institute Economic Review*, 202, 90-98.
- Layard, R., & Clark, D. M. (2014). *Thrive: The power of evidence-based psychological therapies*. London: Penguin.
- Layard, R., & Hagell, A. (2015). *Healthy Young Minds: Transforming the mental health of children*. Retrieved from www.wish-qatar.org/app/media/download/1432
- Leijten, P., Melendez-Torres, G. J., Knerr, W., & Gardner, F. (2016). Transported Versus Homegrown Parenting Interventions for Reducing Disruptive Child Behavior: A Multilevel Meta-Regression Study. *J Am Acad Child Adolesc Psychiatry*, 55(7), 610-617. doi:10.1016/j.jaac.2016.05.003
- Leijten, P., Raaijmakers, M. A. J., Orobio de Castro, B., van den Ban, E., & Matthys, W. (2017). Effectiveness of the Incredible Years Parenting Program for Families with Socioeconomically Disadvantaged and Ethnic Minority Backgrounds. *Journal of Clinical Child & Adolescent Psychology*, 46(1), 59-73. doi:10.1080/15374416.2015.1038823
- Leucht, S., Hierl, S., Kissling, W., Dold, M., & Davis, J. M. (2012). Putting the efficacy of psychiatric and general medicine medication into perspective: review of meta-analyses. *The British Journal of Psychiatry*, 200(2), 97-106. doi:10.1192/bjp.bp.111.096594
- Lund, C., Tomlinson, M., Silva, M. D., Fekadu, A., Shidhaye, R., Jordans, M., . . . Patel, V. (2012). PRIME: A Programme to Reduce the Treatment Gap for Mental Disorders in Five Low- and Middle-Income Countries. *PLoS Med*, 9(12), e1001359. doi:<https://doi.org/10.1371/journal.pmed.1001359>
- Lundberg, U., & Cooper, C. L. (2011). *The science of occupational health: stress, psychobiology and the new world of work*. Oxford: Wiley-Blackwell.
- McDaid, D., Bonin, E., Evans-Lacko, S., & Knapp, M. (2017). *Public sector savings from treating child and adolescent mental illness*. LSE mimeo.
- McDaid, D., Park, A.-L., Currie, C., & Zanotti, C. (2014). Investing in the Wellbeing of Young People: Making the Economic Case. In D. McDaid & C. L. Cooper (Eds.), *The Economics of Wellbeing: Wellbeing: A Complete Reference Guide, Volume V*. Hoboken (NJ): Wiley Blackwell.
- McGilloway, S., NiMhaille, G., Bywater, T., Leckey, Y., Kelly, P., Furlong, M., . . . Donnelly, M. (2014). Reducing child conduct disordered behaviour and improving parent mental health in disadvantaged families: a 12-month follow-up and cost analysis of a parenting intervention. *Eur Child Adolesc Psychiatry*, 23(9), 783-794. doi:10.1007/s00787-013-0499-2
- Menting, A. T., Orobio de Castro, B., & Matthys, W. (2013). Effectiveness of the Incredible Years parent training to modify disruptive and prosocial child behavior: a meta-analytic review. *Clin Psychol Rev*, 33(8), 901-913. doi:10.1016/j.cpr.2013.07.006
- Murphy, J. M., Abel, M. R., Stephan, S. H., Jellinek, M., & Fazel, M. (2017). Scope, scale, and dose of the world's largest school based mental health programs. *Harvard Review of Psychiatry*, 25(5):218-228. doi: 10.1097/HRP.0000000000000149.
- Naslund, J. A., Aschbrenner, K. A., Araya, R., Marsch, L. A., Unützer, J., Patel, V., & Bartels, S. J. (2017). Digital technology for treating and preventing mental disorders in low-income and middle-income countries: a narrative review of the literature. *Lancet Psychiatry*, 4(6), 486-500. doi:10.1016/S2215-0366(17)30096-2
- Nicholson, A., Kuper, H., & Hemingway, H. (2006). Depression as an aetiological and prognostic factor in coronary heart disease: a meta-analysis of 6362 events among 146,538 participants in 54 observational studies. *European Heart Journal*, 27, 2763-2774. doi:10.1093/eurheartj/ehl338
- OECD. (2012). *Sick on the job? Myths and realities about mental health and work*. Retrieved from Paris: <http://www.oecd-ilibrary.org/docserver/download/8111181e.pdf?expires=1372954298&id=id&accname=ocid71015720&checksum=FE9007683ED18268BF3F69DF89A7FE83>
- OECD. (2014). *Making Mental Health Count: The social and economic costs of neglecting mental health care*. Retrieved from Paris: http://www.oecd-ilibrary.org/social-issues-migration-health/making-mental-health-count_9789264208445-en
- Pan, A., Sun, Q., Okereke, O. I., Rexrode, K. M., & Hu, F. B. (2011). Depression and risk of stroke morbidity and mortality: a meta-analysis and systematic review. *JAMA*, 306(11), 1241-1249.
- Patel, V., Saxena, S., De Silva, M., & Samele, C. (2013). *Transforming Lives, Enhancing Communities: Innovations in Mental Health*. Retrieved from <http://www.nejm.org/doi/full/10.1056/NEJMp1315214>
- Patten, S. B., Williams, J. V. A., Lavorato, D. H., Modgill, G., Jetté, N., & Eliasziw, M. (2008). Major depression as a risk factor for chronic disease incidence: longitudinal analyses in a general population cohort. *General Hospital Psychiatry*, 30, 407-413. doi:10.1016/j.genhosppsych.2008.05.001

- Petersen, I., Evans-Lacko, S., Semrau, M., Barry, M. M., Chisholm, D., Gronholm, P., . . . Thornicroft, G. (2016). Promotion, prevention and protection: interventions at the population- and community-levels for mental, neurological and substance use disorders in low- and middle-income countries. *International Journal of Mental Health Systems*, 10(1), 30. doi:10.1186/s13033-016-0060-z
- Robertson, I., & Cooper, C. L. (2011). *Well-being: Productivity and happiness at work*. London: Palgrave Macmillan.
- Roth, A., & Fonagy, P. (Eds.). (2005). *What works for whom? A critical review of psychotherapy research*. New York: Guilford Press.
- Satin, J. R., Linden, W., & Phillips, M. J. (2009). Depression as a predictor of disease progression and mortality in cancer patients: a meta-analysis. *Cancer*, 115, 5349-5361. doi:10.1002/cncr.24561
- Scott, S., Briskman, J., & O'Connor, T. G. (2014). Early Prevention of Antisocial Personality: Long-Term Follow-Up of Two Randomized Controlled Trials Comparing Indicated and Selective Approaches. *American Journal of Psychiatry*, 171(6). doi:10.1176/appi.ajp.2014.13050697
- Scott, S., Knapp, M., Henderson, J., & Maughan, B. (2001). Financial cost of social exclusion: Follow-up study of antisocial children into adulthood. *British Medical Journal*, 323(7306), 1-5.
- 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. doi:10.1186/s12916-015-0309-4
- 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. *Annu Rev Clin Psychol*, 13, 149-181. doi:10.1146/annurev-clin-psy-032816-045217
- Society for Research in Child Development. (2010). The Better Beginnings, Better Futures Project: Findings from Grade 3 to Grade 9. *Monographs of the Society for Research in Child Development*, 75(3), 100-120, (Chapter V). doi:10.1111/j.1540-5834.2010.00582.x
- Steptoe, A., & Wardle, J. (2012). Enjoying life and living longer. *Archives of Internal Medicine*, 172(3), 273-275.
- Thornicroft, G. (2006). *Shunned: discrimination against people with mental illness*. Oxford: Oxford University Press.
- Thornicroft, G., Chatterji, S., Evans-Lacko, S., Gruber, M., Sampson, N., Aguilar-Gaxiola, S., . . . Kessler, R. C. (2016). Undertreatment of people with major depressive disorder in 21 countries. *The British Journal of Psychiatry*. doi:10.1192/bjp.bp.116.188078
- Thornicroft, G., Mehta, N., Clement, S., Evans-Lacko, S., Doherty, M., Rose, D., . . . Henderson, C. (2016). Evidence for effective interventions to reduce mental-health-related stigma and discrimination. *Lancet*, 387(10023), 1123-1132.
- Thornicroft, G., & Votruba, N. (2015). Millennium development goals: lessons for global mental health. *Epidemiology and Psychiatric Sciences*, 24(5), 458-460. doi:10.1017/S204579601500030X
- Thornicroft, G., & Votruba, N. (2016). Does the United Nations care about mental health? *The Lancet Psychiatry*, 3(7), 599-600. doi:10.1016/S2215-0366(16)30079-7
- Tol, W., Komproe, I., Jordans, M., Ndayisaba, A., Ntamutumba, P., Sipsma, H., . . . de Jong, J. (2014). School-based mental health intervention for children in war-affected Burundi: A cluster randomized trial. *BioMed Central (BMC) Medicine*.
- Tol, W., Komproe, i., Susanty, D., Jordans, M., & De Jong, J. (2008). School-based mental health intervention for political violence-affected children in Indonesia: A cluster randomized trial. *Journal of the American Medical Association (JAMA)*, 300, 655-662.
- Vigo, D., Thornicroft, G., & Atun, R. (2016). Estimating the true global burden of mental illness. *The Lancet Psychiatry*, 3(2), 171-178. doi:10.1016/S2215-0366(15)00505-2
- Votruba, N., & Thornicroft, G. (2016). Sustainable development goals and mental health: learnings from the contribution of the FundaMentalSDG global initiative. *Global Mental Health*, 3. doi:10.1017/gmh.2016.20
- Walker, E., McGee, R. E., & Druss, B. G. (2015). Mortality in mental disorders and global disease burden implications: A systematic review and meta-analysis. *JAMA Psychiatry*, 72(4), 334-341. doi:10.1001/jamapsychiatry.2014.2502
- Webster-Stratton, C., & Bywater, T. (2016, in press). The Incredible Years(R) Series: An Internationally Evidenced Multi-modal Approach to Enhancing Child Outcomes. In B. Fiese (Ed.), *APA Handbook of Contemporary Family Psychology*.
- Webster-Stratton, C., & McCoy, K. P. (2015). Bringing The Incredible Years(R) Programs to Scale. *New Dir Child Adolesc Dev*, 2015(149), 81-95. doi:10.1002/cad.20115
- Webster-Stratton, C., Rinaldi, J., & Jamila, M. R. (2011). Long-Term Outcomes of Incredible Years Parenting Program: Predictors of Adolescent Adjustment. *Child and Adolescent Mental Health*, 16(1), 38-46. doi:http://doi.org/10.1111/j.1475-3588.2010.00576.x
- World Health Organisation (WHO). (2014). *Mental Health Atlas 2014*. Retrieved from Geneva: http://whqlibdoc.who.int/publications/2011/9799241564359_eng.pdf
- World Health Organisation (WHO). (2015). *Scaling-up treatment of depression and anxiety: a global return on investment analysis*. Retrieved from Geneva:
- World Health Organisation (WHO). (2016). *MhGAP Intervention Guide for Mental, Neurological and Substance-Use Disorders in Non-Specialized Health Settings - Version 2.0*. Retrieved from Geneva: http://www.who.int/mental_health/publications/mhGAP_intervention_guide/en/
- World Health Organisation (WHO). (2017). *Depression and Other Common Mental Disorders: Global Health Estimates*. Retrieved from Geneva: http://whqlibdoc.who.int/publications/2011/9799241564359_eng.pdf
- Zafar, S., Sikander, S., Haq, Z., Hill, Z., Lingam, R., Skordis-Worrall, J., . . . Rahman, A. (2014). Integrating maternal psychosocial well-being into a child-development intervention: the five-pillars approach. *Annals of the New York Academy of Sciences*, 1308, 107-117.

Appendix 1. Advisory Committee

Dr. Dan Chisholm (WHO)

Dr. Sarah Flèche (University of Aix-Marseille)

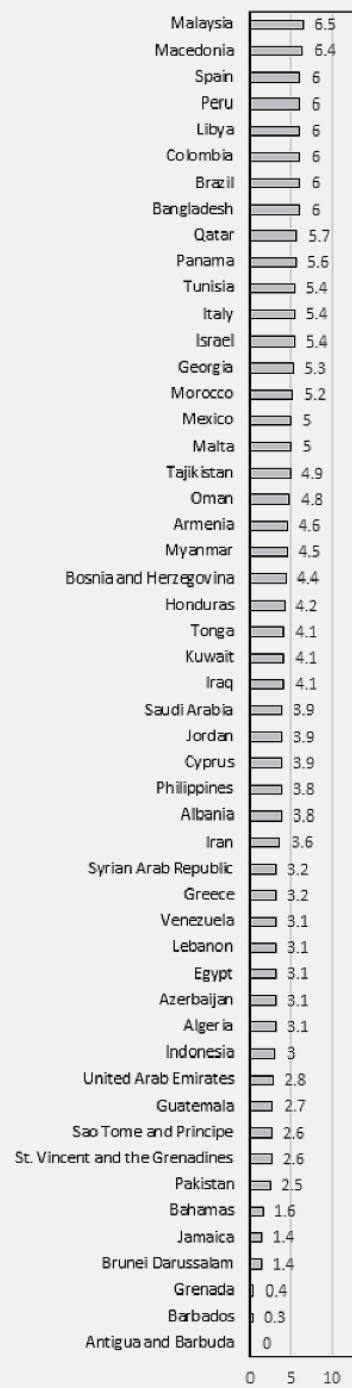
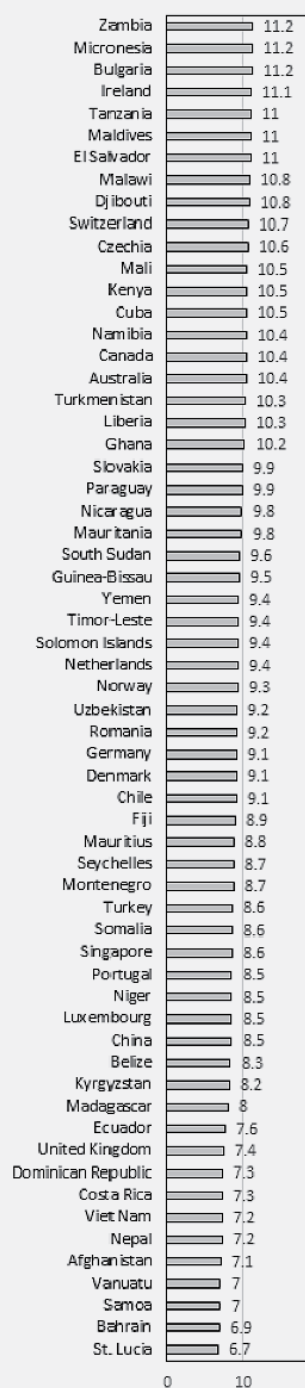
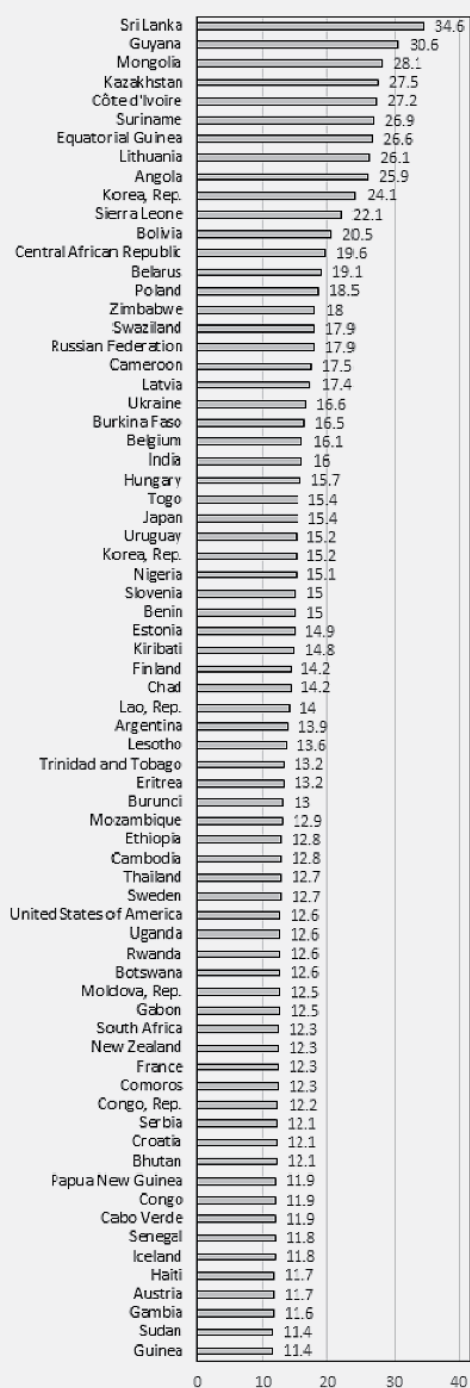
Prof. Vikram Patel (Harvard and Public Health Foundation of India)

Dr. Shekhar Saxena (WHO)

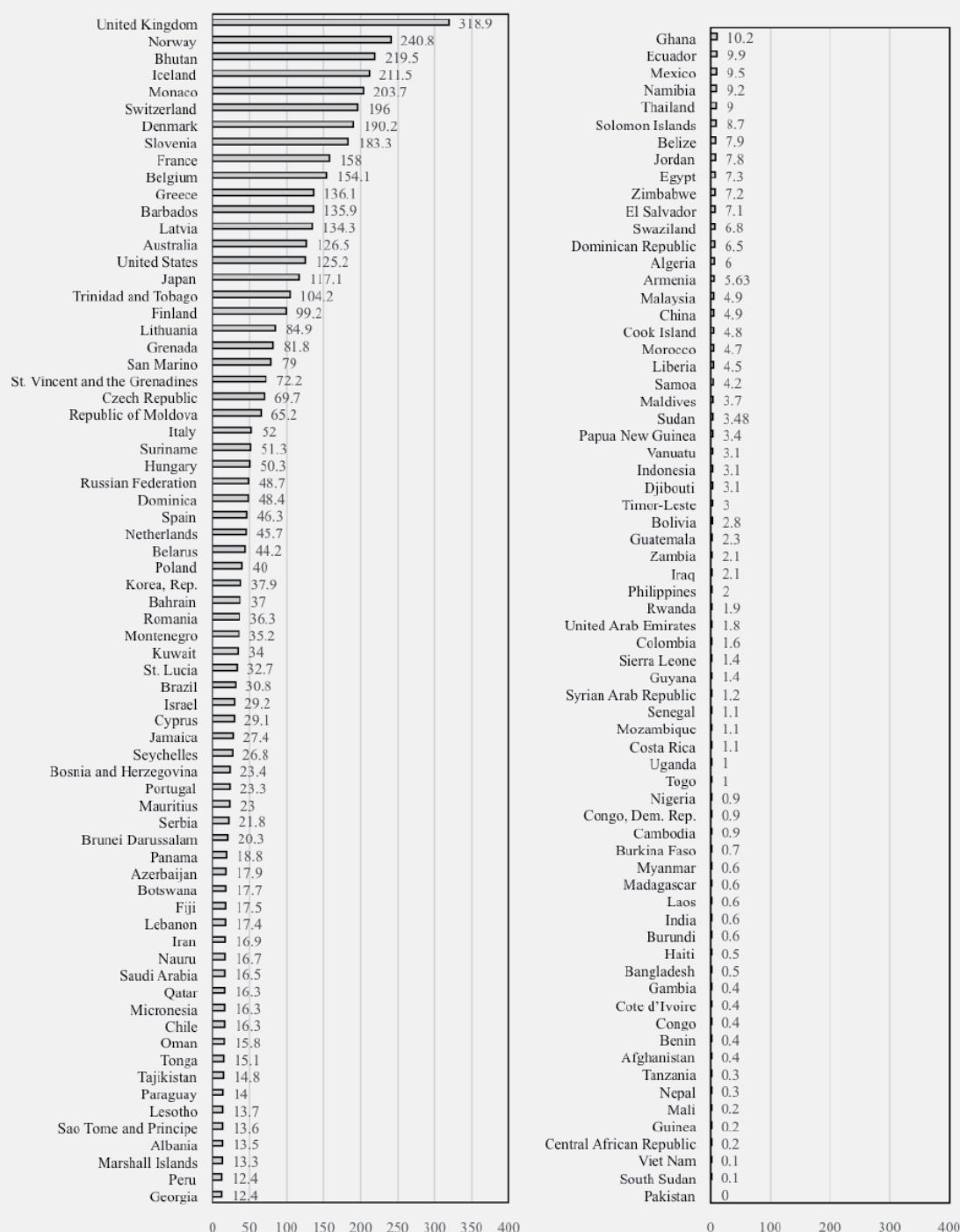
Prof. Sir Graham Thornicroft (Institute of Psychiatry, King's College London)

Prof. Carolyn Webster-Stratton (University of Washington)

Appendix 2. Suicides rates per 100,000 (2015)



Appendix 3. Total mental health workforce



Source : WHO Mental Health Atlas, 2014

Appendix 4. Average cost per case of treating depression (\$)

High-income countries	727
Upper middle-income countries	177
Lower middle-income countries	69
Low-income countries	21

Source: Chisholm et al. (2016b)

Appendix 5. Total cost per head of population of proposed expansion 2015-2030 (undiscounted) (\$)

	Gross cost	Savings, excluding those on physical healthcare	Net cost
High-income countries	139	267	-128
Upper middle-income countries	36	52	-16
Lower middle-income countries	12	20	-8
Low-income countries	2	6	-4

Source: Chisholm et al. (2016b)

Chapter 4

Positive Education

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Education Committee**Dr. Abdulla Al Karam**

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Professor Lea Waters

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The committee members wrote drafts about PE in their regions of the world but were not responsible for the report as a whole. We are grateful to all of the following people who provided information about their projects: Hector Escamilla, Angela Duckworth, Donald Kamentz, Roger Weissberg, Justin Robinson, Mathew White, Yukun Zhao, Emily Larson, Jo Maher, Ye Hong, David Cooperrider, Steve Leventhal, and Tal Ben-Shahar.



Schools are the primary place where the values of a culture get instilled in young people. To the extent that teachers convey pessimism, distrust, and a tragic outlook on life, their students' world-view will be thus fabricated. To the extent that teachers transmit optimism, trust, and a hopeful sense of the future, this will positively influence their students' perception of the world. The theme of this entire volume is that hope, trust, and happiness cause better well-being, and so the guiding hypothesis of Positive Education ("PE" hereafter) is that positive schools and positive teachers are the fulcrum for producing more well-being in a culture.

This chapter reviews the state of PE across the globe as of the end of 2017. Throughout the chapter we underscore the components of what we consider the best practices: rigorous ongoing evaluation, analyses of effect sizes and intervention duration, cultural adaptation of evidence-based interventions, treatment fidelity measurements, and the promotion of teacher empowerment and creativity to refine local interventions.

Here is the outline. First, we define "Positive Education" and so limit this chapter's scope to programs and schools that teach validated PE interventions and measures. Second, we discuss the interventions and measures most commonly used. Third, we survey the spread of PE across the world alongside evidence that PE increases the traditional goals of schools (literacy numeracy, and science) as well as building well-being. Finally, we discuss some serious cautions as well as guidelines for the future.

What is Positive Education?

The goal of PE is to produce both well-being as well as to forward the traditional outcomes of schooling. This goal is too broad, however, since many programs and many schools have such a goal. To make our review wieldy and useful, we will limit the scope of PE to schools and programs that actually measure outcomes and also use a replicable set of validated interventions to achieve those outcomes.

Measures. Three kinds of measures are important for evaluating PE. First, measures of "happiness," which must be decomposed into elements less vague than the highly ambiguous term,

"happiness." Second, measures of unhappiness, typically depression and anxiety. Third, measures of academic success.

There are a number of validated ways of disaggregating measures of happiness or well-being, both for adults and children. The most widely used one for adults is the satisfaction with life scale (Diener, Emmons, Larsen, & Griffin, 1985), but this is not used often with school children with one noteworthy exception: The Organisation for Economic Cooperation and Development's (OECD) 2015 Programme for International Student Assessment (PISA) included life satisfaction measures in the core items of its global exam, which the OECD conducts every three years in over 70 countries. Another way to slice the happiness pie is between hedonic (felt pleasure) and eudaimonic (purpose-oriented) well-being (Ryan & Deci, 2001). PERMA (Seligman, 2011) is an acronym for Positive emotion, Engagement, Good relationships, Meaning, and Accomplishment and is measured in children by EPOCH (Kern, Benson, Steinberg, & Steinberg, 2016) and in adults by the PERMA-Profilier (Butler & Kern, 2016) and by Comprehensive or Brief Inventories of Thriving (Su, Tay, & Diener, 2014).

Unhappiness is typically measured by depression inventories: the Children's Depression Inventory in children (Kovacs, 2004) and the Beck Depression Inventory or Center for Epidemiologic Studies Depression Scale in adults and analogous anxiety inventories for children and adults (Beck, Steer, & Brown, 1996; Radloff, 1977). While lowering depression and anxiety is a goal of PE, it should be noted that unhappiness in the sense of depression and anxiety does not exclude happiness (the correlation is much lower than -1.0 (Rezaee, Hedayati, Naghizadeh, Farjam, Sabet, & Paknahad, 2016)) but rather it merely hinders happiness. Hence decreasing pathology is an important, albeit incomplete, goal of PE.

Academic success measures are typically national standardized exam scores or grade point averages.

Interventions. We limit the scope of the programs we review below to those that use several of the following reasonably well-validated interventions (for meta-analyses of positive interventions and their validation, see Sin & Lyubomirsky, 2009 and Boller, Haverman, Westerhof et al, 2013):

- What Went Well (Seligman, Rashid, & Parks, 2006). In this intervention students record typically three events that went well today and why they went well.
- Gratitude Visit (Emmons, 2007). Students write a letter of gratitude and read it to the source.
- Active, Constructive Responding (Gable, Reis, Impett, & Asher, 2004). Students learn to respond constructively to another person's victories.
- Character Strengths (Peterson & Seligman, 2004). The students identify and use good character and their signature strengths in a new way.
- Best Self (Roberts, Dutton, Spreitzer, Heaphy, & Quinn, 2005). Students write about their best selves and proudest moments.
- Meditation and Mindfulness (Davidson et al., 2003). Students practice one or more of the various meditation and mindfulness techniques.
- Empathy training (Bryant, 1982). Students learn about and use empathy techniques.
- Coping with emotions (Deci & Ryan, 2010): Students identify, understand, and manage their emotions, particularly positive emotions.
- Decision-making (Albert & Steinberg, 2011). Students learn to choose the best action plans from available options.
- Problem-solving (Steinberg, 2014). Students use effective heuristics to solve theoretical and practical problems.
- Critical thinking (Marin & Halpern, 2011). Students conceptualize, synthesize, apply, and evaluate information as a guide to beliefs and actions.

Positive Education across the Globe

Asia

Bhutan. We begin with Bhutan because the first solid evidence that PE simultaneously increases well-being and national standardized exam performance emerged there (Adler, 2016). Bhutan is a small Himalayan country with fewer than one million inhabitants, and it uses Gross National Happiness (GNH) rather than Gross Domestic Product (GDP) to assess national progress and to drive public policy (Ura & K. Galay, 2004). In line with this, Bhutan has organized its education system around the principles of GNH;

the Bhutanese Ministry of Education's explicit mission is to "Educate for Gross National Happiness." The Bhutanese Ministry of Education collaborated with the Positive Psychology Center at the University of Pennsylvania to co-develop a *GNH Curriculum* that targets ten positive "life skills," including many in the list above, for secondary school students (grades 7 through 12). The curriculum taught these skills in a 15-month stand-alone course and imbedded them in existing academic subjects.

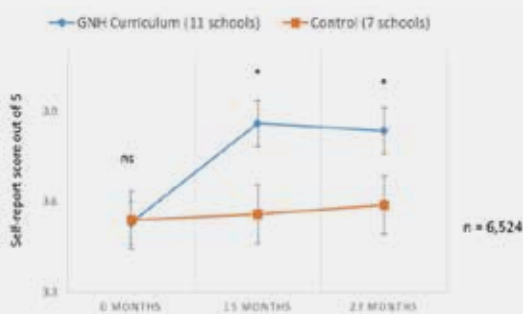
All principals and teachers from 11 treatment schools received training during a 10-day *GNH Curriculum* training retreat. The trainers were psychologists from the University of Pennsylvania and nine trained staff members from Bhutan's Ministry of Education; a training manual (*Educating for GNH*) was used. The trainers taught principals and teachers how to practice and how to teach the ten life skills. Teachers were also trained to infuse their academic subjects (e.g., math, science, reading) with the ten life skills. Literature, for instance, was taught through a "GNH lens" by identifying strengths and virtues in characters from novels and by encouraging students to use these strengths in their daily lives. Further, all students in the intervention group participated in botany practices in organic gardens in every one of the 11 school campuses. They learned to plant, grow, and harvest vegetables and other foods. By studying the plants' physiology, genetics, ecology, classification, structure, and economic importance, students learned how to interactively apply what they were learning in their biology, chemistry, physics, and mathematics classes to their botanic practices. Furthermore, through the complex process of growing different plants with their fellow students and understanding the role of food in the larger local and national economic system, they learned to practice critical thinking, creative thinking, decision making, and problem-solving skills.

In the classroom, teachers learned how to give students verbal and written feedback in a way that empowered and motivated them to enhance the quality of their work. Teachers learned the importance of identifying and noting what students were doing right in their classwork, instead of only highlighting what they were doing wrong, which is typical of pedagogical practices in most secondary schools. The 11 schools in the treatment group implemented the *GNH Curriculum* from June 2012 to August 2013.

The *GNH Curriculum* significantly increased adolescent well-being (as measured by the EPOCH scale) in treatment schools, compared to control schools (*Cohen's d* = 0.59, *t*(16) = 3.54, *P*=0.002). The difference between treatment schools and control schools remained significant one year after the intervention ended.

Figure 1

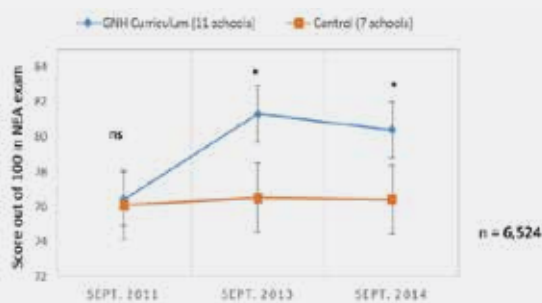
Youth Well-being (EPOCH)



The GNH Curriculum increased academic achievement significantly in treatment schools, compared to control schools (*Cohen's d* = 0.53, *t*(16) = 2.37, *P*=0.031). The difference between treatment schools and control schools remained significant one year after the intervention ended.

Figure 2

Standardized Test Scores in Bhutan



An upward shift of 0.53 standard deviations (SDs) in standardized exam performance means that, on average, students who were performing at the 50th percentile before the intervention performed at the level of students in the 60th percentile after the 15-month intervention. That is roughly equivalent to a gain of a full academic year.

Bhutan's Ministry of Education has decided to take the program to a national scale and is currently on a path to implement the curriculum in every public secondary school in the country (Adler & Seligman, 2016).

China

PE is quickly spreading in China. It seems to be popular not only because it is congenial to traditional Chinese philosophies, but also because the Chinese education system may be in search of a paradigm shift. On the one hand, the Chinese education system is enormously successful. It produces the most engineers in the world and Chinese students consistently perform outstandingly in math and sciences compared to other countries. On the other hand, however, the Chinese education system mainly relies on authoritarian discipline to achieve that academic success. This may result in the loss of interest of students in studying, in ever-growing conflicts between students and parents as well as teachers, and, worst of all, rampant depression and anxiety in the students.

Positive education may be the right antidote for the dilemma; since it focuses on both individual well-being and academic learning.

Zengcheng. In 2014, the city of Zengcheng (now part of Guangzhou), Guangdong province, launched the largest program to date in China. Under the supervision of Ms. Ye Hong, then Vice Mayor, more than 10,000 school principals and head teachers were trained in positive education by the Positive Psychology Research Center of Tsinghua University (PPRC). Martin Seligman also lectured to the educators of Zengcheng in 2015.

As of October 2017, Mayor Ye Hong reports that 350 - 400 kindergartens, primary schools, junior high schools, and senior high school have used Positive Education in Zengcheng, involving 260,000 students. 80,000 teachers have been trained in PE.

Mayor Ye Hong reports that from teachers' point of view, measured career devotion is higher and teaching methods have improved – they are more flexible and more effective. From the students: academic performance is higher on graduation exams in grades 9 and 12 compared to 2016, when the rate at which students were admitted to key universities was 28.1%, while in 2017 it has gone up to 41.2%. In the past, an average of 7 to 8 students committed suicide every year; in 2017, only one. Zengcheng has spent 21,500,000RMB (about US \$4,000,000) annually on PE, comprised of 1,500,000RMB on research and 20,000,000RMB on training.

Beijing. In 2012, the Bureau of Education of Beijing funded the 19th Middle School of Beijing to build a model of “happy education.” They combined positive psychology with traditional Chinese philosophy to design courses, train teachers, and remodel school culture. Three years later, their rate of first-class college entrances rose from 69.6% in 2012 to 75% in 2015.

In 2015, Ms. Dou Guimei, the principal of Tsinghua University Primary School (TUPS) decided to roll out a Positive Education program designed by the Positive Psychology Research Center (PPRC) of Tsinghua University. This marks the first attempt of a school practicing positive education in collaboration with an expert team with a rigorous research background and empirically grounded theoretical guidelines. TUPS is one of the most famous elementary schools in China, and this sends a strong message to the Chinese education community that PE has been accepted by the mainstream schools.

To further disseminate PE, PPRC also launched a non-profit program called “Happy Gardener” (Gardener is the common metaphor of teacher in China) that trains school principals for free, thanks to the Beijing Happiness Foundation. The program has trained more than six hundred principals, who went to Tsinghua University for a five-day training in PE.

The fourth **China International Positive Psychology Conference**, held during August 2017, was co-hosted with the International Positive Education Network (IPEN) and mainly focused on PE. Empirical data on effectiveness were presented.

India

CorStone is an internationally recognized nonprofit organization. Its mission is to provide evidence-based resilience programs to improve mental and physical health, increase academic achievement, and reduce poverty among marginalized youth. Since 2009, CorStone has reached more than 40,000 beneficiaries in India. Projects have included a randomized controlled trial among 3,600 school children in a rural setting; and implementations for 11,000 highly marginalized girls in more than 100 residential government-run schools.

Children's Resilience Program for Girls (CRPG); Surat, Gujarat, India, 2011-2012

CorStone conducted an observational trial of the CRPG in urban schools among approximately 500 girls with matched controls in Surat, India. The program was led by community facilitators among high-poverty, low caste, urban slum-dwelling girls. Qualitative reports indicated that girls found the CRPG to be highly enjoyable and relevant to their daily lives. Additionally, program attendance predicted greater increases in optimism and prosocial behavior and decreases in behavioral problems. These changes remained 8-months after the program's completion (all p 's < 0.05; Leventhal, Gillham, et al., 2015).

Girls First, Patna, Bihar, India, 2013-2014.

Corstone followed with a large randomized controlled trial (RCT) in rural Bihar, India, one of India's poorest states. The trial integrated resilience training with training in adolescent health. Called “Girls First,” the trial was conducted in 76 rural government schools for 7th and 8th grade girls during the school day by trained community facilitators. The program began with 22 resilience sessions (Girls First Resilience Curriculum or RC), followed by 20 adolescent health sessions (Girls First Health Curriculum or HC). The program included sessions meant to improve psychosocial resilience, including character strengths, emotional regulation, benefit-finding, goal-setting, planning, communication, and problem-solving.

Results showed that the resilience curriculum had significant positive effects compared to controls on psychosocial indicators such as emotional resilience, self-efficacy, social-emotional assets, psychological well-being, and social well-being (Leventhal, Gillham, et al., 2015).

Girls First - KGBV; Bihar, India 2015-2017

During 2015 to 2017, CorStone trained over 150 school teachers to deliver Girls First to 11,000 girls in more than 100 KGBV schools (Kasturba Gandhi Balika Vidhyalayas or KGBVs) in 5 districts of Bihar. KGBV schools are special residential institutions established by the Indian government for marginalized low caste or minority girls at risk for trafficking, early marriage, and lack of schooling. Assessments at pre- and post-test indicate significant changes on psychosocial and physical health indicators.

There are 3,500 KGBV schools across India, including 500 KGBV schools in Bihar, in all serving over 300,000 adolescent girls in grades 6-8. In 2018, CorStone plans to begin the scale-up of Girls First - KGBV throughout Bihar as well as expand the program to KGBV schools in at least 2 additional states in India.

Middle East

United Arab Emirates (Dubai)

"What is the purpose of government if it does not work toward the happiness of the people? It's the duty and role of the government to create the right conditions for people to choose to be happy."
— H. E. Sheikha Ohood bint Khalfan Al Roumi (Simmons, 2017)

This quote from the UAE's Minister of State for Happiness, H. E. Sheikha Ohood bint Khalfan Al Roumi, encapsulates the drive of the leadership of the United Arab Emirates (UAE) towards broader goals than simply economic growth and community engagement. Her main responsibility is to harmonize all government plans, programs, and policies to achieve a happier society through the National Programme for Happiness and Positivity.

The UAE's National Agenda aims to position the UAE as one of the happiest countries in the world. In the 2017 version of the World Happiness Report, which ranks 155 countries by their happiness levels, the UAE ranked 21st in the world and was the happiest country in the Arab region (Helliwell, Layard, & Sachs, 2017). Positive education in schools throughout the UAE will play a critical role in helping to improve the nation's happiness by encouraging the well-being of students at schools and by helping children develop positive character attributes.

At the national level, the Government of the UAE launched a pilot in PE during September 2017 teachers and leaders from a sample of 10 public schools received Positive Education training. Based on the results to be seen 18 months from now, the Government may choose to scale up the program to cover all public schools across the UAE. This program is being implemented in partnership with the Institute of Positive Education at Geelong Grammar School in Australia, United Arab Emirates University, and the University of Melbourne.

As Dubai's regulator of private schools in Dubai, the Knowledge and Human Development Authority (KHDA) oversees the growth of quality education for more than 90% of Dubai's school students. Inter-school collaboration has been fostered by the What Works Dubai series of workshops over the past five years.

The KHDA commenced a long-term partnership with the Government of South Australia's Department of Education and Childhood Development to further develop the assessment and analysis of student well-being in all private schools in Dubai. The Dubai Student Well-being Census commenced in November 2017 and covered all children in Grades 6 to 9 at private schools in Dubai – about 70,000 students altogether. Every Dubai private school received a report that enabled the community - as policy-makers and educators - to put together more targeted, evidence-driven policies to improve student well-being. Future plans include the analysis of teacher well-being and correlating that with the well-being of students.

While surveys provide an understanding of the current well-being of students at schools, teachers and administrators require resources to develop activities to promote student well-being. Toward this end, a 'memorandum of friendship' was signed in February 2017 between KHDA and the International Positive Education Network (IPEN) to establish IPEN's first regional branch.

One specific example is that of a new Dubai private school that has established itself on the premises of PE. Every single teacher at the school received rigorous training in Positive Education. A well-being department was established with three counselors in addition to an in-house PE team. Explicit PE classes are taught as part of the school curriculum and parents are invited to attend regular PE sessions.

Many other of Dubai's private schools already have well-developed programs in place to support student well-being. These programs fit across Australia's Institute of Positive Education model (Learn It, Live It, Teach It, Embed It) that brings positive education to life in a school and places well-being at the heart of education (Hoare, Bott, & Robinson, 2017).

- **Learn It:** A number of workshops by members of IPEN, such as the Institute of Positive Education in Australia and Action for Happiness in the UK have been delivered for parents and schools in Dubai to over 500 teachers.
- **Live It:** For example, one school has developed a mindfulness and well-being room to help students mentally and emotionally by focusing on positivity. The room has smart tablets loaded with guided meditation routines and a gratitude tree for students to display what they are thankful for. The #100DaysOfPositivity initiative, designed by the National Programme for Happiness and Positivity in collaboration with KHDA, encouraged schools to do something positive every day for 100 days and share it on Twitter and Instagram.
- **Teach It:** Approximately 30% of Dubai private schools have now allocated full time staff to focus on student and teacher well-being.
- **Embed It:** A Mindfulness Collective convenes at least 15 schools on a regular basis to collaborate and share existing programs in schools, collect evidence to demonstrate best practices, and provide support for schools who would like to implement mindfulness programs in the future.

Positive Education in the UAE is viewed as an important contributor to the overall happiness of the nation. This will help to fulfil the remarks made by His Highness Sheikh Mohammed bin Rashid al Maktoum that:

"Yes, we seek to make people happy, and making people happy will be our objective and mission until it becomes a permanent and deep-rooted reality" (Al Maktoum, 2017).

The Kingdom of Saudi Arabia (KSA) and Jordan

The Crown Prince of the KSA, Mohammad bin Salman, and the King of Jordan, Abdullah II, have the joint objective of infusing their two countries

with Positive Education, using "21st skills" together with the most virtuous of Islamic values to promote equality, progress, and societal thriving. They have chosen to plant the seeds for a new future, with 2030 as the ambitious year by which the transformative investments they make in Positive Education, starting in 2018, will bear fruits for a new generation of young, productive, ethical adults. The Positive Psychology Center of the University of Pennsylvania will be partnering with the Ministries of Education of both the KSA and Jordan to cultivate the whole-nation Positive Education initiatives that these two leaders are pioneering.

Australia

Positive Education Frameworks

Geelong Grammar School's Institute of Positive Education.

In 2014, Geelong Grammar School (GGS) became the first school in the world to open an on-campus research, training, and development institute dedicated to Positive Education: The Institute of Positive Education. In the four years since its launch, the Institute has grown to a team of 16 individuals and has delivered more than 200 training courses to educators in Australia and internationally.

More than 10,000 teachers, representing more than 1,000 schools from around the world have attended the Institute's training courses. As the participants of these courses return to their schools, the benefits of Positive Education have been experienced by well over 250,000 students.

The Institute has immersion courses, with modules on Positive Emotions, Flow, Positive Relationships, Gratitude, Resilience, Help-seeking, Character Strengths, Positive Purpose, Curiosity, Kindness, Hope, and Meaningful Work.

GGS was the first school in the world to pioneer a whole-school Positive Education program and this was made possible by Professor Martin Seligman and his training team living at GGS for six months in 2008. The Institute has delivered courses and supported schools in every state and territory of Australia, and, increasingly, is delivering trainings in Asia, Europe, and the Middle East.

Since 2012, it has been a condition of employment at GGS that all existing employees and any new

employee to the school participates in a three-day residential, immersion course to ensure a common knowledge and common language is maintained across the school. All parents at GGS are also made aware of the principles of PE, with more than 200 parents choosing to participate in the annual two-day training courses delivered by the Institute.

Students at GGS have participated in the current curriculum which consists of more than 250 explicit lessons, totaling more than 200 hours of curricular content. The University of Melbourne has recently completed an independent, three-year longitudinal study of the effectiveness and impact of the GGS Positive Education program.

- *Year 9 students within the GGS Positive Education program, relative to control students, experienced significantly improved mental health (decreased depressive and anxiety symptoms) and well-being (e.g., life satisfaction, positive emotions, engagement, and meaning).*
- *Year 10 students showed significant increases in levels of growth mindsets, meaning, and hope compared with control students and significantly higher levels of well-being, social relationships, heart rate variability, and physical health at the end of the school year.*
- *Over the three-year study, GGS students, relative to comparison students, reported significantly higher levels of life satisfaction, happiness, gratitude, and perseverance*

St Peter's College – Adelaide, South Australia, Australia.

Established in 1847, Australia's St Peter's College – Adelaide (SPSC) is one of the world's leading schools for boys aged 3 – 18 years. Under the Headmastership of Simon Murray, SPSC integrated Positive Education into all aspects of school life.

In 2012 and 2013, St Peter's College partnered with the Positive Psychology Center at the University of Pennsylvania to train all 250 employees in the latest science of positive psychology, resilience, and well-being. The School has used a whole-school, evidence-based approach towards PE. This involves three targeted areas:

1. **Strategy.** The School has included well-being as a central part of its strategic plan since 2011. The school uses the PERMA model of well-being: positive emotions, engagement, positive relationships, meaning, and accom-

plishment, as a guiding framework. Flourishing arises from these five elements, which are underpinned by character strengths.

2. **Intervention.** The School aims to build an evidence-based culture of well-being, which specifically targets students, staff, and parents. All employees receive ongoing training in positive psychology. Specific PE programs have been implemented into the curriculum, co-curricular activities, staff training, leadership, and other aspects of the school's culture.
3. **Parents.** Scientifically informed workshops for parents are now being offered, to further support the well-being of the community.
4. **Measurement.** A defining component of SPSC's approach involves measuring and documenting the process and impact of PE efforts.

By 2017 over 8,500 students have now studied at least 4 to 5 of PE programs. An entire generation of boys has gained preventative skills for mental health and character development. St Peter's College now teaches positive education classes once a week from ELC through Year 10.

In 2016, 934 students (year 5-12) completed a third well-being survey. Students continued to score highly in most areas. However, it is clear that they are now more accepting of admitting when they are not doing well, enabling them to get the help they need to feel and function better. Discussing mental health and well-being is now seen as the 'new normal' for boys at St Peter's College. Students are expressing the growing sense of responsibility to look out for one's "mates" and to ask for help when needed.

Building Resilience is the result of a partnership between the Victorian Government and the University of Melbourne, led by Professor Helen Cahill and launched in 2015 under the Government's strategic plan to reduce alcohol and drug use in students. *Building Resilience* provides teachers with an online portal of activities and resources designed to help students make good decisions when faced with life's challenges. Although the framework focuses more on reducing negative states (i.e., drug and alcohol use), a closer look shows that the program incorporates numerous positively-oriented topics including positive relationships, optimism, strengths, social-emotional learning and mindfulness. The framework is

being used in schools in the State of Victoria with from prep to year 12 students.

The **Visible Wellbeing** framework was launched in 2015 by Professor Lea Waters. It is a whole-school framework based on six key pathways that can be taught in schools: 1) strengths; 2) emotional management; 3) attention and awareness; 4) relationships; 5) coping; and 6) habits and goals.

Visible Wellbeing has three key goals: 1) building student well-being; 2) enhancing student learning and 3) building well-being for staff and faculty. The program involves all staff and faculty receiving professional development run by trained facilitators at school, combined with ongoing coaching, an on-line portal, student activities and a Visible Wellbeing survey to track the well-being of both the students and adults in the school (<http://www.visiblewellbeing.org/>).

Visible Wellbeing training has been delivered in Australia, New Zealand, Hong Kong, and Canada reaching over 25,000 students and more than 3,500 teaching and non-teaching staff. Empirical testing of the impact of Visible Wellbeing is currently being evaluated; pilot testing showed significant, positive results.

KidsMatter and **MindMatters** was developed in 2006 and offers whole-school mental health frameworks to primary and secondary school students. The aim of the 'Matters framework' is to teach students the skills to build engagement and connectedness. The program is nation-wide and is funded by the Australian Government's Department of Health together with partnerships with the Australian Psychological Society, Principals Australia, and Australian Rotary Health (<https://www.mindmatters.edu.au/> <https://www.kidsmatter.edu.au/primary>).

An evaluation of the KidsMatter framework by university researchers across 96 schools in Australia found that schools that implemented the program with high quality had higher academic performance of up to 6 months' worth of schooling compared to schools that implemented the KidsMatter program poorly (Dix, Slee, Lawson & Keesee, 2012).

Measuring Student Well-being

The **Wellbeing Profiler** was developed by researchers at the Centre for Positive Psychology,

University of Melbourne, led by Dr Tan Chyuan Chin and Professor Dianne Vella-Brodrick. The Wellbeing Profiler is a 30-minute online survey administered in schools on the six domains of youth well-being of physical, psychological, cognitive, social, economic, as well as emotional well-being and strengths. The Wellbeing Profiler has measured the well-being of over 20,000 Australian students and has partnered with 61 Victoria schools.

Positive Education Associations, Conferences, and Research Centers in Australia

The major association in Australia is the **Positive Education Schools Association (PESA)**, which was formed in 2012. Mr. Simon Murray is the Chairman of PESA, Anne Johnstone, head of the Ravenswood School is vice-chair. and Professor Lea Waters is the Ambassador. PESA aims to facilitate collaboration amongst teachers, students, researchers, and practitioners of well-being and positive psychology across all aspects of school life. PESA now has over 1,000 members from more than one hundred schools all across Australia (Public/State Schools, Parochial/Catholic Schools, and Private Schools).

The **Australian Positive Psychology and Well-being Conference** has been running biennially for the past ten years and has been hosted by Sydney University, Monash University, Wollongong University, Melbourne University, and the South Australian Health and Medical Research Institute, respectively. The Australian Positive Education Summit was run biennially from 2008-2014 co-hosted by Sydney University and The Positive Psychology Institute. With the advent of the Positive Education Schools Association, this conference was taken over by PESA in 2014 and is now run annually.

Australia has two major research centers that are promoting the science of Positive Education both nationally and internationally: The Institute for Positive Psychology and Education, Australian Catholic University and the Centre for Positive Psychology, University of Melbourne. The Centre for Positive Psychology runs the only Master of Applied Positive Psychology in the southern hemisphere and also offers a Professional Certificate in Positive Psychology.

Latin America and North America

Educación para el Bienestar in Jalisco, Mexico.

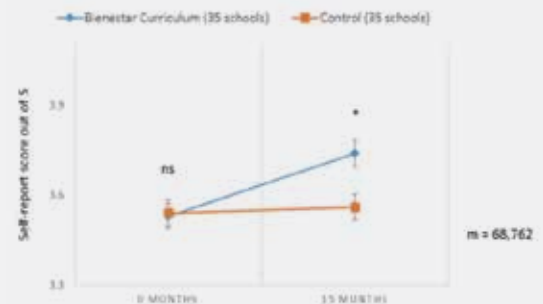
Jalisco is one of 32 states in Mexico. It has a population of about eight million people, and it has a relatively high level of economic development, compared to other states in Mexico. The current governor of Jalisco, Aristoteles Sandoval, declared it his mandate to make Jalisco Mexico's first state of well-being (*bienestar*). The University of Pennsylvania's Positive Psychology Center partnered with Jalisco's Ministry of Education to conduct a Positive Education random assignment controlled trial (RCT) with the *Colegio de Estudios Científicos y Tecnológicos del Estado de Jalisco* (CECYTEJ), or College of Science and Technology Studies of the State of Jalisco's 70 schools. After the empirical positive effects of the Positive Education 70-school (RCT) the Ministry of Education has taken the program to a state-wide scale.

Even though the life skills that this initiative teaches are analogous to those in the GNH Curriculum in Bhutan, the content and structure of the curriculum was fully adapted so that it resonates with the context and culture of local principals, teachers, and students. The *Curriculum de Bienestar* was co-developed with local principals and teachers from non-CECYTEJ schools (to ensure a single-blind study) as well as with staff trained in curricular design from Jalisco's Ministry of Education.

The *Bienestar Curriculum* significantly increased student well-being. As illustrated in Figure 3, longitudinal school-level analyses of survey data from August 2014 and December 2015 indicate that the *Bienestar Curriculum* significantly increased adolescent well-being (as measured by the Spanish-version of the EPOCH scale) in treatment schools, compared to control schools (*Cohen's d* = 0.41, *t* (68) = 3.01, *P* < 0.001).

Figure 3

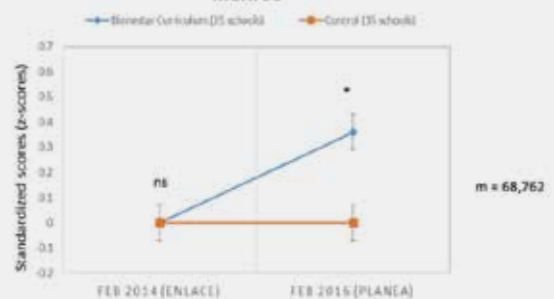
Youth Well-being (EPOCH) in Jalisco, Mexico



The *Bienestar Curriculum* substantially and significantly increased academic performance. As illustrated in Figure 4, longitudinal school-level analyses of standardized test scores from February 2014 and February 2016 showed that the *Bienestar Curriculum* increased academic achievement significantly in treatment schools, compared to control schools (*Cohen's d* = 0.36, *t*(68) = 2.61, *P* = 0.01).

Figure 4

Standardized Test Scores in Jalisco, Mexico



The strongest predictors of increased performance on standardized test scores, controlling for initial academic performance were higher connectedness, more perseverance, and more engagement. These were the same three factors that mediated academic gains in Bhutan (Adler, 2016).

Escuelas Amigas in Peru

In November 2013, the University of Pennsylvania's Positive Psychology Center partnered with the Peruvian Ministry of Education and the World Bank to run the largest education controlled trial (RCT) in the region's history. Minister Saavedra's goal was to choose 700 representative schools from Peru and to randomly assign them to receive a novel curriculum with a well-being focus or to receive a placebo control curriculum (to control for demand artifacts). The World Bank collected data throughout the project, and the Ministry of Education implemented the program.

Just as in Jalisco, Mexico, the content and structure of the curriculum was adapted so that it resonated with local principals, teachers, and students. The study eventually included 694 secondary schools with almost 700,000 students from all over Peru (grades 7 – 12).

The *Paso a Paso Curriculum* significantly increased student well-being. As illustrated in Figure 5, longitudinal school-level analyses of survey data from March 2014 and July 2015 indicate that the

The *Paso a Paso Curriculum* significantly increased academic performance. As illustrated in Figure 6, longitudinal school-level analyses of test scores on the ECE from November 2013 and November 2015 showed that the *Paso a Paso Curriculum* increased academic achievement significantly in treatment schools, compared to control schools

Figure 6

Standardized Test Scores in Peru



Figure 5

Youth Well-being (EPOCH) in Peru



Paso a Paso Curriculum significantly increased adolescent well-being (as measured by the Peruvian Spanish-version of the EPOCH scale) in treatment schools, compared to control schools ($Cohen's d = 0.24$, $t(692) = 2.81$, $P=0.004$).

($Cohen's d = 0.19$, $t(694) = 2.45$, $P=0.014$).

The same three factors were the strongest predictors of gains on standardized test scores: higher connectedness, more perseverance, and more engagement (Adler, 2016).

While this chapter is focused on primary and secondary education, it must be mentioned that Mexico founded the first entire university devoted to Positive Education. Hector Escamilla, as President of **Universidad Tecmilenio** in Mexico serves 52,000 university students on their 29 campuses across the country. Central to Tecmilenio is the premise that well-being and happiness are teachable and should pervade the curriculum. The vision is “to prepare people with a purpose in life and with the competencies to achieve it. We define ourselves as a Positive University: ‘A learning community that cultivates the best of each person allowing them to flourish. To foster leadership within an ecosystem dedicated to well-being and happiness’” (Escamilla, 2017). In their ongoing evaluation, Tecmilenio students are showing significant increases in PERMA, as well as in mindfulness and gratitude.

United States

CASEL

The Collaborative for Academic, Social, and Emotional Learning (CASEL) has been the leading voice in studying, defining, and promoting Social and Emotional Learning (SEL) for the last 20 years (www.casel.org). CASEL concentrates on five interrelated sets of cognitive, affective, and behavioral competencies.

- Self-awareness. The ability to accurately recognize one's emotions and thoughts and their influence on behavior.
- Self-management. The ability to regulate one's emotions, thoughts, and behaviors effectively.
- Social awareness. The ability to take the perspective of and empathize with others.
- Relationship skills. The ability to establish and maintain rewarding relationships with others.
- Responsible decision making. The ability to make constructive and respectful choices.

A major review of 213 experimental-control group studies of K-12 students who participated in SEL programs demonstrated:

- Improved social and emotional skills, self-concept, and bonding to school,
- Less disruptive classroom behavior, aggression, bullying, and delinquent acts; and
- Reduced stress and social withdrawal.

Students also performed better on achievement tests where scores averaged 11 percent higher than students who did not receive SEL programming (Durlak et al., 2011). A recent meta-analysis (Taylor, Oberle, Durlak, & Weissberg, 2017) reviewed 82 SEL interventions involving 97,000 students and confirmed these findings. Participants did better than controls on SEL skills across race and SES, and these skills were the best predictors of well-being at follow-up. The effect sizes were modest, but keep in mind that this is *universal* prevention: all students get the interventions whether or not it is indicated.

Character Lab

Angela Duckworth founded the Character Lab at the University of Pennsylvania following her pioneering research on the relationship between grit and academic performance (Duckworth, Peterson, Matthews, & Kelly, 2007). This is a well-funded research organization that intends to publish empirically validated “playbooks” that will

help teachers and their students develop strengths of heart, will, and mind.

Each Playbook will:

- communicate essential scientific facts with clarity
- provide strategies that make exercising the strength easier and more rewarding
- structure opportunities to practice strategies with feedback
- invite teachers into a community where they can ask and answer questions
- encourage teachers to benefit personally before helping their students.

These Playbooks have several features that distinguish them from existing resources to develop character. They are

- co-created by world-class scientists and world-class educators
- informed by an iterative process employing best practices in design thinking
- infused with beauty and delight
- aligned with basic human motives to exercise choice, develop competence, and help others
- digitally-delivered and provided free of charge.

The Shipley School.

It was the first school in the United States to adopt a whole-school Positive Education transformation. Collaborating with the University of Pennsylvania, Shipley uses a “Learn, Live, Teach, Embed” model for every adult who works at Shipley, including administrators, teachers, and staff (Shipley “colleagues”). After every Shipley colleague learns and lives well-being skills, they will be able to teach them explicitly to students and embed them in every facet of the school, including existing academic subjects. The program began with an eight-day training retreat for all Shipley colleagues during the summer of 2017, right before the new academic year, which included a training of Shipley trainers. The measurement of well-being and academic performance has begun.

United Kingdom

After Prime Minister David Cameron in 2010 announced the United Kingdom would measure National Well-being alongside GDP (Cameron, 2010), there have been many studies about how these data could be used for public policy. For example, the O'Donnell (2014) Report shows how

well-being data could be used to improve the cost-benefit analysis of all public policies, with the results already in hand showing the importance of mental health for both adults and children.

Gutman and Vorhaus (2012) found that students with higher well-being had better later academic achievement and engagement in school and scored 2.46 points higher on national tests than those with lower well-being (Gutman & Vorhaus, 2012). This is the equivalent of one term's advancement.

Schools

In 2006, one of the first schools to fully integrate positive education in the UK was Wellington College under the leadership of Sir Anthony Seldon. During his time at Wellington, Sir Anthony and his team, led by Ian Morris, created a 6-pronged curriculum to increase well-being teaching: physical health, positive relationships, perspective, engagement, living sustainably, and meaning and purpose. During their time at Wellington, students received one hour of well-being training every two weeks. (Kebble, 2015).

How to Thrive and Healthy Minds have been highlighted in the UK and are currently working with many British schools.

Healthy Minds

The Healthy Minds Project, aimed at empowering young people to lead happier and more prosocial lives, and led by How to Thrive in partnership with the London School of Economics and Political Science, is currently being piloted for more than 10,000 students across 33 secondary schools in the U.K. over a period of four years (Centre for Economic Performance, 2016).

How to Thrive

How to Thrive is an organization set up in the UK based on the Penn Resiliency Program of the University of Pennsylvania.

The UK findings of the 3-year study involving 4,000 students, taught universally (not targeted) at 21 secondary schools in Manchester, South Tyneside, and Hertfordshire.

- The quantitative work found a significant improvement in:
 - pupils' depression symptom scores
 - school attendance rates
 - academic attainment in English
 - anxiety scores
 - mathematics attainment concentrated in a few groups of pupils
- The impact varied by pupil characteristics with a larger impact for:
 - pupils entitled to free school meals
 - students who had worse initial symptoms of depression or anxiety

Research results in 3 Hertfordshire primary schools produced outcomes in line with other studies.

- Significant improvement in pupils' depression scores
- Significant improvement on their anxiety scores
- Suggestions that the depression and anxiety improvements were slightly better for girls than boys

A sizeable positive impact on behavior scores for both boys and girls, but no effect on prosocial behavior. Beyond the positive impact on academic performance, the effects of How to Thrive showed decreases in ill-being but no increases in well-being, since the focus was on resilience rather than on well-being.

In 2014 Lord James O'Shaughnessy, a leading figure in the policy and implementation of character education in the UK, set up a string of primary schools that were built from the ground up with a focus on well-being and character. Most of the exemplars in PE exist in the secondary school context; however, Floreat has been a shining example that positive education does not

Teachers Trained	Students Impacted	Evaluation of Program	Parents Trained	Money Spent on Training + RCTs
5,000	150,000	3-year evaluation; see summary below	3,500	£2.5 million

have an age limit; rather, the younger the students learn how to look after their well-being, the better their outcomes later in life. Floreat started with one primary school in Wandsworth and has now expanded to 4 schools around greater London.

Moving from secondary and primary schools to higher education, Sir Anthony Seldon became the Vice-Chancellor of Buckingham University in 2015. He has taken with him his passion for creating an ethos of well-being that is at the heart of education. Sir Seldon announced in 2016

that Buckingham was to become the UK's first Positive University (Grove, 2017).

Evaluations

The UK has taken the evaluation of programs around character and well-being very seriously. In 2011, The Education Endowment Foundation (EEF) was founded by Sutton trust with a £125 million funding grant from the Department for Education. In total, EEF projects are working in 4,500 schools and reaching 630,000 pupils (What Works Network, 2014). In 2013 EEF released a report on

Table 1: Summary of Findings on Non-Cognitive Skills

	Quality of measurement	Malleability	Effect on other outcomes	Strength of Evidence
1. Self-Perceptions				
Self-Concept of Ability	High	Medium	Not available	Medium
Self-Efficacy	High	High	High	Medium
2. Motivation				
Achievement Goal Theory	High	Medium	Low to medium	Medium
Intrinsic Motivation	High	Medium	Low to medium	High
Expectancy-Value Theory	Medium	Not available	Medium to high	Medium
3. Perseverance				
Engagement	Medium	Not available	Not available	Low
Grit	Medium	No evidence	No evidence	Low
4. Self-Control	Medium	Low to medium	Low	Medium
5. Meta-Cognition	Medium	Medium to high	Medium to high	High
6. Social Competencies				
Leadership Skills	Low	Not available	No evidence	Low
Social Skills	Medium	Medium to high	Low to medium	High
7. Resilience and Coping	Medium	High	Low	Medium
8. Creativity	Medium	Not available	No evidence	Low

Note. From Morrison & Schoon (2013) "The Impact of non-cognitive skills on outcomes from young people: Literature review," *Institute of Education*.

The impact of non-cognitive skills on outcomes for young people (Morrison & Schoon, 2013).

The Education Endowment Foundation (EEF) has funded a number of programs in the UK on character education, totaling approximately £10 million and reaching 1,000 schools and 65,000 children (Education Endowment Foundation, 2017).

Below is a summary of several ongoing programs yet to be evaluated that are related to PE.

There are many research institutions in the United Kingdom which have advanced the science of positive education including: London School of Economics, The Behavioral Insights Team, Healthy Minds, Education Endowment Foundation, University College London, What Works Wellbeing and the Legatum Institute.

Perhaps the most influential is the Jubilee Centre for Character and Virtues. Founded in 2012 by Professor James Arthur, the Jubilee Centre for Character and Virtues is a major hub for empirical and politically neutral research, guides on implementation and now courses in positive education.

Program & Delivery Organization	Description
Changing Mindsets Portsmouth University	A test of Dweck's theory of 'growth mindset,' which suggests that intelligence is a malleable quality that can be improved through effort, not a fixed entity. This project will evaluate two models: teacher delivery and university students teaching primary school pupils about growth mindset theory.
Engage in Education Catch22	A project providing small group and one to one support for pupils in Years 9 and 10 at high risk of exclusion. Targeted pupils receive training in areas such as emotional literacy and communication, with the aim of improving behavior, attitudes to learning and school engagement.
Improving Talk and Listening School21 & Cambridge University	A project that aims is to develop confident, articulate speakers, and to improve classroom talk in order to foster better thinking and attainment by giving speaking the same place in the curriculum as reading and writing. The project will develop a set of interventions that schools can use to boost pupils' speaking skills.
Youth Social Action Trial Secondary Youth United Foundation	A project in secondary schools that encourages children to undertake challenging activities, volunteer in the community, and learn new skills. This project will test how far such extra-curricular activities impact on engagement, attainment and non-cognitive skills such as motivation, confidence and team-working.
Promoting Alternative Thinking Strategies Manchester University	A primary school project that covers topics such as identifying and labelling feelings, controlling impulses, reducing stress, and understanding other people's perspectives.
The Good Behaviour Game Mentor Foundation UK	A project that aims to improve behavior in primary school, particularly by encouraging good group behavior, and self-control. This study builds on promising evidence from a trial in the US, which found attainment, improved levels of progress on leaving school, and improved health outcomes.

Accelerating Positive Education Worldwide

A World Positive Education Accelerator on June 25-28, 2018 in Fort Worth, Texas.

Consisting of the International Positive Education Networks (IPEN) 2nd Festival of Positive Education and an Appreciative Inquiry Summit, the Accelerator will utilize the methods of Appreciative Inquiry to accelerate Positive Education around the globe. At the event, over 1,200 stakeholders from nearly two dozen countries will elevate the strengths of positive education and design the spread and deployment of future PE impacts (thus “accelerating” Positive Education).

The backstory: In December 2016, the Stiller Family Foundation gifted \$1 million to Champlain College to launch the envisioning and convening of a Positive Education Summit. The funds were directed to the David L. Cooperrider Center for Appreciative Inquiry in the Stiller School of Business at Champlain College, which partnered with IPEN.

A critical first step to the Accelerator was the Steering Committee Meeting at Champlain College on September 14-15, 2017. The Steering Committee had 105 members from 17 countries: The Netherlands, Spain, Singapore, Mexico, the United Kingdom, South Africa, Egypt, Brazil, Canada, Nepal, France, Chile, Australia, UAE, Belgium, Costa Rica, and the United States. It included teachers, students, headmasters, researchers, CEOs, consultants, philanthropists, and foundations. The team collaboratively designed the June 2018 event by: identifying critical stakeholders, planning the engagement of these stakeholders; establishing event tasks and objectives; and thinking about long-term outcomes of the Summit.

The Cooperrider Center and IPEN intend for the 2018 event to:

- Generate a vision for advancing Positive Education across diverse stakeholder groups
- Elevate all the innovations that are already working in the fields of education and positive psychology
- Create a model process for countries to host more focused national summits on PE
- Launch prototype models around the world

to advance PE in bold and innovative ways

- Lead to transforming early childhood, K-12, and higher education schools into positive institutions.

Overview

We cannot help being impressed by the rapid growth and widespread dissemination of Positive Education worldwide. The number of teachers and students impacted is staggeringly large and we believe that this growing trend will continue and likely accelerate. We are hopeful that the result will be higher well-being and higher school achievement for many millions of school children. We are mindful, however, of the long history of fads in education and we do not want Positive Education to be yet another fad. So, we have some suggestions about how to make the gains sustainable.

The first, and by far and away most important one, is ongoing **rigorous evaluation**. What separates modern work on happiness from the well-intended programs of the past is good science and good measurement. The presence of science and measurement justifies some of the enthusiastic uptake of Positive Education, but the popularity creates the danger of outstripping the science. In addition to ongoing measurement, we underscore that:

- Much more evidence is needed on the reality of the well-being enhancements and the academic achievement enhancements that seem to be produced.
- Serious cost-benefit analyses are needed on the programs, and this depends on the **effect sizes and duration** of the well-being enhancements and the academic achievement improvements that seem to be produced.
- Improvement and cross-validation of measures is needed. When a school system, to say nothing of a government, endorses happiness as a value, there is a lot of incentive to game the system and produce data that confirm the endorsement. Less obtrusive and less reactive measures are needed, and big data techniques (e.g., Eichstaedt, Schwartz, Kern, et al, 2013) can now provide complementary validation to questionnaires.
- **Treatment fidelity** measurement must be done for the execution of interventions. Are the teachers actually delivering what is specified in the manuals?

- More creativity on the part of teachers should be allowed. Moving the happiness needle may follow from merely measuring happiness before and after interventions and by telling teachers that they are accountable for building well-being. Teachers should use their own knowledge of the students and their creativity about what makes their students happy to design local, creative, and contextually resonant interventions.

While these are rather serious guidelines and warnings, we believe that we are actually in the midst of a revolution in education. We believe that Positive Education will likely produce increasingly rigorous results that reinforce this educational paradigm, and, most importantly, a generation of happier and more knowledgeable, skillful youth – children and adolescents better equipped to create a happier world.

References

- Adler, A., Seligman, M. E., Tetlock, P. E., & Duckworth, A. L. (2016). *Teaching well-being increases academic performance: Evidence from Bhutan, Mexico, and Peru*. Philadelphia, PA: University of Pennsylvania.
- Adler, A., & Seligman, M. E. P. (2016). Using Well-being for Public Policy: Theory, Measurement, and Recommendations. *International Journal of Well-being*, 6(1), 1-35. doi:10.5502/ijw.v6i1.1
- Al Maktoum, M. B. R. (2017). *Reflections on happiness and positivity*. Dubai: Explorer Publishing & Distribution.
- Albert, D., & Steinberg, L. (2011). Judgment and decision making in adolescence. *Journal of Research on Adolescence*, 21(1), 211-224. doi:10.1111/j.1532-7795.2010.00724.x
- Australian Curriculum, Assessment and Reporting Authority. (2010). *The Australian Curriculum*. Retrieved from <https://www.australiancurriculum.edu.au>
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Bolier, L., Haverman, M., Westerhof, G., Riper, H., Smit, F., & Bohlmeijer, E. (2013). Positive psychology interventions: a meta-analysis of randomized controlled studies. *BMC Public Health*, 13(119). <https://doi.org/10.1186/1471-2458-13-119>
- Bryant, B. K. (1982). An index of empathy for children and adolescents. *Child Development*, 53(2), 413-425. doi: 10.2307/1128984
- Butler, J., & Kern, M. L. (2016). The PERMA-Profiler: A brief multidimensional measure of flourishing. *International Journal of Wellbeing*, 6(3), 1-48. doi:10.5502/ijw.v6i3.526
- Cahill, H., Beadle, S., Farrelly, A., Forster, R., Smith, K. *Building resilience in children and young people*. Retrieved from <http://www.education.vic.gov.au/documents/about/department/resiliencelitreview.pdf>
- Cameron, D. (2010). *PM speech on wellbeing: Proceedings from Cabinet Office, Prime Minister's Office, 10 Downing Street*. London, UK. Retrieved from <https://www.gov.uk/government/speeches/pm-speech-on-wellbeing>
- Centre for Economic Performance, London School of Economics and Political Science. *Healthy Minds Project*. Retrieved from http://cep.lse.ac.uk/_new/research/wellbeing/healthy_minds_project.asp
- Cooperrider, D., & Srivastva, S. (2008). Appreciative Inquiry in Organizational Life. *Research in Organizational Change and Development*, 1, 129-169.
- Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., Urbanowski, F., Harrington, A., Bonus, K., & Sheridan, J. F. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine*, 65(4), 564-570.
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Dix, K. L., Slee, P. T., Lawson, M. J., & Keeses, J. P. (2012). Implementation quality of whole-school mental health promotion and students' academic performance. *Child and Adolescent Mental Health*, 17(1), 45-51. <http://doi.org/10.1111/j.1475-3588.2011.00608.x>
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087-101. doi:10.1037/0022-3514.92.6.1087
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82(1), 405-432. doi: 10.1111/j.1467-8624.2010.01564.x.
- Education Endowment Foundation. (2017). *Character and Education*. Retrieved from <https://educationendowmentfoundation.org.uk/get-involved/apply/themed-rounds/character-and-education>
- Eichstaedt, J. C., Schwartz, H. A., Kern, M. L., Park, G., Labarthe, D., Merchant, R., Jha, S., Agrawal, M., Dziurzynski, L., Sap, M., Weeg, C., Larson, E., Ungar, L., & Seligman, M. E. P. (2015). Psychological language on Twitter predicts county-level heart disease mortality. *Psychological Science*, 26(2), 159-169. doi:10.1177/0956797614557867
- Emmons, R. A. (2007). *Thanks!: How the New Science of Gratitude Can Make You Happier*. New York, NY: Houghton Mifflin Harcourt.
- Escamilla, H. (2017). Universidad Tecmilenio, Mexico. In *The State of Positive Education*. Retrieved from <https://www.worldgovernmentsummit.org/api/publications/document/8f647dc4-e97c-6578-b2f8-ff0000a7ddb6>
- Gable, S. L., Reis, H. T., Impett, E. A., & Asher, E. R. (2004). What do you do when things go right? The intrapersonal and interpersonal benefits of sharing positive events. *Journal of Personality and Social Psychology*, 87(2), 228-45. doi:10.1037/0022-3514.87.2.228
- Grove, J., Times Higher Education. (2017). *Happiness expert advises UK's first 'positive university'*. Retrieved from <https://www.timeshighereducation.com/news/happiness-expert-advises-uks-first-positive-university>
- Gutman, L. M., & Vorhaus, J. (2012). *The Impact of Pupil Behaviour and Wellbeing on Educational Outcomes*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/219638/DFE-RR253.pdf
- Helliwell, J., Layard, R., & Sachs, J. (ed). (2017). *World Happiness Report 2017*. New York: Sustainable Development Solutions Network.
- Hoare, E., Bott, D., & Robinson, J. (2017). Learn it, Live it, Teach it, Embed it: Implementing a whole school approach to foster positive mental health and wellbeing through Positive Education. *International Journal of Wellbeing*, 7(3), 56-71. doi:10.5502/ijw.v7i3.645
- Kebble, M. (2015). *Why wellbeing is so important at Wellington College*. Retrieved from <http://www.schoolreportonline.com/independent-school-news/wellbeing-at-wellington-college/>
- Kern, M. L., Benson, L., Steinberg, E. A., & Steinberg, L. (2016). The EPOCH Measure of Adolescent Well-Being. *Psychological Assessment*, 28(5), 586-97. doi:10.1037/pas0000201
- Kern, M. L., Waters, L., Adler, A., & White, M. (2014). Assessing employee wellbeing in schools using a multifaceted approach: Associations with physical health, life satisfaction, and professional thriving. *Psychology*, 5, 500-513. doi:10.4236/psych.2014.56060
- KidsMatter. (2012). Retrieved from <https://www.kidsmatter.edu.au/primary>

- Kovacs, M. (2004). Children's depression inventory (CDI), *Toronto: Multi-Health Systems Inc.*
- Marin, L. M., & Halpern, D. F. (2011). Pedagogy for developing critical thinking in adolescents: Explicit instruction produces greatest gains. *Thinking Skills and Creativity*, 6(1), 1-13. doi:10.1016/j.tsc.2010.08.002
- MindMatters. (2014). Retrieved from <https://www.mindmatters.edu.au/>
- Ministerial Council on Education, Employment, Training and Youth Affairs. (2008). *Melbourne Declaration on Educational Goals for Young Australians*. Retrieved from http://docs.acara.edu.au/resources/national_declaration_on_the_educational_goals_for_young_australians.pdf
- Morgan, N. (2015). *Character Education: Apply for 2015 grant funding*. Retrieved from <https://www.gov.uk/government/news/character-education-apply-for-2015-grant-funding>
- Morrison, L. & Schoon, G. I. (2013) *The impact of non-cognitive skills on outcomes for young people Literature review*. Retrieved from https://educationendowmentfoundation.org.uk/public/files/Publications/EEF_Lit_Review_Non-CognitiveSkills.pdf
- Norrish, J. M., Williams, P., O'Connor, M., & Robinson, J. (2013). An applied framework for positive education. *International Journal of Wellbeing*, 3(2), 147-161. doi:10.5502/ijw.v3i2.2
- O'hara, J., & McNamara, G. (2001). Process and product issues in the evaluation of school development planning. *Evaluation*, 7(1), 99-109. doi:org/10.1177/13563890122209540
- O'Donnell, G., Martine, A. D., Halpern, D., & Layard, R. (2014). *Wellbeing and Policy*. Retrieved from <http://li.com/docs/default-source/commission-on-wellbeing-and-policy/commission-on-wellbeing-and-policy-report---march-2014-pdf.pdf>
- Peterson, C., & Seligman, M. E. (2004). *Character strengths and virtues: A handbook and classification* (Vol. 1). New York, NY, Washington, DC: Oxford University Press, American Psychological Association.
- Public Health England (2014). *The link between pupil health and wellbeing and attainment A briefing for head teachers, governors and staff in education settings*. Retrieved from <https://www.gov.uk/government/publications/the-link-between-pupil-health-and-wellbeing-and-attainment>
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385-401. <https://doi.org/10.1177/014662167700100306>
- Rezaee, M., Hedayati, A., Naghizadeh, M. M., Farjam, M., Sabet, H. R., & Paknahad, M. (2016). Correlation between Happiness and Depression According to Beck Depression and Oxford Happiness Inventory among University Students. *Galen Medical Journal*, 5(2), 75-81.
- Roberts, L. M., Dutton, J. E., Spreitzer, G. M., Heaphy, E. D., & Quinn, R. E. (2005). Composing the reflected best-self portrait: Building pathways for becoming extraordinary in work organizations. *Academy of Management Review*, 30(4), 712-736.
- Rusk, R., & Waters, L. (2015). Exploring the underlying components of positive psychology interventions: Five domains of positive function. *Journal of Positive Psychology*, 10(2), 141-152.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual review of psychology*, 52, 141-166. doi: 10.1146/annurev.psych.52.1.141
- Seligman, M. E., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: empirical validation of interventions. *American psychologist*, 60(5), 410-21. doi: 10.1037/0003-066X.60.5.410
- Seligman, M. E., Rashid, T., & Parks, A. C. (2006). Positive psychotherapy. *American psychologist*, 61(8), 774 -788. doi:10.1037/0003-066X.61.8.774.
- Seligman, M., Ernst, R., Gillham, J., Reivich, K., & Linkin, M. (2009). Positive education: positive psychology and classroom interventions. *Oxford Review of Education*, 35(3), 293- 311. doi:10.1080/03054980902934563
- Seligman, M. (2011). *Flourish: A New Understanding of Happiness and Wellbeing*. New York, NY: Free Press.
- Sin, N. L. & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology*, 65(5), 467-87. doi:10.1002/jclp.20593.
- Shoshani, A., & Steinmetz, S. (2014). Positive Psychology at school: A school-based intervention to promote adolescents' mental health and well-being. *The Journal of Happiness Studies*, 15(6), 1289-1311. doi:10.1007/s10902-013-9476-1
- Shoshani, A., & Slone, M. (2017). Positive Education for young children: Effects of a positive psychology intervention for preschool children on subjective well-being and learning behaviors. *Frontiers in Psychology*, 8(1866), 1-11. doi: 10.3389/fpsyg.2017.01866
- Simmons, A. (2017). *UAE's minister of happiness insists her job is no laughing matter*. Retrieved from <http://www.latimes.com/world/middleeast/la-fg-global-uae-happiness-2017-story.html>
- Slone, M., & Shoshani, A. (2014a). The centrality of the school in a community during war and conflict. In R. Pat-Horenczyk, D. Brom, C. Chemtob, & J. Vogel (Eds.), *Helping children cope with trauma: Individual family and community perspectives* (180-192). London, England: Routledge.
- State Government of Victoria, Australia. (2017). *Building Resilience*. Retrieved from <http://www.education.vic.gov.au/school/teachers/health/mentalhealth/Pages/buildingresilience.aspx>
- Steinberg, L. (2014). *Age of Opportunity: Lessons from the New Science of Adolescence*. New York, NY: Houghton Mifflin Harcourt.
- Su, R., Tay, L., & Diener, E. (2014). The development and validation of the Comprehensive Inventory of Thriving (CIT) and the Brief Inventory of Thriving (BIT). *Applied Psychology: Health and Well-Being*, 6(3), 251-279. doi:10.1111/aphw.12027
- Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting Positive Youth Development Through School-Based Social and Emotional Learning Interventions: A Meta-Analysis of Follow-Up Effects. *Child Development*, 88(4), 1156-1171. doi: 10.1111/cdev.12864
- UAE Ministry of Cabinet Affairs and the Future (2017). *Happiness Research Institute to be set up Soon*. Retrieved from <https://www.mocaf.gov.ae/en/media/news/happiness-research-institute-to-be-set-up-soon>
- Ura, K. & Galay, K. (2004). *Gross national happiness and development*. Thimphu, Bhutan: The Center for Bhutan Studies. Retrieved from <http://www.grossnationalhappiness.com/2017/02/gnh-and-development/>
- Visible Wellbeing. (n.d.). Retrieved from <http://www.visiblewellbeing.org/>

Waters, L. (2017). Visible Wellbeing in Schools: The powerful role of Instructional leadership. *Australian Educational Leader*, 39(1), 6-10.

Waters, L. (2011). A review of school-based positive psychology interventions. *Australian Educational and Developmental Psychologist*, 28(2), 75-90. doi:10.1375/aedp.28.2.75

Waters, L. (2015). Why Positive Education? *Teaching and Learning Network*, 22(3), 16-19.

Waters, L. (2017). Progressing Positive Education and creating Visible Wellbeing. In S. Donaldson & M. Rao (Eds.), *Scientific Advances in Positive Psychology*, (229-256).

Waters, L., Sun, J., Rusk, R., Aarch, A., & Cotton, A. (2017). Positive Education: Visible wellbeing and the five domains of positive functioning. In M Slade., L Oades., & A Jarden (Eds), *Wellbeing, recovery and mental health*, (245-264).

What Works Network. (2014). *What Works: Evidence for Decision Makers*. Retrieved from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/378038/What_works_evidence_for_decision_makers.pdf

White, M., Slemp, G., & Murray, A. S. (2017). *Future Directions in Well-being: Education, Organizations and Policy*. Cham, Switzerland: Springer International Publishing. Springer Press.

Chapter 5

Work and Well-being: A Global Perspective

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1. Introduction

Work and employment play a central role in most people's lives. In OECD countries, for example, people spend around a third of their waking hours engaging in paid work.¹ We not only spend considerable amounts of our time at work, employment and workplace quality also rank among the most important drivers of happiness. It presents our research on the ways in which work and workplace quality influence people's well-being around the world. It also highlights a number of best practices that may inspire policy-makers and business leaders in putting well-being at the heart of their policies.

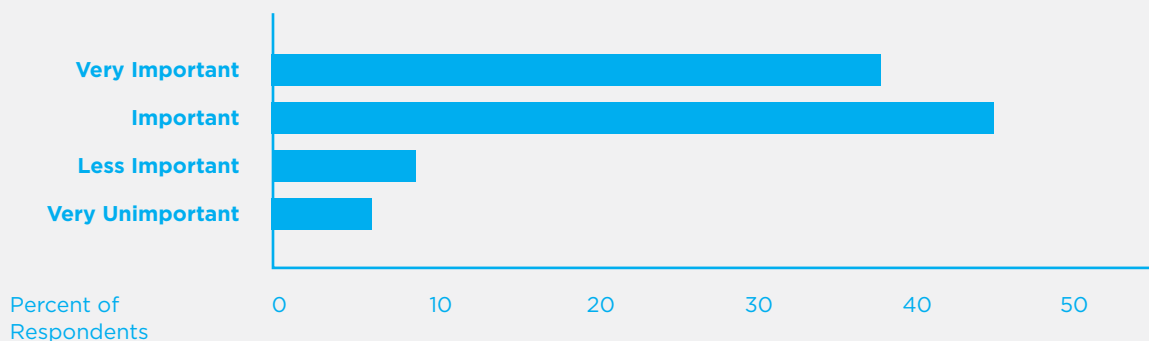
Figure 1 illustrates the significance of work: it reports data from a German survey that asked people about the importance of different aspects of their lives for their overall sense of well-being and satisfaction. 83% of respondents rate work as either "very important" or "important" for their well-being, as opposed to 10% and 7% rating it as less important or even unimportant, respectively. Further evidence of the significance of work comes from van Praag et al. (2003), who use data from the German Socio-Economic Panel—a nationally representative survey of more than 11,000 households in Germany that has been asking respondents about their well-being since as early as 1984—to study the relative importance of satisfaction with various life domains for overall life satisfaction. They find

that the three most important determinants of life satisfaction are satisfaction with finance (an area closely related to work), health, and work, followed by leisure and other life domains.²

Despite the importance of work for people's happiness, most do not perceive work as a particularly enjoyable activity, unfortunately. A recent study that asked respondents to record their well-being via a smartphone at random points in time on a given day found that paid work is ranked lower than any other of the 39 activities sampled, with the exception of being sick in bed (Bryson and MacKerron, 2016). In fact, the worst time of all seems to be when people are with their boss (Kahneman et al., 2004). Not surprisingly then, costs of absenteeism and presenteeism are high: in a recent report for the UK, it was estimated that absenteeism costs UK businesses about GBP 29 billion per year, with the average worker taking 6.6 days off due to sickness (PwC Research, 2013). Costs of presenteeism due to, for example, mental health problems are estimated to be almost twice as high as those of absenteeism (Sainsbury Centre for Mental Health, 2007).

What exactly is it about work, and workplace quality, that makes some jobs less enjoyable while others more? Answering this question is not only important because work plays such a significant role for people's well-being, but also because people's well-being has been found to be

Figure 1: Importance of Work for Wellbeing
(German Socio-Economic Panel, Year 1999)



an important predictor of labor market outcomes themselves (De Neve and Oswald, 2012), including job finding and future job prospects when being out of work (Krause, 2013; Gielen and van Ours, 2014), as well as productivity when being in work and, ultimately, firm performance (Harter et al., 2002; Edmans, 2011, 2012; Bockerman and Ilmakunnas, 2012; Tay and Harter, 2013; Oswald et al., 2015).³ Being happier also brings with it objective benefits such as increased health and longevity, which contribute positively to work (De Neve et al., 2013; Graham, 2017). Likewise, well-being has been shown to be positively associated with intrinsic motivation and creativity (Amabile, 1996; Amabile and Kramer, 2011; Yuan, 2015). For policy-making, which often boils down to prioritising attention and resources, it is important to know which characteristics of work, and workplace quality, drive people’s well-being, and should thus be focused upon.

This chapter looks at these characteristics in a systematic way. We first study the overall importance of employment itself for self-reported life evaluation and daily emotions. We then study how domain-specific measures—job satisfaction and employee engagement—vary around the world. Next, in the third and main part of this chapter, we zoom into workplace quality: here,

we try to find an answer to the question of exactly which characteristics of work are conducive, or detrimental, to employees’ well-being. We conclude by laying out a future research agenda and putting forward a call for more causal research on the determinants and benefits of well-being in the workplace.⁴

Conclusions are drawn from two datasets, the Gallup World Poll and the International Social Survey Program, both of which include the most important measures of well-being and allow for international comparisons of working conditions. Our own analyses are further complemented by findings from the relevant literature.

2. The Overall Importance of Employment⁵

Employment is one of the most important determinants of our well-being. We can illustrate this by tabulating the average life evaluation—measured in terms of the Cantril ladder—for different employment statuses recorded in the Gallup World Poll, a survey that is regularly conducted in more than 160 countries covering 99% of the world’s adult population. The Cantril ladder asks respondents to imagine themselves

Figure 2a: Importance of Employment Status for Life Evaluation
(Gallup World Poll, Years 2014 to 2016, Weighted by Country;
Confidence Intervals 95%; FT: Full-Time, PT: Part-Time)

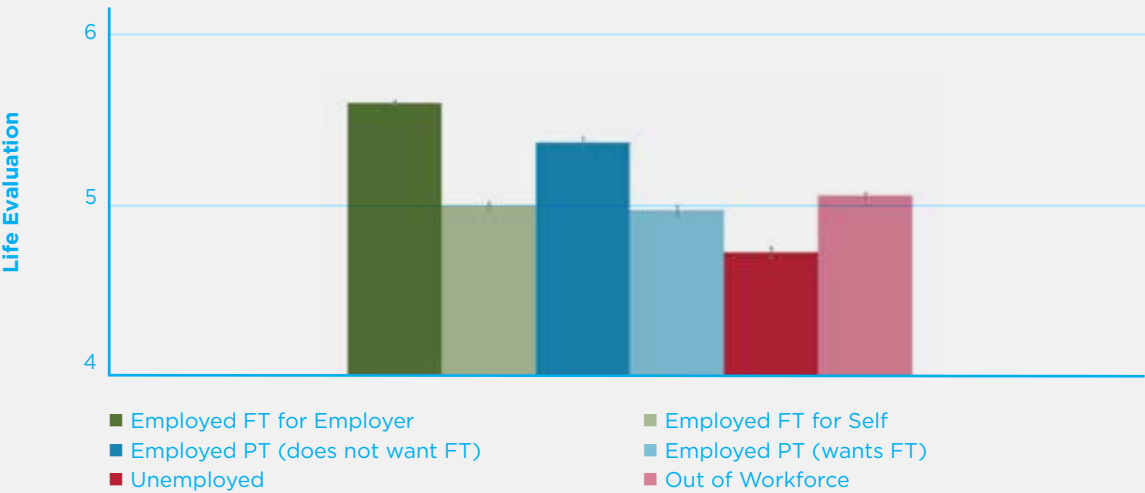
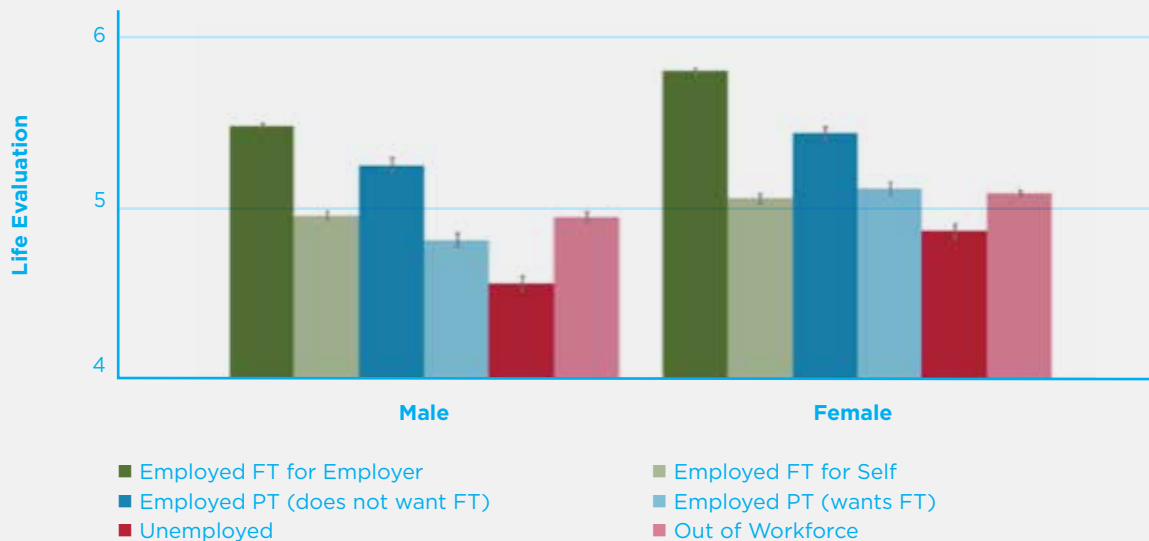


Figure 2b: Importance of Employment Status for Life Evaluation, by Gender (Gallup World Poll, Years 2014 to 2016, Weighted by Country; Confidence Intervals 95%; FT: Full-Time, PT: Part-Time)



on a ladder with steps numbered from zero at the bottom to ten at the top: zero represents the worst possible life, ten the best.

Figure 2a shows the result of this exercise for working-age adults: respondents who are employed and who are working either full-time for an employer or part-time are most satisfied with their lives. Respondents who are out of the labor force are next, but sit clearly below the former two groups in terms of average life evaluation. In turn, they are followed by those who are self-employed full-time and those who are underemployed—respondents in the latter category work part-time but would like to work full-time.⁶ The least happy are the unemployed: they are almost one whole life evaluation point below respondents who are employed and who are working full-time for an employer—a very large gap.

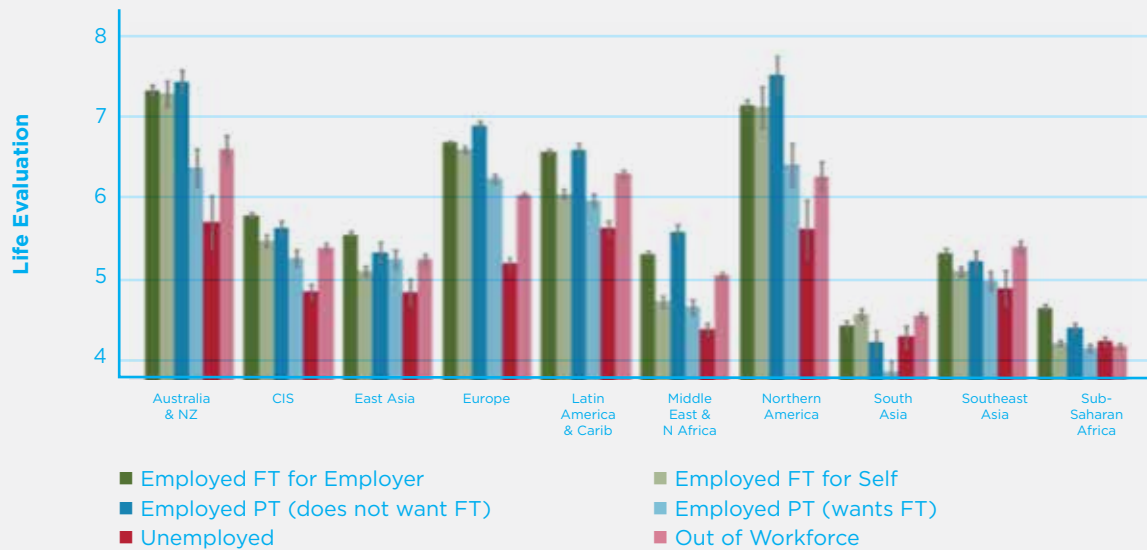
The devastating effect of unemployment on people's well-being is one of the most established findings in the economic literature on happiness (see Clark and Oswald (1994) and Winkelmann and Winkelmann (1998), for example). We know that life satisfaction does not adapt to being unemployed (Clark et al., 2008; Clark and Georgellis, 2013), and that unemployment

leaves a permanent scar even after one regains employment, in the sense that people who have been unemployed typically do not return to the happiness level they had before their unemployment episode (Clark et al., 2001).⁷ There are few social norm effects for unemployment: high unemployment around the unemployed provides only weak consolation, and does not become less painful in a social context with high unemployment (Clark, 2003); for the employed, it may signal general job insecurity, which in itself is detrimental to happiness (Luechinger et al., 2010). Importantly, unemployment is not only a personal affair: its negative spillovers on other household members (see Clark (2003), for example) as well as on society more generally (see Tay and Harter (2013) or Kunze and Suppa (2017), for example) are well established.

How does average life evaluation for different employment statuses differ by gender? As seen in Figure 2b, women are generally more satisfied with their lives in every category of employment, and the relative importance of the different categories for life evaluation is preserved. A difference, however, exists for underemployment: women working part-time but wanting to work full-time reach about the same happiness level as those

Figure 2c: Importance of Employment Status for Life Evaluation, by Region

(Gallup World Poll, Years 2014 to 2016, Weighted by Country; Confidence Intervals 95%; FT: Full-Time, PT: Part-Time, NZ: New Zealand, CIS: Commonwealth of Independent States)



being out of the labor force; men, on the other hand, are less happy when they work part-time but want to work full-time. Gender norms and lifestyles may be responsible for such differences.⁸

Figure 2c plots average life evaluation for different employment statuses by geographic region. Needless to say, countries differ greatly in their political, economic, and cultural institutions, and aggregate regions may thus be quite heterogeneous in terms of countries they include. To the extent that such differences in institutional settings pertain to labor markets, for example, due to differences in active labor market policies or social safety nets, it may not come as a surprise that average life evaluation levels differ for different employment statuses by region. Yet, with few exceptions, our previous finding holds across most regions in the world: there exists a clear-cut importance of being in stable employment—be it full-time or part-time work—for people’s well-being over being underemployed, out of the labor force, or unemployed.

Life evaluation measures such as the Cantril Ladder make up one element of people’s subjective well-being. An important further element of

people’s overall happiness is how they experience their lives day-to-day (Dolan, 2014). The Gallup World Poll also provides items on positive and negative affect, constructed from batteries of yes-no questions that ask respondents about their emotional experiences the previous day. For positive affect, these include whether respondents felt well-rested, whether they were treated with respect, smiled or laughed a lot, learned something or did something interesting, and whether they often felt enjoyment. For negative affect, these include whether respondents often experienced physical pain, worries, sadness, stress, and anger. Indices are then created by averaging across items, and are bound between 0 and 100.

Figures 3a to 5a replicate our analyses of life evaluation for the index of positive affect, Figures 3b to 5b for that of negative affect.

Turning first to positive affect, Figure 3a, we can see that the basic insight from our analysis of life evaluation also holds for how people feel on a day-to-day basis: respondents who are employed and who are working full-time for an employer show the highest positive affect, followed by

Figure 3a: Importance of Employment Status for Positive Affect

(Gallup World Poll, Years 2014 to 2016, Weighted by Country;
Confidence Intervals 95%; FT: Full-Time, PT: Part-Time)

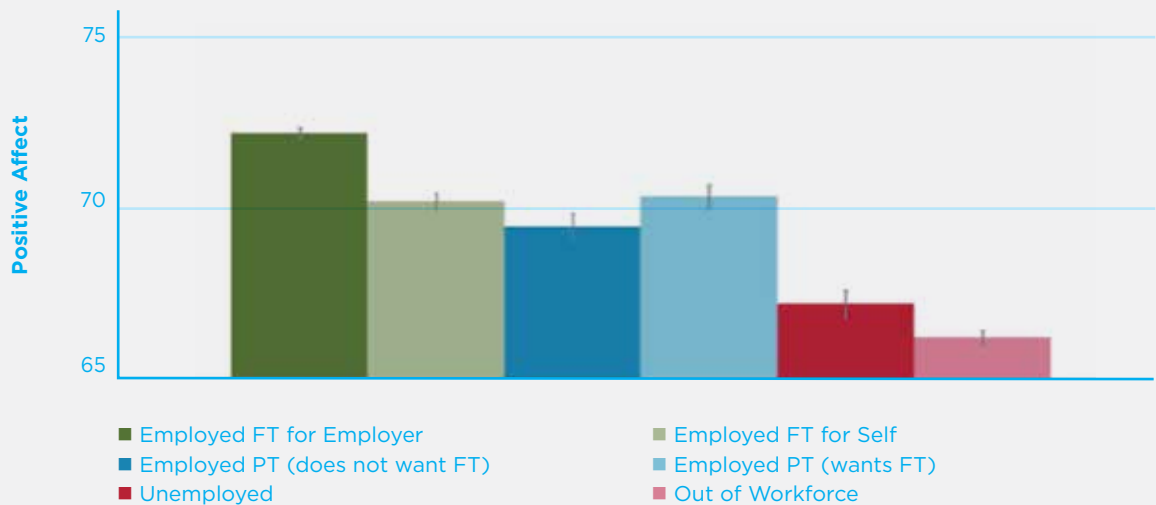


Figure 3b: Importance of Employment Status for Negative Affect

(Gallup World Poll, Years 2014 to 2016, Weighted by Country;
Confidence Intervals 95%; FT: Full-Time, PT: Part-Time)

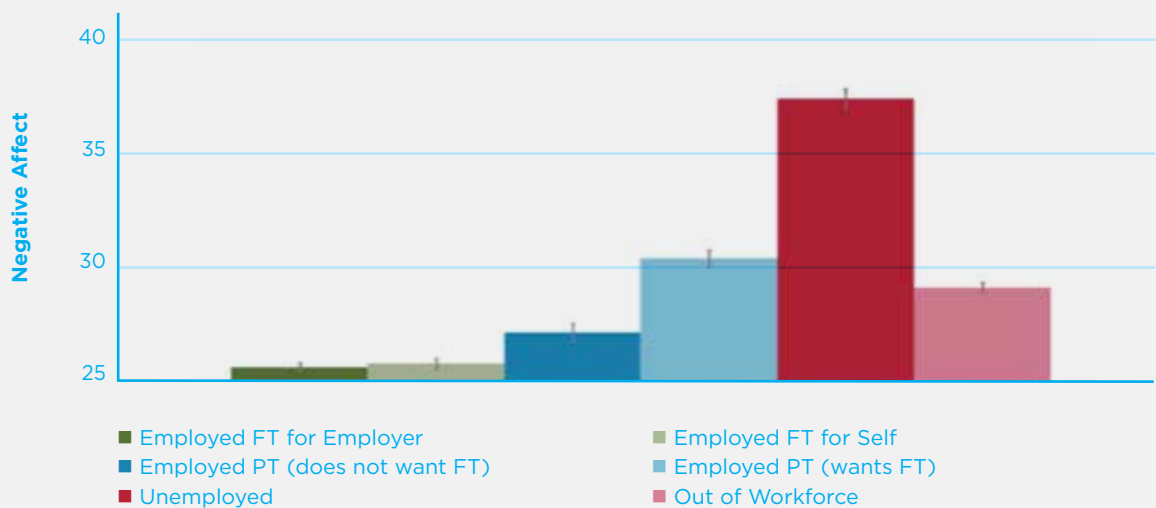


Figure 4a: Importance of Employment Status for Positive Affect, by Gender (Gallup World Poll, Years 2014 to 2016, Weighted by Country; Confidence Intervals 95%; FT: Full-Time, PT: Part-Time)

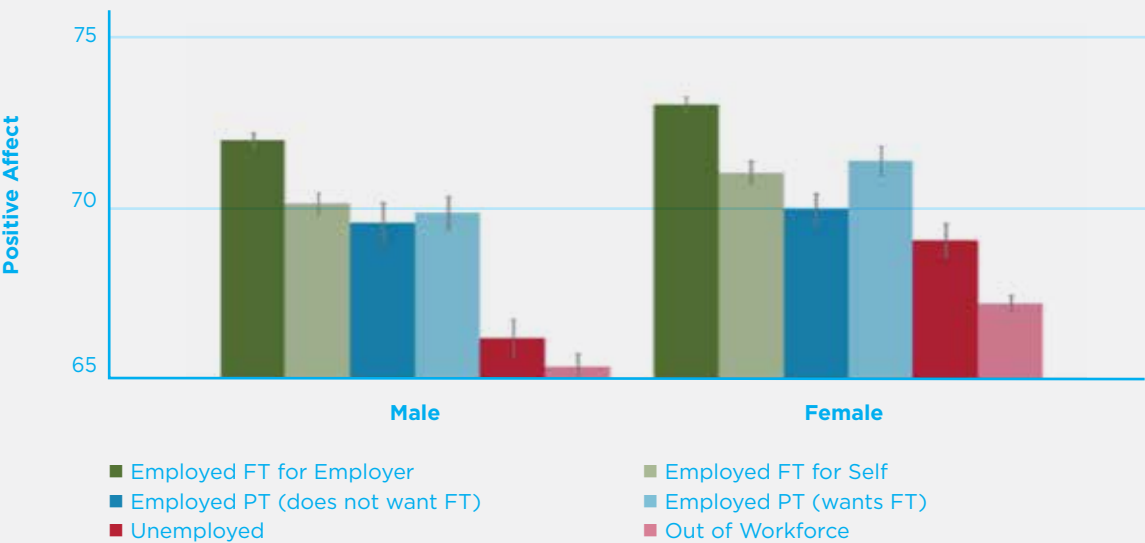


Figure 4b: Importance of Employment Status for Negative Affect, by Gender (Gallup World Poll, Years 2014 to 2016, Weighted by Country; Confidence Intervals 95%; FT: Full-Time, PT: Part-Time)

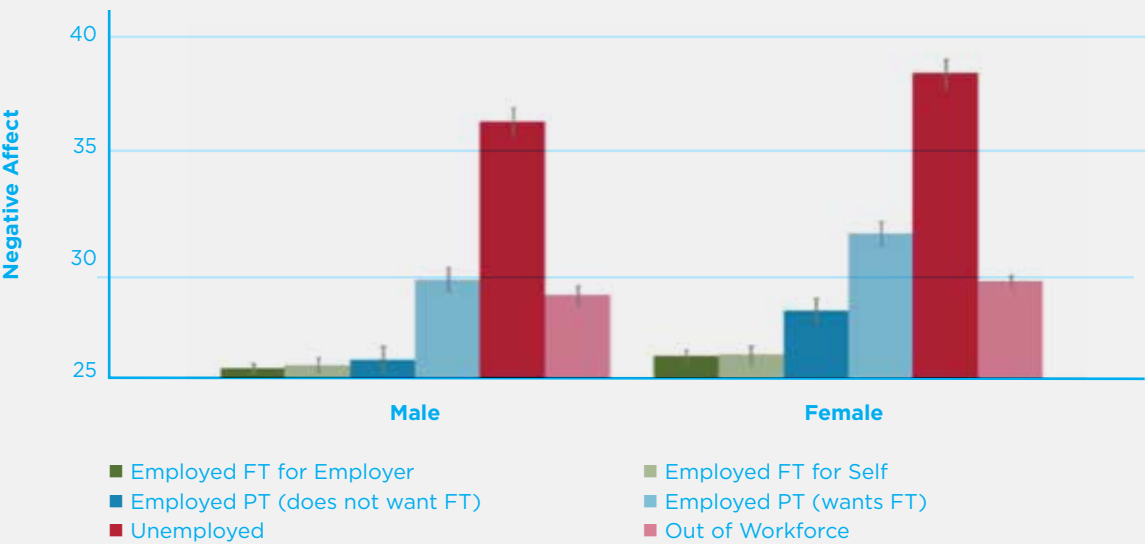


Figure 5a: Importance of Employment Status for Positive Affect, by Region (Gallup World Poll, Years 2014 to 2016, Weighted by Country; Confidence Intervals 95%; FT: Full-Time, PT: Part-Time, NZ: New Zealand, CIS: Commonwealth of Independent States)

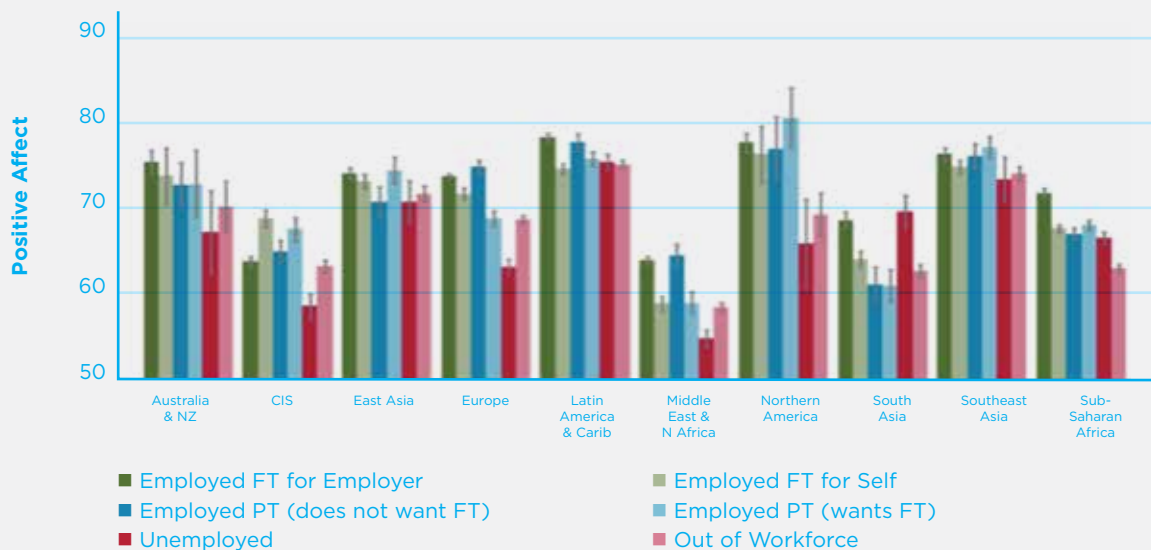
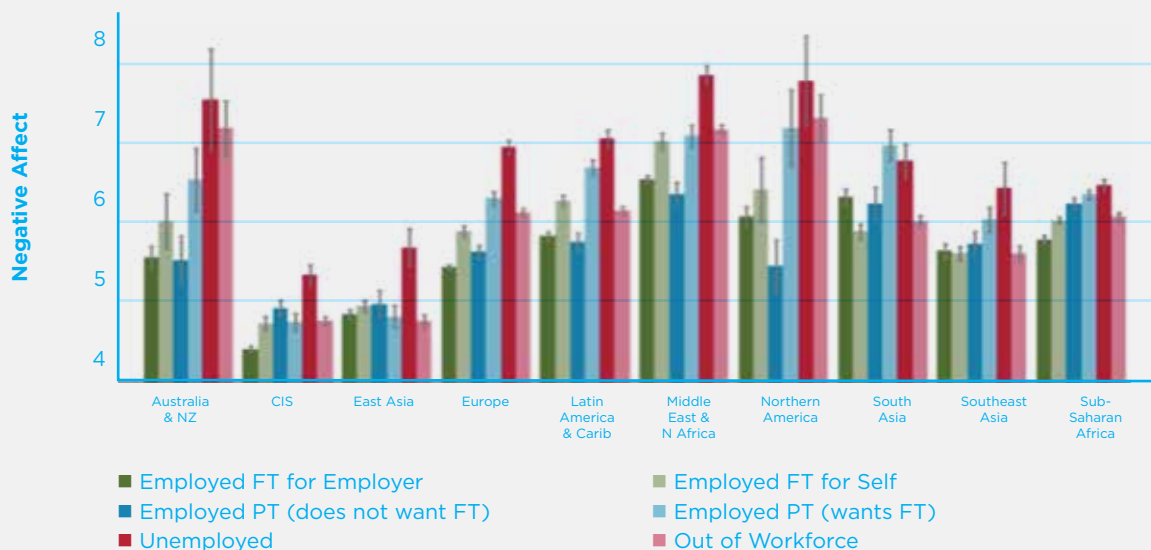


Figure 5b: Importance of Employment Status for Negative Affect, by Region (Gallup World Poll, Years 2014 to 2016, Weighted by Country; Confidence Intervals 95%; FT: Full-Time, PT: Part-Time, NZ: New Zealand, CIS: Commonwealth of Independent States)



those who are self-employed full-time and those who are working part-time, both intentionally and unintentionally (differences between these three groups are barely statistically significant at a conventional level). The lowest positive affect is again reported by respondents who are unemployed and who are out of the labor force.

As seen in Figure 3b, a near mirror image is found for negative affect—the main difference being that respondents who are unemployed show the highest negative affect. This “emotional toll” of unemployment, namely that the unemployed are sadder than the employed even when engaging in similar leisure activities, is also documented in studies using time-use data and day-reconstruction methods (Knabe et al., 2010; Krueger and Mueller, 2012). In terms of negative affect, respondents who are unemployed are followed by those who are working part-time but want to work more hours and those who are out of the labor force.

In line with our findings for life evaluation, Figures 4a and 4b illustrate that women generally show more positive and negative affect in every category of employment; the relative importance of the different categories for both positive and negative affect is again preserved. And Figures 5a and 5b illustrate that there are, once again, large differences in both types of affect across regions in the world.

So far, we have only looked at descriptive evidence on the overall importance of employment for people’s well-being, on average. Needless to say, average effects may conceal potentially important effect heterogeneities. More importantly, however, we cannot make causal statements from descriptive evidence alone: important observable characteristics of respondents (for example, their health) or unobservables (for example, preferences or personality traits) may explain both their employment status and their happiness at the same time. Such omitted characteristics would inevitably lead to reverse causality and an overestimation of the true effect of employment on people’s well-being. Note, however, that our basic insights continue to hold even if we control for a rich set of such potentially confounding characteristics by holding them constant in a multivariate regression.⁹ Finally, there is an established quasi-experimental literature that exploits plant closures as a source of exogenous

variation to estimate the causal effect of unemployment on people’s well-being, underlining its detrimental impact (see Kassenboehmer and Haisken-DeNew (2008) or Marcus (2013), for example).

Being in a stable employment relationship, be it full-time or part-time, provides a sense of purpose and belonging, social relations, social status, and a daily structure and routine. This is positively reflected in how people evaluate their lives globally, as well as how they feel on a day-to-day basis. Achieving the desired number of working hours, for example, by reducing underemployment, is associated with a well-being premium. People who are unemployed are worst off: it is difficult to reconcile this finding with the notion of voluntary unemployment.

From these basic insights, we can already derive some important policy implications. In particular, there is a clear case for active labor market policies and making job creation a key policy priority. This could be aided through apprenticeship schemes which help younger people to attain their first job, for example. Potentially subsidised temporary work schemes could help the structurally unemployed find their way back into employment. Temporary work arrangements, however, should not become entrenched: job security, as we show below, is an important predictor of well-being at work. Policies that would offer (otherwise healthy) firms temporary financial assistance with the specific aim to avoid layoffs could be a means to smoothen out cyclical unemployment in times of economic crises in order to avoid the heavy psychological toll on those made redundant as well as to avoid anxiety for those that remain employed. Such policies remain to be properly evaluated but could be found to be highly cost-effective as they would likely save on unemployment benefits and on mental health spending.

3. The Global State of Job Satisfaction and Employee Engagement

We have already seen that average life evaluation for different employment statuses differs greatly by region in the world. Different political, economic, and cultural institutions, especially those pertaining to the functioning of labor markets, are most likely driving such differences

Figure 6a: Job Satisfaction, by Region

(Gallup World Poll, Years 2010 to 2012, Weighted by Country;
NZ: New Zealand, CIS: Commonwealth of Independent States)



in overall outcomes. It can be expected that, if we go one step further, we will also find large differences in how people from different regions answer questions that are more specific to their well-being at work.

We are particularly interested in two items that are sampled in the Gallup World Poll, and that are more work-specific than overall life evaluation; these are job satisfaction and employee engagement.¹⁰ The former comes from a simple yes-no question that asks respondents whether they are “satisfied” as opposed to “dissatisfied” with their job, while the latter is derived from a set of formative workplace conditions (such as opportunity to do what you do best, someone encouraging your development, and opinions counting) that are related to a wide range of business outcomes across organizations. Employee engagement has three categories: employees can be “engaged,” “not engaged,” or “actively disengaged” with their jobs. It is a construct that goes well beyond job satisfaction: being engaged with a job requires employees to be positively absorbed by what they do, and to be committed to advancing their firm’s interests; employees who are engaged identify with the firm and represent it even outside formal

working hours. From a policy perspective, raising employee engagement therefore represents a more difficult hurdle to clear than raising job satisfaction. Needless to say, when looking at these items, we are confining our analysis to people who are in work, and who can thus provide meaningful answers.

Figure 6a shows average job satisfaction levels by region in the world. We can see that people who are in work are predominantly satisfied with their job: the lowest average job satisfaction can be found in Sub-Saharan Africa; however, even in this region, about 60% of respondents state satisfaction as opposed to dissatisfaction with their job. Sub-Saharan Africa is followed closely by East Asia (which is dominated by China), South Asia (which is dominated by India), and Middle East and North Africa, where average job satisfaction levels are between 72% and 73%. In the Commonwealth of Independent States (which is dominated by Russia) and in Latin America and the Caribbean, average job satisfaction is slightly higher, at 75% and 82%, respectively. The front runners are North America (86%), Europe (86%), and Australia and New Zealand (87%). Interestingly, these patterns do not vary significantly when we consider men and women separately in the analysis.

Figure 6b: Employee Engagement Levels, by Region

(Gallup World Poll, Years 2010 to 2012, Weighted by Country;
NZ: New Zealand, CIS: Commonwealth of Independent States)

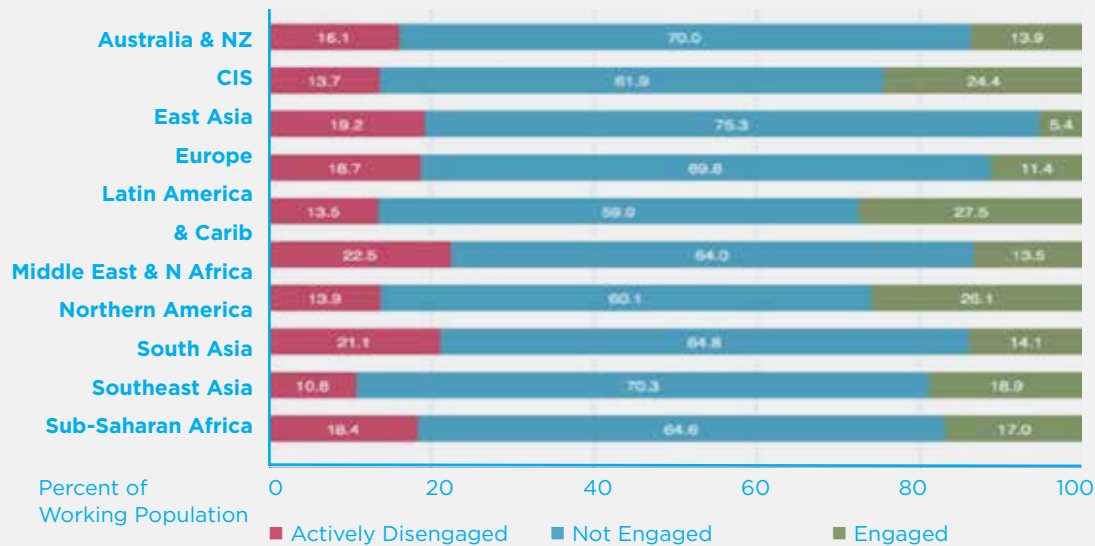


Figure 6b replicates Figure 6a for average employee engagement levels. As noted above, this indicator is more demanding than job satisfaction and is a non-binary measure that allows for increased variation. By and large, the majority of employees state that they are not engaged with their job (ranging between 59% and 75%, on average, depending on region). The regions with the highest disengagement are East Asia, Europe, the Middle East and North Africa, and South Asia. As expected, these regions also count the lowest shares of engaged employees and the highest shares of actively disengaged employees. Where do people fare better? In North America, Latin America and the Caribbean, and the Commonwealth of Independent States, about a quarter of the workforce states engagement with work. The shares of non-engaged or even actively disengaged employees are, as expected, comparably low. Again, we find very few systematic differences when we split the sample by gender.

The seemingly diverging results between job satisfaction and employee engagement for the Commonwealth of Independent States highlight once again that job satisfaction and employee engagement are very different constructs, measuring different aspects of well-being at work. While job satisfaction measures basic

contentment, employee engagement measures involvement and enthusiasm. The fact that we find simultaneously high job satisfaction and low employee engagement levels tells us that, while most people are content with having a job, a much lower percentage is emotionally connected with their work and unlikely to put in discretionary effort. This also highlights that for a complete account of well-being in the workplace, a cockpit of indicators, including additional items such as purpose or trust rather than a single instrument, may paint a more nuanced and balanced picture. Often, however, available data are limited. We return to this issue in our call for action when looking ahead at the end of this chapter.

4. Workplace Quality

We have seen the significance of employment in how people evaluate their lives globally and how they feel on a day-to-day basis. And we have seen that there are large differences in these assessments across regions in the world: not only does the overall importance of employment for well-being differ greatly between countries, so too do satisfaction and engagements levels.

But exactly which job characteristics make certain jobs less satisfying and others more? To answer

this question, we now turn our focus to the workplace itself and use the latest module on work orientations of the International Social Survey Program (ISSP)—a comprehensive, internationally comparable survey that reports on a wide array of working conditions alongside well-being for 37 countries across all geographic regions.

Here, we look at job satisfaction as our outcome of interest. Not only does this measure offer a distinctively democratic way of asking people what exactly makes a good job, but it is also highly correlated with employee retention, an outcome that is itself highly important to firm performance. In fact, if we correlate job satisfaction with the willingness of employees to turn down a competing job offer, which is also reported in this survey, we obtain a sizeable correlation coefficient of about 0.4, suggesting that employees who are more satisfied with their jobs are also, to a large extent, more likely to remain in their jobs. Unlike the previous section, the ISSP job satisfaction measure is not recorded by asking employees a simple yes-no question, but instead offers them more refined answer possibilities, including “completely satisfied,” “very satisfied,” “fairly satisfied,” “neither satisfied nor dissatisfied,” “fairly dissatisfied,” and “very dissatisfied.” We assign numerical values to these categories, and use the indicator as a cardinal measure. To make this measure comparable across countries, we standardize it such that it has mean zero and standard deviation one.

Our goal now is to ascertain which specific elements of workplace quality explain job satisfaction, our outcome of interest. We set up a multivariate regression in which we relate job satisfaction to different domains of workplace quality as explanatory variables. Building on Clark (2009), we define 12 of these domains:

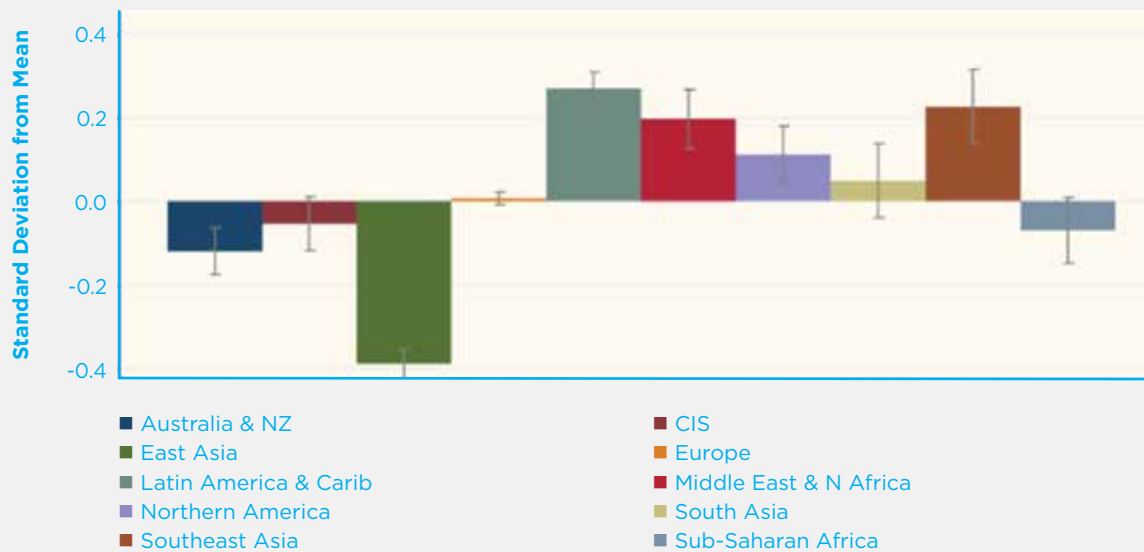
1. *Pay*
2. *Working Hours*
3. *Working Hours Mismatch*
4. *Work-Life Imbalance*
5. *Skills Match*
6. *Job Security*
7. *Difficulty, Stress, Danger*
8. *Opportunities for Advancement*
9. *Independence*
10. *Interesting Job*
11. *Interpersonal Relationships*
12. *Usefulness*

At times, a domain includes a single element, as in the case of working hours (it simply includes the actual working hours of the respondent), while at others a domain includes several elements: for example, *Pay* includes both the actual income of the respondent and her subjective assessment of whether that income is high. In such cases, we conduct a principle component analysis to extract a single, latent explanatory factor from these elements, and then relate job satisfaction to this factor. In other words, we first establish which broad domains of workplace quality are relatively more important for job satisfaction than others. We then go on to look at the different elements within these domains in order to measure their specific contribution to job satisfaction. We standardize our explanatory variables such that they have mean zero and standard deviation one in order to make them comparable across countries. This also makes interpretation easier: the coefficient estimate of an explanatory variable, when squared, now indicates the variation in job satisfaction that this variable explains.

To account for potentially confounding individual characteristics of respondents that may drive both working conditions and well-being, we control for a rich set of demographic variables by holding them constant in our regression. Besides demographics, differences in job satisfaction may exist between different occupations and industries. To be clear, we are not interested in explaining differences in job satisfaction between, for example, a manager in the pharmaceutical industry and a farmer; rather, we are interested in answering a more fundamental question: which broad domains of workplace quality are relatively more important for job satisfaction than others? (Of course, some of these domains are more prevalent in certain occupations and industries than in others). Thus, to isolate the effect of workplace quality on job satisfaction from any confounding characteristics, we also control for occupation and industry. Finally, we further control for the respective country in which the respondent lives.¹¹

Before turning to our regression results, we first look at descriptive evidence that shows the distribution of job satisfaction and workplace quality by region in the world.¹²

Figure 7: Job Satisfaction, by Region (International Social Survey Program, Module on Work Orientations, Year 2015, Weighted by Country; Confidence Intervals 95%; NZ: New Zealand, CIS: Commonwealth of Independent States)



Note: The variable is standardized with mean zero and standard deviation one. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero.

As can be seen in Figure 7, there are some regions that deviate significantly from the average: Latin America and the Caribbean, Southeast Asia, the Middle East and Northern Africa, and Northern America are positive outliers (differences between these regions are barely significant at a conventional level); East Asia (by far) and, to some extent, Australia and New Zealand are negative ones.

Figures 7a to 7l replicate Figure 7 for the different domains of workplace quality. As expected, workplace quality varies greatly across regions in the world. To get an initial sense of which particular domains of workplace quality are more strongly associated with job satisfaction than others, we pick the most significant outliers from above, and look into which domains are relatively more prevalent for them. We take Latin America and the Caribbean as the positive example and East Asia as the negative one.

We first look at Latin America and the Caribbean: the region does not significantly differ from the average in terms of pay, work-life imbalance, or independence at work. On the more positive

side, it scores higher in terms of job security, opportunities for advancement, interestingness of the job, interpersonal relationships, and usefulness of work, as well as lower in terms of working hours mismatch and difficulty, danger, and stress at work. On the more negative side, it scores higher in terms of working hours and lower in terms of skills match.

Interestingly, for East Asia some of these relationships are reversed. On the positive side, East Asia scores much higher in terms of pay. On the negative side, however, it scores higher in terms of working hours, working hours mismatch, work-life imbalance, difficulty, stress, and danger at work, and lower in terms of skills match, job security, opportunities for advancement, interpersonal relationships, independence at work, usefulness, and interestingness of the job.

We now turn to our regression results, and look more deeply into which of these domains of workplace quality are relatively more important for job satisfaction than others. Figure 8 plots the coefficient estimates obtained from our regression of job satisfaction on the different

Figures 7a-7i: Workplace Quality, by Region (International Social Survey Program, Module on Work Orientations, Year 2015, Weighted by Country; Confidence Intervals 95%; NZ: New Zealand, CIS: Commonwealth of Independent States). See Figure 7 for the Legend. *Note:* The variables are standardized with mean zero and standard deviation one. *Pay*, *Working Hours Mismatch*, *Work-Life Imbalance*, *Skills Match*, *Difficulty*, *Stress*, *Danger*, *Independence*, *Interpersonal Relationships*, and *Usefulness* are principle components obtained from separate principle component analyses that condense various variables in the respective domain of workplace quality into a single indicator; see Section 4 for a description of the procedure and Table W11 in the Web Appendix for summary statistics of the variables. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero.

Figure 7a: Pay, by Region

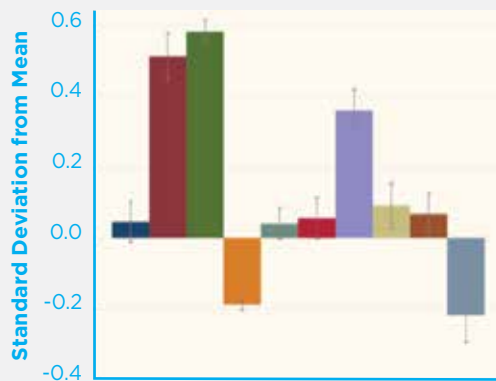


Figure 7b: Working Hours, by Region

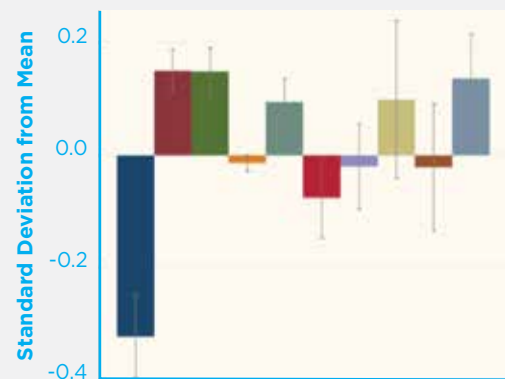


Figure 7c: Working Hours Mismatch, by Region

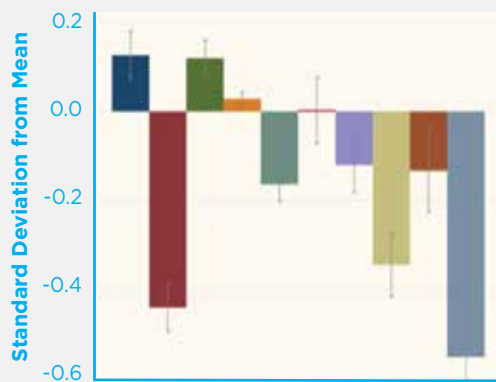


Figure 7d: Work-Life Imbalance, by Region

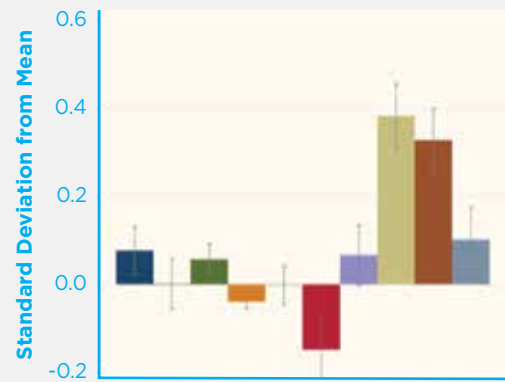


Figure 7e: Skills Match

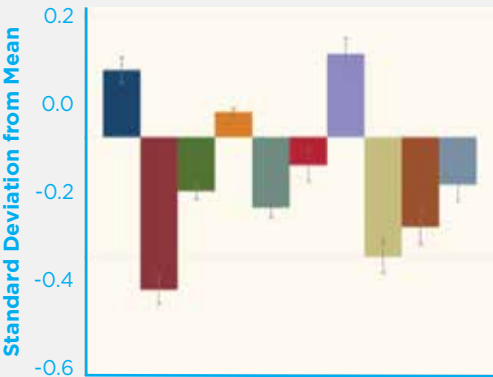


Figure 7f: Job Security

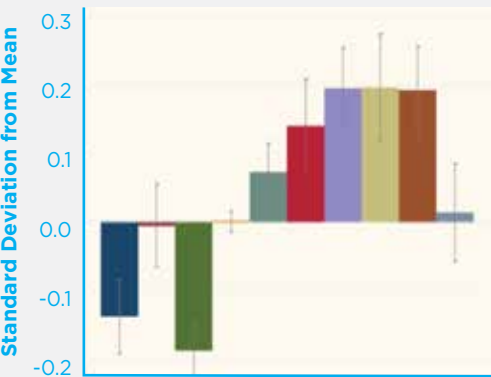


Figure 7g: Difficulty, Stress, Danger

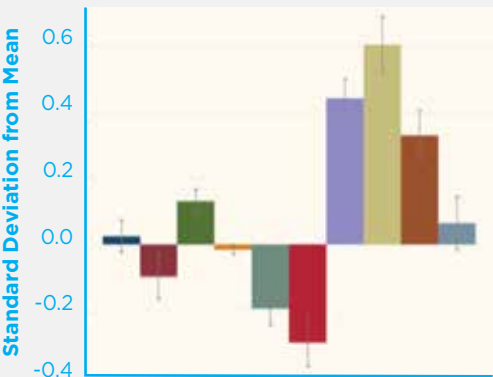


Figure 7h: Opportunities for Advancement

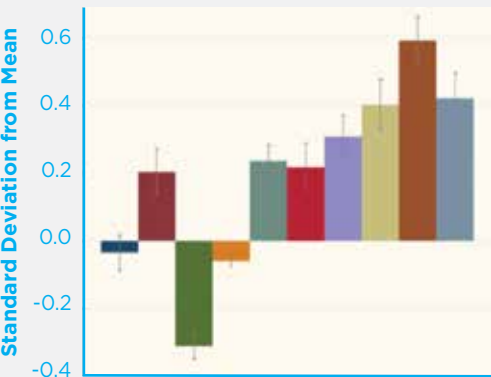


Figure 7i: Independence

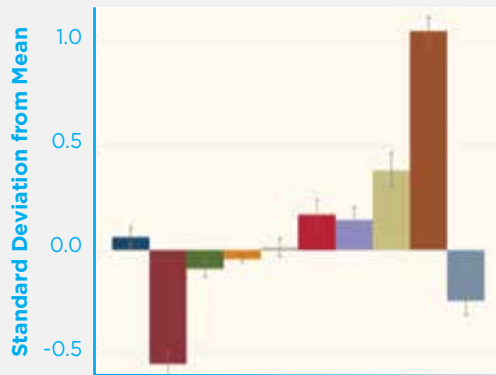


Figure 7j: Interesting Job

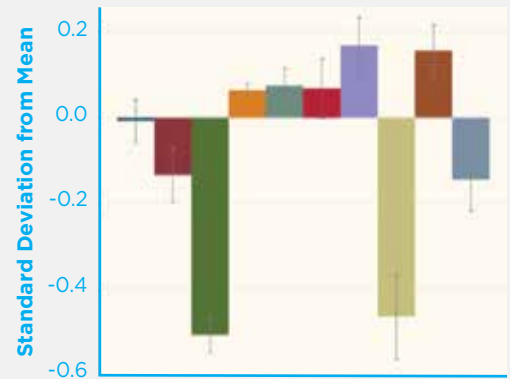


Figure 7k: Interpersonal Relationships

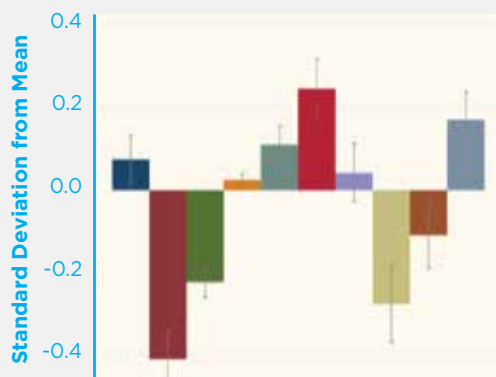


Figure 7l: Usefulness

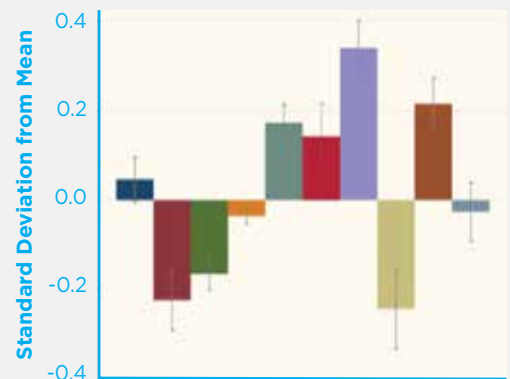
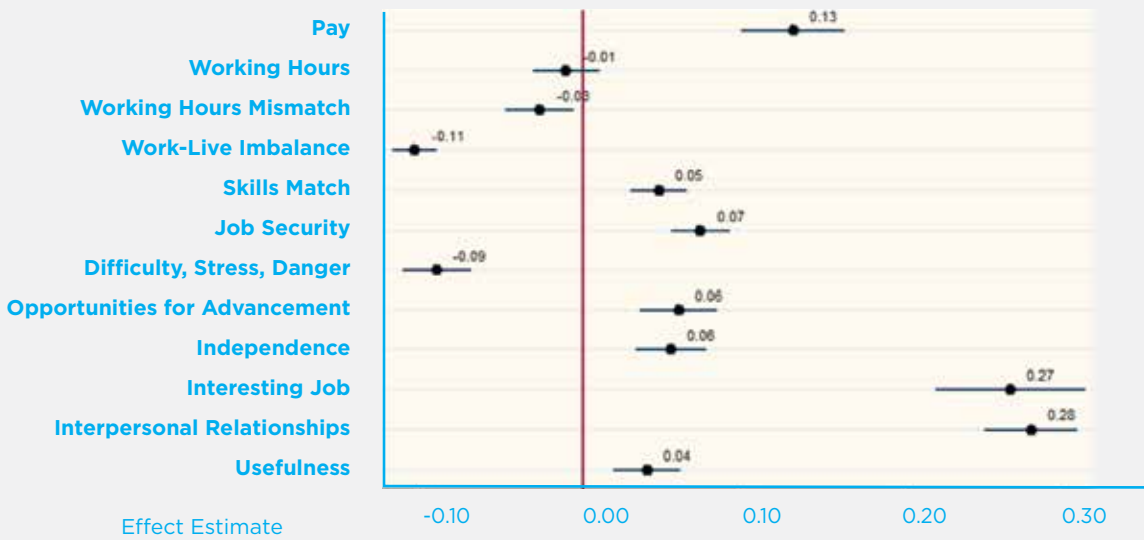


Figure 8: Effect of Workplace Quality on Job Satisfaction
(International Social Survey Program, Module on Work Orientations Year 2015;
Confidence Intervals 95%)



Notes: The figure plots effect estimates obtained from regressing job satisfaction on different domains of workplace quality. All variables (both left-hand side and right-hand side) are standardized with mean zero and standard deviation one; regressors are thus beta coefficients. Squaring a regressor yields the respective share in the variation of job satisfaction that this regressor explains. Pay, Working Hours Mismatch, Work-Life Imbalance, Skills Match, Difficulty, Stress, Danger, Independence, Interpersonal Relationships, and Usefulness are principle components obtained from separate principle component analyses that condense various variables in the respective domain of workplace quality into a single indicator; see Section 4 for a description of the procedure and Table W11 in the Web Appendix for summary statistics of the variables. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero. See Table W3 in the Web Appendix for the corresponding table with the full set of controls.

domains. The corresponding, more detailed regression results are available in Table 1 below; Table 2 employs, instead of the broad domains of workplace quality, the different constituent elements within these domains.¹³

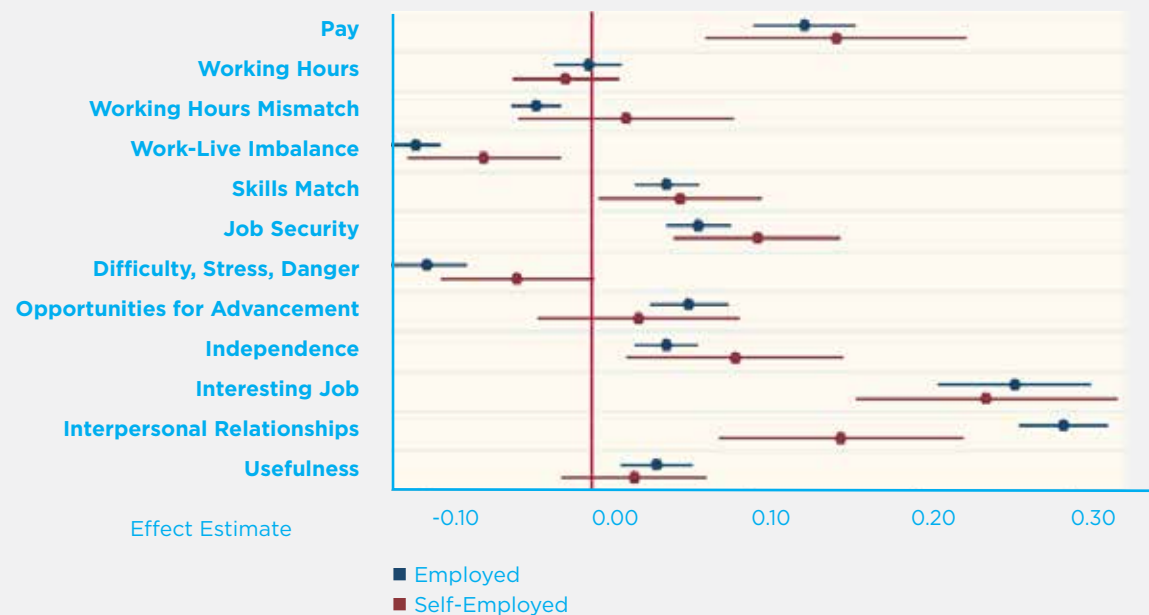
In what follows, we discuss the relative importance of the different domains of workplace quality for job satisfaction, including, where appropriate the different elements within these domains. We look mostly at their effect on the average employee, but where interesting, point toward effect heterogeneities between the employed and the self-employed (Figure 9a), full-time and part-time (Figure 9b), and between basic demographic characteristics such as gender (Figure 9c) and different levels of education (Figure 9d).

4.1. Pay

It may not come as a surprise that we find pay to be an important determinant of job satisfaction. In classic economic theory, labor enters the utility function negatively, and theory predicts that individuals are compensated by wages that equal the marginal product of labor. That said, pay is not only an important compensation for the hardship that individuals incur when working but also an important signal of their productivity. We thus expect job satisfaction to be higher the greater the wedge between compensation and hardship incurred, and the more socially relevant pay is in a given society.

The importance of pay for job satisfaction seems universal, with no statistically significant differences

Figure 9a: Effect of Workplace Quality on Job Satisfaction, by Employment Status (International Social Survey Program, Module on Work Orientations Year 2015; Confidence Intervals 95%)



Notes: See Figure 8. See Table W5 in the Web Appendix for the corresponding table with the full set of controls.

between respondents who are employed or self-employed and working full-time or part-time, or between gender and different levels of education. In our analysis, the domain *Pay* consists of two elements: the actual income of respondents and their subjective assessment of whether that income is high. Both elements are almost equally important, but objective income a little more.

Perhaps more surprising is that although pay is an important determinant of job satisfaction, it is not the most important one. In fact, it ranks third, behind interpersonal relationships at work and having an interesting job. We discuss these determinants in detail below.

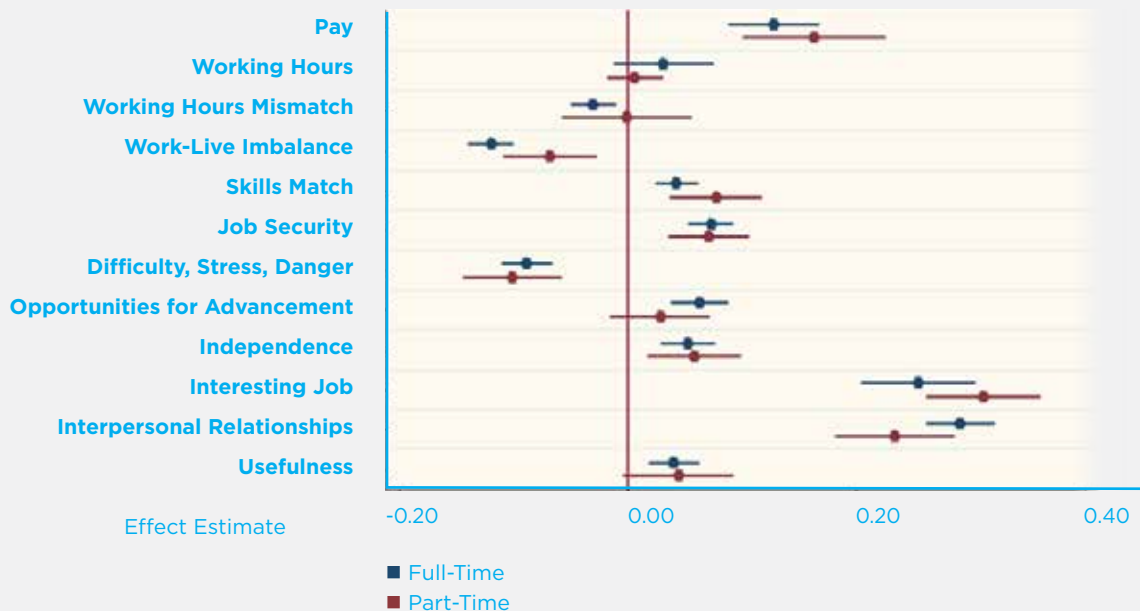
Most people, when asked why they are working, respond that they are working to earn money. This is, of course, true, but once working, other workplace characteristics become more salient, and thus potentially more important than previously considered. Experimental research has shown that intrinsic motivations gain in importance relative to extrinsic ones (such as income) once

individuals are engaged in an activity (Woolley and Fishbach, 2015). Particularly, purpose may be such a characteristic: Ariely et al. (2008) show, in a laboratory setting, that people who see purpose in what they do perform relatively better at work, even in the context of simple, repetitive effort tasks.¹⁴ Using both experimental and observational data, Hu and Hirsh (2017) find that employees report minimum acceptable salaries that are 32% lower for personally meaningful jobs compared to personally meaningless ones. The important role of purpose may be even more pronounced when in interplay with good management practices (Gartenberg et al., 2008), including employee recognition (Dur et al., 2016).

4.2. Working Hours

As labor enters the utility function negatively, classic economic theory predicts a negative relationship between the number of working hours and well-being. This is precisely what we find for job satisfaction.

Figure 9b: Effect of Workplace Quality on Job Satisfaction, by Working Time
(International Social Survey Program, Module on Work Orientations Year 2015;
Confidence Intervals 95%)



Notes: See Figure 8. See Table W6 in the Web Appendix for the corresponding table with the full set of controls.

Interestingly, however, when controlling for all other domains of workplace quality, the effect of working hours on job satisfaction is not only tiny (it ranks as the least important domain of workplace quality), but statistically insignificant altogether. This finding is again universal: there are no statistically significant differences between respondents who are employed or self-employed and working full-time or part-time, or between gender and different levels of education.

This seems odd at first, but as shown below, is in line with a growing evidence base that documents the negative impact of working hours mismatch and work-life imbalance on well-being.

4.3. Working Hours Mismatch

Rather than the total number of working hours, what seems to matter more for job satisfaction is working hours mismatch, defined as the difference between the actual and the desired number of working hours.

Individuals differ in their preferences for how much they want to work, and classic economic theory assumes that they can freely choose their desired bundle of labor and leisure hours. Empirical evidence, however, suggests that this is often not the case: work contracts, labor market conditions, and social norms, among others, may affect choices, and may lead to a realized bundle that is different from the desired one. In Britain, for example, more than 40% of employees who work full-time report a preference of working fewer hours (Boeheim and Taylor, 2004). In such situations, theory predicts that individuals end up on a lower utility level.

We have already seen that employees who work part-time but prefer to work full-time evaluate their lives less favourably than those who intentionally work part-time. We can now generalize this result and replicate it for job satisfaction: working hours mismatch has a significant negative effect on how satisfied employees are, on average, with their jobs.

Figure 9c: Effect of Workplace Quality on Job Satisfaction, by Gender
(International Social Survey Program, Module on Work Orientations Year 2015;
Confidence Intervals 95%)



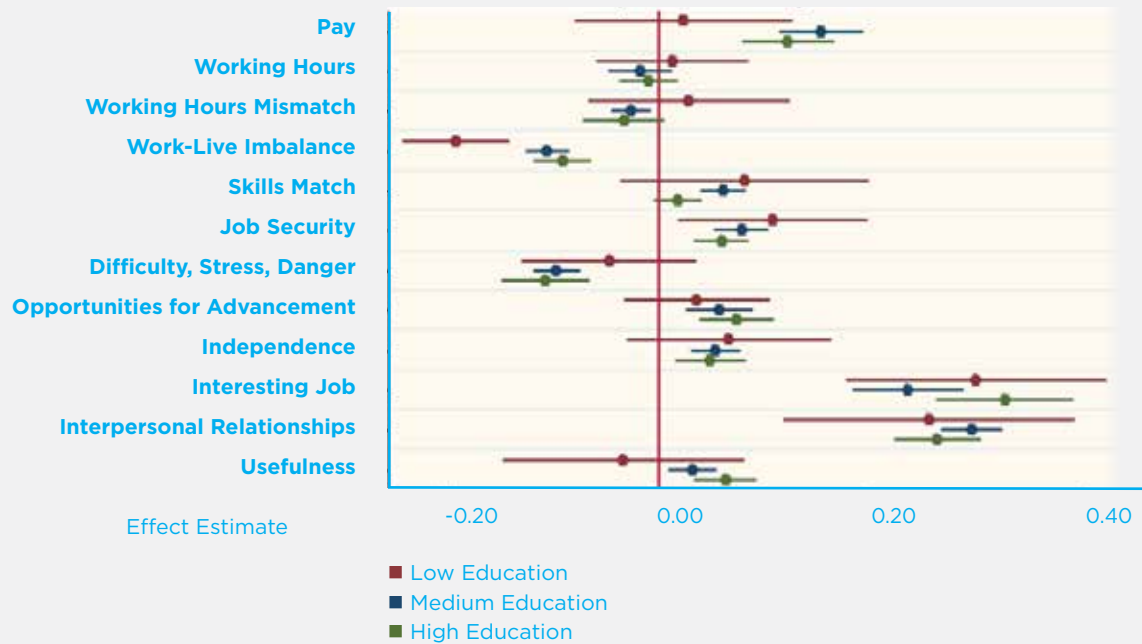
Notes: See Figure 8. See Table W7 in the Web Appendix for the corresponding table with the full set of controls.

It is still unsettled in the literature which is more detrimental to people's well-being: underemployment, as has been found in Germany (Wunder and Heineck, 2013), or overemployment, as has been found in Australia (Wooden et al., 2009) and Britain (Angrave and Charlwood, 2015). In our analysis, the domain *Working Hours Mismatch* consists of two elements: the desire to work more hours (for more pay) and the desire to work fewer hours (for less pay). We find that the latter drives the negative effect of working hours mismatch on job satisfaction, suggesting that overemployment is more of an issue than underemployment. Diverging results in the literature may point toward the importance of accounting for differences in institutional settings between countries, including, for example, differences in labor market regulations (especially regarding job security), social policy, social norms, and lifestyles. Note that working hours mismatch has also been found to have negative spillovers on other household members (Wunder and Heineck, 2013).

It turns out that the negative effect of working hours mismatch on job satisfaction is driven primarily by the employed over the self-employed (who probably have more control over their working hours) and, in line with our finding for overemployment, by employees working full-time as opposed to employees working part-time.

Importantly, there is a gender dimension to working hours mismatch: its negative effect on job satisfaction is driven primarily by women. Evidence shows that women spend considerably larger amounts of time caring for other household members (for example, they spend more than twice as much time on childcare) and doing routine household work than men, even in cases where actual working hours are equal between women and men (OECD, 2014). For women, achieving a better balance between the actual and the desired number of working hours would therefore be an effective means of reducing time crunches. The fact that working fewer hours may be detrimental to their long-term career

Figure 9d: Effect of Workplace Quality on Job Satisfaction, by Education Level
(International Social Survey Program, Module on Work Orientations Year 2015;
Confidence Intervals 95%)



Notes: See Figure 8. See Table W8 in the Web Appendix for the corresponding table with the full set of controls.

prospects presents a dilemma, and may—at least in part—explain the declining life satisfaction of mothers over the past decades (Stevenson and Wolfers, 2009).

In sum, we find that working hours mismatch, in particular overemployment, has a significant negative effect on job satisfaction. The size of this effect, however, is rather small: in fact, working hours mismatch is only ranked 11th out of the 12 domains of workplace quality in terms of importance for job satisfaction. If working hours mismatch is not so bad after all, then what is? The answer is work-life imbalance, as discussed below.

4.4. Work-Life Imbalance

Working hours mismatch may not be so detrimental as long as it does not seriously interfere with other important domains of life, especially family. If, however, work and private life threaten to lose balance, negative consequences for people's well-being are large.

Although work-life imbalance ranks only fourth out of 12 domains of workplace quality in terms of power to explain variation in job satisfaction, it is the domain that has the strongest negative effect on job satisfaction among all negative workplace characteristics. It is highly significant, and statistically indistinguishable from exerting effort in a job that is difficult, stressful, or even dangerous. The negative effect of work-life imbalance on job satisfaction seems to be almost universal: there are no statistically significant differences between respondents who are employed or self-employed and between gender. Perhaps not surprisingly, employees working full-time are more heavily affected than those

working part-time, and there is some evidence that the negative consequences of work-life imbalance are stronger for workers with low levels of education.

In our analysis, the domain *Work-Life Imbalance* consists of three elements which have a clear ranking in terms of importance: work interfering with the family exerts by far the strongest negative effect on job satisfaction, followed by the difficulty of taking time off on short notice when needed. Working on weekends actually has a positive effect, but is negligible in terms of effect size.

From our findings on working hours mismatch and work-life imbalance, we can derive some important policy implications: policies that target more supportive and flexible working time

regulations have the potential to considerably increase people's well-being. This is especially true for people who experience disproportionately more time crunches, including, among others, women, parents (especially single parents), and caretakers of other household members such as elderly. The public policy mix that enables people to strike a better balance between their work and private lives can be quite diverse, ranging from specific labor market regulations on flexible working times to the provision of infrastructure such as public transportation in order to reduce commuting times or early childcare facilities in sufficient quantity and quality. At the same time, offering more flexible working times may be a promising strategy for firms to effectively attract and retain skilled workers.

Box 1: Work-Life Balance: Is There a Trade-Off Between Flexible Work Practices and Performance

To answer this question, Bloom et al. (2015) conducted an experiment at Ctrip, a NASDAQ-listed Chinese travel agency with more than 16,000 employees. The authors randomly allocated call center agents who volunteered to participate in the experiment to work either from home or in the office for nine months. They found that working from home led to a 13% performance increase, due to fewer breaks and sick days as well as a quieter and more convenient working environment. At the same time, job satisfaction rose and attrition halved. Conditional on their performance, however, participants in the experiment were less likely to get promoted.¹⁵ For employees, of course, this raises the question of whether flexible work practices are associated with a career penalty. This does not necessarily have to be the case: Leslie et al. (2012) show, in both a field study at a Fortune 500 company and a laboratory experiment, that flexible work practices result in a career penalty only if managers attribute their use as being motivated primarily by reasons related to personal lives. To the extent that

managers attribute their use to reasons related to organizational needs, however, flexible work practices can actually result in a career premium. The latter category includes reasons related to, for example, work performance and efficiency. Part of this attribution is communication, and training supervisors on the value of demonstrating support for employees' personal lives while prompting employees to reconsider when and where to work can help reduce work-family conflict (Kelly et al., 2014). Finally, Moen et al. (2011) studied the turnover effects of switching from standard time practices to a results-only working environment at Best Buy, a large US retailer that implemented the scheme sequentially in its corporate headquarters: eight months after implementation, turnover amongst employees exposed to the scheme fell by 45.5%. Evidence therefore suggests that carefully designed, implemented, and communicated flexible work schemes can actually have positive impacts on organizational performance.

4.5. Skills Match

A job that is asking too much from an employee can lead to frustration, as can a job that is asking too little. Matching the demand for and the supply of skills in a particular job, and enabling employees to effectively apply the skills they have or, if necessary, acquire new skills, should thus be reflected in higher job satisfaction.

This is precisely what we find. Achieving a skills match in a particular job has a significant positive effect on how satisfied employees are with that job. This is again an almost universal finding: there are no statistically significant differences between respondents who are employed or self-employed, between respondents who are working full-time or part-time, and between gender. Differences between levels of education are minor. The domain *Skills Match* includes two elements: whether respondents have participated in a skills training in the previous year and their subjective assessment of whether their skills generally match those required in their job. Both elements matter, but their subjective assessment a little more.¹⁶ Importantly, skills match is not only

directed toward the self but also toward others in the workplace. In fact, Artz et al. (2017) find that supervisor technical competence is amongst the strongest predictors of workers' job satisfaction. Willis Towers Watson, a leading human resources consultancy, estimates that in companies where leaders and managers are perceived as effective, 72% of employees are highly engaged (Willis Tower Watson, 2014). On a more abstract level, the concept of skills match may also be applied to matching individual character strengths, although there is as yet little evidence on the causality of this relationship in organizational settings.

Although skills match ranks only ninth out of the 12 domains of workplace quality in terms of power to explain variation in job satisfaction, places five to nine are close to each other, and thus constitute a category of medium importance for well-being at work.

4.6. Job Security

Slightly more important than skills match is job security: it ranks sixth out of 12 domains

Box 2: Essential Skills Training: Well-Being Returns and Success Factors

UPSKILL was a workplace literacy and essential skills training pilot in Canada (Social Research and Demonstration Corporation, 2014a). It was implemented as a randomized controlled trial, involving 88 firms (primarily in the accommodation and food services sector) and more than 800 workers who were randomly allocated to receiving 40 hours of literacy and skills training on site during working hours. The pilot was not only effective in increasing basic literacy scores and thus job performance and retention, but, importantly, also in increasing mental health: at follow-up, participants in the treatment group were 25 percentage points more likely than those in the control group to have reported a significant reduction in stress levels. Effects were particularly pronounced among participants with low baseline skills. These positive

impacts at the worker level also translated into positive impacts at the firm level: even though firms bore the full costs of training and release time for workers, they incurred a 23% return on investment, primarily through gains in revenue (customer satisfaction increased by 30 percentage points), cost savings from increased productivity (wastage and errors in both core tasks and administrative activities were significantly reduced), and reductions in hiring costs. Besides firms' commitment to learning and training, organizations that offered work environments with high levels of trust gained relatively more from the program (Social Research and Demonstration Corporation, 2014b). This is in line with a growing evidence base on the importance of trust in the workplace (Helliwell et al., 2009; Helliwell and Huang, 2012; Helliwell and Wang, 2015).

of workplace quality, and is thus also part of the category of medium importance for well-being at work.

Job security is universally important: we find no evidence of effect heterogeneities between respondents who are employed or self-employed and working full-time or part-time, or between gender and different levels of education.

The literature shows that the unemployment rate in a particular region has a significant negative effect on the life satisfaction of the employed in that region (Luechinger et al., 2010). This is often interpreted as a signal of general job insecurity, which is detrimental to happiness.

4.7. Difficulty, Stress, Danger

Not surprisingly, we find that jobs which are associated with difficulty, stress, or even danger are also associated with lower levels of job satisfaction. This holds true even when controlling for all other domains of workplace quality, including pay, working hours, and job security. This is an interesting finding in and of itself, as classic economic theory predicts that workers should be compensated, either monetarily or non-monetarily, for any job disamenities such that the net well-being effect is zero. Empirical evidence on so-called *compensating differentials*, however, is rather mixed. In our data, which are clearly limited, we cannot detect them.

In our analysis, the domain *Difficulty, Stress, Danger* consists of two elements: physically taxing work and stressful work. It turns out that the latter drives the negative effect of this domain on job satisfaction; the former, on the contrary, turns out statistically insignificant. The fact that stress at work is detrimental to health is well-established in the literature: for example, Chandola et al. (2006), in a large-scale prospective cohort study involving more than 10,000 men and women aged 35 to 55 who were employed in 20 London civil service departments, study the relationship between exposure to stressors at work and the risk of developing the metabolic syndrome, a cluster of at least three of five medical conditions including, among others, obesity, high blood pressure, and high blood sugar. They find that employees with chronic work stress were more than twice as likely to develop the syndrome 14 years into the study than those without.

Having a job that is difficult, stressful, or dangerous ranks fifth out of 12 domains of workplace quality in terms of power to explain variation in job satisfaction. It is the domain that has the second strongest negative effect on job satisfaction among all negative workplace characteristics, and ranks directly after work-life imbalance from which it is—at least in terms of effect size—statistically not distinguishable. We find little evidence that its negative impact varies for different people.

4.8. Opportunities for Advancement

We have already seen that being in a stable employment relationship, be it full-time or part-time, has positive effects on how people evaluate their lives globally, as well as how they feel on a daily basis. Part of why this is the case is that jobs provide opportunities for advancement, be it steps to climb up the career ladder, new challenges that give room for personal development, or others.

Our data do not discriminate between different types of opportunities for advancement, but simply ask respondents whether their current job provides them. This gives respondents the freedom to interpret the question in whatever way they themselves find most important.

We find that opportunities for advancement have a significant positive impact on the average respondent's job satisfaction. There is quite some effect heterogeneity, though: the effect is primarily driven by respondents who are employed as opposed to self-employed (probably because the self-employed are themselves more in control of which opportunities to create or not) and by respondents who work full-time as opposed to part-time. There also seems to be a gradient in education: opportunities for advancement become more important for job satisfaction the higher the level of education. They are, however, equally important to men and women.

Opportunities for advancement rank seventh out of the 12 domains of workplace quality in terms of power to explain variation in job satisfaction. Perceived progress through well-defined goal-setting and planning as well as measurable evaluations—based on clearly defined expectations and performance—and employee recognition may increase agency and make the path toward career advancement more transparent, thereby contributing positively to well-being at work.

4.9. Independence

Independence at work can have many facets. Our survey asks respondents to what extent they can work independently, whether they often work at home, and whether they have agency about the organization of their daily work, their working hours, and their usual working schedule.

We find that independence at work occupies the middle ground of importance for well-being: it has a significant positive effect on job satisfaction, with an effect size similar to skills match, job security, opportunities for advancement, and usefulness. It is ranked eighth out of the 12 domains of workplace quality in terms of power to explain variation in job satisfaction. Independence at work seems to be important to everybody: there are no statistically significant differences between respondents who are employed or self-employed and working full-time or part-time, or between gender and different levels of education.

In our analysis, the domain *Independence* includes eight elements: the subjective assessment of

respondents as to what extent they can work independently, how often they work at home during their usual working hours, and whether the organization of their daily work, their working hours, and their usual working schedule is entirely free for them to decide as opposed to fixed. Some of these elements are important while others are not. There also seems to be a ranking of importance: we find that the positive effect of independence at work on job satisfaction is driven primarily by whether respondents report that they can freely organize their daily work, followed by their subjective assessment as to what extent they can work independently. The nature of having discretion about the usual working schedule is more complex: we find that both full discretion and no discretion at all have a negative impact on job satisfaction. Here, it seems that the reference category—having limited discretion—yields a higher job satisfaction than both ends of the spectrum.

Independence at work is related to the concept of job crafting (Wrzesniewski and Dutton, 2001), and the question of whether organizations

Box 3: Does Autonomy over Working Schedules Raise Employee Well-Being?

STAR (“Support. Transform. Achieve. Results”) was a flexible working practices pilot developed by the interdisciplinary Work Family and Health Network (King et al., 2012). It aimed to (i) increase employees’ control over their working schedule, (ii) raise employee perceptions of supervisor support for their personal and family lives, and (iii) reorient the working culture from face time to results only. Eight hours of preparatory sessions encouraged managers and their teams to identify new, flexible work practices, for example, by communicating via instant messenger or planning ahead for periods of peak-demand more effectively. The pilot was implemented as a group-randomized controlled trial in a Fortune 500 company, involving 867 IT workers who were, including their entire team, allocated to either the intervention or business-as-usual and

followed for over a year. Moen et al. (2016) find that the intervention significantly reduced burnout by about 44% of a standard deviation while raising job satisfaction by about 30%. These large effect sizes were partially mediated by decreases in family-to-work conflict and, perhaps less surprisingly, increases in schedule control. There is also some evidence that the intervention decreased perceived stress and psychological distress. Although it has not been evaluated with respect to employee performance (possibly because it is difficult to measure performance in the given context), recent experimental evidence (see Bloom et al. (2015), for example) suggests that, in a very similar context, giving employees more autonomy over where and when to work can have strong, positive performance impacts.

should give their employees a certain freedom to design their jobs based on personal needs and resources. Studies have shown that enabling employees to craft their jobs in this way can have positive benefits in terms of increased employee engagement and job satisfaction as well as decreased likelihood of burnout (Tims et al., 2013). More generally, the concept of individual job crafting may be transferred to the level of the entire organization, in the sense of organizational design. It can also be applied to the physical environment: Knight and Haslam (2010) studied, in an experiment involving different office spaces, the effect of giving employees the opportunity to design their physical working environment. In line with the notion of social identity, they found that employees who were randomly allocated to the crafting condition showed higher organizational identification, job satisfaction, and productivity, measured in terms of task performance. Independence at work has also been identified as a contributing factor to creativity (Amabile et al., 1996). Evidence is thus rather positive about independence; its precise impact, however, is probably highly context-specific.

4.10. Interesting Job

It should not come as a big surprise that having an interesting job is positively associated with being more satisfied with it.

But it is astonishing just how important interestingness is. Amongst all positive workplace characteristics, it has the second strongest effect on job satisfaction, right after interpersonal relationships at work (from which it is, in terms of effect size, not statistically distinguishable), and thus ranks second out of the 12 domains of workplace quality in terms of power to explain variation in job satisfaction. There is little evidence that the impact of interestingness varies for different people: having an interesting job is important to everybody.

Note that interestingness is not the same as purposefulness. A job can score both high on being interesting and low on being purposeful. In contrast to interestingness, purposefulness is best described in terms of a long-term alignment between a job and an individual's own evolutionary purpose in the sense of doing something greater than self.

4.11. Interpersonal Relationships

In most jobs, employees interact, in one way or another, with supervisors, co-workers, or clients.¹⁷ The way in which these interactions occur, and interpersonal relationships are maintained, proves to be the most important determinant of employee job satisfaction.

Interpersonal relationships have a sizeable and significant positive effect on the job satisfaction of the average employee. They rank first out of our 12 domains of workplace quality in terms of power to explain variation in job satisfaction. The size of the effect, however, is statistically not different from that of having an interesting job, which ranks second. Interpersonal relationships are particularly important for the employed as opposed to the self-employed (probably because the self-employed can, if necessary, avoid interactions) and employees who are working full-time as opposed to those who are working part-time (probably because people become relatively more important the more time is spent with them). There is no gender dimension to interpersonal relationships—they are equally important to men and women—nor does their importance for job satisfaction vary by educational level.

In our analysis, the domain *Interpersonal Relationships* consists of three elements: contact with other people in general, the respondents' subjective assessment of their relationship with the management, and the equivalent subjective assessment of their relationship with co-workers. The driver behind the positive effect of interpersonal relationships on job satisfaction is, by far, the relationship with the management; the relationship with co-workers is, although important, only half as important. This is in line with evidence showing that about 50% of US adults who have left their job did so in order to get away from their manager (Gallup News, 2015). Contact with other people in general seems to matter less for job satisfaction.

4.12. Usefulness

How important is pro-sociality—doing something that is beneficial for other people or for society at large—when it comes to job satisfaction?

Pro-social behavior is behavior intended to benefit one or more individuals other than oneself (Eisenberg et al., 2013). This type of

Box 4: How the Relationship Between Managers and Employees Affects Well-Being at Work

Managers can have many functions: for employees, they may provide training, advice, and motivation (Lazear et al., 2015). To effectively fulfill these functions, managers should be competent. Artz et al. (2017) study the relationship between managers' technical competence and employees' job satisfaction using the Working in Britain Survey in the UK and the National Longitudinal Study of Youth in the US. They find that a manager's technical competence—measured in terms of whether the manager worked herself up the ranks, knows her job, or could even do the employee's job—is the single strongest predictor of an employee's job satisfaction. In terms of effect size, having a competent boss is even more important for job satisfaction than having friendly colleagues. In a study on the National Health Service in England, Ogbonnaya and Daniels (2017) find that trusts (the organizational entities that make up the National Health Service) which make the most use of people management practices are over twice as likely to have staff with the highest levels of job satisfaction as compared to those which make the least use of these practices. People management practices refer to training, performance appraisals, team working, clear definition of roles and responsibilities, provision of autonomy in own decision-making, and supportive management that involves staff in organizational decisions. Importantly, they are also three times more

likely to have the lowest levels of sickness absence, and four times more likely to have the most satisfied patients. White and Bryson (2013) confirm this finding for a wider range of organizations in Britain, using an index constructed from various domains of human resource management—participation, team working, development, selection, and incentives—and nationally representative, linked employee-employee data: firms with more human resource practices in place tend to score higher in terms of employees' job satisfaction and organizational commitment (although the relationship seems to be non-linear). Fairness and transparency in managerial decision-making seems to be an important factor: Heinz et al. (2017) conduct a field experiment in which the authors set up a call center to study the impact of treating some employees unfairly on the productivity of others. They set up two work shifts, and randomly lay off 20% of employees between shift one and two due to stated cost reductions (which, as confirmed by interviews with actual HR managers, is perceived as unfair). The productivity of the remaining, unaffected workers, which are notified by this decision at the beginning of the second shift, drops by about 12 percent. The effect size of the productivity decline is close to the upper bound of the direct effects of wage cuts.

behavior can cover a broad range of actions such as helping, sharing, and other forms of cooperation (Batson and Powell, 2003).¹⁸ It has been shown to have positive well-being benefits at the individual level (Meier and Stutzer, 2008). At the societal level, it can help build social capital through fostering cooperation and trust, and social capital is linked to higher levels of well-being in societies (Helliwell et al., 2016, 2017). Pro-sociality

is not the same as purpose (although they overlap to a very large extent): whereas pro-sociality is always directed toward others, purpose could, in the narrower sense, only be directed toward the self. That said, a job can score both high on individual purpose and low on pro-sociality. In reality, however, most jobs probably score either high or low on both constructs.

We can replicate this finding for well-being at work: doing something that is beneficial for other people or for society at large is associated with higher levels of job satisfaction, on average. However, in line with the notion of humans as *conditional* co-operators (Fehr and Fischbacher, 2003), the size of this effect is rather small. Usefulness ranks only tenth out of our 12 domains of workplace quality in terms of power to explain variation in job satisfaction. There is also quite some effect heterogeneity: doing something useful is more important for the job satisfaction of the employed as opposed to the self-employed (probably because the self-employed have, in the first place, more choice over which activities to engage in or not) and employees who are working full-time as opposed to those working part-time. Pro-sociality also becomes more important the higher the level of education. There are, however, no significant differences between gender.

In our analysis, the domain *Usefulness* consists of two elements: helping other people and being useful to society. Both are important, but being useful to society slightly more so.

There is growing literature on pro-sociality in the workplace. Anik et al. (2013) studied the impact of pro-social bonuses—a novel type of bonus spent on others rather than one-self—on well-being and performance. In a field experiment at a large Australian bank, the authors found that employees who were randomly allocated to receive bonuses in the form of (relatively small) financial donations to be made to local charities showed significant, immediate improvements in job satisfaction and happiness compared to employees who were not given these bonuses. In two follow-up experiments, one involving sports teams in Canada and another involving a sales team at a large pharmaceutical company in Belgium, they found that spending bonuses on team members rather than oneself led to better team performance in the longer term. The finding that spending money on others can buy you happiness has also been shown by Dunn et al. (2008): the authors find that pro-social spending in the form of gifts to others or financial donations to charities is positively correlated with general happiness; longitudinally, (arguably otherwise comparable) employees who unexpectedly received a profit-sharing bonus and spent more of it pro-socially experienced an

increase in general happiness, even after controlling for income and the amount of the bonus.

Two other intervention studies stand out: Gilchrist et al. (2014) studied the impact of pay raises—masked as gifts—on performance in a setting where there were no future employment possibilities. The authors hired one-time data entry assistants on an online platform for freelancers, and then randomly allocated them into different experimental conditions, one involving an unexpected, benevolent pay raise. They found that freelancers allocated to this condition entered 20% more data than those who were either initially offered the same pay or initially offered a lower pay, both of which performed equally. In other words, simply paying more at the outset did not elicit higher task performance, but an unexpected pay raise masked as a benevolent gift did. Grant (2008), in a randomised field experiment involving fundraisers at a university, found that bringing together fundraisers and beneficiaries to show the former the purpose of their work significantly increased their subsequent task performance.

How organizations can organize work to make it more fulfilling and connect people with the pro-social impact they may have, for example, by providing incentives to elicit behaviors that help accumulate altruistic capital (Ashraf and Bandiera, 2017), is a promising area of research.

Table 1: Effect of Workplace Quality on Job Satisfaction, Aggregated Domains

Workplace Quality	Effect on Job Satisfaction	Ranking of Importance for Job Satisfaction
Pay	0.131*** (0.0161)	3
Working Hours	-0.0107 (0.0104)	12
Working Hours Mismatch	-0.0271** (0.0106)	11
Work-Life Imbalance	-0.106*** (0.00681)	4
Skills Match	0.0474*** (0.00880)	9
Job Security	0.0734*** (0.00906)	6
Difficulty, Stress, Danger	-0.0918*** (0.0105)	5
Opportunities for Advancement	0.0598*** (0.0119)	7
Independence	0.0551*** (0.0109)	8
Interesting Job	0.267*** (0.0231)	2
Interpersonal Relationships	0.281*** (0.0145)	1
Usefulness	0.0399*** (0.0103)	10
Constant	Yes	
Controls	Yes	
Occupation Fixed Effects	Yes	
Industry Fixed Effects	Yes	
Country Fixed Effects	Yes	
Observations	16,326	
Adjusted R-Squared	0.422	

Robust standard errors clustered at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: All variables (both left-hand side and right-hand side) are standardized with mean zero and standard deviation one; regressors are thus beta coefficients. Squaring a regressor yields the respective share in the variation of job satisfaction that this regressor explains. *Pay*, *Working Hours Mismatch*, *Work-Life Imbalance*, *Skills Match*, *Difficulty, Stress, Danger*, *Independence*, *Interpersonal Relationships*, and *Usefulness* are principle components obtained from separate principle component analyses that condense various variables in the respective domain of workplace quality into a single indicator; see Section 4 for a description of the procedure and Table W11 in the Web Appendix for summary statistics of the variables. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero. See Table W3 in the Web Appendix for the full set of controls.

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Table 2: Effect of Workplace Quality on Job Satisfaction, Disaggregated Domains

Workplace Quality	Effect on Job Satisfaction	
Pay		(0.0106)
High Income	0.0866***	-0.00996
	(0.0122)	(0.0105)
Individual Income (Natural Log)	0.105**	Reference Category
	(0.0506)	-0.0112
Working Hours		(0.00846)
Working Hours (Natural Log)	-0.0105	Daily Work Free
	(0.00980)	0.0386***
Working Hours Mismatch		(0.0100)
Wants to Work Same Hours	Reference Category	Working Hours Flexible
Wants to Work More Hours	-0.00979	Reference Category
	(0.00697)	-0.00195
Wants to Work Less Hours	-0.0297***	(0.00742)
	(0.00996)	Working Hours Free
Work-Life Imbalance		-0.00270
Working on Weekends	0.0169**	(0.00835)
	(0.00699)	Working Schedule Flexible
Work Interfering With Family	-0.109***	Reference Category
	(0.00935)	-0.0212**
Difficulty of Taking Time Off	-0.0385***	(0.00798)
	(0.00900)	Working Schedule Fixed
Skills Match		-0.0167**
Skills Match	0.0476***	(0.00793)
	(0.00920)	Interesting Job
Skills Training	0.0190**	Interesting Job
	(0.00878)	0.265***
Job Security	0.0700***	(0.0221)
	(0.00847)	Interpersonal Relationships
Difficulty, Stress, Danger		Contact With Other People
Hard Physical Work	-0.00739	0.00561
	(0.0119)	(0.00891)
Stressful Work	-0.0853***	Relationship With Management
	(0.0113)	0.222***
Opportunities for Advancement		(0.0114)
Opportunities for Advancement	0.0538***	Relationship With Co-Workers
	(0.0114)	0.0906***
Independence		(0.0116)
Independent Work	0.0275**	Usefulness
		Helping Other People
		0.0256***
		(0.00901)
		Being Useful to Society
		0.0359***
		(0.00853)
		Constant
		Yes
		Controls
		Yes
		Occupation Fixed Effects
		Yes
		Industry Fixed Effects
		Yes
		Country Fixed Effects
		Yes
		Observations
		16,326
		Adjusted R-Squared
		0.438

Robust standard errors clustered at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: All variables (both left-hand side and right-hand side) are standardized with mean zero and standard deviation one; regressors are thus beta coefficients. Squaring a regressor yields the respective share in the variation of job satisfaction that this regressor explains. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero. See Table W4 in the Web Appendix for the full set of controls.

Source: International Social Survey Program, Module on Work Orientations, Year 2015

5. Looking Ahead

Studying well-being at work is important, not only because work and workplace quality play such a significant role for people's well-being, but also because people's well-being is an important predictor of outcomes related to worker productivity and firm performance. Harter et al. (2010), using a large longitudinal dataset that includes 141,900 respondents within 2,178 business units of ten large organizations across industries, study the relationship between perceived working conditions of employees and firm-level outcomes. They find that working conditions—including overall satisfaction within the organization—are predictive of key outcomes such as employee retention and customer loyalty. Importantly, Harter et al. (2010) are able to show that the effect tends to run from working conditions to firm-level outcomes rather than the other way around—this is suggestive of a causal impact. The strength of the relationship is not trivial: in a previous meta-analysis, Harter et al. (2002) estimate that business units in the top quartile on employee engagement conditions realize between one and four percentage points higher profits and between 25% to 50% lower turnover than those in the bottom quartile.

These findings have direct implications for managerial practice: Frey (2017) argues that managers should create workplaces that are conducive to well-being, for example, by supporting workers' independence and creativity or by fostering interpersonal relationships at work. At the same time, work should not be so demanding and burdensome that workers are unable to enjoy their leisure time; providing more flexible working hours may be a means to striking a better balance between work and life. Income provided should be sufficient to lead a good life with respect to material standards. All of these factors have been found to be conducive to well-being at work, although to varying degrees, as presented here and reviewed elsewhere (see OECD (2017b), for example). At the same time, however, Frey (2017) argues that managers should not engage in directly trying to maximize the happiness of stakeholders (which can be subject to manipulation); rather, they should lay the foundations within organizations for stakeholders to achieve happiness in the way they themselves choose. The importance of autonomy

therefore applies to the question of how to achieve happiness itself.

The importance of work, and workplace quality, for well-being and, in turn, the importance of well-being for individual-level labor market outcomes as well as key firm-level outcomes makes a cautious case for active public policy intervention. Independent staff well-being audits may be a means to raising awareness for well-being at work. Awards for work environments that are conducive to well-being may also be bestowed on single managers or entire organizations (Gallus and Frey, 2016; Frey and Gallus, 2017). Systematic measurement of well-being within organizations may serve as a diagnostic tool, for example, to uncover well-being inequalities within organizations, which have been found to be a powerful driver of behavior at the community level and may be relevant to organizations just as well. It may also serve as a vehicle to pave the way towards interventions, directed at one or more domains of workplace quality. The evidence presented here and reviewed elsewhere (see Arends et al. (2017) or OECD (2017b), for example) suggests that workplace quality has rather positive impacts on productivity and performance, in line with recent experimental evidence in various contexts (Bloom et al., 2015; Oswald et al., 2015). Ultimately, however, more experimental evidence from the field is needed in order to be able to make strong causal claims about the relationship between workplace quality, well-being, and its objective benefits for both individuals and firms. In next year's chapter on work and well-being for the Global Happiness Policy Report, we aim to look more closely into these objective benefits, in order to evaluate and motivate the economic case for placing well-being at the core of business practices.

This chapter can only offer a cautious exploration into the nexus between work and well-being. Clearly, there are methodological issues: first, and foremost, the evidence presented here is mostly descriptive, and from descriptive evidence alone we cannot make causal statements. There may be observable characteristics of respondents or, more importantly, unobservable characteristics that explain both their work status and their well-being at the same time. Such omitted characteristics would inevitably lead to reverse causality. We need longitudinal data—repeated observations of the same individuals over time—

to get closer to causal effects, and ideally, some sort of randomized experimental intervention or policy change as an exogenous variation in order to reduce concerns about self-selection and omitted variables. We bypassed this issue by presenting, where available, supporting evidence from causal-design studies in the literature.

Our tools are also limited in other dimensions. Not only are available datasets typically limited in terms of types of outcomes they offer (most datasets do not include simultaneous evaluative, experiential, and eudemonic measures of well-being), but also in terms of country coverage (a distinctively Western focus). The latest module on work orientations of the International Social Survey Program, which we used to study the effect of workplace quality on well-being, includes only job satisfaction as a domain-specific, evaluative measure of well-being. It is quite possible, however, that some workplace qualities are more likely to strongly impact eudemonic measures of well-being such as purpose. We cannot verify this with our data, and importantly, cannot check which construct is relatively more important for which domain of workplace quality.

Ultimately, we need a cockpit of standardized measures of evaluative, experiential, and eudemonic measures—like the ONS-4—to lend a more complete picture of well-being at work.¹⁹ In terms of country coverage, the latest module on work orientations of the International Social Survey Program is clearly limited: for example, the only country included in the Sub-Saharan Africa region is South Africa. Obviously, this gives a biased picture of work-place quality in the region. Further, the informal sector, which by far comprises the largest part of the labor market in many least developed countries is completely ignored. Concerning variables on workplace quality, most datasets today focus on rather standard items, ignoring more modern elements of labor markets related to technology and the future of work such as aspects pertaining to the so-called “gig economy” or (fear of) automation and artificial intelligence. Items sampled in different surveys are also quite heterogeneous. The *OECD Guidelines on Measuring the Quality of the Working Environment* are therefore a right step toward establishing a unified framework for measuring workplace quality, focusing on objective job attributes and outcomes measured at the individual level

(OECD, 2017b). These guidelines divide job characteristics into six broad categories, including the physical and social environment of work, job tasks, organizational characteristics, working-time arrangements, job prospects, and intrinsic job aspects.

Finally, questions remain regarding external validity: while there are few datasets that are as comprehensive as the International Social Survey Program, country-score comparisons with other datasets show that some of its items have low convergent validity. Note, however, that similar findings on the relationship between workplace quality and job satisfaction have been identified by De Neve and Ward (2017) using the European Social Survey. Future research should be directed toward identifying similar patterns in other datasets. Importantly, this research should be seen as an ongoing endeavour: the composition of the labor supply changes continuously, for example, as more and more millennials with preferences different from previous generations enter the labor force.

In view of these limitations, we end this report by looking ahead, and putting out a call for action: we call upon people in academia, business, and government to work together in expanding the causal evidence base on work and well-being. Academics and businesses, for example, could cooperate and test how modifications to work processes and practices affect worker well-being, and ultimately, performance. Candidates for such modifications should be guided by theory, and tested in such a way as to be subject to rigorous impact evaluation through *randomized controlled trials*. This way, we can avoid issues of omitted characteristics and self-selection, and identify causal effects of work and workplace quality on well-being and performance. It will be important to establish a common set of measures, covering evaluative, experiential, and eudemonic measures of well-being, to be used across impact evaluations of trials. And it will be important to record and report the costs of these trials (less the costs of impact-evaluating them). This will allow for benchmarking interventions in terms of cost-effectiveness, and rank interventions according to those which buy more worker well-being and performance per dollar invested. Evidence from behavioral science suggests that seemingly small, low-cost (or even costless)

changes in daily work routines could produce large gains in well-being and performance.

Partly, our vision is already reflected in academic practice: in business schools throughout the world, experimental methods make their way into curricula, as is the case with A/B testing in marketing, for example. Knowledge generated by way of such trials should be shared openly as best practices, and doing so should be incentivised. Governments can also become active players by introducing well-being interventions within the civil service, which could also help to promote happiness more widely in society. After all, a happy and engaged civil service is an obvious starting point for being able to deliver on policies that aim to put well-being at the heart of policy-making.



Endnotes

- 1 See OECD (2017a) for data on daily time use in OECD countries.
- 2 See Table W1 in the Web Appendix for the respective table from van Praag et al. (2003).
- 3 See Tenney et al. (2016) for a review on the relationship between people's wellbeing and labor market outcomes, as well as Judge et al. (2001) and Harrison et al. (2006) for recent meta-analyses. See Whitman et al. (2010) for a recent meta-analysis on people's wellbeing and firm performance.
- 4 For the purpose of this chapter, we adopt a broad definition of wellbeing, colloquially referred to as happiness, covering evaluative measures such as overall life evaluation and domain-specific job satisfaction, experiential measures (both positive and negative affect), and eudemonic measures (employee engagement).
- 5 The present discussion on the overall importance of employment, as well as the state of job satisfaction and employee engagement worldwide, in this chapter builds to some extent on De Neve and Ward (2017).
- 6 The lower average life evaluation for the self-employed may come as a surprise, but is in line with an emerging strand of literature on the misprediction of wellbeing consequences when deciding to become self-employed (Odermatt et al., 2017). A possible mechanism may be that individuals who become self-employed underestimate the associated rise in workload. Moreover, as discussed in De Neve and Ward (2017), the relationship between life evaluation and being self-employed varies by world region.
- 7 A potential mechanism behind this finding is that the previously unemployed are scared of becoming unemployed again (Knabe and Raetzl, 2011).
- 8 For summaries of the work on the importance of being in employment (and of being out of unemployment), including differences by gender, for wellbeing, see also What Works Centre for Wellbeing (2017a, 2017b).
- 9 See Table 1 in the Web Appendix.
- 10 Studying job satisfaction has a history in business economics (see Spector (1997) or Cooper and Robertson (2003), for example). While being more domain-specific than overall life evaluation, this indicator is also more prone to framing effects, as the relationship between wellbeing and work is revealed to the respondent.
- 11 See Table W11 in the Web Appendix for summary statistics of job satisfaction, the different elements of workplace quality, and the demographic control variables, including their definitions.
- 12 Tables W9 and W10 in the Web Appendix show differences in average job satisfaction and workplace quality by region in numbers; Table W9 shows these values for the different domains, Table W10 for the different constituent elements within each domain. Table W11 provides definitions and summary statistics of the variable used. Table W12 gives an overview of the different countries covered within each region.
- 13 For a comprehensive summary of a systematic review on the relationship between job quality and wellbeing, see also What Works Centre for Wellbeing (2017c).
- 14 The important role of purpose for performance has also been studied in educational contexts: Yeager et al. (2014) show that promoting a pro-social, self-transcendent purpose improves academic self-regulation in students.
- 15 The company later offered the option to work from home to the whole firm, allowing formerly treated employees to re-select between working from home or working in the office: about half of them switched back, which almost doubled performance gains to 22%. This highlights the importance of accounting for self-selection and learning. In fact, in a recent discrete choice experiment, Mas and Pallais (2017) demonstrate that employee preferences for flexible work practices are quite heterogeneous: while most employees prefer a little extra income over flexibility, to a small number of employees, flexible work practices are very important.
- 16 On the importance of learning on the job for wellbeing, see also What Works Centre for Wellbeing (2017d).
- 17 On the importance of team work more generally for wellbeing, see What Works Centre for Wellbeing (2017e).
- 18 Note that pro-social behavior is distinct from altruism in that it is not purely motivated by increasing another individual's welfare, but can be motivated by, for example, empathy, reciprocity, or self-image (Evren and Minardi, 2017).
- 19 Following recommendations by Dolan and Metcalfe (2012), the Office for National Statistics (ONS) in the UK now routinely asks people how they think and feel about their lives, including four items on evaluative (life satisfaction), experiential (happiness, anxiousness), and eudemonic (worthwhileness) measures of subjective wellbeing in its surveys.

References

- Amabile, T. M., *Creativity in Context*, Boulder, Westview, 1996.
- Amabile, T. M., R. Conti, H. Coon, J. Lazenby, and M. Herron, "Assessing the Work Environment for Creativity," *Academy of Management Journal*, 39(5), 1154-1184, 1996.
- Amabile, T. M., and S. Kramer, *The Progress Principle: Using Small Wins to Ignite Joy, Engagement, and Creativity at Work*, Cambridge, Harvard University Press, 2011.
- Angrave, D., and A. Charlwood, "What is the relationship between long working hours, over-employment, underemployment and the subjective well-being of workers? Longitudinal evidence from the UK," *Human Relations*, 68(9), 1491-1515, 2015.
- Anik, L., L. B. Akin, M. I. Norton, E. W. Dunn, and J. Quoidbach, "Prosocial Bonuses Increase Employee Satisfaction and Team Performance," *PLoS ONE*, 8(9), e75509, 2013.
- Arends, I., C. Prinz, and F. Abma, "Job quality, health and at-work productivity," *OECD Social, Employment and Migration Working Papers*, 195, 2017.
- Ariely, D., E. Kamenica, and D. Prelec, "Man's search for meaning: The case of Legos," *Journal of Economic Behavior & Organization*, 67, 671-677, 2008.
- Artz, B. M., A. H. Goodall, and A. J. Oswald, "Boss Competence and Worker Well-Being," *Industrial and Labor Relations Review*, 70(2), 419-450, 2017.
- Ashraf, N., and O. Bandiera, "Altruistic Capital," *American Economic Review: Papers & Proceedings*, 107(5), 70-75, 2017.
- Batson, C. D., and A. A. Powell, "Altruism and Prosocial Behavior," in Weiner, I. B. (Ed.), *Handbook of Psychology Volume 5*, London, Wiley, 2003.
- Bloom, N., J. Liang, J. Roberts, and Z. J. Ying, "Does Working from Home Work? Evidence from a Chinese Experiment," *Quarterly Journal of Economics*, 130, 165-218, 2015.
- Bockerman, P., and P. Ilmakunnas, "The Job Satisfaction-Productivity Nexus: A Study Using Matched Survey and Register Data," *Industrial and Labor Relations Review*, 65(2), 244-262, 2012.
- Boehm, R., and M. P. Taylor, "Actual and Preferred Working Hours," *British Journal of Industrial Relations*, 42(1), 149-166, 2004.
- Bohnet, I., A. van Green, and M. Bazerman, "When Performance Trumps Gender Bias: Joint vs. Separate Evaluation," *Management Science*, 62(5), 1225-1234, 2015.
- Bryson, A., and G. MacKerron, "Are You Happy While You Work?," *Economic Journal*, 127(599), 106-125, 2017.
- Chandola, T., E. Brunner, and M. Marmot, "Chronic stress at work and the metabolic syndrome: prospective study," *British Medical Journal*, 332(7540), 521-525, 2006.
- Clark, A., "Work, Jobs and Well-Being across the Millennium," *IZA Discussion Paper*, 3940, 2009.
- Clark, A. E., "Unemployment as a Social Norm: Psychological Evidence from Panel Data," *Journal of Labor Economics*, 21(2), 323-351, 2003.
- Clark, A. E., and A. J. Oswald, "Unhappiness and Unemployment," *Economic Journal*, 104(424), 648-659, 1994.
- Clark, A. E., and Y. Georgellis, "Back to Baseline in Britain: Adaptation in the British Household Panel Survey," *Economica*, 80(319), 496-512, 2013.
- Clark, A. E., E. Diener, Y. Georgellis, and R. Lucas, "Lags and Leads in Life Satisfaction: A Test of the Baseline Hypothesis," *Economic Journal*, 118(529), F222-F243, 2008.
- Clark, A. E., Y. Georgellis, and P. Sanfey, "Scarring: The Psychological Impact of Past Unemployment," *Economica*, 68(270), 221-241, 2001.
- Cooper, C., and I. T. Robertson, *Management and Happiness*, Cheltenham, Edward Elgar, 2013.
- Danziger, S., J. Levav, and L. Avnaim-Pesso, "Extraneous factors in judicial decisions," *Proceedings of the National Academy of Sciences*, 108(17), 6889-6892, 2011.
- De Neve, J.-E., and A. J. Oswald, "Estimating the influence of life satisfaction and positive affect on later income using sibling fixed effects," *Proceedings of the National Academy of Sciences*, 109(49), 19953-19958, 2012.
- De Neve, J.-E., E. Diener, L. Tay, and C. Xuereb, "The Objective Benefits of Subjective Well-Being," in *World Happiness Report 2013*, edited by J. Helliwell, R. Layard, and J. Sachs.
- De Neve, J.-E., and G. Ward, "Happiness at Work," in *World Happiness Report 2017*, edited by J. Helliwell, R. Layard, and J. Sachs.
- Dolan, P. H., "Happiness by Design: Change What You Do, Not How You Think," New York: Hudson Street Press.
- Dolan, P. H., and R. Metcalfe, "Measuring Subjective Wellbeing: Recommendations on Measures for Use by National Governments," *Journal of Social Policy*, 41(2), 409-427.
- Dunn, E. W., L. B. Akin, and M. I. Norton, "Spending Money on Others Promotes Happiness," *Science*, 319(5870), 1687-1688, 2008.
- Dur, R., C. Bradler, S. Neckermann, and A. Non, "Employee Recognition and Performance: A Field Experiment," *Management Science*, 62(11), 3085-3099, 2016.
- Edmans, A., "Does the Stock Market Fully Value Intangibles? Employee Satisfaction and Equity Prices," *Journal of Financial Economics*, 101(3), 621-640, 2011.
- Edmans, A., "The Link Between Job Satisfaction and Firm Value, With Implications for Corporate Social Responsibility," *Academy of Management Perspectives*, 26(4), 1-19, 2012.
- Eisenberg, N., T. L. Spinrad, and A. S. Morris, "Prosocial Development," in: Zelazo, P. D. (Ed.), *Oxford Handbook of Developmental Psychology Volume 2*, Oxford, Oxford University Press, 2013.
- Evren, O., and S. Minardi, "Warm-glow Giving and Freedom to be Selfish," *Economic Journal*, 127(603), 1381-1409, 2017.
- Fehr, E., and U. Fischbacher, "The nature of human altruism," *Nature*, 425(6960), 785-791, 2003.
- Frey, B. S., "Research on Well-Being: Determinants, Effects, and its Relevance for Management," *CREMA Working Paper*, 2017-11, 2017.
- Frey, B. S., and J. Gallus, *Honour versus Money. The Economics of Awards*, Oxford, Oxford University Press, 2017.
- Gallup News, "Employees Want a Lot More From Their Managers," Online: <http://news.gallup.com/businessjournal/182321/employees-lot-managers.aspx>, accessed 01/12/2017, 2015.
- Gallus, J., and B. S. Frey, "Awards: A Strategic Management Perspective," *Strategic Management Journal*, 37(8), 1699-1714, 2016.

- Gartenberg, C., A. Prat, and G. Serafeim, "Corporate Purpose and Financial Performance," *Harvard Business School Working Paper*, 17-023, 2016.
- Gielen, A. C., and J. C. van Ours, "Unhappiness and Job Finding," *Economica*, 81(323), 544-565, 2014.
- Gilchrist, D. S., M. Luca, and D. Malhotra, "When 3 + 1 > 4: Gift Structure and Reciprocity in the Field," *Management Science*, 62(9), 2639-2650, 2016.
- Graham, C., "Happiness and Economics: Insights for Policy from a new Science of Well-being," *Journal of Behavioral Economics for Policy*, 1(1), 69-72, 2017.
- Grant, A. M., "Employees without a Cause: The Motivational Effects of Prosocial Impact in Public Service," *International Public Management Journal*, 11(1), 48-66, 2008.
- Harrison, D. A., D. A. Newman, and P. L. Roth, "How Important are Job Attitudes? Meta-Analytic Comparisons of Integrative Behavioral Outcomes and Time Sequences," *Academy of Management Journal*, 49(2), 305-325, 2006.
- Harter, J. K., F. L. Schmidt, J. W. Asplund, E. A. Killham, and S. Agrawal, "Causal Impact of Employee Work Perceptions on the Bottom Line of Organizations," *Perspectives on Psychological Science*, 5(4), 378-389, 2010.
- Harter, J. K., F. L. Schmidt, T. L. Hayes, "Business-Unit-Level Relationship Between Employee Satisfaction, Employee Engagement, and Business Outcomes: A Meta-Analysis," *Journal of Applied Psychology*, 87(2), 268-279, 2002.
- Heinz, M., S. Jeworrek, V. Mertins, H. Schumacher, and M. Sutter, "Measuring Indirect Effects of Unfair Employer Behavior on Worker Productivity—A Field Experiment," *Max Planck Institute for Research on Collective Goods Working Paper*, 2017/22, 2017.
- Helliwell, J. F., and H. Huang, "Well-Being and Trust in the Workplace," *Journal of Happiness Studies*, 12(5), 747-767, 2011.
- Helliwell, J. F., and S. Wang, "How Was the Weekend? How the Social Context Underlies Weekend Effects in Happiness and Other Emotions for US Workers," *PLoS ONE*, 10(12), e014512, 2015.
- Helliwell, J. F., H. Huang, and R. D. Putnam, "How's the Job? Are Trust and Social Capital Neglected Workplace Investments?," in Bartkus, V. O., and J. H. Davis (Ed.), *Social Capital: Reaching Out, Reaching In*, London, Edward Elgar, 2009.
- Helliwell, J. F., H. Huang, and S. Wang, "New Evidence on Trust and Wellbeing," *NBER Working Paper*, 22450, 2016.
- Helliwell, J. F., L. B. Akin, H. Shiplett, H. Huang, and S. Wang, "Social Capital and Prosocial Behavior as Sources of Well-Being," *NBER Working Paper*, 23761, 2017.
- Hu, J., and J. B. Hirsh, "Accepting Lower Salaries for Meaningful Work," *Frontiers in Psychology*, 8(1649), 1-10, 2017.
- Judge, T. A., C. J. Thoresen, J. E. Bono, and G. K. Patton, "The job satisfaction-job performance relationship: A qualitative and quantitative review," *Psychological Bulletin*, 127(3), 376-407, 2001.
- Kahneman, D., A. B. Krueger, D. A. Schkade, N. Schwarz, and A. A. Stone, "A Survey Method for Characterizing Daily Life Experience: The Day Reconstruction Method," *Science*, 306(5702), 1776-1780, 2004.
- Kassenboehmer, S. C., and J. P. Haisken-DeNew, "You're Fired! The Causal Negative Effect of Entry Unemployment on Life Satisfaction," *Economic Journal*, 119(536), 448-462, 2008.
- Kelly, E. L., P. Moen, J. M. Oakes, W. Fan, C. Okechukwu, K. D. Davis, L. B. Hammer, E. E. Kossek, R. B. King, G. C. Hanson, F. Mierzwa, and L. M. Casper, "Changing Work and Work-Family Conflict: Evidence from the Work, Family, and Health Network," *American Sociological Review*, 79(3), 485-516, 2014.
- King, R. B., G. Karuntzos, L. M. Casper, P. E. Moen, K. D. Davis, L. F. Berkman, M. Durham, and E. E. Kossek, "Work-Family Balance Issues and Work-Leave Policies," in Gatchel, R. J., and I. Z. Schultz (Eds.), *Handbook of Occupational Health and Wellness*, New York, Springer, 2012.
- Knabe, A., and S. Raetzl, "Scarring or Scaring? The Psychological Impact of Past Unemployment and Future Unemployment Risk," *Economica*, 78(310), 283-293, 2011.
- Knabe, A., S. Raetzl, R. Schoeb, and J. Weimann, "Dissatisfied with Life but Having a Good Day: Time-use and Well-being of the Unemployed," *Economic Journal*, 120(547), 867-889, 2010.
- Knight, C., and S. A. Haslam, "The Relative Merits of Lean, Enriched, and Empowered Offices: An Experimental Examination of the Impact of Workspace Management Strategies on Well-Being and Productivity," *Journal of Experimental Psychology: Applied*, 16(2), 158-172, 2010.
- Krause, A., "Don't worry, be happy? Happiness and reemployment," *Journal of Economic Behavior & Organization*, 96, 1-20, 2013.
- Krueger, A. B., and A. I. Mueller, "Time Use, Emotional Well-Being, and Unemployment: Evidence from Longitudinal Data," *American Economic Review: Papers & Proceedings*, 102(3), 594-599, 2012.
- Kunze, L., and N. Suppa, "Bowling alone or bowling at all? The effect of unemployment on social participation," *Journal of Economic Behavior & Organization*, 133, 213-235, 2017.
- Lazear, E. P., K. L. Shaw, and C. T. Stanton, "The Value of Bosses," *Journal of Labor Economics*, 33(4), 823-861, 2015.
- Leslie, L. M., C. Flaherty Manchester, T.Y. Park, and S. Ahn Meng, "Flexible Work Practices: A Source of Career Premiums or Penalties?," *Academy of Management Journal*, 55(6), 1407-1428, 2012.
- Luechinger, S., S. Meier, and A. Stutzer, "Why Does Unemployment Hurt the Employed? Evidence from the Life Satisfaction Gap Between the Public and the Private Sector," *Journal of Human Resources*, 45(4), 998-1045, 2010.
- Marcus, J., "The effect of unemployment on the mental health of spouses—Evidence from plant closures in Germany," *Journal of Health Economics*, 32(3), 546-558, 2013.
- Mas, A., and A. Pallais, "Valuing Alternative Work Arrangements," *American Economic Review*, 107(12), 3722-3759, 2017.
- Meier, S., and A. Stutzer, "Is Volunteering Rewarding in Itself?," *Economica*, 75(297), 39-59, 2008.
- Moen, P., E. L. Kelly, and R. Hill, "Does Enhancing Work-Time Control and Flexibility Reduce Turnover? A Naturally Occurring Experiment," *Social Problems*, 58(1), 69-98, 2011.
- Moen, P., E. L. Kelly, W. Fan, S.R. Lee, D. Almeida, E. E. Kossek, and O. Buxto, "Does a Flexibility/Support Organizational Initiative Improve High-Tech Employees' Well-Being? Evidence from the Work, Family, and Health Network," *American Sociological Review*, 81(1), 134-164, 2016.
- OECD, "Balancing paid work, unpaid work and leisure," Online: <http://www.oecd.org/gender/data/balancingpaidworkunpaid-workandleisure.htm>, accessed 08/10/2017, 2014.

OECD, "Employment: Time spent in paid and unpaid work, by sex," Online: <http://stats.oecd.org/index.aspx?queryid=54757>, accessed 19/10/2017, 2017a.

OECD, "OECD Guidelines on Measuring the Quality of the Working Environment," Online: <http://www1.oecd.org/publications/oecd-guidelines-on-measuring-the-quality-of-the-working-environment-9789264278240-en.htm>, accessed 24/11/2017, 2017b.

Ogbonnaya, C., and K. Daniels, "Good Work, Wellbeing and Changes in Performance Outcomes: Illustrating the Effects of Good People Management Practices with an Analysis of the National Health Service," *mimeo*, 2017.

Oswald, A. J., E. Proto, and D. Sgroi, "Happiness and Productivity," *Journal of Labor Economics*, 33(4), 789-822, 2015.

PwC Research, "The Rising Cost of Absence," 2013.

Sainsbury Centre for Mental Health, "Mental health at work: developing the business case," 2007.

Social Research and Demonstration Corporation, "UPSKILL: A Credible Test of Workplace Literacy and Essential Skills Training—Summary Report," Online: <http://www.srdc.org/media/199770/upskill-final-results-es-en.pdf>, accessed 29/11/2017, 2014a.

Social Research and Demonstration Corporation, "UPSKILL: A Credible Test of Workplace Literacy and Essential Skills Training—Technical Report," Online: <http://www.srdc.org/media/199774/upskill-technical-report-en.pdf>, accessed 29/11/2017, 2014b.

Spector, P. E., *Job Satisfaction: Application, Assessment, Causes, and Consequences*, Thousand Oaks, Sage, 1997.

Stevenson, B., and J. Wolfers, "The Paradox of Declining Female Happiness," *American Economic Journal: Economic Policy*, 1(2), 190-225, 2009.

Tay, L., and J. K. Harter, "Economic and Labor Market Forces Matter for Worker Well-Being," *Applied Psychology: Health and Well-Being*, 5(2), 193-208, 2013.

Tenney, E. R., J. M. Poole, and E. Diener, "Does Positivity Enhance Work Performance? Why, When, and What We Don't Know," *Research on Organizational Behaviors*, 36, 27-46, 2016.

Tims, M., A. B. Bakker, and D. Derks, "The Impact of Job Crafting on Job Demands, Job Resources, and Well-Being," *Journal of Occupational Health Psychology*, 18(2), 230-240, 2013.

van Praag, B. M. S., P. Frijters, and A. Ferreri-Carbonell, "The anatomy of subjective well-being," *Journal of Economic Behavior & Organization*, 51(1), 29-49, 2003.

What Works Centre for Wellbeing, "Briefing: Unemployment, (Re)Employment and Wellbeing," Online: <https://www.whatworkswellbeing.org/product/unemployment-reemployment-and-wellbeing/>, accessed 27/11/2017, 2017a.

What Works Centre for Wellbeing, "Briefing: Gender and Wellbeing," Online: <https://www.whatworkswellbeing.org/product/gender-and-wellbeing/>, accessed 27/11/2017, 2017b.

What Works Centre for Wellbeing, "Briefing: Job Quality and Wellbeing," Online: <https://www.whatworkswellbeing.org/product/job-quality-and-wellbeing/>, accessed 27/11/2017, 2017c.

What Works Centre for Wellbeing, "Briefing: Learning at Work and Wellbeing," Online: <https://www.whatworkswellbeing.org/product/learning-at-work/>, accessed 27/11/2017, 2017d.

What Works Centre for Wellbeing, "Briefing: Team Working," Online: <https://www.whatworkswellbeing.org/product/>

team-working/, accessed 27/11/2017, 2017e.

White, M., and A. Bryson, "Positive Employee Relations: How Much Human Resource Management Do You Need?," *Human Relations*, 66(3), 385-406, 2013.

Whitman, D. S., D. L. Van Rooy, and C. Viswesvaran, "Satisfaction, citizenship behaviors, and performance in work units: A meta-analysis of collective construct relations," *Personnel Psychology*, 63(1), 41-81, 2010.

Willis Towers Watson, "Balancing Employer and Employee Priorities: Insights From the 2014 Global Workforce and Global Talent Management and Rewards Studies," Online: <https://www.towerswatson.com/en/Insights/IC-Types/Survey-Research-Results/2014/07/balancing-employer-and-employee-priorities>, accessed 01/12/2017, 2014.

Winkelmann, L., and R. Winkelmann, "Why are the Unemployed So Unhappy? Evidence from Panel Data," *Economica*, 65(257), 1-15, 1998.

Wooden, M., D. Warren, and R. Drago, "Working Time Mismatch and Subjective Well-being," *British Journal of Industrial Relations*, 47(1), 147-179, 2009.

Woolley, K., and A. Fishbach, "The Experience Matters More Than You Think: Weighting Intrinsic Incentives More Inside Than Outside of an Activity," *Journal of Personality and Social Psychology*, 109(6), 968-982, 2015.

Wrzesniewski, A., and J. E. Dutton, "Crafting a Job: Revisioning Employees as Active Crafters of Their Work," *Academy of Management Review*, 26(2), 179-201, 2001.

Wunder, C., and G. Heineck, "Working time preferences, hours mismatch and well-being of couples: Are there spillovers?," *Labor Economics*, 24, 244-252, 2013.

Yeager, D. S., M. D. Henderson, S. D'Mello, D. Paunesku, G. M. Walton, B. J. Spitzer, and A. L. Duckworth, "Boring but Important: A Self-Transcendent Purpose for Learning Fosters Academic Self-Regulation," *Journal of Personality and Social Psychology*, 107(4), 559-580, 2014.

Yuan, L., "The Happier One Is, the More Creative One Becomes: An Investigation on Inspirational Positive Emotions from Both Subjective Well-Being and Satisfaction at Work," *Psychology*, 6, 201-209, 2015.

Appendix

Table W1: Importance of Domain Satisfactions for Life Satisfaction

		Life Satisfaction					
Level Effects		Workers			Non-Workers		
Domain Satisfaction	Rank of Importance	All	West	East	All	West	East
Financial Satisfaction	1	0,7480	0,6370	0,8590	0,8280	0,7600	0,8960
Health Satisfaction	2	0,4730	0,5010	0,4450	0,6585	0,6580	0,6590
Job Satisfaction	3	0,3905	0,3520	0,4290	-	-	-
Leisure Satisfaction	4	0,2465	0,2240	0,2690	0,3585	0,1820	0,5350
House Satisfaction	5	0,1660	0,1480	0,1840	0,2635	0,2000	0,3270
Environment Satisfaction	6	0,1370	0,0500	0,2240	0,1885	0,0660	0,3110

Notes: Level effects obtained from ordered probit models with individual random effects, adapted from van Praag et al. (2003). The authors regress life satisfaction on different domain satisfaction of respondents, controlling for year dummies, mean domain satisfaction, age, gender, partnership status, years of education, household income, available leisure time, mean household income, and mean available leisure time. The respective level effect is calculated as the sum of the individual domain satisfaction and the mean of that domain satisfaction.

Source: German Socio-Economic Panel, Years 1992 to 1997

Table W2: Subjective Well-being and Employment Status
(Gallup World Poll, 2014-2016)

	Cantril Ladder	Positive Affect	Negative Affect
Employment (v. employed FT for employer)			
Employed FT for Self	-0.019** (0.008)	-0.008 (0.009)	0.019** (0.009)
Employed PT (does not want FT)	0.058*** (0.010)	0.010 (0.010)	-0.013 (0.010)
Employed PT (wants FT)	-0.087*** (0.009)	-0.006 (0.009)	0.093*** (0.011)
Unemployed	-0.221*** (0.011)	-0.120*** (0.012)	0.221*** (0.013)
Out of Workforce	-0.037*** (0.008)	-0.062*** (0.008)	0.021** (0.010)
Covariates			
Income	0.211*** (0.006)	0.121*** (0.005)	-0.132*** (0.005)
Education: Medium	0.158*** (0.008)	0.089*** (0.010)	-0.095*** (0.011)
Education: High	0.310*** (0.011)	0.199*** (0.013)	-0.136*** (0.014)
Marital Status: Married/Domestic Partner	0.051*** (0.007)	0.007 (0.006)	-0.024*** (0.007)
Marital Status: Divorced/Separated	-0.089*** (0.010)	-0.119*** (0.010)	0.131*** (0.010)
Marital Status: Widowed	-0.104*** (0.014)	-0.133*** (0.014)	0.158*** (0.014)
Female	0.084*** (0.006)	0.015*** (0.005)	0.079*** (0.007)
Age	-0.020*** (0.002)	-0.025*** (0.002)	0.021*** (0.002)
Age^2	0.000*** (0.000)	0.000*** (0.000)	-0.000*** (0.000)
Children in Household	-0.022*** (0.005)	-0.011** (0.006)	0.039*** (0.005)
Adults in Household	-0.009*** (0.002)	-0.005*** (0.002)	0.011*** (0.002)
Country + Year FEs	Yes	Yes	Yes
Observations	309263	288041	288041
R-squared	0.076	0.031	0.035
Countries	154	153	153
Country-Years	417	417	417

Standard errors clustered at country level in parantheses

* p<0.1 ** p<0.05

Table W3: Effect of Workplace Quality on Job Satisfaction, Aggregated Domains (*Regression Equivalent to Figure 8*)

Workplace Quality	Effect on Job Satisfaction
Pay	0.131*** (0.0161)
Working Hours	-0.0107 (0.0104)
Working Hours Mismatch	-0.0271** (0.0106)
Work-Life Imbalance	-0.106*** (0.00681)
Skills Match	0.0474*** (0.00880)
Job Security	0.0734*** (0.00906)
Difficulty, Stress, Danger	-0.0918*** (0.0105)
Opportunities for Advancement	0.0598*** (0.0119)
Independence	0.0551*** (0.0109)
Interesting Job	0.267*** (0.0231)
Interpersonal Relationships	0.281*** (0.0145)
Usefulness	0.0399*** (0.0103)
Union Member	-0.00322 (0.00569)
Age	-0.116** (0.0435)
Age Squared	0.147*** (0.0418)
Female	0.00505 (0.00731)
Partnered	0.0357*** (0.0100)
Separated	0.0145** (0.00591)
Divorced	0.0134** (0.00606)
Widowed	0.00639 (0.00701)
Years of Education	-0.0569*** (0.00831)
Number of Individuals in Household	-0.0126 (0.0111)
Number of Children in Household	0.00535 (0.0129)
Number of Toddlers in Household	0.00302 (0.00940)
Constant	-0.0439 (0.206)
Occupation Fixed Effects	Yes
Industry Fixed Effects	Yes
Country Fixed Effects	Yes
Observations	16,326
Adjusted R-Squared	0.422

Robust standard errors clustered at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: All variables (both left-hand side and right-hand side) are standardized with mean zero and standard deviation one; regressors are thus beta coefficients. Squaring a regressor yields the respective share in the variation of job satisfaction that this regressor explains. *Pay*, *Working Hours Mismatch*, *Work-Life Imbalance*, *Skills Match*, *Difficulty*, *Stress*, *Danger*, *Independence*, *Interpersonal Relationships*, and *Usefulness* are principle components obtained from separate principle component analyses that condense various variables in the respective domain of workplace quality into a single indicator; see Section 4 for a description of the procedure and Table W11 in the Web Appendix for summary statistics of the variables. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero.

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Table W4: Effect of Workplace Quality on Job Satisfaction, Disaggregated Domains

Workplace Quality	Effect on Job Satisfaction	
High Income	0.0866***	(0.00798)
	(0.0122)	-0.0167**
Individual Income (Natural Log)	0.105**	(0.00793)
	(0.0506)	0.265***
Working Hours (Natural Log)	-0.0105	(0.0221)
	(0.00980)	0.00561
Wants to Work Same Hours	Reference Category	(0.00891)
Wants to Work More Hours	-0.00979	0.222***
	(0.00697)	(0.0114)
Wants to Work Less Hours	-0.0297***	0.0906***
	(0.00996)	(0.0116)
Working on Weekends	0.0169**	0.0256***
	(0.00699)	(0.00901)
Work Interfering With Family	-0.109***	0.0359***
	(0.00935)	(0.00853)
Difficulty of Taking Time Off	-0.0385***	Union Member
	(0.00900)	-3.23e-05
Skills Match	0.0476***	(0.00635)
	(0.00920)	Age
Skills Training	0.0190**	-0.0938**
	(0.00878)	(0.0430)
Job Security	0.0700***	Age Squared
	(0.00847)	0.121***
Hard Physical Work	-0.00739	(0.0401)
	(0.0119)	Female
Stressful Work	-0.0853***	0.0102
	(0.0113)	(0.00752)
Opportunities for Advancement	0.0538***	Partnered
	(0.0114)	0.0375***
Independent Work	0.0275**	(0.00953)
	(0.0106)	Separated
Working From Home	-0.00996	0.0171***
Daily Work Flexible	Reference Category	(0.00600)
Daily Work Fixed	-0.0112	Divorced
	(0.00846)	0.0135**
Daily Work Free	0.0386***	(0.00604)
	(0.0100)	Widowed
Working Hours Flexible	Reference Category	0.00955
Working Hours Fixed	-0.00195	(0.00693)
	(0.00742)	Years of Education
Working Hours Free	-0.00270	-0.0445***
	(0.00835)	(0.00880)
Working Schedule Flexible	Reference Category	Number of Individuals in Household
Working Schedule Fixed	-0.0212**	-0.0120
		(0.0110)
		Number of Children in Household
		0.00896
		(0.0136)
		Number of Toddlers in Household
		0.00560
		(0.00953)
		Constant
		0.0461
		(0.209)
		Occupation Fixed Effects
		Yes
		Industry Fixed Effects
		Yes
		Country Fixed Effects
		Yes
		Observations
		16,326
		Adjusted R-Squared
		0.438

Robust standard errors clustered at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: All variables (both left-hand side and right-hand side) are standardized with mean zero and standard deviation one; regressors are thus beta coefficients. Squaring a regressor yields the respective share in the variation of job satisfaction that this regressor explains. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero.

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Table W5: Effect of Workplace Quality on Job Satisfaction, by Employment Status (Regression Equivalent to Figure 9a)

Workplace Quality	Effect on Job Satisfaction	
	Employed	Self-Employed
Pay	0.134*** (0.0157)	0.153*** (0.0401)
Working Hours	-0.00159 (0.0104)	-0.0156 (0.0164)
Working Hours Mismatch	-0.0343*** (0.00760)	0.0221 (0.0331)
Work-Life Imbalance	-0.109*** (0.00786)	-0.0666*** (0.0237)
Skills Match	0.0474*** (0.0101)	0.0555** (0.0249)
Job Security	0.0672*** (0.0101)	0.104*** (0.0257)
Difficulty, Stress, Danger	-0.102*** (0.0119)	-0.0458* (0.0236)
Opportunities for Advancement	0.0611*** (0.0122)	0.0297 (0.0310)
Independence	0.0469*** (0.00983)	0.0899** (0.0333)
Interesting Job	0.264*** (0.0236)	0.246*** (0.0401)
Interpersonal Relationships	0.295*** (0.0135)	0.156*** (0.0376)
Usefulness	0.0407*** (0.0111)	0.0270 (0.0223)
Union Member	0.00138 (0.00656)	-0.0197 (0.0241)
Age	-0.137*** (0.0425)	0.130 (0.171)
Age Squared	0.165*** (0.0427)	-0.0920 (0.150)
Female	0.00534 (0.00721)	0.0276 (0.0273)
Partnered	0.0361*** (0.00972)	0.0364 (0.0362)
Separated	0.0195*** (0.00664)	-0.0203 (0.0188)
Divorced	0.0160** (0.00740)	0.0114 (0.0279)
Widowed	0.00709 (0.00716)	0.0209 (0.0226)
Years of Education	-0.0592*** (0.0105)	-0.0202 (0.0237)
Number of Individuals in Household	-0.0109 (0.0119)	-0.00464 (0.0246)
Number of Children in Household	0.00596 (0.0114)	-0.0150 (0.0318)
Number of Toddlers in Household	0.00118 (0.00824)	0.00632 (0.0296)
Constant	-0.0223 (0.212)	-1.228*** (0.216)
Occupation Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
Observations	14,113	2,059
Adjusted R-Squared	0.437	0.291

Robust standard errors clustered at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: All variables (both left-hand side and right-hand side) are standardized with mean zero and standard deviation one; regressors are thus beta coefficients. Squaring a regressor yields the respective share in the variation of job satisfaction that this regressor explains. *Pay*, *Working Hours Mismatch*, *Work-Life Imbalance*, *Skills Match*, *Difficulty, Stress, Danger*, *Independence*, *Interpersonal Relationships*, and *Usefulness* are principle components obtained from separate principle component analyses that condense various variables in the respective domain of workplace quality into a single indicator; see Section 4 for a description of the procedure and Table W11 in the Web Appendix for summary statistics of the variables. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero.

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Table W6: Effect of Workplace Quality on Job Satisfaction, by Working Time
(Regression Equivalent to Figure 9b)

Workplace Quality	Effect on Job Satisfaction	
	Full-Time	Part-Time
Pay	0.128*** (0.0195)	0.164*** (0.0308)
Working Hours	0.0316 (0.0216)	0.00650 (0.0118)
Working Hours Mismatch	-0.0301*** (0.00977)	-0.000893 (0.0281)
Work-Life Imbalance	-0.120*** (0.00973)	-0.0682*** (0.0200)
Skills Match	0.0428*** (0.00924)	0.0773*** (0.0200)
Job Security	0.0730*** (0.00976)	0.0714*** (0.0174)
Difficulty, Stress, Danger	-0.0883*** (0.0110)	-0.101*** (0.0214)
Opportunities for Advancement	0.0628*** (0.0125)	0.0284 (0.0217)
Independence	0.0526*** (0.0117)	0.0588*** (0.0201)
Interesting Job	0.255*** (0.0247)	0.312*** (0.0247)
Interpersonal Relationships	0.291*** (0.0148)	0.234*** (0.0259)
Usefulness	0.0407*** (0.0112)	0.0444* (0.0239)
Union Member	-0.00166 (0.00617)	-0.00716 (0.0211)
Age	-0.0488 (0.0469)	-0.309** (0.125)
Age Squared	0.0832 (0.0500)	0.311** (0.119)
Female	0.00946 (0.00786)	-0.0123 (0.0150)
Partnered	0.0272*** (0.00970)	0.0757** (0.0281)
Separated	0.0111 (0.00666)	0.0229* (0.0128)
Divorced	0.00996 (0.00662)	0.0322 (0.0229)
Widowed	0.00630 (0.00727)	0.0230 (0.0206)
Years of Education	-0.0518*** (0.0102)	-0.0610** (0.0276)
Number of Individuals in Household	-0.00608 (0.0115)	-0.00405 (0.0271)
Number of Children in Household	0.00269 (0.0146)	-0.00480 (0.0202)
Number of Toddlers in Household	-0.00460 (0.00916)	0.00468 (0.0276)
Constant	-0.239 (0.214)	0.0832 (0.496)
Occupation Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
Observations	13,345	2,981
Adjusted R-Squared	0.430	0.392

Robust standard errors clustered at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: All variables (both left-hand side and right-hand side) are standardized with mean zero and standard deviation one; regressors are thus beta coefficients. Squaring a regressor yields the respective share in the variation of job satisfaction that this regressor explains. *Pay*, *Working Hours Mismatch*, *Work-Life Imbalance*, *Skills Match*, *Difficulty, Stress, Danger*, *Independence*, *Interpersonal Relationships*, and *Usefulness* are principle components obtained from separate principle component analyses that condense various variables in the respective domain of workplace quality into a single indicator; see Section 4 for a description of the procedure and Table W11 in the Web Appendix for summary statistics of the variables. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero. *Full-Time*: working at least 35 hours per week, *Part-Time*: working less than 35 hours per week.

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Table W7: Effect of Workplace Quality on Job Satisfaction, by Gender
(Regression Equivalent to Figure 9c)

Workplace Quality	Effect on Job Satisfaction	
	Male	Female
Pay	0.119*** (0.0254)	0.148*** (0.0157)
Working Hours	-0.0176 (0.0178)	-0.00334 (0.00905)
Working Hours Mismatch	-0.0149 (0.0151)	-0.0365*** (0.00914)
Work-Life Imbalance	-0.109*** (0.0127)	-0.101*** (0.00941)
Skills Match	0.0478*** (0.00937)	0.0462*** (0.0144)
Job Security	0.0794*** (0.00815)	0.0691*** (0.0139)
Difficulty, Stress, Danger	-0.0795*** (0.0150)	-0.107*** (0.0134)
Opportunities for Advancement	0.0629*** (0.0148)	0.0564*** (0.0156)
Independence	0.0626*** (0.0149)	0.0404*** (0.0119)
Interesting Job	0.256*** (0.0257)	0.276*** (0.0241)
Interpersonal Relationships	0.286*** (0.0192)	0.278*** (0.0154)
Usefulness	0.0347*** (0.0122)	0.0431*** (0.0156)
Union Member	-0.00579	0.00230
	(0.00712)	(0.0124)
Age	-0.149*** (0.0537)	-0.0907 (0.0735)
Age Squared	0.178*** (0.0525)	0.128* (0.0694)
Partnered	0.0250** (0.0118)	0.0466*** (0.0128)
Separated	0.0182** (0.00806)	0.0118 (0.00869)
Divorced	0.0140 (0.00965)	0.0141 (0.00930)
Widowed	0.00242 (0.0114)	0.0101 (0.00968)
Years of Education	-0.0564*** (0.0113)	-0.0595*** (0.0113)
Number of Individuals in Household	-0.0158 (0.0202)	-0.00415 (0.0140)
Number of Children in Household	0.00531 (0.0174)	0.0108 (0.0145)
Number of Toddlers in Household	0.000127 (0.0134)	0.00819 (0.0118)
Constant	0.0498 (0.215)	-0.586 (0.583)
Occupation Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
Observations	8,405	7,921
Adjusted R-Squared	0.415	0.426

Robust standard errors clustered at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: All variables (both left-hand side and right-hand side) are standardized with mean zero and standard deviation one; regressors are thus beta coefficients. Squaring a regressor yields the respective share in the variation of job satisfaction that this regressor explains. *Pay*, *Working Hours Mismatch*, *Work-Life Imbalance*, *Skills Match*, *Difficulty, Stress, Danger*, *Independence*, *Interpersonal Relationships*, and *Usefulness* are principle components obtained from separate principle component analyses that condense various variables in the respective domain of workplace quality into a single indicator; see Section 4 for a description of the procedure and Table W11 in the Web Appendix for summary statistics of the variables. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero.

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Table W8: Effect of Workplace Quality on Job Satisfaction, by Education Level
(Regression Equivalent to Figure 9d)

Workplace Quality	Effect on Job Satisfaction		
	Low Education	Medium Education	High Education
Pay	0.0232 (0.0493)	0.153*** (0.0196)	0.121*** (0.0211)
Working Hours	0.0127 (0.0343)	-0.0173 (0.0149)	-0.00963 (0.0135)
Working Hours Mismatch	0.0284 (0.0457)	-0.0253** (0.00928)	-0.0325* (0.0190)
Work-Life Imbalance	-0.190*** (0.0240)	-0.104*** (0.0101)	-0.0898*** (0.0132)
Skills Match	0.0806 (0.0561)	0.0606*** (0.0106)	0.0181 (0.0111)
Job Security	0.107** (0.0429)	0.0776*** (0.0126)	0.0588*** (0.0126)
Difficulty, Stress, Danger	-0.0461 (0.0395)	-0.0955*** (0.0108)	-0.106*** (0.0202)
Opportunities for Advancement	0.0361 (0.0331)	0.0570*** (0.0153)	0.0731*** (0.0170)
Independence	0.0660 (0.0463)	0.0536*** (0.0115)	0.0486*** (0.0164)
Interesting Job	0.298*** (0.0588)	0.234*** (0.0257)	0.324*** (0.0316)
Interpersonal Relationships	0.254*** (0.0657)	0.294*** (0.0141)	0.261*** (0.0201)
Usefulness	-0.0329 (0.0545)	0.0319*** (0.0110)	0.0625*** (0.0144)
Union Member	-0.0417 (0.0850)	-0.0103 (0.00975)	0.00143 (0.0110)
Age	0.0333 (0.261)	-0.138** (0.0610)	-0.0716 (0.0888)
Age Squared	0.0480 (0.249)	0.171** (0.0638)	0.0916 (0.0938)
Female	-0.0579 (0.0550)	0.00752 (0.0115)	0.0103 (0.0125)
Partnered	0.00673 (0.0582)	0.0449*** (0.0131)	0.0230* (0.0132)
Separated	-0.0450 (0.0432)	0.0147 (0.00902)	0.0185* (0.0100)
Divorced	-0.0157 (0.0482)	0.0146** (0.00665)	0.00621 (0.0118)
Widowed	-0.00566 (0.0305)	0.00587 (0.00846)	0.0150 (0.0135)
Years of Education	-0.0621 (0.0590)	-0.0498*** (0.0130)	-0.0348*** (0.0127)
Number of Individuals in Household	-0.0320 (0.0530)	-0.00587 (0.0131)	-0.0230* (0.0126)
Number of Children in Household	0.0309 (0.0434)	0.00440 (0.0127)	0.00273 (0.0180)
Number of Toddlers in Household	0.0521 (0.0579)	-0.00559 (0.0117)	0.00728 (0.0150)
Constant	0.791** (0.350)	0.0212 (0.397)	-0.0144 (0.195)

Table W8 continued

Workplace Quality	Effect on Job Satisfaction		
	Low Education	Medium Education	High Education
Occupation Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes
Observations	941	9,537	5,821
Adjusted R-Squared	0.314	0.425	0.442

Robust standard errors clustered at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: All variables (both left-hand side and right-hand side) are standardized with mean zero and standard deviation one; regressors are thus beta coefficients. Squaring a regressor yields the respective share in the variation of job satisfaction that this regressor explains. *Pay*, *Working Hours Mismatch*, *Work-Life Imbalance*, *Skills Match*, *Difficulty*, *Stress*, *Danger*, *Independence*, *Interpersonal Relationships*, and *Usefulness* are principle components obtained from separate principle component analyses that condense various variables in the respective domain of workplace quality into a single indicator; see Section 4 for a description of the procedure and Table W11 in the Web Appendix for summary statistics of the variables. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero. *Low Education*: highest degree lower than secondary degree, *Medium Education*: highest degree secondary degree or vocational training, *High Education*: highest degree at least lower tertiary degree.

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Table W9: Average Job Satisfaction and Average Workplace Quality, by Region

	AU + NZ	CIS	EA	E	LAC	MENA	NA	SA	SEA	SSA
Job Satisfaction	-0,1188	-0,0528	-0,3898	0,0079	0,2699	0,1978	0,1125	0,0502	0,2262	-0,0691
Workplace Quality										
Pay	0,0469	0,5131	0,5827	-0,1864	0,0420	0,0570	0,3608	0,0925	0,0687	-0,2175
Working Hours	-0,3226	0,1493	0,1481	-0,0145	0,0932	-0,0763	-0,0212	0,0978	-0,0223	0,1354
Working Hours Mismatch	0,1262	-0,4410	0,1188	0,0279	-0,1648	0,0023	-0,1209	-0,3452	-0,1336	-0,5507
Work-Life Imbalance	0,0768	0,0013	0,0568	-0,0389	-0,0021	-0,1474	0,0664	0,3821	0,3276	0,1021
Skills Match	0,2783	-0,6393	-0,2268	0,1046	-0,2969	-0,1168	0,3462	-0,5009	-0,3772	-0,2001
Job Security	-0,1380	-0,0051	-0,1868	0,0021	0,0740	0,1414	0,1963	0,1974	0,1940	0,0146
Difficulty, Stress, Danger	0,0263	-0,0962	0,1314	-0,0139	-0,1928	-0,2949	0,4442	0,6059	0,3322	0,0658
Opportunities for Advancement	-0,0355	0,2047	-0,3084	-0,0598	0,2372	0,2177	0,3072	0,4015	0,5904	0,4213
Independence	0,0622	-0,5509	-0,0920	-0,0479	0,0102	0,1687	0,1430	0,3851	1,0541	-0,2453
Interesting Job	-0,0079	-0,1335	-0,5035	0,0634	0,0741	0,0673	0,1664	-0,4613	0,1549	-0,1434
Interpersonal Relationships	0,0731	-0,4100	-0,2245	0,0239	0,1098	0,2435	0,0416	-0,2775	-0,1109	0,1693
Usefulness	0,0458	-0,2235	-0,1656	-0,0361	0,1727	0,1422	0,3396	-0,2425	0,2147	-0,0260

Notes: All variables are standardized with mean zero and standard deviation one; negative values (marked in shades of red) indicate negative deviations from the average value of the variable across countries, positive values (marked in shades of green) positive deviations. Observations are weighted using country weights. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero. AU + NZ: Australia + New Zealand, CIS: Commonwealth of Independent States, EA: East Asia, E: Europe, LAC: Latin America and Caribbean, MENA: Middle East and North Africa, NA: North America, SA: South Asia, SEA: South-East Asia, SSA: Sub-Saharan Africa.

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Table W10: Average Job Satisfaction and Average Workplace Quality, Disaggregated, by Region

	AU + NZ	CIS	EA	E	LAC	MENA	NA	SA	SEA	SSA
Job Satisfaction	-0.1188	-0.0528	-0.3898	0.0079	0.2699	0.1978	0.1125	0.0502	0.2262	-0.0691
Workplace Quality										
Pay										
High Income	-0.0211	0.3951	-0.2020	-0.0341	0.0100	0.2882	0.0016	0.2340	0.4419	0.0660
Individual Income (Natural Log)	0.0678	0.3580	1.0677	-0.2534	0.0646	-0.1358	0.4904	-0.0899	-0.3507	-0.3231
Working Hours										
Working Hours (Natural Log)	-0.3226	0.1493	0.1481	-0.0145	0.0932	-0.0763	-0.0212	0.0978	-0.0223	0.1354
Working Hours Mismatch										
Wants to Work Same Hours	0.1627	-0.3300	-0.0142	0.0841	-0.4123	0.0123	0.0701	-0.2590	-0.2936	-0.4503
Wants to Work More Hours	-0.1728	0.4860	-0.0199	-0.0618	0.1636	0.0387	0.0981	0.3808	0.3691	0.6614
Wants to Work Less Hours	0.0212	-0.1922	0.1627	-0.0189	-0.0899	0.0423	-0.0878	-0.1501	0.1637	-0.1854
Work-Life Imbalance										
Working on Weekends	0.0455	-0.1851	0.3347	-0.0792	0.1093	-0.2606	0.1296	0.2328	0.4221	0.0685
Work Interfering With Family	0.3016	-0.2337	-0.2183	0.0150	-0.1286	-0.0809	0.1908	0.4872	0.1090	0.0517
Difficulty of Taking Time Off	-0.2802	0.5383	0.0643	-0.0232	0.0227	0.0831	-0.2570	0.0132	0.1211	0.1069
Skills Match										
Skills Match	0.2032	-0.3883	-0.2257	0.0848	-0.2645	-0.0169	0.2284	-0.4239	-0.3829	-0.2518
Skills Training	0.2063	-0.5247	-0.1103	0.0760	-0.1843	-0.1500	0.3068	-0.3587	-0.1740	-0.0558
Job Security	-0.1380	-0.0051	-0.1868	0.0021	0.0740	0.1414	0.1963	0.1974	0.1940	0.0146
Difficulty, Stress, Danger										
Hard Physical Work	-0.0265	-0.2031	0.1309	-0.0369	-0.0348	-0.2860	0.6011	0.6788	0.4902	0.2202
Stressful Work	0.0697	0.0562	0.0683	0.0165	-0.2623	-0.1693	0.0789	0.2398	0.0181	-0.1176
Opportunities for Advancement										
Opportunities for Advancement	-0.0355	0.2047	-0.3084	-0.0598	0.2372	0.2177	0.3072	0.4015	0.5904	0.4213
Independence										
Independent Work	0.2337	-0.4169	-0.4156	0.0688	-0.0590	0.0113	0.2453	-0.2613	0.2347	-0.1349
Working From Home	-0.0756	-0.1259	-0.0748	-0.1181	0.1305	0.2148	-0.0100	0.9287	1.2560	0.1375
Daily Work Flexible	0.1280	-0.1832	-0.0541	0.0928	-0.3405	-0.1104	0.0991	-0.3108	-0.2932	-0.4651
Daily Work Fixed	-0.1179	0.6073	-0.0106	-0.0264	0.2011	0.1123	-0.2818	-0.0415	-0.3789	0.5060
Daily Work Free	-0.0098	-0.3662	-0.0104	-0.0662	0.1391	0.0192	0.2197	0.3151	0.7520	0.0176
Working Hours Flexible	0.2356	-0.2920	-0.2064	0.0782	-0.2497	0.0756	0.1472	-0.2896	-0.0920	-0.3727
Working Hours Fixed	-0.1261	0.4643	0.0231	-0.0100	0.1291	-0.1873	-0.0303	0.0025	-0.4687	0.4268
Working Hours Free	-0.1162	-0.2496	0.1144	-0.0733	0.1088	0.1713	-0.1161	0.3999	0.8420	-0.0862
Working Schedule Flexible	-0.0762	0.1464	-0.1103	-0.0068	0.0382	0.2062	0.0432	-0.0077	0.3422	-0.0291
Working Schedule Fixed	0.1070	0.0187	0.0837	0.0138	-0.0681	-0.2497	0.1336	-0.2133	-0.5071	-0.0051

Table W10 continued

	AU + NZ	CIS	EA	E	LAC	MENA	NA	SA	SEA	SSA
Working Schedule Free	-0.0519	-0.0388	-0.1137	-0.0183	0.0831	0.0313	-0.0478	0.2587	0.4254	0.1158
Interesting Job										
Interesting Job	-0.0079	-0.1335	-0.5035	0.0634	0.0741	0.0673	0.1664	-0.4613	0.1549	-0.1434
Interpersonal Relationships										
Contact With Other People	0.1540	-0.3919	-0.1674	0.0595	0.0173	-0.0536	0.2553	-0.8281	-0.1678	-0.3284
Relationship With Management	0.0060	-0.2032	-0.1031	-0.0311	0.1460	0.2665	0.0532	0.0987	0.0913	0.2633
Relationship With Co-Workers	0.0580	-0.3813	-0.2724	0.0525	0.0583	0.2435	-0.0844	-0.2394	-0.2224	0.2284
Usefulness										
Helping Other People	0.1575	-0.3394	-0.1683	-0.0384	0.1419	0.2406	0.4172	-0.2626	0.2819	-0.0508
Being Useful to Society	-0.0672	-0.0692	-0.1257	-0.0231	0.1671	0.0137	0.1882	-0.1840	0.1030	0.0061

Notes: All variables are standardized with mean zero and standard deviation one; negative values (marked in shades of red) indicate negative deviations from the average value of the variable across countries, positive values (marked in shades of green) positive deviations. Observations are weighted using country weights. The sample is restricted to all individuals who state that they are working and who report working hours greater than zero. AU + NZ: Australia + New Zealand, CIS: Commonwealth of Independent States, EA: East Asia, E: Europe, LAC: Latin America and Caribbean, MENA: Middle East and North Africa, NA: North America, SA: South Asia, SEA: South-East Asia, SSA: Sub-Saharan Africa.

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Table W11: Summary Statistics of Variables in Section 4

Variable	Mean	Standard Deviation	Minimum	Maximum	Number of Observations	Remarks
Outcome						
Job Satisfaction	5.314	1.167	1	7	27,732	"How satisfied are you in your main job?" (1/8)
Controls						
Age	43.225	12.897	15	95	27,732	-
Female	0.491	0.500	0	1	27,732	-
Partnered	0.584	0.493	0	1	27,732	-
Separated	0.020	0.139	0	1	27,732	-
Divorced	0.088	0.284	0	1	27,732	-
Widowed	0.025	0.157	0	1	27,732	-
Years of Education	13.315	3.943	0	58	27,732	-
Number of Individuals in Household	3.234	1.735	1	25	27,732	-
Number of Children in Household	0.562	0.913	0	17	27,732	Number of children between school age and 17 years of age
Number of Toddlers in Household	0.273	0.604	0	6	27,732	-
Union Member	0.237	0.426	0	1	27,732	-
Workplace Quality						
Pay						
High Income	2.822	1.101	1	5	27,732	"[...] how much [do] you agree or disagree that [...] your income is high?": (1) "Strongly disagree" to (5) "Strongly agree", =4+5
Individual Income (Natural Log)	9.214	2.389	2	18	27,732	-
Working Hours						
Working Hours (Natural Log)	3.636	0.452	0	5	27,732	-
Working Hours Mismatch						
Wants to Work More Hours	0.329	0.470	0	1	27,732	And earn more money
Wants to Work Same Hours	0.536	0.499	0	1	27,732	And earn the same money
Wants to Work Less Hours	0.063	0.244	0	1	27,732	And earn less money
Work-Life Imbalance						
Working on Weekends	2.858	1.365	1	5	27,732	"[...] how often does your job involve working on weekends?": (1) "Never" to (5) "Always", =4+5
Work Interfering With Family	2.344	1.102	1	5	27,732	"[...] how often do you work at home during your usual working hours?": (1) "Never" to (5) "Always", =4+5
Difficulty of Taking Time Off	2.250	1.064	1	4	27,732	"How difficult would it be for you to take an hour or two off during working hours [...]?" (1) "Not at all difficult" to (4) "Very difficult", =3+4
Skills Match						
Skills Match	2.800	1.016	1	4	27,732	"How much of your past work experience and/or job skills can you make use of in your present job?" (1) "Almost none" to (4) "Almost all", =3+4
Skills Training	0.434	0.496	0	1	27,732	"Over the past 12 months, have you had any training to improve your job skills either at the workplace or somewhere else?" (0) "No" and (1) "Yes", =1

Table W11 continued

Job Security						
Job Security	3.776	1.105	1	5	27,732	"[...] how much [do] you agree or disagree that [...] your] job is secure?": (1) "Strongly disagree" to (5) "Strongly agree", =4+5
Difficulty, Stress, Danger						
Hard Physical Work	2.698	1.335	1	5	27,732	"How often do you have to do hard physical work?": (1) "Never" to (5) "Always", =4+5
Stressful Work	3.176	1.069	1	5	27,732	"How often do you find your work stressful?": (1) "Never" to (5) "Always", =4+5
Opportunities for Advancement						
Opportunities for Advancement	2.776	1.137	1	5	27,732	"[...] how much [do] you agree or disagree that [...] your] opportunities for advancement are high?": (1) "Strongly disagree" to (5) "Strongly agree", =4+5
Independence						
Independent Work	3.815	1.097	1	5	27,732	"[...] how much [do] you agree or disagree that [...] you] can work independently?": (1) "Strongly disagree" to (5) "Strongly agree", =4+5
Working From Home	1.990	1.290	1	5	27,732	"[...] how often do you work at home during your usual working hours?": (1) "Never" to (5) "Always", =4+5
Daily Work Fixed	0.264	0.441	0	1	27,732	"I am not free to decide how my daily work is organized.": (1) "Yes" and (0) "No"
Daily Work Flexible	0.426	0.494	0	1	27,732	"I can decide how my daily work is organized, with certain limits.": (1) "Yes" and (0) "No"
Daily Work Free	0.280	0.449	0	1	27,732	"I am free to decide how my daily work is organized.": (1) "Yes" and (0) "No"
Working Hours Fixed	0.514	0.500	0	1	27,732	"Starting and finishing times are decided by my employer and I cannot change them on my own.": (1) "Yes" and (0) "No"
Working Hours Flexible	0.326	0.469	0	1	27,732	"I can decide the time I start and finish work, with certain limits.": (1) "Yes" and (0) "No"
Working Hours Free	0.143	0.350	0	1	27,732	"I am entirely free to decide when I start and finish work.": (1) "Yes" and (0) "No"
Working Schedule Fixed	0.692	0.462	0	1	27,732	"I have a regular schedule or shift (daytime, evening, or night).": (1) "Yes" and (0) "No"
Working Schedule Flexible	0.153	0.360	0	1	27,732	"I have a schedule or shift which regularly changes (for example, from days to evening or to nights).": (1) "Yes" and (0) "No"
Working Schedule Free	0.079	0.270	0	1	27,732	"I have a schedule where daily working times are decided at short notice by my employer.": (1) "Yes" and (0) "No"
Interestingness						
Interesting Job	3.834	1.000	1	5	27,732	"[...] how much [do] you agree or disagree that [...] your] job is interesting?": (1) "Strongly disagree" to (5) "Strongly agree", =4+5
Interpersonal Relationships						
Contact With Other People	4.233	0.852	1	5	27,732	"[...] how much [do] you agree or disagree that [...] in your job, you] have personal contact with other people?": (1) "Strongly disagree" to (5) "Strongly agree", =4+5

Table W11 continued

Relationship With Management	3.910	0.902	1	5	27,732	"[...] how would you describe relations at your workplace between management and employees?": (1) "Very bad" to (5) "Very good", =4+5
Relationship With Co-Workers	4.187	0.757	1	5	27,732	"[...] how would you describe relations at your workplace between workmates/colleagues?": (1) "Very bad" to (5) "Very good", =4+5
Usefulness						
Helping Other People	3.884	1.003	1	5	27,732	"[...] how much [do] you agree or disagree that [..., in your job, you] can help other people?": (1) "Strongly disagree" to (5) "Strongly agree", =4+5
Being Useful to Society	3.947	0.947	1	5	27,732	"[...] how much [do] you agree or disagree that [... your] job is useful to society?": (1) "Strongly disagree" to (5) "Strongly agree", =4+5

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Table W12: List of Countries Covered in Section 4

Australia & NZ
Australia
New Zealand
CIS
Russian Federation
East Asia
China
Japan
Taiwan
Europe
Austria
Belgium
Croatia
Czech Republic
Denmark
Estonia
Finland
France
Georgia
Germany
Great Britain
Hungary
Iceland
Latvia
Lithuania
Norway
Poland
Slovakia
Slovenia
Spain
Sweden
Switzerland
Latin America & Carib
Chile
Mexico
Suriname
Venezuela
Northern America
United States
South Asia
India
Southeast Asia
Philippines
Sub-Saharan Africa
South Africa

Source: International Social Survey Program, Module on Work Orientations, Year 2015

Chapter 6

Social Well-Being: Research and Policy Recommendations

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Executive Summary

“What is the recipe for well-being, sometimes popularly referred to as “happiness”? The last few decades have seen dramatic increases in research attention to this topic, and the results point to some clear conclusions. Although there are many factors that influence emotional and psychological well-being, high quality social relationships emerge time and again as particularly important. The people highest in well-being are those who enjoy the benefits of robust social connections such as trust and social support. Conversely, those who are lonely, or are otherwise estranged in their relationships, report lower levels of well-being.

Social connectedness is known to benefit health in a major way that surpasses the benefits of other known public health factors such as exercise, avoiding obesity, and not smoking. Conversely, negative social relationships are the source of major societal ills. Because policy makers have a specific interest in creating socially cohesive communities, we explain why well-being in general—and social well-being specifically—should be a primary concern of policy makers and leaders. Although policy makers often think of personal relationships as strictly personal affairs that fall outside the policy domain, in fact government programs and policies can have a large impact on this sphere of life. In this paper, we address a number of policy relevant areas that can potentially enhance collective well-being. These include 1) urban design and zoning that can promote social inclusion and happy neighborhoods; 2) policies aimed at reducing public and private corruption and improving transparency; and 3) supporting healthy family relationships, for example through the prevention and treatment of family-related violence.

We conclude by making a number of policy recommendations that span the range of national, regional, and municipal governments. We stress the importance of using well-being measurement to serve as a guide for locally appropriate policy making and as a metric of success.

Introduction

Social Relations as a Key Driver of Well-Being

Over the last four decades, research on well-being has grown exponentially. There are now tens of thousands of published academic papers reporting the results of investigations of employment, income, and other factors that potentially influence well-being. It is natural to be curious about these findings because they hint at an answer to one of life’s most tantalizing questions: What is the secret to “happiness”?

Although there are many factors that influence well-being, one factor emerges again and again as a particularly strong influence. The “secret” to “happiness”—such that there is one—may be high quality social relationships. Humans are fundamentally social animals. We live together in romantic relationships, family groups, neighborhoods, and communities. Our relationships can be a source of support, a source of identity, and a source of fun.

The research case for the importance of quality relationships is strong. For example, Diener and Seligman (2002) examined the qualities that differentiate the happiest and less happy people. They discovered that it was not gender, or socio-economic status, but close friends that distinguished these two groups. Similarly, in a study of social support in Iran, Jordan, and the United States, Brannan and colleagues (2013) found that social support from friends and family members was linked to satisfaction and positive moods. Baumeister and Leary (1995) review the extensive evidence showing that humans have an innate and deep-seated need to form strong social bonds with others, and the absence of such bonds has deleterious consequences for health and well-being. Thus, it is not surprising that Helliwell, Huang, and Wang (2017) report that the influence of societal social strengths exceeds the influence of the combined effects of societal life expectancy and moving in income from the lowest to average GDP per capita!

It is not just *receiving* support but also *giving* support that can boost well-being. In a study using a sample of a quarter million people from 136 countries, Aknin and Dunn (2013) found that spending money on others paid back dividends. Of note, spending on others was associated with greater levels of well-being than comparable purchases spent on oneself.

Holt-Lunstad and colleagues (2017), as well as Tay, Tan, Diener, and Gonzalez (2013), review the evidence that indicates that having strong social connections is a positive influence on health. Conversely, the absence of such interpersonal connections—as occurs in loneliness and isolation—is associated with poorer health and increased risk of mortality. Importantly, Holt-Lunstad and her colleagues report that social isolation presents a greater risk of mortality than do other known risk factors such as smoking, excessive alcohol consumption, obesity, and lack of physical activity. Similarly, Kowachi and colleagues (2011) found that both group membership and social trust were associated with lower total mortality (for example from coronary artery disease). In another study, loneliness was a significant predictor of poorer health in Finland, Poland, and Spain, even after controlling for age and depression (Rico-Uribe, et al, 2016). Let us underscore these findings: Social connections are more important to health than are other public health factors that receive clinical attention. Social isolation is a substantial threat to health and, at the same time, is very common. Therefore, increasing the strength of social connections is likely one of the major ways that health can be improved in modern societies!

Taken together, these studies point to a conclusion that social connectedness should be a major concern to policy makers. Whether working at the national, regional, or municipal government levels, policy makers have a specific interest in the quality of social connection among the people whom they serve. The ideal society—regardless of cultural norms—is one in which people can empathize with the less fortunate, trust one another, offer support in times of need, participate together in enjoyable leisure, cooperate on complex projects, and work effectively through conflict. Policies that support trust, cooperation, reconciliation, and other positive ways to relate to one another are a pillar of good governance and flourishing societies.

Unfortunately, in modern times, there are many common impediments to social connectedness. Rates of social isolation and feelings of loneliness are on the rise (Putnam, 1995; Cacioppo, Hughes, Waite, Hawkey & Thisted, 2006). In a sample from the United Kingdom 6% of respondents said they feel lonely all of the time and 21% reported feeling lonely at times (Victor & Yang,

2012). This is ironic in an age where digital technologies potentially allow for greater and more convenient connections. In fact, researchers have identified patterns of technology use that appear to be associated with social withdrawal and loneliness (Nowland, Necka & Cacioppo, 2017). Time-use data in the USA indicates that over half of people's meals are eaten alone, that people spend very little time at social events, and they spend less time socializing each day than watching television or grooming.

In the United States, a study by the Association for Retired People (Edmondson, 2010) reveals that 41% of adults in their fifties report being chronically lonely. Further, a meta-analysis by Holt-Lundstad and colleagues (2015) calculated a 26% increase in the likelihood of mortality for people who suffer loneliness. Holt-Lundstad and her colleagues (2017) suggest that modern societies are plagued with a set of problems in the social realm, and this is especially true in Western nations in which people are more likely to live alone. For example, they report that in the USA 40% of marriages end in divorce, one-third of current marriages are severely distressed, over one-quarter of people live alone, and a substantial number of elderly people report feeling lonely.

It might be tempting to treat loneliness solely as an individual phenomenon. After all, it appears to happen within a person, like depression or anger. If loneliness is an individual problem, then it is reasonable to look for individual solutions such as counseling. However, we must widen our understanding of loneliness to appreciate the social and situational factors involved (Rook, 1984). Loneliness can emerge, for example, from physical isolation. This expanded understanding opens the door to a wide range of policies, including programs that allow for citizens to meet, interact, and contribute.

Clearly, it is not only feelings of social isolation that interfere with citizen well-being. Other common social ills that can erode well-being are shown in Table 1. In addition to loneliness, lack of trust and lack of security can be particularly toxic to well-being. Policies often focus first on the economy, and then on removing problems such as crime. However, we suggest that because people are inherently social, and need social contact and support as much as material goods,

Table 1. Social Aids and Obstacles to High Well-Being

Social Theme	Example of Aids	Examples of Obstacles
1. Connection	Social and economic empowerment, civic clubs, hobby groups, sports, volunteerism, strong families, religious involvement	Loneliness, prejudice, disenfranchisement, spousal abuse, child abuse, unhappy marriages
2. Trust	Institutional transparency, public involvement in decisions, volunteerism	Corruption, nepotism, cronyism, cheating
3. Safety	Disaster services, community policing, effective emergency services, safe driving laws and enforcement, neighborhood watch groups	Crime, violence, failing infrastructure

social policies take on an importance matching the economic agenda.

We do not mean to suggest that the world is in dire psychological shape. Indeed, a wide range of research suggests that people—even people in economically developing nations—enjoy moderate levels of well-being (Diener & Diener, 1996; Biswas-Diener, Diener & Lyubchik, 2015). It should also be noted that studies of widespread well-being are based on statistical averages, and their findings mask the fact that even happy societies include many who are suffering and need help. Mild life satisfaction—even if it is widespread—should not equal complacency on the behalf of policy makers. There is always the opportunity for people to improve the quality of their lives, and especially to help people experience more fulfillment.

Policies That Promote Social Connections

Our review of some of the key influences and obstacles of social well-being suggests a two-part solution to addressing well-being at the societal level. First, it makes sense to invest in policies and programs that promote greater well-being and satisfaction. These range from deliberate interventions to build well-being to the development of green spaces, to opportunities for neighbors and communities to interact and contribute. On the other hand, it is equally important to address well-being by intervening in the forces that erode trust, connection, and safety. These policies include those aimed at

domestic violence, corruption, and injustice. In this paper, we will discuss both approaches. We will review research and present policy case studies to illustrate major ways to strengthen social bonds:

- 1) Social Support by Neighborhood Building and Urban Development
- 2) Public Trust and Anti-Corruption
- 3) Strengthening Close Relationships

It is important to note that both strong ties, such as those with family members in the same household, and weak ties, such as interactions with strangers, can enhance well-being. Research shows that interactions with strangers and mere acquaintances can enhance people's well-being (Epley & Schroeder, 2014; Sandstrom & Dunn, 2014). On the other hand, strong ties such as having people to count on in an emergency are a major influence on differences in well-being among nations (World Happiness Report, 2017). Thus, our policy proposals are aimed at improving both strong and weak social ties.

With regards to urban development, we take a broad view that housing policy, as well as zoning and neighborhood programs are instrumental in creating positive social connections. Our discussion of public trust focuses on promoting institutional trust by reducing nepotism and corruption and by promoting greater transparency. Finally, we discuss healthy families with special attention to effective parenting and the prevention of domestic violence. We do not review one very important

source of social relationships, and that is in the workplace, as this area is covered in another chapter in this volume.

We have kept our discussion and conclusions relatively broad. We appreciate that readers will represent governance and policy makers at all levels—national, district, municipal, and neighborhood—and we hope our recommendations find application across multiple contexts. We also appreciate the challenges in making recommendation for policies that will be enacted in a variety of societal and economic conditions, with local culture influences. Our recommendations need to be carefully considered—and varied—based on local norms and needs.

Readers are referred to other sources of information on evidence about policies for social well-being:

Report of the Task Force on Urban Psychology

Scoping Review: Social Relations by the What Works Centre for Wellbeing

J-F Kelly, Social Cities, supported by the Grattan Institute

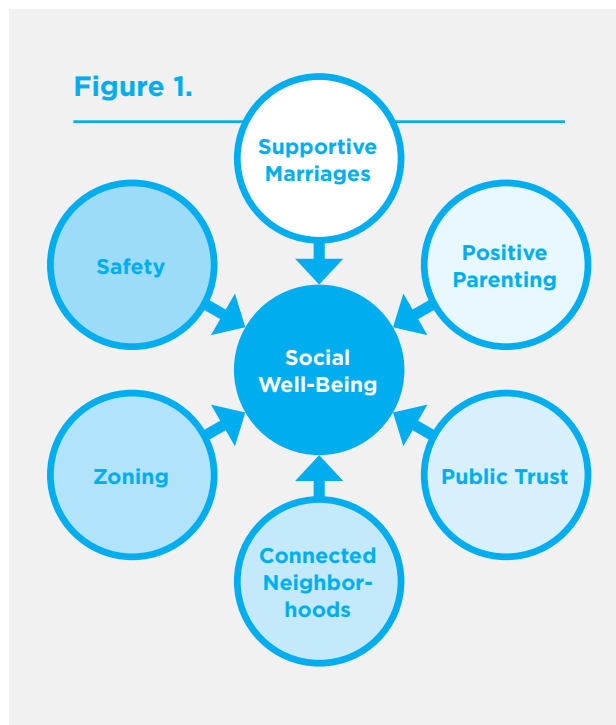
Hothi et al., Neighbourliness + Empowerment = Wellbeing: Is there a formula for happy communities?

Buettner, Nelson, & Veenhoven. Ways to greater happiness: A Delphi study.

Building a Positive Agenda

Often policies focus on preventing or decreasing undesirable behavior, such as imprisoning criminals so that they cannot commit further offenses. Such policies are sometimes necessary. We would, however, like to point to the importance and effectiveness of a positive agenda in which positive programs may mean that the problem behaviors do not occur in the first place. For example, when people have deep social connections and are trying to help one another, they are less likely to commit crimes against one another. When those in power are fully committed to helping citizens, they are less likely to use their

positions to unfairly profit themselves. In Figure 1 below, we illustrate the factors that can promote social relationships and reduce or prevent social pathologies in societies. Note that many of the factors are positive ones—strong families, connected communities, and trust. Each of these positive social factors produces rewarding relationships, but simultaneously helps reduce the frequency of negative ones.



Part Two: Cities and Neighborhoods That Promote Social Connections

Community connections are a strong determinant of well-being, and can help societies prosper economically and environmentally (Conway, Boniwell, & Metz, 2017). One approach to building strong communities is urban planning, which has a long and rich history. The physical layout of the world's great metropolises points to historic shifts in technology, values, and priorities. Religious and government buildings, for example, are often the tallest or largest structures. Similarly, city centers are typically the most developed and densely populated. Newer cities have been designed with automobile travel in mind. In modern times, local authorities around the globe have had to wrestle with zoning. In theory, the goal of zoning ordinances is to improve quality of life by ensuring that industry, waste disposal,

and similar facilities are kept separate from residential districts. At its best, land-use and building zoning regulations can promote healthy communities.

It is widely understood that the social capital and social cohesion in a community can have a substantial impact on life satisfaction (Cramm, van Dijk, & Nieboer, 2012; Maass, Kloeckner, Lindstrøm, & Lillefjell, 2016). In this section, we will review aspects of the urban environment as they relate to well-being. Although an exhaustive discussion of every facet of city life is beyond the scope of this paper, we have chosen topics that A) are directly relevant to the lives of most or all people living in communities, and B) have been the subject of research scrutiny. These topics include:

- Zoning, commuting, and connected neighborhoods
- Socially connected neighborhoods through activities
- Parks and green spaces
- Housing

In this section, we also include case studies that illustrate the diversity and efficacy of a variety of community well-being programs. These case studies represent a wide range of community “interventions” and are geographically diverse. We use them as an opportunity to discuss policy recommendations in the applied context.

Some of discussion overlaps with those presented in the chapter, *Smart Technology for Happy Cities* (Bin Bashir et al, this volume). Indeed, both chapters are broadly concerned with “livability” and both address the importance of urban planning in general, and the role of green spaces specifically. Interested readers are referred to that chapter for additional coverage of economic and social policy as they relate to the creation of happy cities.

Zoning, Commuting, and Connected Neighborhoods

Most people commute to work, and many must also drive to get to markets and entertainment. Thus, cities around the world are filled with people spending a huge amount of time in transportation, often alone. Not only has this led to traffic congestion and air pollution, as well as wasted time, but it means that people do not

obtain the walking exercise that characterized earlier times. As metropolitan areas have grown and as suburban living has become more popular, these commutes have lengthened. Unfortunately, commute time is deleterious to well-being. This is, in part, because longer commutes interfere with social connection. Putnam (1995) found that every ten additional minutes of daily commute time translates to 10 % fewer social connections. Alarming, a study in Australia found that a substantial percentage of working parents spend more time commuting than they do with their children (Flood & Barbato, 2005). Research by Stutzer and Frey (2008) make a more direct connection between commuting and well-being. They used survey data from Germany and discovered that those in the highest quartile for commute times reported the lowest overall life satisfaction. A review of the literature on the effects of commuting on well-being can be found in Diener, Lucas, Schimmack, and Helliwell (2009).

Commute times are not simply the product of trends in the job market. Zoning and land use policy can be used to plan cities in a way that promotes lower commute times. This can be seen, for example, in mixed-use zoning where residences are created near shops and workplaces. People can walk to work, to shops, and to dine out—and thereby not increase the air pollution that vehicles produce, but also get exercise. Importantly, this type of mixed-use community also increases social connectedness.

Single-use zoning—as opposed to mixed-use zoning—developed in modern cities to allow one type of structure in each geographical region. The goal was to improve residential quality of life by insuring that the places where people live were unsullied by commercial and manufacturing activities. Single-use zoning has become a distinguishing feature of modern urban growth in many nations. The establishment of residential-only districts in cities led to an increase in single family dwellings located far from the urban center, and in different areas from workplaces, which in turn were often separated from restaurants and shops. This, in turn, has led to increased commute times to work, shopping, and entertainment. Neighbors see less of one another and have fewer spontaneous opportunities to interact.

Zoning laws that allow residences, shops, and workplaces to be in walkable distance of each other promote social connections and at the same time help the environment and quality of life by reducing commuting in vehicles.

Mixed-use zoning can promote not only less commuting by vehicles and more commuting by walking, it also aids social connectedness. People simply interact more when they shop and work near where they live. In addition to increased physical exercise and social connectedness, mixed-use zoning provides larger potential for commercial and cultural opportunities (Jackson, 2003). We recommend that policy makers, where appropriate, attend to reversing the negative consequences that single-use zoning sometimes produces. This includes creating mixed-use districts that allow proximity of residences and business (especially those related to food, entertainment, and shopping). One impediment to multi-use zoning can be property and sales tax policies, which allow greater revenue to be had by municipalities if they adopt single-use planning. For instance, a city might adopt single use zoning to attract large stores or workplaces. When possible, such policies should be reduced or balanced by governments at higher levels, so that there are not undue incentives for single-use zoning.

In addition to mixed-use zoning, we believe a focus on neighborhood level policy is important to well-being. Like people, neighborhoods have unique identities. Also like people, neighborhoods differ in their levels of health. The most vibrant neighborhoods are those that are clean, safe, and in which the residents are engaged with one another and with projects that support the collective good. These neighborhoods often boast events such as community art days, community clean-up days, and community parties or shared meals. Of course, the “feel” of neighborhoods will be informed by myriad cultural and social factors.

One neighborhood might erect a screen for public viewing of World Cup football matches,

while another neighborhood might be organized around a community garden. Urban design for neighborhoods seems especially likely to promote well-being if residents are able to participate in the choice and implementation of design ideas. At minimum, these would mean participation of citizens in decisions at multiple levels of government (neighborhood, municipal, and state). Note too that because many neighborhood activities are based on the voluntary participation of residents, the costs to government are often low or virtually nonexistent.



Micro-libraries: Book Exchange Boxes Where People Can Pass Along Books to Others.

An example of positive resident participation at the local level can be found in Neighborhood Watch programs, in which citizens agree to jointly patrol neighborhoods and watch for suspicious behavior to make the area uninviting for criminals. Bennett and colleagues (2006) reviewed multiple studies and found that these programs do, in fact, lower crime. However, we want to point out that joint activities such as these can also help citizens to feel good about their neighbors and make connections with them. There is also evidence that people in neighborhoods with more social cohesion, in which people are willing to help one another, feel less threat of crime (see also De Jesus, Puleo, Shelton, & Emmons, 2010; Ross & Jang, 2000).

Another example—similar to neighborhood watch groups—that can promote well-being at the neighborhood level is “walking groups.” Evidence on the benefits of walking groups shows that people enjoy them and are therefore more likely to stick with the exercise regimen, as well as experience better health (Hanson & Jones, 2015). They found that people engaged in walking groups experienced decreased blood pressure, body fat, and total cholesterol. There were also increases in lung power and fitness. The social nature of the exercise led to much greater adherence (three quarters of the participants) to the exercise than is often the case. Another government activity that can spur walking is described in the Happy Cities in a Smart World chapter (Bin-Bishr, 2018, see the chapter in this volume), where cities design policies to reduce traffic flow and spur more walking. One small concrete step is to produce walking maps that show routes and distances between various points.

Governments can enact a number of programs and policies to promote social connections in neighborhoods. They can make information widely available to municipal managers about community-building programs. They can provide funding for website creation for community networks. Governments can promote neighborhood activities through public service campaigns in the media and with small funding opportunities to support community activities. For instance, a public service campaign can be used to encourage walking groups for exercise and socializing (Buettner, 2008). Local governments can also provide meeting spaces for children’s groups, family activities, and community meeting points (Conway et al., 2017). In order to increase citizens’ use of public spaces governments can streamline the process of getting permits for events (see the Happy Cities in a Smart World Chapter). Obtaining permits often serves as impediment to neighborhood activities in parks and closed streets, and these impediments can be greatly reduced for block parties and similar neighborhood and community activities.

Ultimately, policy makers should consider a variety of measures related to aesthetics, safety/trust, and community engagement. See the Box 1. for a list of urban planning considerations and community activities that are linked to higher well-being through greater social connectedness. For example, Mehta (2007)

found that public seating, wide sidewalks, and other features add to the social interactions in a neighborhood.

Box 1.

Urban Design

Reduce traffic flow and driving speed in neighborhoods

Create public parks and green spaces

Mixed-use zoning, where appropriate

Create bike lanes and footpaths

Neighborhood Resources And Activities

Library branches, micro-libraries, and book sharing

Hobby and shared interest groups

Picnics, block parties, and public celebrations

Street fairs

Neighborhood watch programs

Community garden plots

Community newsletters and on-line resources

Volunteer days (e.g., neighborhood clean-up)

Walking groups

Neighborhood clean-up and beautification days

Neighborhood websites & newsletters

Street lights, outdoor seating spaces, wide sidewalks, traffic barriers, shaded areas, and other attractive neighborhood features

Case Study: Omaha (USA)

Walking is, arguably, the most “natural” form of transportation. Although it is slower than travel by automobile, the physical activity of walking is related to improved health, environmental appreciation, and social interactions. Studies reveal, for example:

- Walking is associated with better heart health and blood pressure (Hanson & Jones, 2015)
- Walking in urban environments is related to higher well-being, and this is especially true of active, social environments (Ettema & Smajic, 2013)

- So-called “active commuting” (walking and cycling) is associated with higher rates of well-being. People who commute by car are 13% more likely to report being under “constant strain.” (Martin, Goryakin, & Suhrcke, 2014).

It was with these potential benefits in mind that policy makers in Omaha, Nebraska (USA) undertook a program to make their city more walkable. Omaha is the 58th largest city in the United States, with an urban population of approximately half a million people and a metropolitan area population of about three quarters of a million people.

In 2010, the local city council voted to prioritize development that allowed for alternatives to automobiles. Stakeholders interested in making the city more walkable convened conferences, a long-term plan, and emphasized the economic, health, social, and aesthetic benefits of the proposed changes. The county health department conducted a review of the scientific literature and subsequently disseminated a report arguing that the focus on walkability is supported by research. In 2012, the city council voted to create mixed-use zones with walking paths and other pedestrian friendly features. They adopted the “20-minute city” framework used in Portland, Melbourne, and other cities. This concept refers to the ideal of creating urban environments in which work, parks, shopping, and entertainment are located within a 20-minute walk of residences. In 2014, the city executed a re-development of one neighborhood. The central aim of this plan was to change a longtime one-way street to allow for two-way traffic flow. It is interesting to note that this funding was only partially provided by the government, with the remainder contributed by private donors and local business organizations. The chief consultant on the project was also invested in narrowing the width of existing streets in the area. Narrow streets are associated with lower speed limits and fewer accidents, allowing for greater pedestrian traffic. Currently, *Walk Score*—a private organization that provides data-based ratings of transit and walkability—ranks Omaha 41st among US cities for bicycle and walking friendliness. Its walkability score is 45 (out of 100, indicating car-dependency). By contrast, the redesigned Blackstone neighborhood, the target of the development effort, has a Walk Score of 77, indicating that it is

very walkable, and that most errands can be accomplished by foot.

By conducting preliminary studies and by rolling out a vision for desirable community development the City of Omaha has created a test case that can inform future development. To this end, we recommend that other municipalities considering similar development also include before and after measures of well-being. These may be as simple as multi-item satisfaction measures, not unlike those commonly used in customer and government surveys. The addition of these measures can help policy makers measure the social and psychological impact of their efforts.

Parks and Green Spaces

The development of public parks and other green spaces is an important policy opportunity. These spaces act as environmental zones and wildlife habitats, serve as community recreation spaces, and add a desirable aesthetic to cities. Public parks are also associated with well-being. In an analysis of 44 cities in the United States, for instance, Larson and colleagues (2016) discovered that the percent of city land covered by parks is positively associated with physical well-being, community well-being, and even financial well-being. However, green spaces go beyond parks, and include greenery along avenues, plants within buildings, and rooftop gardens and so forth. Attractive architecture can serve much the same function.

A growing research literature suggests that exposure to natural environments can be physically and psychologically beneficial. These include studies that show:

- Percent greenspace in an area is a significant predictor of reported health (Maas, Verheij, Groenewegen, De Vries, & Spreeuwenberg, 2006).
- Views of a natural setting are associated with faster recovery times from surgery (Ulrich, 1984)
- Scenic areas promote social interactions (Huang, 2006)
- People living in greener urban areas show, controlling for other factors such as crime, income, housing type and employment, less mental distress and higher life satisfaction.
- Residents of apartments with a natural view are more likely to interact with neighbors (Kuo & Sullivan, 2001 a and b)

- Prisoners with a view of rolling farmland made fewer medical visits than did those without a natural view (Moore, 1981)
- Dental patients report less anxiety and have lower blood pressure when they are exposed to a mural of a natural scene in the waiting room (Heerwagen, 1990)
- Proximity to green space predicts health, even after controlling for age and SES (Maas, Verheij, Groenewegen, De Vries & Spreeuwenberg, 2006)
- Proximity to green space can boost property values (Daams, Sijtsma, & van der Vlist, 2016)
- Natural landscapes are associated with better health (Menatti & Rocha, 2016)

Given the diversity of research methods and locations, the consistent finding that green and other public spaces promote well-being is compelling. Although the development of parks and similar public spaces needs to be considered in the context of budget, safety, and land use policy, it would be a mistake to overlook the associated health, social and individual wellbeing benefits. Furthermore, zoning laws that require greenery along avenues and other small parks that can be used for relaxing and meeting are also improvements to consider.

Case Study: Manchester Northern Quarter (United Kingdom)

With a metropolitan population of nearly two million, Manchester is the third largest city in England. The city is well known as the birthplace of a number of popular bands and as the home of two famous football clubs (Manchester United and Manchester City). In 2008-2010, Manchester was affected by the economic recession. Although the city has since rebounded economically, research indicates that only 19% of the population of the United Kingdom are “flourishing,” and several studies indicated that Manchester’s well-being may be lower than that of the United Kingdom as a whole (Public Health England, 2013).

In an ambitious urban design intervention carried out in 2011 and 2012, researchers used a quasi-experimental design to determine the well-being impact of neighborhood development (Anderson, Ruggeri, Steemers, & Huppert, 2017). To begin, they identified the Northern Quarter of Manchester

as the location for their intervention. According to the researchers, the Northern Quarter is “one of the most vibrant and historically rich areas of Manchester. Today, the Northern Quarter is known for independent stores, creative industries, entertainment venues, cafes, and bars” (p. 692).

The development project was initiated with the idea that there would be a mechanism for obtaining community input. Local residents attended a workshop in which they were able to give input about possible design options for the improvement of a public space adjacent to a multi-story parking structure. The options were chosen with attention to cost, urgency, and practicality (i.e., the likelihood that they would be approved by the Local Authority). The selected improvements included the addition of public seating (tables and benches), as well as a variety of new plantings. An artist was hired to create small murals at the base of each planter. In addition, Wi-Fi access was added to the area and it was cleaned. Finally, a small display of endangered native invertebrates was created along with relevant signs. The total cost of the improvements—at that time—was approximately \$20,000 US dollars.

The researchers focused on three separate facets of well-being as their primary outcome measures. These included 1) connection with other people (including strangers), 2) engaging in physical activity (e.g., ball games), and 3) taking notice (being aware of and appreciating one’s natural surroundings as in the case of noticing a bird). They collected two types of data—behavioral observation and self-reports—at two distinct times (before and after the re-design of the public space). To add to the sophistication of their design, the researchers also mirrored their data collection in a nearby public space that was, in many ways, comparable to the initial area where the intervention took place. Both were small public areas adjacent to roads in the shadow of a multi-story building to the North and lined with mature trees.

During the 42 days of data collection, the researchers collected 212 surveys and made nearly 23 thousand behavioral observations (approximately five thousand in both the experimental and control location before and after the re-design). Of all possible people who

Table 2. Percent Change in Well-Being in Two Public Spaces

	Control Space 2011-2012	Treatment Space 2011-2012
Percent change in connection	-48%	+230%
Percent change in activity	-50%	+23%
Percent change in taking notice	-47%	+648%

passed through these spaces, the researchers were particularly interested in those who were “engaged users”—that is, those who stayed longer than 3 minutes. First, the researchers found that the re-design on this public space led to a threefold increase in engaged users. Moreover, the findings of the study showed a dramatic increase in well-being compared to the control group (see the Table 2.). Not only did people linger in this area, but they were more active, took more notice of their surroundings, and felt more connected.

This case study is an interesting example of developing public spaces with community well-being in mind, and with input from the local community. The developers emphasized a number of considerations in their plan, including public art, sanitation, telecommunications, seating, and greenery. This intervention is an example of the relatively low cost involved in promoting the psychological benefits to a community while simultaneously considering the competing needs of public safety, sanitation, and beautification. It is important to collect data across time to determine the potential long-term benefits of these types of projects. It could be, for example, that the benefits last only as long as the area remains clean, safe, and appealing. Even so, this case study illustrates the way that community involvement can be harnessed for relatively low-cost developments that result in well-being.

Housing

Idioms such as “to feel at home” and to “strike close to home” are suggestive that housing is more than shelter; it is deeply connected to a person’s identity, psychology, and—ultimately—well-being. Around the world, policy makers are

faced with housing issues such as inadequate access to utilities, safety, overcrowding, and homelessness. To visualize how housing-related issues are associated with well-being, consider the relative levels of life satisfaction among various groups, presented in Table 3. Being without a home is clearly associated with very low levels of well-being.

Beyond the physical structure, social aspects of housing are important. In a large sample from Spain, Vera-Toscano and Ateca-Amestoy (2007) found that daily and weekly contact with neighbors was a significant predictor of housing satisfaction. Unfortunately, in many places, demographic and economic trends have served as an obstacle to social engagement. For instance, in Australia, a quarter of households consist of people living alone, and this is the fastest growing household type. People living alone are more likely to suffer loneliness, although

Table 3.

Group	Life Satisfaction (1-7)
Forbes Richest Americans	5.8
Inuit in Greenland	5.1
American University Students	4.7
NEUTRAL POINT	4.0
Homeless in Kolkata, India	3.2
Homeless in Fresno, USA	2.8

Source: Modified from Diener & Biswas-Diener, 2005

many do live alone and are not lonely. Certain groups, such as the elderly and single parents, can be at risk for social isolation. The costs of loneliness and other social pathologies can be high, whereas the costs associated with urban planning for social connectedness can be modest.

The architectural and social aspects of housing are intertwined. For example, Baum and Davis (1980) suggest that one method for reducing the stresses associated with high-density living is better housing design. In apartment buildings, where density is likely to be a factor, architects can create shorter corridors to be shared by fewer people. Similarly, architectural and public space features such as benches, garden trellises, and interactive art lead to higher evaluations of neighborhoods (Semenza & March, 2009). Similarly, designers who attend to noise reduction as part of their housing development plan may confer well-being benefits to residents (Guite, Clark, & Ackrill, 2006).

Since the problem of loneliness is widespread and many people in modern societies now live alone, alternative models of housing are being developed by groups and governments with creative new housing solutions. “Co-housing” is one possible solution. Co-housing exists in many forms ranging from students clustered together in dormitories to joint family homes in India to co-housing communities in Scandinavia, in which unrelated families share resources such as kitchens and gardening tools. Not only do these living arrangements reduce housing costs for the individual, but they also can also foster social support if they are designed carefully. In these situations it is important to balance privacy and safety for the individual with collective contribution and contact with others.

Case Study: TECHO (Chile)

An endemic problem throughout Latin America is sub-standard living conditions. This problem can most easily be observed in slum areas that grow in and around capitals and other large cities. Slums differ from one another in many ways, but are defined by their shared qualities: overcrowding, sub-standard sanitation, and inadequate access to basic services such as water and electricity. These areas can also be hotspots for many social ills, such as widespread

unemployment, street gangs, and drug-related crime. These settlements are often seen as a problem, despite their contribution to local economies and interactive communities. In fact, they can host socially vibrant communities, despite their lack of material sufficiency (Okyere, Diko, Hiraoka, & Kita 2017). Further, for rural migrants, these communities can serve as informal employment networks.

TECHO (which means “roof” in Spanish) is a non-governmental organization that provides pre-fabricated housing to residents of poverty-stricken slums. Although these improved dwellings do not have sewer hookups or similar modern conveniences, their construction is sturdy and represents an improvement over existing slum housing. In the 17 years since its founding in Chile, TECHO has expanded to 19 nations in Central and South America, and has provided nearly 100,000 homes to some of the world’s poorest citizens.

The homes, themselves, are constructed from wood or aluminum with sheet metal (tin) roofs to provide improved protection from heavy rains. The joints are fitted so that there is better protection from insects, and the homes are slightly elevated to protect from flooding or animal/insect infestations. These structures cost approximately \$1,000 US Dollars each and are constructed by organized groups of TECHO volunteers. Those receiving the dwelling contribute ten percent of the price of the home. TECHO houses are designed to be mobile in the event residents are relocated because of natural disaster, economic, or public safety concerns.

In 2017, Sebastian Galiani and his colleagues conducted an experimental study of the psychological impact of receiving TECHO homes. They collected before and after measures from more than 2,000 participants living in 23 distinct settlements in El Salvador, 39 in Mexico, and a dozen in Uruguay. Due to the lottery system involved with assigning TECHO homes, the researchers were able to compare those on a waiting list with those who received the improved housing. They discovered that people who received TECHO homes (relative to their counterparts who did not):

- Experienced a 20 to 200% increase in life satisfaction, depending on which country they lived in

- Were more satisfied with their housing quality, including floors, roofs, and protection against rain
- Were, in El Salvador, more likely to see their homes as secure, and to leave the house unattended or children unattended in the home (27% increase in feeling safe inside the home)

The TECHO case study is interesting precisely because of the rudimentary nature of the homes provided. The evidence reveals that even very basic improvements in home quality such as durable construction and waterproofing can directly translate into large gains in psychological well-being. It is also worth noting the social aspect involved with constructing these homes. The construction requires family investment and volunteer labor. Although these elements were not directly tested in the study reported above, it is possible that these houses also improve trust, social connection, feelings of mastery in the residents, and other dimensions of well-being. Again, we advocate the use of measurement to better understand the specific benefits of new policies and development programs. The TECHO project underscores the possibility that even small investments in improving housing quality can yield psychological rewards.

Meeting Groups

People can come together voluntarily and form groups that offer each other support and perform useful services. In the past, these groups might have been fraternal organizations, religious congregations, and volunteer agencies. For example, women's guilds have historically contributed to a wide range of community benefits such as supporting local children's hospitals. A modern example of this type of voluntary social organization in the United Kingdom is called *Action for Happiness* (Layard, 2016). Members of this group learn about well-being by engaging in a curriculum called "What Really Matters." Thereafter, they meet to discuss not only happiness, but also to share friendship and activities. The program is built on broad inclusiveness rather than demographic similarity, and borrows from findings in the behavioral sciences as well as from Eastern and Western wisdom traditions. Early findings indicate that the program can increase people's life satisfaction by 20% (Action for Happiness, 2016).

Government policies can assist in the creation and support of voluntary groups. For example, by making space available for meetings or offering relevant and appropriate tax exemptions. Importantly, government policies should not make such groups more difficult, as in the case of requiring a difficult and time-consuming approval process.

Part Three: Trust and Corruption

High quality social connections are integral to high well-being. Global comparisons of the happiest with the least happy people reveal that those with the highest well-being spend 1.5 times as many hours with their families, and are twice as likely to report being treated with respect or being able to count on others for help (Diener, Seligman, Choi & Oishi, in press). Because of this, trust is a key ingredient in the ability of people to share resources, give and receive support, and to take interpersonal risks. Interestingly, trust is a concept that can be applied to governments and institutions, as well as to individuals. In fact, Dolan and colleagues (2008) argue that trust in government boosts well-being. Similarly, Tyler (2006) argues that trust in the equal application of procedural justice (i.e., trust in law) is fundamental to citizens obeying the law and positively engaging with society.

Social scientists have used large surveys to measure trust. One method, used in the demographically representative Gallup World Poll (140+ nations), poses the scenario: "Supposing that you lost your wallet with \$200 (or local equivalent) in it, what is the likelihood of it being returned intact if found by...." The survey respondents can express their opinion of a wallet being returned by neighbors, strangers, and police officers. Helliwell, Huang, and Wang (2017) found that the higher a person's trust is both generally, and in the police, the higher their level of well-being. In fact, a Toronto newspaper removed the hypothetical nature of this survey question by placing cash-full wallets around the city and waited to see if they were returned (Helliwell, Huang, and Wang, 2016). This real-world experiment allowed a comparison to be made between survey responses of trust in the Gallup World Poll and the actual actions of strangers. As can be seen in the Table 4, strangers were far more trustworthy than people commonly believed.

Table 4. Perceived and Actual Trust



One common obstacle to societal trust is corruption. Corruption is defined as fraudulent or dishonest conduct by those holding power. Corruption can come in many forms, but it is most often associated with bribery. Corruption can also include cronyism, nepotism, and dishonesty in both public and private institutions. It is often associated with backroom dealings and a lack of public transparency, which is one of the reasons it can erode trust. Not only does corruption lower the trust on which strong societies are built, but it can lead to faulty services and goods (e.g., shoddily constructed buildings) that can endanger people's lives.

Helliwell and Huang (2008) report that a trustworthy government is linked to citizen well-being. This is especially true for lower income nations and those with inferior governance. A list of the social trust scores for the highest (blue) and lowest (orange) trust nations in each global region is shown in the Table 5. This table illustrates not only that trust varies across regions of the world, but also that there is enormous variation in trust within regions (the difference between the blue and orange bars in each region). What this pattern indicates is that some nations have been able to achieve high levels of trust, and these societies should be models for others.

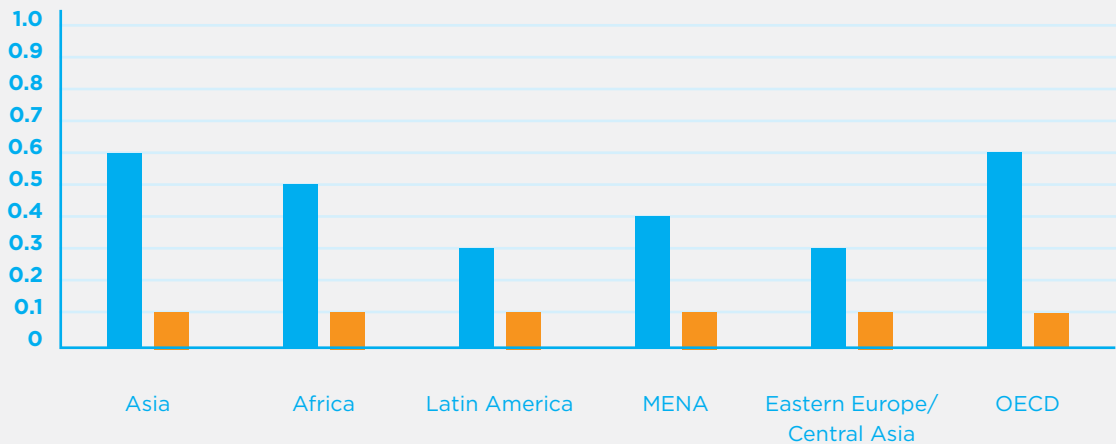
Unfortunately, corruption is widespread. It exists at all levels of government and in all nations. According to a World Bank report, approximately 1.5 trillion US dollars are paid in bribes worldwide each year; a figure accounting for about 2% of global GDP (World Bank, 2017). In 2016, the World Bank launched investigations into 64 cases covering 60 projects in 34 nations, and these nations were spread across regions of the world.

Corruption disproportionately affects the poor. For example, in Paraguay the poor pay about twice as much in bribes as high-income households. Similarly, unemployed people have been found to have lower levels of trust in the police and institutions of law, and it may be that this attitude is a factor in their potentially greater rates of involvement in black market and shadow economies (Hudson, 2006). It should be noted that some behaviors of more affluent members of society, such as avoiding taxes by moving fortunes off-shore, can erode trust but are not illegal, per se. Thus, corruption is a broad concept that includes many behaviors and exists both in the public and private sectors.

There is mounting research evidence that corruption erodes well-being. Tay, Herian, and Diener (2014) investigated the relation between corruption and individual well-being in a sample of more than 800,000 people from 150 nations. They found that individual perceptions of corruption were associated with lower rates of life satisfaction. In addition, they found that living in corrupt societies lowers life satisfaction even above personal perceptions of corruption. People reported higher well-being in cases where they experienced trust in institutions. It is also important to note that corruption interferes with the quality of goods and services—for example, by allowing cheaper construction that does not follow building codes and therefore is unsafe (e.g., in earthquakes). The conclusion that corruption adversely affects well-being dovetails with the results of many other studies:

- Data from 20 African nations points to the conclusion that corruption broadly, and low levels of trust in institutions specifically, are associated with lower well-being (Sulemana, 2015)

Table 5. Differences in Trust Around the World: Trust Scores for the Highest and Lowest Trust Nations in Each Region



- In the World Happiness Report, perceptions of corruption are associated with lower overall life evaluations and a higher incidence of negative emotions (Helliwell, Huang, & Wang, 2017). Further, this trend has been constant across recent years.
- Citizens in 68 nations report higher well-being when their governments are relatively free of corruption (Tavits, 2008)
- Among citizens of the 24 OECD nations, rates of suicide are lower in nations with lower levels of corruption (Yamamura, Andres & Katsaiti, 2011)
- Quality of government is strongly associated with longevity and other health related variables (Holmberg & Rothstein, 2010)

Corruption lowers well-being, threatens public safety, and erodes social trust.

Building Norms and Values for Helping Society and Others

One way to counter corruption is for people to feel responsible for others and society, even for strangers. Values centered on helping others, giving to charity, and providing hospitality exist

in every culture and religious tradition. Even so, corruption remains a large problem. This is suggestive of structural problems related to the economic and social systems of corrupt societies. In part, we believe these can be redressed by emphasizing local norms promoting prosocial, rather than self-serving behaviors. Programs and campaigns that encourage volunteering, helping neighbors in need, giving other drivers a break in traffic, and so forth can encourage prosocial behaviors in general, and at the same time reduce attitudes that lead to corruption. Norms and values need to be developed for helping not just one’s own in-group, but other groups as well. Norms for helping others need to be universal in society, and not seeing out-group members as targets of exploitation.

Norms and values of this type are not built overnight, but are taught, both at home and in public institutions such as schools (e.g., Hughes, Bellamy, & Black, 2000). The psychological research literature is replete with studies on cooperation, empathy, behaviors, and other thoughts and attitudes that can be trained and reinforced. For example, school curricula designed to foster social and emotional intelligence among school children appear to yield better academic performance, more cooperative learning, and enhanced in-class social support (Reyes, Brackett, Rivers, Elbertson, & Salovey, 2012). Volunteering

to serve one's community can be taught in the schools, especially by requiring hours of volunteering for older children and adolescents (UKPIU, 2002).

Some studies that have examined exposure to out-group members have found an increase in positive attitudes toward those groups and a greater willingness to help them (Batson et al, 2002). That said, we acknowledge that the data in this area are mixed, and that negative interactions between members of different communities can sour relations between them. It is for this reason that we recommend that policy makers attend to urban design and social programs that will promote positive, rather than negative contact between diverse groups.

One way for a society to build social capital and thereby increase trust is to encourage volunteer work (Salamon, Sokolowski, & Haddock, 2011). Indeed, in a recent Delphi study, experts on well-being voted this as one of the most efficient and yet effective ways to raise well-being (Buettner, Nelson, & Veenhoven, 2017). Local governments can set up websites to match volunteers to volunteer opportunities, for example. Incentives such as tax breaks might also be used to encourage volunteering. Volunteer activity not only tends to increase well-being, but also helps the targets of the intervention, and at the same time builds trust and respect.

General well-being programs that specifically develop values exploration, self-awareness and healthy relationships within self, family, and the community have been proven to build wellbeing at the individual and organizational level. In South Australia, there are initial indications that short courses offering a suite of psycho-skills have not only improved well-being in those receiving training, but also delivered a positive cultural shift across the organization, including those not yet trained.

Anti-Corruption Policies

The Trace International Matrix is an evaluation of business bribery practices in 199 nations. The scores are a composite of four distinct factors related to corruption and compliance with anti-corruption policy. These are 1) interactions with government, 2) anti-bribery laws and enforcement, 3) government/civil service transparency, and 4) capacity for civil society

oversight. As expected, corruption is lower in societies with stable economies, democratic institutions, and the rule of law. It should be noted that the conclusions reported in the Trace Matrix are similar to those of other measures of corruption such as the Corruption Perceptions Index (Transparency International, 2017). What the data reveal is that in some nations corruption is reasonably low. These nations may have a culture that tends to encourage trust and social connection, but they also have policies in place to prevent corruption. We learn important lessons about building national trust by examining the corruption policies and laws of the least corrupt nations and—by extension—the lack of these in the most corrupt nations. Examples of such policies are listed below:

Anti-corruption

- Pass laws criminalizing corruption in public and private sectors
- Enforce these laws
- Create independent government commissions to investigate corruption
- Value training that promotes ethical behavior and codes that articulate conflicts of interest

Transparency

- Report public expenditures
- Provide easy access to information
- Make government meetings open to the public

Democracy

- Ensure higher degree of freedom of the press
- Create mechanisms for citizen input

Where anti-corruption policies are enacted, and government anti-corruption agencies formed, however, they can be ineffective in poor and badly governed nations, and even counterproductive (Meagher, 2005). Where governance is strong and most people are not poor, such programs have a chance of success. Mungui-Pippidi (2016) argues that government programs to end corruption will not be successful unless there also norms of universalism, that proscribe favoritism to specific persons and groups. She argues that norms for universality of treatment of all citizens and a strong norm of public integrity are necessary to counter corruption, and in their absence anti-corruption penalties may likely be ineffective. Mungui-Pippidi suggests that a strong civil society with rules and resources equitably distributed to all groups, an educated professional class, an independent media,

and computer literacy may all help to support universalism and fight corruption.

Case Study: Anti-corruption practices in Estonia

Among the most radical transformations in government in the modern era was the dissolution of the Soviet Union and the subsequent formation of independent nation states in the Baltic and Caucasus regions. Interestingly, the differences between these two regions provide us with an opportunity to draw comparisons between newly independent nations. With regards to corruption, nations in the Caucasus typically have higher rates of corruption than do those in the Baltics. Of the Baltic states, Estonia is often touted as a relative success story. Estonia is a nation of 1.3 million people and a GDP per capita of just over 17,000 US dollars.

According to the 2017 Trace International Matrix, Estonia ranks 9th out of 200 nations in corruption, placing it ahead of far older and wealthier nations such as Switzerland, Canada, Singapore and the United States. Estonia has remained consistently high on this matrix, ranking 3rd in 2016 and 22nd in 2014. More specifically, the 2017 Trace International Matrix awards Estonia a “low risk” label. Using a scoring system ranging from 1-100, where higher numbers represent increasing risk of corruption, Estonia receives a 2 for anti-corruption practices such as the creation and enforcement of anti-bribery laws (only Norway has a better score). Using the “Perceptions of Corruption” Index created by Transparency International, Estonia has been improving since 2012 and currently ranks just below Japan and Uruguay and above France. Estonia appears to be the least corrupt nation in the Baltics. More long-term trends should be examined before we definitely conclude that Estonia has been truly successful in lowering corruption, but the encouraging short-term trends over a few years suggest that we should examine what Estonia has done.

There are a variety of policies that can be credited with Estonia’s relative success in battling corruption. Among these are the sweeping laws contained within Estonia anti-corruption program. Early surveys suggested that 11% of Estonians had been asked for a bribe and that these bribes

existed across many sectors of society: 5% reported being asked for bribes associated with schooling, 8% by police, and 9% by physicians (Sööt, 2013). It is exactly these behaviors that policy makers were hoping to curtail by an Anti-Corruption Strategy. The strategy included a focus on collecting legal and survey data to improve awareness of corruption, increasing transparency and participation, and developing the capacity to investigate and prosecute corruption.

Another interesting influence on corruption in Estonia is its e-government practices. E-government simply refers to the use of websites to increase transparency, provide information, and as a portal through which citizens can access government services. E-government is associated with lower rates of corruption because it “removes the middle man” (Krishnan, Teo & Lim, 2013). Imagine, for example, that a citizen in a more corrupt nation pays a government employee a small bribe to advance her position in a queue for services. E-government eliminates this possibility. In the early 2000s, future-minded government leaders in Estonia invested heavily in digital infrastructure. This included partnering with companies to promote the use of the Internet, training citizens in computer skills, supporting the creation of a wi-fi service, and rolling out e-government services. There was an early move to e-voting; an initiative that has increased voter turnout and engaged younger citizens.

Does Estonia’s relative success in battling corruption lead directly to higher well-being? It is, unfortunately, impossible to draw a clear link. That said, Estonia appears to be faring well with regards to citizen well-being, and it is entirely plausible that high public trust is part of this equation. For example, Huppert and So (2011) investigated the flourishing of citizens of 22 nations. They discovered that many of the nations with the lowest well-being were in Eastern Europe, and were former communist nations (e.g., Poland, Russia, Bulgaria, and Slovakia). By contrast, Estonians reported relatively high emotional stability (ranked 8th of 22), optimism (11th of 22), and vitality (8th of 22). Undoubtedly, Estonia—as all other nations—has continued work to do in stamping out both corruption and the cultural and societal forces that make corruption tempting. Even so, their

rapid success in the last decade serves as a model for others wishing to create a more cohesive society.

Part Four: Close Relationships

If relationships are the cornerstone of well-being, it follows that close relationships and flourishing families are an important part of the happiness equation. Indeed, results from research suggest that well-being is linked to and predicted by close relationships and families. For instance, people who are married report, on average, relatively higher rates of well-being (DeMaris, 2017). Clark et al. (2018) found that—along with mental health—social relationships are the key drivers of well-being. For example, having a partner was a significant predictor of both life satisfaction and lower misery. This finding holds especially for middle aged and older adults and appears to be true across the globe. This also holds true for those who are divorced and re-married (compared to those divorced who do not remarry). Similarly, social support received from family members (as opposed to friends) was the strongest predictor of life satisfaction across cultures in a study of people from Iran, Jordan, and the United States (Brannan et al, 2013).

Gohm and her colleagues (1998) found that adult children who had parents with happier marriages were themselves happier. Waters and Sun (2017) found that positive parenting—parents invested in cultivating their children’s strengths—experienced greater confidence in their own parenting and enhanced positive emotions when thinking about their children. Taken together, these studies suggest that when family relationships are positive, they can significantly improve happiness.

Moving beyond families, there is strong research evidence that social support and close relationships are important for well-being. Gable and Bromberg (2018), for instance, review the evidence showing that supportive relationships are not only essential to mental and physical health, but are necessary for survival. In fact, different types of support tend to be associated with different types of subjective well-being (Siedlecki, Salthouse, Oishi, & Jaswani, 2014). Using a sample of more than 1,000 people aged 18-95, the researchers found that perceiving support was associated with higher life satisfaction, while family embeddedness

was associated with greater positive emotion. Programs that help the social relationships of children, such as anti-bullying and social skills building, are not covered here because Adler and Seligman’s chapter in this volume provide coverage of school educational programs for well-being. Of course we can recognize that close relationships can be a source of stress and unhappiness, as well as of well-being, and so we must focus on the types of relationships that have more rewards than costs.

Supportive Families and Relationships

Government policies and programs can help or hinder families in a number of important ways:

Parental leave policies in the workplace. The birth of a child places a strong time burden on the new parents. This often leads one parent to quit her or his job or to make sacrifices in terms of parenting quality. Policies that allow one or both parents some leave time after children are born can help alleviate the burden and thereby insure that the marriage is not under undue stress. Although parental leave is becoming more common, O’Brien (2009) suggests that nations can be differentiated by whether they support parental-leave policies or not.

Life course developmental activities. It is important to understand that social relationships must be understood in a way that considers them across the lifespan. This view is particularly helpful in understanding older people’s social interaction with children, especially their grandchildren. A body of research indicates that parents who receive help in parenting from the grandparents have children who benefit in a number of ways (e.g., Buchanan & Rotkirch, 2016). The involvement of grandparents helps both the child and the older adult. These interactions can be increased through a number of policies. For instance, opportunities can be created for grandparents to do volunteer work in their grandchildren’s schools. Another helpful policy is that grandparents can be allowed to make medical and other decisions for the children in the parents’ absence. Yet another helpful policy is to provide financial support if grandparents become the primary caretakers of a child, much as foster parents often receive such support. Multi-generational living units and activities can also be fostered. Schools can have grandparent

groups or encourage both parents and grandparents to be part of the Parent-Teacher associations. Greater social interaction between the generations gives the child opportunities for support and learning, and gives grandparents companionship, as well as meaningful and useful activities during retirement. Because children benefit from contact with grandparents, societies can encourage such interactions with a number of diverse policies.

Flexible hours, on-site daycare, and other family-friendly workplace programs. Similar to leave for new parents, additional workplace policies can benefit families. For example, we found that a major predictor of women's satisfaction with their work is having work hours that are to some degree flexible (Geerling, Diener, & Schkade, 2018). For example, if parents can arrive at work an hour late, they can give their children breakfast and bring them to school before going to work. Similarly, some businesses provide on-site daycare, which can be quite helpful in reducing the burdens of simultaneously working and parenting. Another family-friendly workplace policy is to allow some work to be done from home, for example, on the internet. Yet another example is providing women a place for breastfeeding and pumping milk, as the lack of privacy typical in workplaces can be a major impediment to women returning to work. Each of these programs can reduce parenting and family stress, and thereby lessen the conflict between work and family life.

Co-parenting classes for couples seeking divorce. When couples separate and divorce, a burden can be placed on their children. Optional, or even mandatory, parent training for co-parenting couples can be helpful (Sigal et al., 2011). The separating adults can learn how to manage their relationship and children after the separation to lessen the stress or harm to children that sometimes arises from conflictual co-parenting situations.

Marriage education. Many societies consider the family to be the core social unit. At the heart of healthy families is a positive relationship among the adult partners. Such positive relationships are characterized by an ability to communicate effectively, navigate conflict in healthy ways, control emotions, and support one another. Marriage programs provide training aimed at

enhancing these skills among couples. One such program found in a meta-analysis of the literature that couples involved in a marital communication education program profited in terms of communication skills, marital satisfaction, and other relationship qualities (Butler & Wampler, 1999). Another such program has been evaluated and found to lead to lower rates of conflict and aggression, and lower rates of divorce and breakup up to five years after the training (Markman, Floyd, Stanley, & Storaasli, 1988, Markman, Renick, Floyd, Stanley, & Clements, 1993). In Germany, this same training program was applied before marriage and was found to result in a 13% lower divorce rate across 4 to 5 years relative to a control condition. It should be cautioned, however, that marriage education programs may not always produce the intended effects, for example because financial problems cause strains in the couple that are not addressed by the parenting interventions (Lavner, Karney, & Bradbury, 2015).

Avoid economic penalties for families. Some government policies discourage strong families by penalizing two-parent families through taxation rates and welfare rules. If a two-adult family is placed in a higher tax bracket, for instance, compared to two single adults, it discourages two-parent families by taxing them at a higher rate. Alm and Whittington (1999) found that taxation policies had a small but significant effect on the probability of marrying for women in the U.S., for example. Similarly, some welfare policies also discriminate against two-parent families. Because a large amount of evidence points to superior outcomes for children raised in two-parent families, the state has a vested interest in supporting, not discouraging, them. Many "marriage penalties" (which can apply to partners living together who are not married) are small in amount and therefore might not influence the behavior of a significant number of couples, but governments need to assure that there are no significant marriage penalties.

Parenting Education

Parents play a critical role in cultures by socializing the next generation. Parents can be sources of support, moral instruction and guidance, and teaching for their children. However, some parents abuse or neglect their children and offer little in the way of true support or guidance. The

ACE study in Wales, United Kingdom—Adverse Childhood Experiences Study (Felitti et al., 1998) found that children brought up in households where they were abused, where there was domestic violence, or where there was alcohol or drug abuse were substantially more likely as adults to commit violent offenses and abuse drugs and alcohol. One approach to improved parenting is to expose new parents and expectant parents to education about desirable childrearing practices. For instance, there are negative outcomes associated with spanking (Gershoff & Grogan-Kaylor, 2016), and parents can learn other more effective methods for teaching discipline and self-control. Gershoff, Sattler, and Ansari (2017) found that children who are frequently spanked later show more, not fewer, behavior problems, controlling for many other possible confounding factors.

There are many parental training programs available for teaching effective parenting, and the evidence suggests that some of them are more effective than others. Research in this field is extensive, but suggests that parents can learn to use less abusive forms of discipline, and teach children and mold their behavior in positive ways without resort to corporal punishment. Some of the programs also emphasize spending quality time with children, and reading to them. Examples of research outcomes of parenting programs include:

- A parent-training program in Hong Kong led to lower incidence of harsh parenting (Li, Chan, Mak, & Lam, 2013)
- Parent-training programs that involve both fathers and mothers have found long-term benefits, including higher marriage satisfaction, better child adaptation to school, increased father involvement, less harsh parenting tactics, and lower rates of conflict in the home (Cowan, Powell, & Cowan, 1997).
- A review of 16 parenting programs found that four were rated as “top programs.” These programs contained 14-20 hours of instruction and focused on developing skills ranging from handling conflict to developing a future orientation (Collins & Fetsch, 2012).

Case study: The Better Parenting Program (Jordan)

The Kingdom of Jordan has a youthful population, with half of all Jordanians under age 18 and one in five younger than eight years old. This means that parenting is a common experience among Jordanian adults. In fact, there are more than 5 children, on average, per household. As a result, policy makers have prioritized children’s issues such as education and safety (Al-Hassan, 2009). A survey conducted in the late 1990s revealed that parents had worrisome gaps in their knowledge regarding effective parenting practices (Stewart-Brown, 2000). This finding led to the creation of the Better Parenting Program (BPP) aimed at improving the family context to support the development of children.

The BPP is delivered by social workers, teachers, and health workers who undergo standardized training. The BPP requires 16 hours of lessons but allows for local control of how these are delivered. For example, in some regions, facilitators offer an intensive, multi-day program while in other areas short lessons are offered once or twice a week over the course of months. The training is standardized and focuses on parental knowledge of healthy and unhealthy behaviors and parenting practices. It is aimed at primary caregivers who, in Jordan, are overwhelmingly female.

To evaluate the effectiveness of this program, researchers sampled 337 parent participants representing diverse regions within Jordan, a range of adult ages, and a range of educational backgrounds (Al-Hassan & Lansford, 2014). The researchers surveyed the participants about a number of themes, including approaches to discipline, understanding what constitutes child abuse and neglect, and time spent with children, and compare these responses with those from a control group not involved with the BPP. Before the program began, the knowledge and behavior of these two groups did not differ from one another. In a relatively short-term follow-up, the researchers found that the parents receiving the parenting lessons played and read to their children more, explained reasons to children more frequently, and better understood that certain activities are dangerous for children, compared to the untreated control group.

The BPP produces positive changes in parenting, and at the same time the expense of the program is relatively low. Researchers at UNICEF conducted a cost analysis of the program and assessed the average annual cost at \$78 thousand US dollars, or only \$13 US dollars per caregiver, or \$3.27 US dollars per child (Stewart-Brown, 2000).

Reducing Family Violence

The novel *Anna Karenina* by Leo Tolstoy famously begins with a proclamation about flourishing families: “Happy families are all alike; every unhappy family is unhappy in its own way.” (Tolstoy, 2004). There is an element of truth to this. Happy families, by and large, exhibit many of the same qualities as high-quality relationships in general. That is, they reflect a degree of interpersonal trust, effective communication, mutual support, and shared interests. Social scientists have discovered that programs aimed at strengthening family bonds, engaging fathers in the lives of their children, and teaching social and emotional skills can be effective (Pruett et al., 2009). Unfortunately, a number of obstacles commonly interfere with the psychological health of families. Chief among these is violence.

Just as Tolstoy suggested that unhappy families are unhappy in a variety of ways, family violence can take many forms. For example, so-called dowry deaths occur when young wives are killed in an effort to extort greater dowries or create an opportunity for re-marriage and a new dowry. Sharma and colleagues (2002) examined forensic data collected in India between 1994 and 2001. Out of 2,055 unnatural deaths, 17% were due to burns and three quarters of these victims were married females. The disproportionate demographic make-up of these deaths—often presented to authorities as “accidental kitchen fires”—led the researchers to conclude that they represented dowry deaths. In fact, crime statistic data reveal that there were more than 18 thousand dowry deaths reported in India in 2012 (National Crime Records Bureau, 2012). A similar phenomenon can be found in the case of honor killings. These typically occur when a woman is suspected of infidelity.

One vulnerable population is the elderly. Wong and Waite (2017) analyzed data from more than two-thousand older adults and found that those who were mistreated were more likely to suffer

from anxiety and to have lower levels of physical health. Finally, the data on corporal punishment of children indicate that “spanking” children is associated with negative behavioral adjustment in young children (Mulvaney & Mebert, 2007), lower self-esteem among children in Hong Kong (Chan et al, 2011), and is much more likely in nations where it is legal (Keyes, et al., 2015). Physical punishment is illegal in scores of nations around the world, for example in the majority of European Union countries.

Among the most widespread forms of family violence is domestic abuse directed at women, usually by their romantic partner. Many scholars argue that partner abuse is anchored in long-held attitudes about the inferiority of women, and that these attitudes persist in a diverse range of cultures (Antonopoulou, 1999; Horne, 1999; Kozu, 1999). Such abuse is commonly associated with the onset of clinically significant post-traumatic stress disorder (PTSD; Saunders, 1994). Family violence, in all its forms, is a matter of pressing social urgency and a worthwhile target for legal and social policy as well as educational programs.

One factor that contributes to wife abuse is that women often have fewer financial and legal resources than men, and therefore cannot change their situation. If a woman reports her husband for child abuse and he can divorce her or eject her from the house, she might be homeless. If a man can divorce the woman, but not vice-versa, this imbalance in power can also contribute to the conditions for spousal abuse. However, programs that increase women’s financial status in some cases do decrease spouse abuse, but in some circumstances may increase it (Bolis & Hughs, 2015), and therefore policy makers need to be aware of the cultural context of their interventions. In addition, strict laws against spousal abuse, and enforcement of them are needed in addition to greater equality.

We are encouraged by the proliferation of intervention programs aimed at raising awareness about domestic violence and its very deleterious consequences, providing psychological treatment for trauma, and doing so within culturally appropriate contexts. For example, one program in South America requires male perpetrators to be treated in groups that meet in public spaces (Corsi, 1999). Another program, Helping to

Policies to Reduce Domestic Violence

Domestic Abuse Hotlines

Training for Law Enforcement

Special Partner Abuse Intervention Teams

HUB model of social services (see the Happy Cities chapter)

Consistent Penalties for Spousal Abuse

Educational Programs in Schools about Desirable Social Skills

Violence Against Women Acts

Alcohol and Drug Treatment Programs

Public Service Campaigns Aimed at Nonviolent Solutions and Abuse

Financial Equality for Women

Fair financial distribution in cases of divorce

Treatment Programs for Offenders

Mandatory Arrest of Abusers

Overcome PTSD (HOPE; Johnson & Zlotnick, 2009), provides short-term cognitive behavioral treatment for women residing temporarily in domestic violence shelters and offers additional resources for their children. Yet another policy that can help reduce spouse abuse is to allow not just men to file divorce proceedings, but allow women to initiate them as well.

Another aspect of safety for spouses, and women in particular, is public programs to reduce sexual harassment. These may take the form of educational public service campaigns that target both abusive behavior and also victim's speaking up and reporting the abuse. Another program described in the Happy Cities chapter is a mobile platform where victims can immediately report abuse that occurs in public.

The World Health Organization (2009) describes the very destructive effects of spouse abuse, including the deaths of a substantial number of mothers, and suggests several strategies to combat it. The report suggests that school and media educational interventions, and community programs that empower women can help prevent abuse and violence. Spousal abuse of men also

occurs, and sometimes is not considered serious, but a large number of serious husband abuse cases do occur (Office for National Statistics, 2017). Educational and media programs, and other activities to decrease abuse of course must also address this form of abuse.

Policy Suggestion: Mandatory Arrest of Abusers

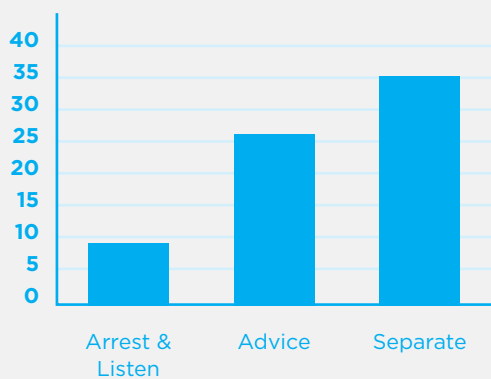
Domestic violence is a problem that affects both sexes, as well as people of all ages, educational, and economic backgrounds. It is also an issue—at least, in Western nations—where law enforcement has attempted to act as de facto social workers. Whereas police take forceful action in cases involving armed robbery, domestic abuse is an example of a violent crime where officers have been encouraged to avoid arrest. In part, this might be due to the fact that domestic abuse most often occurs in the privacy of the home, with few or no witnesses. Another impediment is that women may be reluctant to press charges. One solution to this issue is that it should be the police or prosecutor who presses charges, and not the victim. In fact, in the United States before the 1980s, police had to personally witness abuse before they could execute an arrest. There has also been a historical reluctance to intervene via arrest on the assumption that minor assaults are a “relationship issue” rather than a violent crime likely to be punished in the courts.

Law enforcement policy in the United States changed in 1994 with the introduction of the Violence Against Women Act. An analysis of partner violence revealed that simple assaults of females fell 70% after the act, and the rate of serious assault of females fell by 72% (Catalano, 2013). Among the changes following the introduction of the Violence Against Women Act was the implementation of mandatory arrest laws for perpetrators of domestic violence. This shifted the responsibility away from victims and to the police. More than 20 of the 50 United States have mandatory arrest laws (American Bar Association, 2011) and many others have “pro-arrest policies.”

Skeptics worry that automatic arrest runs the risk of further victimizing women through vengeful acts of abusers who are subsequently released from jail. Two pieces of research suggest otherwise. The first study was conducted

in Minneapolis, the 16th largest metropolitan area in the United States, with a population of 3.5 million people. The researchers were interested in understanding the consequences of various police responses to domestic violence (Sherman & Berk, 1984). The researchers reviewed 300 incidents occurring over a one-year period. Police responded to these incidents in one of three ways: 1) arrest, 2) advice (speaking with the victim and offender in an attempt to mediate the conflict), and 3) separate the victim and offender (e.g., having the offender sleep elsewhere that night). Police interventions were randomized into one of these three responses. The researchers followed-up on the initial police contact through interviewing victims and reviewing arrest records of the offenders across the subsequent six months. They discovered that mandatory arrest—especially in cases where police also listen to the victims’ stories— significantly reduced subsequent criminal behavior (see the Table 6). The results of this program, along with the experimental design of the study, led to widespread adoption of this policy among other police departments.

Table 6. Percentage Repeating Violence Within 6 Months



The second study replicated and extended the first. In the latter instance, however, data were collected from five geographically diverse metropolitan areas and a larger sample (nearly five thousand abusers; Maxwell, Garner & Fagan, 2001). In this case, the researchers discovered

the same trend, but a more modest effect. Specifically, they found that arrest appeared to lower aggression in those arrested for domestic violence by about 8% relative to those who were not arrested. Additionally, a longer period of time elapsed before a new incident of violence occurred. The risk of re-offending of someone who was arrested was about 10% lower than among those who were not arrested. Taken together, these studies provide initial evidence that arrest—regardless of other punishments or censures—are effective interventions to moderately lower rates of domestic violence.

Part Five: Conclusions and Recommendations

There are several major messages of this chapter. First, social well-being is a concern of policy makers at all levels of government. Social relationships of all types—friends, families, positive interactions with strangers, supportive colleagues—are one of the most important determinants of well-being, and yet it is all too common to assume that this aspect of life is an individual affair. What we are learning, however, is that government policies and programs can have a large impact on social well-being. Historically, social well-being has been addressed by policy in one of two ways: 1) the establishment of social policies aimed at reducing social ills such as inequality and crime, and 2) as a by-product of policies related to infrastructure and urban development. We argue here that a direct focus on social well-being is a justifiable priority for policy makers.

The second message of this chapter is that societies need to experiment with programs that can potentially improve social lives in their societies. Although a large body of research exists on positive social relationships, there is no universal road map for how to intervene, improve and support such connections. Because each society and culture is unique, it is desirable to test programs before fully implementing them, and assess the results in the context of local norms and values. In this respect, monitoring the subjective well-being of the nation (or cities, or neighborhoods) and of specific groups can be very helpful in assessing progress. Such measures can also be helpful in pinpointing where flourishing

versus floundering can be found in a society. The old adage that “people change what they measure” is widely accepted and certainly applies here. The measurement of well-being is foundational to the creation and execution of culturally sensitive policy.

The most general recommendation we can make is for policy makers to fully understand both that supportive social relationships are essential to human well-being and that their quality is not just dependent on individual circumstances, but is substantially influenced by their societies. Governments can influence the quality of social relationships both by programs that positively build people’s capacity to strengthen their social connections and resilience, as well as reduce undesirable behavior. This is critical; just reducing the negative will not of itself build the positive. The challenges and culture in each society will differ somewhat, but the first steps are to determine where social issues arise in that culture, and then to begin proactively thinking about the ways that they can be addressed. Leaders and policy makers spend enormous amounts of time and energy focused on economic policies, but supportive social relationships are also very important and can be influenced by the programs and policies that leaders create.

Social connectedness is essential to quality of life. Well-being is raised not only by economic growth, but by policies and programs that create strong and supportive social relationships across whole societies!

Program and Policy Recommendations

Holt-Lunstad et al. (2017) report that the interventions that have been used to alleviate social isolation are programs such as marital treatments and loneliness interventions. A few larger societal-wide efforts have been made in the world to combat social isolation, such as campaigns to reduce loneliness. However, the effects of community-wide and societal-wide programs to combat social isolation have not been studied using rigorous methods in terms of their outcomes

on social connections and health. Thus, the approaches we suggest in this article toward increasing social support and connectedness may have a large effect on the health of societies, but also, they present opportunities for cutting-edge research that tests the interventions with rigorous data collection methods.

We recommend a number of programs and policies for societies around the globe, which are designed to raise well-being. Combined with economic progress, employing these suggestions to improve citizens’ social lives is bound to increase the quality of life, health, and emotional well-being in societies. Below are suggestions based on our review of the evidence:

1. Measurement. Societies need to measure the well-being of citizens to determine who is flourishing and who is suffering, and where and in what ways quality of life can be improved. The case for creating national accounts of well-being to parallel national economic accounts is made in detail by Diener, Lucas, Schimmack, and Helliwell (2009). One of the advantages to national accounts of well-being is that they “de-shrouding,” making well-being more salient to citizens and leaders alike. Because people tend to ignore attributes of choices that are not salient, accounts of well-being can serve as a reminder to take well-being into account when making personal or government decisions.

2. Experimentation. When policies and programs are considered, a desirable approach is to implement them on a trial basis and collect outcome data so that their value can be determined in the particular context and culture. Behavioral scientists need to be involved in assessing policy programs in order that proper controls and other methodologically rigorous aspects of evaluation are included.

3. Ministry of Well-Being. It is desirable to have a post or office in the government devoted specifically to well-being—for example, a minister of “happiness” as in Dubai and Ecuador, the Future Generations commissioner in Wales, the What Works Network in the government of the United Kingdom, and the Premier’s “State of Wellbeing” policy action agenda of the South Australian government. These offices examine evidence on interventions that work and make recommendations to governments both at the local and societal levels. Unlike other government

units, ministers of well-being aim specifically to advance the agenda for quality of life, based on evidence-based practices. Of course, well-being policy need not—and should not—be confined to these departments. Rather, the creation of such posts allows for a specific advocate for well-being to coordinate efforts of policy makers in all areas of government. In particular, an office devoted to well-being can continually remind other branches of government about the well-being implications of their policies and programs. Recently the United Arab Emirates issued a policy manual for the various branches of government describing how well-being should be considered and monitored to assess policies and programs. In the case of South Australia, the well-being agenda drives delivery of psychosocial interventions and research across the whole society. An office of well-being should, of course, never be a substitute for all areas of government being keenly aware of the well-being implications of their activities.

4. Urban Design. Urban design and mixed-use zoning that allows for walkability to shops, recreation, and even workplaces can reduce wasted time commuting, help the environment, reduce traffic congestion, and increase social connectedness. Urban design based on well-being evidence should be especially valued.

5. Greenery, Parks, and Attractive Public Spaces. Green spaces and attractive urban environments, especially where people can relax, meet, or engage in recreational or social activities, increase well-being and social connections.

6. Community Activities. Neighborhood cohesion is important to well-being, and can be encouraged with many different activities such as Neighborhood Watch programs, volunteerism, and community festivals.

7. Protective Housing. Inexpensive but decent housing ought to be available to all citizens, including effective shelter from the weather.

8. Eliminating Corruption. Corruption and nepotism, as well as deceptive advertising and other forms of dishonesty, erode the trust that is necessary for societies to function effectively and should be eliminated through transparency laws, stiff penalties for corruption and other unfair practices, and the building of strong norms and values for helping neighbors and society, including strangers.

9. Encouraging Prosocial Behavior. Often modern cities seem like a rat-race in which everyone is competing with everyone else. Through public service campaigns, media programming, and awards programs, societies can insure that people become more positive, cooperative, and helpful to one another. People can even be encouraged to be friendly to strangers, which can increase the feelings of well-being of both people (Epley & Schroeder, 2014).

10. Stronger Close Relationships. Strong families and close friends are necessary for human well-being, and governments can influence the strength of these bonds. Policies that eliminate family abuse are needed, such as mandatory arrest of abusers. Lawmakers must also be careful not to enact economic policies that penalize marriage and family life and discourage strong family ties. In addition, parental and marriage education programs can help people, especially those starting out and transitioning to new stages of life.

11. Public Health. All nations in the world are concerned with health, and it may be helpful to connect the well-being agenda to the public health framework. Strong social connections strongly influence health, even often surpassing the importance of exercise and avoiding obesity, smoking, and infectious diseases. Thus, fostering strong, supportive, and trusting relationships is a priority because it affects health, productivity, and citizenship. As has occurred in other areas such as skin cancer avoidance, dental hygiene, and physical fitness, emotional health can be fostered as a goal in itself, and as a means of bettering physical health. Well-being is a priority because it and strong social connections are beneficial to productivity, citizenship, and health! Thus, a focus on well-being can in the long-run decrease health costs and increase prosocial behavior, while making life more satisfying for all citizens.

References

- Action for Happiness (2016). *Creating happier and more connected communities: Rolling out a proven course to enhance mental wellbeing and social cohesion* (November, Ref. 14-0517). London: The Young Foundation.
- Aknin, L. B., & Dunn, E. W. (2013). Wealth and subjective well-being: Spending money on others leads to higher happiness than spending on yourself. In J.J. Froh (Ed) & A.C. Parks, (Eds.). (2013). *Activities for teaching positive psychology: A guide for instructors*, (pp. 93-97). Washington, DC, US: American Psychological Association, xiv, 173 pp.
- Al-Hassan, S. M. (2009). Evaluation of the Better Parenting Program: A study conducted for UNICEF. Retrieved from https://www.unicef.org/evaldatabase/files/Final_report_of_BPP-June_Jordan.pdf
- Al-Hassan, S. M., & Lansford, J. E. (2014). A randomised evaluation of the Better Parenting Programme in Jordan. *Early Childhood Matters*, 122, 7-11.
- Alm, J., & Whittington, L. A. (1999). For love or money? The impact of income taxes on marriage. *Economica*, 66, 297-316.
- American Bar Association. (2011). Domestic violence arrest policies by state. Retrieved from [https://www.americanbar.org/content/dam/aba/images/domestic_violence/Domestic%20Violence%20Arrest%20Policies%20by%20State%202011%20\(complete\).pdf](https://www.americanbar.org/content/dam/aba/images/domestic_violence/Domestic%20Violence%20Arrest%20Policies%20by%20State%202011%20(complete).pdf)
- Anderson, J., Ruggeri, K., Steemers, K., & Huppert, F. (2017). Lively social space, well-being activity, and urban design: Findings from a low-cost community-led public space intervention. *Environment and Behavior*, 49(6), 685-716.
- Antonopoulou, C. (1999). Domestic violence in Greece. *American Psychologist*, 54(1), 63-64.
- Batson, C. D., Chang, J., Orr, R., & Rowland, J. (2002). Empathy, attitudes, and action: Can feeling for a member of a stigmatized group motivate one to help the group? *Personality and Social Psychology Bulletin*, 28(12), 1656-1666.
- Baum, A., & Davis, G. E. (1980). Reducing the stress of high-density living: An architectural intervention. *Journal of Personality and Social Psychology*, 38(3), 471-481.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497-529.
- Bennett, T., Holloway, K., & Farrington, D. P. (2006). Does neighborhood watch reduce crime? A systematic review and meta-analysis. *Journal of Experimental Criminology*, 2(4), 437-458.
- Biswas-Diener, R., Diener, E., & Lyubchik, N. (2015). Wellbeing in Bhutan. *International Journal of Wellbeing*, 5(2), 1-13.
- Bolis, M., & Hughs, C. (2015). Women's economic empowerment and domestic violence. Oxfam Intersectionality Series. <https://policy-practice.oxfam.org.uk/>
- Brannan, D., Biswas-Diener, R., Mohr, C. D., Mortazavi, S., & Stein, N. (2013). Friends and family: A cross-cultural investigation of social support and subjective well-being among college students. *The Journal of Positive Psychology*, 8(1), 65-75.
- Buchanan, A., & Rotkirch, A. (Eds., 2016). *Grandfathers: Global perspectives*. London: Palgrave-Macmillan.
- Buettner, D. (2008). *The blue zones. Lessons for living longer from the people who've lived the longest*. Washington, D. C.: National Geographic Books.
- Buettner, D., Nelson, T., & Veenhoven, R. (2017). Ways to greater happiness: A Delphi study. Erasmus Happiness Economics Research Organization, Working Paper 2017/1.
- Butler, M. H., & Wampler, K. S. (1999). A meta-analytic update of research on the couple communication program. *American Journal of Family Therapy*, 27, 223-237.
- Cacioppo, J. T., Hughes, M. E., Waite, L. J., Hawkley, L. C., & Thisted, R. A. (2006). Loneliness as a specific risk factor for depressive symptoms: Cross-sectional and longitudinal analyses. *Psychology and Aging*, 21(1), 140-151.
- Catalano, S. (2013). Intimate partner violence: Attributes of victimization, 1993-2011. Retrieved from <https://www.bjs.gov/content/pub/pdf/ipvav9311.pdf>
- Chan, K. L., Brownridge, D. A., Yan, E., Fong, D. Y., & Tiwari, A. (2011). Child maltreatment polyvictimization: Rates and short-term effects on adjustment in a representative Hong Kong sample. *Psychology of Violence*, 1(1), 4-15.
- Clark, A. E., Flèche, S., Layard, R., Powdthavee, N., & Ward, G. (2018). *The origins of happiness*, Princeton, NJ: Princeton University Press.
- Collins, C. L., & Fetsch, R. J. (2012). A review and critique of 16 major parent education programs. *Journal of Extension*, 50(4), 1-17.
- Conway, R., Boniwell, I., & Metz, T. (2017). Community vitality. In Happiness: *Transforming the developmental landscape*. (pp. 347-379). Thimphu, Bhutan: The Centre for Bhutan Studies and GNH.
- Corsi, J. (1999). Treatment for men who batter women in Latin America. *American Psychologist*, 54(1), 64.
- Cowan, P. A., Powell, D., & Cowan, C. P. (1997). Parenting interventions: A family systems perspective. In I. E. Sigel & K. A. Renninger (Eds.), *Handbook of child psychology: Vol 4. Child psychology in practice* (5th ed., pp. 3-72). New York: Wiley.
- Cramm, J. M., Van Dijk, H. M., & Nieboer, A. P. (2012). The importance of neighborhood social cohesion and social capital for the well being of older adults in the community. *The Gerontologist*, 53(1), 142-152.
- Daams, M. N., Sijtsma, F. J., & van der Vlist, A. J. (2016). The effect of natural space on nearby property prices: accounting for perceived attractiveness. *Land Economics*, 92(3), 389-410.
- De Jesus, M., Puleo, E., Shelton, R. C., & Emmons, K. M. (2010). Associations between perceived social environment and neighborhood safety: Health implications. *Health & Place*, 16(5), 1007-1013.
- DeMaris, A. (2017). Marriage advantage in subjective well-being: Causal effect or unmeasured heterogeneity? Marriage and Family Review. Published on-line August 14: <https://doi.org/10.1080/01494929.2017.1359812>
- Diener, E., & Biswas-Diener, R. (2005). Psychological empowerment and subjective well-being. In D. Narayan (Ed.), *Measuring Empowerment: Cross-Disciplinary Perspectives* (pp. 125-140). Washington, DC: World Bank.
- Diener, E., & Diener, C. (1996). Most people are happy. *Psychological Science*, 7(3), 181-185.
- Diener, E., Lucas, R., Schimmack, U., & Helliwell, J. (2009). *Well-being for public policy*. New York: Oxford University Press.

- Diener, E., & Seligman, M. E. P. (2002). Very happy people. *Psychological Science*, 13(1), 81-84.
- Diener, E., & Seligman, M. E. P., Choi, H., & Oishi, S. (2018). Happiest people revisited: A worldwide examination. *Perspectives on Psychological Science*, 30th Year Anniversary Issue, Association for Psychological Science, invited article.
- 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, 94-122.
- Edmondson, B. (2010). *All the lonely people*. Retrieved from https://www.aarp.org/personal-growth/transitions/info-09-2010/all_the_lonely_people.html
- Epley, N., & Schroeder, J. (2014). Mistakenly seeking solitude. *Journal of Experimental Psychology: General*, 143, 1980-1999.
- Ettema, D., & Smajic, I. (2015). Walking, places and wellbeing. *The Geographical Journal*, 181(2), 102-109.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245-258.
- Flood, M., & Barbato, C. (2005, April). Off to work. Commuting in Australia. Sydney: The Australia Institute. Retrieved from http://burnside.slimlib.com.au:81/docs/OffToWork_Apr05.pdf
- Gable, S. L., & Bromberg, C. (2018). Healthy social bonds: A necessary condition for well-being. In E. Diener, S. Oishi, & L. Tay (Eds.), *eHandbook of subjective well-being*. NobaScholar.
- Galiani, S., Gertler, P. J., Undurraga, R., Cooper, R., Martínez, S., & Ross, A. (2017). Shelter from the storm: Upgrading housing infrastructure in Latin American slums. *Journal of Urban Economics*, 98, 187-213.
- Geerling, D., & Diener, E., & Schkade, D. (2018). What women want: Are happy feelings "utility"? Paper submitted for publication, University of Utah.
- Gershoff, E. T., & Grogan-Kaylor, A. (2016). Spanking and child outcomes: Old controversies and new meta-analyses. *Journal of Family Psychology*, 30(4), 453-469.
- Gershoff, E. T., Sattler, K. M. P., & Ansari, A. (2017). Strengthening causal estimates for links between spanking and children's externalizing behavior problems. *Psychological Science*. Published online November 6. <https://doi.org/10.1177/0956797617729816>
- Gohm, C. L., Oishi, S., Darlington, J., & Diener, E. (1998). Culture, parental conflict, parental marital status, and the subjective well-being of young adults. *Journal of Marriage and the Family*, 60(2), 319-334.
- Guite, H. F., Clark, C., & Ackrill, G. (2006). The impact of the physical and urban environment on mental well-being. *Public Health*, 120(12), 1117-1126.
- Hanson, S., & Jones, A. (2015). Is there evidence that walking groups have health benefits? A systematic review and meta-analysis. *British Journal of Sports Medicine*, 49 (11), 710-715.
- Heerwagen, J. H. (1990). Affective functioning," light hunger," and room brightness preferences. *Environment and Behavior*, 22(5), 608-635.
- Helliwell, J. F., & Huang, H. (2008). How's your government? International evidence linking good government and well-being. *British Journal of Political Science*, 38(4), 595-619.
- Helliwell, J. F., Huang, H., & Wang, S. (2016). New evidence on trust and well-being. National Bureau of Economic Research. (No. w22450).
- Helliwell, J. F., Huang, H., & Wang, S. (2017). The social foundations of world happiness. In J.
- Helliwell, L. Layard, & J. Sacks (Eds.). *World Happiness Report*, 8-47. Retrieved from <http://worldhappiness.report/wp-content/uploads/sites/2/2017/03/HR17.pdf>
- Holmberg, S., & Rothstein, B. (2011). Dying of corruption. *Health Economics, Policy and Law*, 6(4), 529-547.
- Holt-Lunstad, J., Robles, T. F., & Sbarra, D. A. (2017). Advancing social connection as a public health priority in the United States. *American Psychologist*, 72(6), 517-530.
- Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, 10(2), 227-237.
- Horne, S. (1999). Domestic violence in Russia. *American Psychologist*, 54(1), 55-61.
- Hothi, M., Bacon, N., Brophy, M., & Mulgan, G. (2002). Neighborliness + empowerment = wellbeing: Is there a formula for happy communities? The Local Wellbeing Project.
- Huang, S. C. L. (2006). A study of outdoor interactional spaces in high-rise housing. *Landscape and Urban Planning*, 78(3), 193-204.
- Hudson, J. (2006). Institutional trust and subjective wellbeing across the EU. *Kyklos*, 59(1), 43-62.
- Hughes, P., Bellamy, J., & Black, A. (2000). Building social trust through education. In I. Winter (Ed.), *Social capital and public policy in Australia* (pp. 225-249). Melbourne: Australian Institute of Family Studies.
- Huppert, F. A., & So, T. T. (2013). Flourishing across Europe: Application of a new conceptual framework for defining well-being. *Social Indicators Research*, 110(3), 837-861.
- Jackson, L. E. (2003). The relationship of urban design to human health and condition. *Landscape and Urban Planning*, 64(4), 191-200.
- Johnson, D. M., & Zlotnick, C. (2009). HOPE for battered women with PTSD in domestic violence shelters. *Professional Psychology: Research and Practice*, 40(3), 234-241.
- Kelly, J-F. (2012). Social cities. Grattan institute Report No. 2012-4, March.
- Keyes, K., Leray, E., Pez, O., Bitfoi, A., Koç, C., et al. (2015). Parental use of corporal punishment in Europe: intersection between public health and policy. *PloS one*, 10(2), e0118059.
- Kowachi, I., Kennedy, B. P., Lochner, K., & Prothrow-Stith, D. (1997). Social capital, income inequality, and mortality. *American Journal of Public Health*, 87, 1491-1498.
- Kozu, J. (1999). Domestic violence in Japan. *American Psychologist*, 54(1), 50-54.
- Krishan, S., Teo, T.S.H., Lim, V.K.G. (2013). Examining the relationships among e government maturity, corruption, economic prosperity and environmental degradation: A cross-country analysis. *Information & Management*, 50(8), 638-649.
- Kuo, F. E., & Sullivan, W. C. (2001a). Aggression and violence in the inner city: Effects of environment via mental fatigue. *Environment and Behavior*, 33(4), 543-571.

- Kuo, F. E., & Sullivan, W. C. (2001b). Environment and crime in the inner city: Does vegetation reduce crime? *Environment and Behavior*, 33(3), 343-367.
- Larson, L. R., Jennings, V., & Cloutier, S. A. (2016). Public parks and wellbeing in urban areas of the United States. *PLoS One*, 11(4), e0153211.
- Lavner, J. A., Karney, B. R., & Bradbury, T. N. (2015). New directions for policies aimed at strengthening low-income couples. *Behavioral Science and Policy*, 1, 13-24.
- Layard, R. (2016). Promoting happiness ethics: The greatest happiness principle. In J. Helliwell, R. Layard, & J. Sachs (Eds.), *The world happiness report 2016 Update* (Vol. 1). New York: Sustainable Development Solutions Network.
- Li, H. C. W., Chan, S., Mak, Y. W., & Lam, T. H. (2013). Effectiveness of a parental training programme in enhancing the parent-child relationship and reducing harsh parenting practices and parental stress in preparing children for their transition to primary school: A randomised controlled trial. *BMC Public Health*, 13(1), 1079.
- Maass, R., Kloeckner, C. A., Lindström, B., & Lillefjell, M. (2016). The impact of neighborhood social capital on life satisfaction and self-rated health: A possible pathway for health promotion? *Health & Place*, 42, 120-128.
- Maas, J., Verheij, R. A., Groenewegen, P. P., De Vries, S., & Spreeuwenberg, P. (2006). Green space, urbanity, and health: how strong is the relation? *Journal of Epidemiology & Community Health*, 60(7), 587-592.
- Markman, H. J., Floyd, F. J., Stanley, S. M., & Storaasli, R. D. (1988). Prevention of marital distress: A longitudinal investigation. *Journal of Consulting and Clinical Psychology*, 56(2), 210.
- Markman, H. J., Renick, M. J., Floyd, F. J., Stanley, S. M., & Clements, M. (1993). Preventing marital distress through communication and conflict management training: A 4-and 5- year follow-up. *Journal of Consulting and Clinical Psychology*, 61(1), 70.
- Martin, A., Goryakin, Y., & Suhrcke, M. (2014). Does active commuting improve psychological wellbeing? Longitudinal evidence from eighteen waves of the British Household Panel Survey. *Preventive Medicine*, 69, 296-303.
- Maxwell, C., Garner, J. H., & Fagan, J. (2001). *The effects of arrest on intimate partner violence: New evidence from the spouse assault replication program*. US Department of Justice, Office of Justice Programs, National Institute of Justice.
- Meagher, P. (2005). Anti-corruption agencies: Rhetoric versus reality. *The Journal of Policy Reform*, 8(1), 69-103.
- Mehta, V. (2007). Lively streets: Determining environmental characteristics to support social behavior. *Journal of Planning Education and Research*, 27(2), 165-187.
- Menatti, L., & da Rocha, A. C. (2016). Landscape and health: Connecting psychology, aesthetics, and philosophy through the concept of affordance. *Frontiers in Psychology*, 7, 1-17.
- Moore, E. O. (1981). A prison environment. *Journal of Environmental Systems*, 11(1), 17-34.
- Mulvaney, M. K., & Mebert, C. J. (2007). Parental corporal punishment predicts behavior problems in early childhood. *Journal of Family Psychology*, 21(3), 389-397.
- Mungui-Pippidi, A. (2016). The quest for good governance: Learning from virtuous circles. *Journal of Democracy*, 27(1), 95-109.
- National Crime Records Bureau (2012). Crime in India 2012 statistics. Retrieved from <http://ncrb.nic.in/StatPublications/CII/CII2012/Statistics2012.pdf>
- Nowland, R., Necka, E. A., & Cacioppo, J. T. (2017). Loneliness and social internet use: Pathways to reconnection in a digital world? *Perspectives on Psychological Science*, <https://doi.org/10.1177/1745691617713052>
- O'Brien, M. (2009). Fathers, parental leave policies, and infant quality of life: International perspectives and policy impact. *The Annals of the American Academy of Political and Social Science*, 624(1), 190-213.
- Office for National Statistics (2017). *Focus on violent crime and sexual offences, England and Wales: Year ending Mar 2016*. The United Kingdom: Release date: February 9.
- Okyere, S. A., Diko, S. K., Hiraoka, M., & Kita, M. (2017). An urban "mixity": Spatial dynamics of social interactions and human behaviors in the Abese Informal Quarter of La Dadekotopon, Ghana. *Urban Science*, 1(13), 1-19.
- Pruett, M. K., Cowan, C. P., Cowan, P. A., & Pruett, K. (2009). Lessons learned from the Supporting Father Involvement study: A cross-cultural preventive intervention for low-income families with young children. *Journal of Social Service Research*, 35(2), 163-179.
- Public Health England. (2013). North West Mental Wellbeing Survey 2012/13. Retrieved from <http://webarchive.nationalarchives.gov.uk/20160603141358/http://www.nwph.net/>
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, 6(1), 65-78.
- Report of the Task Force on Urban Psychology (2005). *Toward an urban psychology: Research, action, and policy*. Washington, D. C.: American Psychological Association.
- Reyes, M. R., Brackett, M. A., Rivers, S. E., Elbertson, N. A., & Salovey, P. (2012). The interaction effects of program training, dosage, and implementation quality on targeted student outcomes for The RULER Approach to social and emotional learning. *School Psychology Review*, 41(1), 82-99.
- Rico-Uribe, L. A., Caballero, F. F., Olaya, B., Tobiasz-Adamczyk, B., Koskinen, S., Leonardi, M., & Miret, M. (2016). Loneliness, social networks, and health: A cross-sectional study in three countries. *PLoS One*, 11(1), e0145264.
- Rook, K. S. (1984). Research on social support, loneliness, and social isolation: Toward an integration. *Review of Personality & Social Psychology*, 5, 239-264.
- Ross, C. E., & Jang, S. J. (2000). Neighborhood disorder, fear, and mistrust: The buffering role of social ties with neighbors. *American Journal of Community Psychology*, 28(4), 401-420.
- Salamon, L. M., Sokolowski, S., & Haddock, M. A. (2001). Measuring the economic value of volunteer work globally: Concepts, estimates, and a roadmap to the future. *Annals of Public and Cooperative Economics*, 82(3), 217-252.
- Sandstrom, G. M., & Dunn, E. W. (2014). Social interactions and well-being: The surprising power of weak ties. *Personality and Social Psychology Bulletin*, 40(7), 91-92.
- Saunders, D. G. (1994). Posttraumatic stress symptom profiles of battered women: A comparison of survivors in two settings. *Violence and Victims*, 9(1), 31.
- Semenza, J. C., & March, T. L. (2009). An urban community-based intervention to advance social interactions. *Environment and Behavior*, 41(1), 22-42.

- Sharma, B. R., Harish, D., Sharma, V., & Vij, K. (2002). Kitchen accidents vis-a-vis dowry deaths. *Burns*, 28(3), 250-253.
- Sherman, L. W., & Berk, R. A. (1984). The specific deterrent effects of arrest for domestic assault. *American Sociological Review*, 49(2), 261-272.
- Siedlecki, K. L., Salthouse, T. A., Oishi, S., & Jaswani, S. (2014). The relationship between social support and subjective well-being across age. *Social Indicators Research*, 117 (2), 561-576.
- Sigal, A., Sandler, I., Wolchik, S., & Braver, S. (2011). Do parent education programs promote healthy post-divorce parenting? Critical distinctions and a review of the evidence. *Family Court Review*, 49 (1), 120-139.
- Sööt, M-L. (2013). Anti-corruption strategy 2013-2020. Retrieved from http://www.korruptsioon.ee/sites/www.korruptsioon.ee/files/elfinder/dokumendid/estonian_anti-corruption_strategy_2013-2020.pdf
- Stewart-Brown, S. (2000). Parenting, well-being, health and disease. In A. Buchanan and B. Hudson (Eds.) *Promoting children's emotional well-being*. (p. 28-47). Oxford: Oxford University Press.
- Stutzer, A., & Frey, B. S. (2008). Stress that doesn't pay: The commuting paradox. *Scandinavian Journal of Economics*, 110(2), 339-366.
- Sulemana, I. (2015). The effect of fear of crime and crime victimization on subjective well-being in Africa. *Social Indicators Research*, 121(3), 849-872.
- Tavits, M. (2008). On the linkage between electoral volatility and party system instability in Central and Eastern Europe. *European Journal of Political Research*, 47(5), 537-555.
- Tay, L., Herian, M. N., & Diener, E. (2014). Detrimental effects of corruption and subjective well-being: Whether, how, and when. *Social Psychological and Personality Science*, 5(7), 751-759.
- Tay, L., Tan, K., Diener, E., & Gonzalez, E. (2013). Social relations, health behaviors, and health outcomes: A survey and synthesis. *Applied Psychology: Health and Well-Being*, 5, 28-78.
- The World Bank. (2017, September). Combatting corruption. Retrieved from <http://www.worldbank.org/en/topic/governance/brief/anti-corruption>
- Tolstoy, L. (2004). Anna Karenina. (R. Pevear & L. Volokhonsky, Trans.). London, UK: Penguin Publishing. (Original work published 1877).
- Trace International Matrix (2017). TRACE matrix. Retrieved from <https://www.traceinternational.org/trace-matrix>
- Transparency International (2017, January). Corruption perceptions index 2016. Retrieved from https://www.transparency.org/news/feature/corruption_perceptions_index_2016
- Tyler, T. R. (2006). *Why people obey the law*. Princeton, NJ: Princeton University Press.
- UKPIU (United Kingdom Performance and Innovation Unit) (2002). Social capital: A discussion paper. London: Performance and Innovation Unit.
- Ulrich, R. (1984). View through a window may influence recovery. *Science*, 224(4647), 224-225.
- Vera-Toscano, E., & Ateca-Amestoy, V. (2008). The relevance of social interactions on housing satisfaction. *Social Indicators Research*, 86(2), 257-274.
- Victor, C. R., & Yang, K. (2012). The prevalence of loneliness amongst adults: A case study of the United Kingdom. *The Journal of Psychology*, 146, 85-104.
- Waters, L., & Sun, J. (2016). Can a brief strength-based parenting intervention boost self-efficacy and positive emotions in parents? *International Journal of Applied Positive Psychology*, 1(1-3), 41-56.
- What Works Centre for Wellbeing (2017). *Scoping review: Social relations*. London.
- Wong, J. S., & Waite, L. J. (2017). Elder mistreatment predicts later physical and psychological health: Results from a national longitudinal study. *Journal of Elder Abuse & Neglect*, 29(1), 15-42.
- Yamamura, E., & Andrés, A. R. (2011). Does corruption affect suicide? Empirical evidence from OECD countries. MPRA Paper No. 31622. Retrieved from <https://mpra.ub.uni-muenchen.de/id/eprint/31622>

Chapter 7

Happy Cities in a Smart World

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1. Introduction

Making cities happier is the core focus of this chapter. By describing activities undertaken by city custodians who are working to increase levels of happiness and well-being in cities, we will explore how to make cities happier. The term 'happiness' is used here in the sense described by the *World Happiness Report* (Helliwell, Layard, & Sachs, 2017), and is based on the *OECD Guidelines on Measuring of Subjective Well-Being*. The definition of subjective well-being, interchangeable with 'happiness', is a combination of three elements; "Life evaluation, a reflective assessment on a person's life or some specific aspect of it. Affect, a person's feelings or emotional states, typically measured with reference to a particular point in time. Eudaimonia, a sense of meaning and purpose in life, or good psychological functioning." (OECD, 2013b, p. 10). However, in the context of a city, it is also important to add more basic needs for people living in the city; such as the availability, simplicity and usability of services. Fulfilling these needs would lead to increasing happiness. Further, aspects of the social environment such as trust, fairness and autonomy are seen as 'enablers' of happiness.

However, since this chapter is focused on happiness activities and interventions that are applicable across wider city contexts and cultures, consideration is given to fundamental and common characteristics of city life, which require a broad set of city themes. Nonetheless, since we live in an increasingly technological world, with exponential advances, the discussion also considers how such activities are enabled by technology, and innovations in general, outlining worldwide case-studies and best practice, and highlighting recommendations for maximising success in a digital and smart world. Particular consideration will therefore be given to how technology can help deliver these activities and interventions in a more efficient manner, or in ways not possible without such technologies.

For the purpose of this chapter outlined above, there are many ways to organise activities and organisational focus in a city. There are perhaps obvious functional taxonomies, such as transport department, municipalities, police etc., or a long list of life domains such as listed in the OECD Better Life Index (BLI) (OECD, 2017c). This was developed to measure well-being across countries,

and assesses the following: housing, income, jobs, community, education, environment, civic engagement, health, life satisfaction, safety, and work-life balance. However, the OECD Regional Well-Being (RWB) (OECD, 2016c) measures essentially the same items as the BLI, but swapping work-life balance for access to services. Another relevant measure, though countrywide, is the Social Progress Index (SPI), which measures three dimensions using data that is publicly available at various sources; *basic human needs* (e.g. shelter, water, nutrition), *foundations of well-being* (e.g. health, environment, information & communication, basic knowledge), and *opportunity* (e.g. personal rights, freedom of choice, tolerance, inclusion) (Porter, Stern, & Green, 2017). However, one taxonomy that has had a lot of traction within the context of 'Smart Cities' is that offered by a report commissioned by the EU (CRS/EU, 2007), where such cities emphasise the use of technology towards efficiency and enhanced experiences, including well-being. The EU report explores various ways of ranking cities as far as 'smart' activities, and in doing so, the authors investigated various ways of categorising the activities. They settled on the following dimensions: *economy, people, governance, mobility, environment, and living*. This arrangement was also found to be a rational choice for this chapter (though with some adjustment, described later), especially given that some cities have already adopted a smart city approach, and will therefore find it easier to map the content of this chapter to their own activities. All the dimensions and sub-items will be defined in their respective sections.

This chapter is organised into several sections. The first section reminds the reader to ensure an approach that considers attention to essentials of well-being with well-known interventions, before looking further to newer methods and approaches, and considering technology as a way to enhance such interventions, as well as ones made possible by new methods. The second section uses the simple concept of the feedback loop to highlight the need to structure any approach with the need to measure outcomes, to justify decisions with data where pertinent data exists, before responding with any interventions. The third section focuses on six organising dimensions, based on well-known themes in the city

previously mentioned. This section examines each theme to illustrate them with examples. Each section also contains elaborated case studies that have led to improved quality of life in the city. The concluding section summarises the takeaway messages, which are helpful for city custodians in their city plans.

Though this report is not intended to provide an exhaustive list of cities, nor the activities they undertake towards making their cities happier. The intention is to show enough variety and examples to cover the urban dimensions discussed, in order for the reader to have broad understanding of current best practice. The aim here is to offer a set of standalone recommendations that are useful and practical. In the second report from the Global Happiness Council, the subsequent contribution from the cities sub-council intends to add further value by focusing on new economies and business models, city design and urban planning, choice architecture, and service design.

2. Happiness in the City

Plato's assertion that the "city is what it is because our citizens are what they are" is a good reminder of the extent that people are central to any consideration of a city, and therefore the well-being of people in the city is paramount. This is especially important since 75% of the world's population is predicted to be living in cities by 2050. Such views may be contrasted with definitions devoid of the spirit of a city, and is seen as "an urban geographical area with one (or several) local government and planning authorities." (ITU, 2016).

However, when considering the origins of the cities as economies of agglomeration, historians have describes them as "the most enduring and successful socio-political unit to emerge in Mesopotamia ... [where] the first large-scale communities began to develop in which people began to profit from a system beyond subsistence to produce a surplus, diversify their cultural activities, and in increasingly large numbers" (Leick, 2001). Thus creating the city, "a new form of collective community." Therefore, central benefits of the city are sociality, commerce, safety, and social stability, amongst others, and as such, a city must support these benefits.

Good governance and transparency will also foster a sense of fairness and trust, which are known contributors to enhanced well-being (Helliwell et al., 2017; Starmans, Sheskin, & Bloom, 2017). Still, public health, mobility and living spaces in a healthy physical environment are key aspects to enable the above benefits.

The emphasis on people and citizen-centricity is seen in much of leading narratives in modern architecture, and urban planning literature, such as Gehl's four key objectives for 'cities for people' (Gehl, 2010). For Gehl, city planners should aim to create *Lively, Safe, Sustainable, and Healthy* cities. These objectives may be "strengthened immeasurably by increasing the concern for pedestrians, cyclists and city life in general" and making a city more walkable for its "homo sapien residents". The importance of 'walkability' was also highlighted by Speck in his heuristics for a happier city (Speck, 2012). In order for a city to be walkable, he emphasised four attributes. For him, a walk should be *useful, safe, comfortable and interesting*. In this way, walking is encouraged, leading to increased likelihood of social interactions as people pass each other at walking pace, rather than at speed with the physical barrier of cars.

So, how can technology play a role in a happy city? From the start of the evolution of cities 1000's of years ago in Mesopotamia, technology played a strong role in their development, directly in terms of infrastructure such as sewage and sanitation, documentation, and various crafts that underpinned commerce, and indeed the invention of the wheel. Technology is an inseparable part of city life, and how people experience technology is certainly a well-established domain (Al-Azzawi, 2013). The difference now is that digital technology, as it becomes ubiquitous, provides even more opportunities to enhance the quality of life. The world is currently experiencing the fourth industrial revolution (4IR) where technology is fusing physical, digital and biological worlds, promising even more value for people (Schwab, 2015). City design (physical, organisational, informational etc.) must therefore support the above outlined benefits of the city, and technology may be used to enhance such support, and therefore has the opportunity to lead to a happier city.

Still, any mention of technology, should be subservient to the ultimate goal of serving the people. Further, the essential building blocks for building healthier, happier cities have not changed. Focus on novel technology must not obscure the crucial importance of essential principles such as mixed land-use planning, coordination of land-use and transportation investments, and the emphasis on active travel and walkable neighbourhoods (Montgomery, 2013). A truly smart city is one that responds to evidence from public health, behavioural psychology and other disciplines with smart design and system infrastructure, that takes advantage of the exponential growth and availability of data using various modelling techniques (Pentland, 2014; Ratti & Claudel, 2016; Social Glass, 2014), spawning a new science of cities (Batty, 2013). Therefore, city managers should not only rely on high-tech methods, but also use robust sources such as behavioural psychology to create data-driven designs and also support their policies with defensible data as much as possible. Such an approach would more likely lead to liveable neighbourhoods and communities and better public health. There are many cases of city rejuvenation projects, such as Moscow's "My Street", the largest project in its modern history, to make the city more liveable, by reconstructing facades and improving lighting. There is much that can be done without involving complex technology.

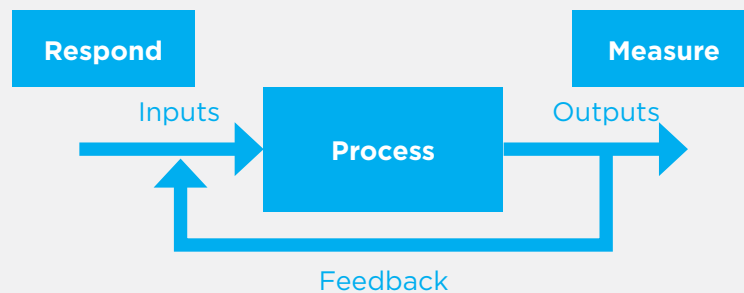
There are also many projects that aim to promote walking, like the case of Pontevedra on the Spanish Atlantic coast, where they have reduced traffic in the historical city centre by 97% since 1999, and more than 50% in the city as a whole. The city then promoted walking by publishing "Metrominuto", a walking map (similar style to the London Tube map), which shows destinations and walking time between them. This has resulted in improved air quality, where people are more likely to be walking around, whilst still recording less traffic fatalities. Such project pay attention to the basics in making a city more liveable, before focusing on technology. However, there is still room for technology to provide that extra push towards a happier city, as illustrated in the following sections.

Various cities are making their intentions explicit, like Smart Dubai's vision to ensure Dubai is the

Happiest City on Earth, while Barcelona's smart city CTO is reviewing the brief to "rethink technology and what it can do for the people" (Tieman, 2017), and Amsterdam and London employing interdisciplinary teams finding ways to sustainably improve citizens' lives. Smart cities are not about technology; they are about people. The focus now is very much 'technology for people'.

3. Feedback Loop: Measures, Tools, & Interventions

At some degree, any organisation operates a feedback loop, at various levels of sophistication, where actions are based on some rationale and insight derived from data. This is the classic *feedback loop*, and for a city (smart or otherwise), the data may be obtained using various sources, such as observation, surveys, and digital sources including IoT (Internet of Things), data repositories, and even general knowledge. The processing and insight gathering may be done manually, using basic algorithms, or even more advanced Artificial Intelligence. The response may be in various ways, such as instantaneous delivery of personalised services, or an adjustment of general service parameters perhaps to increase efficiency. There are many examples of how cities are reinventing city hall and taking advantage of data in the digital age to improve the quality of life, becoming more citizen-centric and data-driven, and indeed compete with other cities (Townsend, 2014). For a smart city, with such sophisticated feedback loops, this is also referred to as a *conscious* and *responsive city* (Goldsmith & Crawford, 2014; Palti & Bar, 2015), or *data-driven urbanism* where "cities are becoming ever more instrumented and networked, their systems interlinked and integrated, and the vast troves of data being generated used to control urban life." (Kitchin, 2017, p. 44), and in the Fourth Industrial Revolution (4IR), *data-driven cities* are becoming more prevalent (World Economic Forum, 2017). This section shows the various components and examples in the feedback loop, analogue and digital, that may be used by civic leaders to fulfil the promise of new sophisticated ways of engaging citizens, not just asking, but real time responses to behavioural data, and creating an efficient city working towards delivering happiness. The basic components

Figure 1: The classic feedback loop

(Figure 1), digital and analogue, of the feedback loop are:

- **Measure:** Gathering behavioural data (e.g. telecommunications, retail data), and reported data (e.g. satisfaction scores).
- **Process:** Analysing data and input and converting them into insights and recommendations (e.g. modelling and evaluation tools).
- **Respond:** Acting in response to insights, automatically or manually, based on set criteria (e.g. activities, interventions, and policies).

Rather than focusing on a couple of examples that use data, it is more useful to give several ones that show the breadth in the applications of the feedback loop. Readers may wish to follow references and focus on ideas more relevant to their context and opportunities. Nonetheless, some of the examples shown below will be discussed in some detail. One such example is Dubai's Happiness Agenda, which renders the feedback loop in the form of portfolios of projects, that are focused on each aspect of the loop.

The Happiness Agenda is an initiative launched by HH Sheikh Mohammed, Vice President and Prime Minister of UAE and Ruler of Dubai, in May 2016 with the vision of making Dubai the happiest city on Earth. The initiative is a collection of programmes and projects organised around the feedback loop, into four portfolios; Discover, Change, Educate and Measure. The Discover portfolio is concerned with ensuring a continuous

assessment of baseline information gathering, including segmentation of residents of Dubai, finding out people's needs, as well as benchmarking scientific methods and interventions around the world. The Change portfolio is then focused on turning these insights into localised interventions, while the Educate portfolio aims to disseminate findings and knowledge around happiness to the general public and the workforce in the city, as well as organise relevant training. Finally, the Measure portfolio concentrates on implementing and developing methods of measuring happiness and well-being, as well as the efficacy of the Happiness Agenda itself. These portfolios therefore map to the feedback loop, ensuring any action taken is based on data, and continuous measurement helps in making adjustments accordingly, in order to achieve the given vision.

3.1 Measure

In a citizen centric world, a key activity is to gather data in various types, like behavioural data (e.g. mobile telecommunication, or retail data), or self-reported data from surveys. Of course, the notion of collecting data to drive decisions and improve the quality of life is by no means a new idea. More recently in the past decades, city halls provided telephone hotlines to allow residents to report issues within the city. However, the advent of digital mobile changed things forever. Deployed in 2009, soon after the launch of first iPhone in 2007, *Citizen Connect* (now called *BOS:311*) was the first smartphone app to help a city to make it easy for residents

to collect high quality data by reporting GPS location and images of problems they encountered in the city. There are now hundreds of such apps around the world, and such types of data sources are now taken for granted. These are important because they avoid technical barriers and inconvenience, and make it easy and convenient for residents to use, thereby increasing adoption of engagement channels, whilst also making it easier for the city to respond and track issues, resulting in accelerated benefits to the city and its residents.

For self-reported survey data, many cities also monitor the quality of transactional services using satisfaction scores. A good example of a simple citywide system is Dubai's Happiness Meter. The simplicity in deployment and of the design of the user interface (UI) for citizen engagement were key factors for helping increase adoption rate, by reducing conceptual and usability barriers, which led to an increase in the quantity of available data. Still, there is a balance to be achieved, since over-simplified systems have reduced richness, and may limit the quality of insights. However, to measure happiness, there are also more direct measures, such as the Cantril ladder, as used in the World Happiness Report (Cantril, 1965), compound measures such as the Happy City Index (Hiscock, Wren-Lewis, Sabel, & Manley, 2016).

However, data does not have to be 'pulled' by city hall, it can also be crowdsourced and 'pushed' by residents, as was the case in Chennai in India (Hamill, 2014). A city of seven million people, and slums with a dearth of basic services in some parts, the residents chose to systematically record the location and quality of services within the city. Having such data visible on maps on a publically available platform, and showing a disparity between reality and acceptable international standards, drove politicians to act, with consequent improvement in the quality of life. As stated in their goal, the *Transparent Chennai* platform organisers aim to "enable residents, especially the poor, to have a greater voice in planning and city governance." The platform therefore generates the data and places it in the feedback loop ready for city managers to process it.

There are also various ways of measuring city sentiment using technology, for example by

analysing social media feeds (e.g. hedonometer.org). These methods have had varying successes, though controversial, and more sophisticated *sentic* analysis have also been growing in popularity, combining sentiment and semantic analysis to obtain more meaningful data (Cambria & Hussain, 2015). Another simple way of engagement is to use Tech-Totems (see an example from London in Figure 2, or New York's LinkNYC), where the device acts in both directions; collecting general feedback, or using the input channels (e.g. touch or voice), as a way to provide general or contextual information or guidance to individuals.

In the digital age, there is however a constant dilemma for citizens, regarding the availability of data. The main issues are around human rights and privacy, and accountability, and some cities are working to find ways to deal with these questions (e.g. www.tada.city). The more data is available, the more beneficial and personalised a city experience can be, yet potentially expose people to undesirable consequences by unscrupulous users, thereby necessitating legislative frameworks to protect people (Dubai Data Establishment, 2015; EU, 2016).

Figure 2: London's Tech Totem, interactivity and happiness measures



3.2 Process

Once data is available, it is analysed and converted into insights and recommendations. In the case of qualitative data, this may be done by thematic analysis, amongst many other methods (Willig, 2001). For quantitative data, simple threshold detection may be used, or more complex analysis. There are three main ways of analysing quantitative data. Descriptive analytics mine historic data to find patterns and correlations. Predictive analysis creates models that give insights into possible futures. While prescriptive analytics go further by suggesting decisions and possible impact.

The Boston CityScore, described in more detail later, is a good example of a compound index that monitors various city Key Performance Indicators (KPIs) (e.g. emergency response times), giving users an easy way to spot limit transgression. Another example of a processing system is the Happiness Impact Assessment tool, part of the UAE Happiness Policy Manual (HPM). The manual itself is meant to help government entities align their policies with the happiness of society, by adding a happiness lens on the policy-making process. The mandatory use of the impact assessment tool serves to screen policies submitted for approval, to ensure that happiness is viewed holistically in policy-making. The tool assesses the expected impact of any policy based on six evaluation domains; economy, health, education, society and culture, government services and governance, and environment and infrastructure. As a complementary tool, the Smart Dubai Office is developing SHAPE (described later), which is a system that allows users to evaluate their projects in terms of the extent that the project will serve to increase happiness as well as improve smart city KPIs. Though the HPM and its tool were deployed at a national level, they also apply at a local level, and complement the SHAPE tool, and are good examples of national and local initiatives working well together towards happier residents.

3.3 Respond

Ultimately, in order to close the feedback loop, some decision or action needs to be taken in response to insights. This action could be automatic or manual, based on set criteria, which may be to undertake certain activities, conduct an intervention, or release a policy.

For example, in an effort to increase the citizen-centricity of citywide projects, the Mayor of the Smart City of Seoul has led a strong push towards increasing transparency of data (through an open data portal), directly listening to residents by engaging them through various digital channels, as well as using city data to directly improve the quality of life. For example, the data from three billion night-time mobile phone calls were analysed to improve the scheduling and routing of night buses to better suit the patterns of late-night travellers. The response was pilot new routes and schedules, which ultimately resulted in reduced unnecessary costs of taxi rides, and increased convenience and adoption of public transport. The city took action based on data, and succeeded in improving the quality of life for its residents.

However, currently available technology also allows for responses to be personalised at the level of minority groups, and even at the level of an individual, similar to methods employed by the likes of Amazon.com to provide recommendations based on personal preferences and past behaviour. For example, the *Happy Maps* app was developed to find optimal travel paths, not by shortest or quickest route, but the 'happiest' route. The algorithm takes into account preferences, levels of street noise and attractive scenery (Quercia, Schifanella, & Aiello, 2014).

3.4 Evidence-based interventions

While conducting the research for this chapter, an interesting finding was the general lack of description of evidence (or scientific method) in the way city interventions are conducted or reported. Though there are many scientific studies for smaller scale interventions (King, 2016; Lambert D'raven & Pasha-Zaidi, 2014; What Works Wellbeing, 2017), there are fewer studies by the way of controlled well-being measures associated with large scale citywide interventions. Certainly, there is little in a classic experimental form where well-being is measured, an intervention is made in a city, followed by another measure of well-being. However, other experimental designs may be possible (e.g. quasi experiments), or alternative measures of well-being may be used instead. For example, increased use (aka adoption) of a service is a proxy for satisfaction or preference, and in the case of Melbourne, increases in pedestrian and static activity are seen as measures

of success (Melbourne City, 2005). This is because, unless people are forced to use a service, it can be inferred that increased use is because they feel it has utility. This leads to challenges in finding fully evidence-based citywide interventions.

These challenge may be seen as analogous to those associated with innovation in general. In order to avoid stifling innovation and being too bureaucratic in the selection process, a framework of evidence was developed by Nesta, that proposes a “standards of evidence” approach that “balances the need for evidence with [the need for] innovation.” (Puttick & Ludlow, 2013). The framework proposes the following levels of evidence:

- **Level 1:** You can describe what you do and why it matters, logically, coherently and convincingly.
- **Level 2:** You capture data that shows positive change, but you cannot confirm you caused this.
- **Level 3:** You can demonstrate causality using a control or comparison group.
- **Level 4:** You have one (or more) independent replication evaluations that confirms these conclusions.
- **Level 5:** You have manuals, systems and procedures to ensure consistent replication and positive impact.

Therefore, rather than insisting on only the highest level of evidence, the recommendation is to use a similar approach towards interventions that aim to increase happiness in the city. In this way, it is a more inclusive and pragmatic approach towards a wide variety of interventions, yet still able to distinguish between the quality of evidence, and therefore set expectations.

3.4.1 Case-1: SHAPE Tool (Dubai, UAE)

Within the ‘response’ part of the feedback loop, an important activity for city custodians is to develop tactical projects that will further progress their city strategy, and they must also be able to effectively and correctly prioritise such projects, based on the resources available, and other criteria. To this end, the Smart Dubai Office collaborated with the University of Oxford and the Gallup Organization to develop the ‘Smart Happiness Index’ (SHI). Derived from analysis of quantitative data, this compound index provides

a link between happiness and the six dimensions of the Smart Dubai 2021 Strategy: economy, people & society, governance, mobility, environment, and living. This project has since been taken to its next phase, which is to develop a decision tool called the Smart Happiness Project Evaluation tool (SHAPE).

Using data from a representative sample of over 4300 Dubai residents (from all segments of society, including resident expats and citizens), the tool takes into account the various KPIs within the six dimensions of the city strategy, and allows a weighting based on the correlation of these KPIs with the happiness of the sample. The tool also takes a number of other factors into account when calculating the index of each project. One such factor is adaptation, whereby the tool considers how long the benefits will last and the speed and extent to which people get used to new projects or improvements in services. Finally, based on the cost of the project being evaluated, the tool provides a cost effectiveness ratio, which represents the projected happiness gain per dirham spent.

Users simply enter answers to a set of structured questions via a simple online interface, and the tool provides the SHAPE score and SHAPE cost effectiveness ratio, and allows them to view these in comparison to other projects. This gives the user a sense of the relative meaning of the figures, rather than being too arbitrary. These outputs provide data-driven insights regarding the extent to which their project contributes towards the happiness vision of the city. This allows project managers to adjust and improve their projects to make them more effective.

The use of the tool helps support the planning and decision-making process in the public and private sectors, by allowing organisations to adjust projects for maximum longevity and impact on happiness (and will include policies in later versions). Thus, aiming for sustainable long-term happiness in a smart city, while avoiding a focus on short-term gains in happiness.

3.4.2 Case-2: CityScore (Boston, USA)

Happiness and well-being in a city context also covers being able to get the basics. As with many cities, the managers of the City of Boston decided that it was important to monitor their KPIs, and to show these in a single dashboard.

They then created a single score, which they call the “CityScore” (Boston City, 2017). The CityScore is a single aggregate number, where the value of one means that their operational KPIs are on target and within limits. Many of these KPIs have a direct relationship to well-being, such as feeling safe in the city. This simplicity makes it easy for a machine or anyone, including the Mayor, to spot a deviation from the norm, and to raise the alarm to investigate further.

Two examples show how this tool was used effectively. The first is when a drop in the score triggered an investigation that showed the source to be an increase in the average response time of Boston’s Emergency Medical Services (EMS), beyond the target maximum of 6 minutes. The response time moved from 5:59 minutes to 6:11 minutes. Since every second counts in terms of the recovery time of a patient, this was a worrying development. Upon further investigation working with the EMS team, the cause was found to be a mismatch between the city population growth, due to increased number of visitors, and the available staff and ambulance services for the 911 calls. The Mayor took action to increase the number of EMS teams and the number of ambulances, returning the CityScore back to normal.

The second example is another drop in the CityScore which was found to be attributed to the length of time it took to install and maintain city signs, including road signs. Since this was a safety issue, again action was prioritised by the Mayor. The cause was attributed to a backlog of 90 signs. Attending to this matter immediately dropped the backlog to seven signs awaiting installation, and the CityScore returned back to normal.

4. City Dimensions & Best Practice

A city is the place where people’s lives are played out, and their close proximity to each other creates benefits, opportunities and challenges. City custodians are charged with running the city to help address these opportunities and challenges to maximise the benefits for its residents and visitors, and ultimately the people’s well-being and happiness. As discussed above, this chapter organises these activities within the city into six dimension, based on a common set described by the findings of research conducted

by an EU project (CRS/EU, 2007). The project was concerned with ranking smart cities, and was therefore required to create a framework that categorised activities into dimensions. In order to use the framework here, a small adjustment was made. The sub-items within the dimensions of *People* and *Living* were rearranged to be more consistent with the context of well-being as well as cities in general, not just ‘smart cities’. Also, the two titles were changed from ‘*People*’ to ‘*People & Society*’, and ‘*Living*’ to ‘*Living Enablers*’ to be more inclusive of wider issues and make a clearer distinction between the two dimensions. The dimensions used here are therefore as follows: *economy*, *people & society*, *governance*, *mobility*, *environment*, and *living enablers*. All the dimensions and sub-items will be defined in their respective sections.

Each section below describes each of the dimensions separately, listing example sub-items within. The sections highlight some example activities from around the world, where city managers have undertaken projects that promotes the well-being of residents and visitors, either directly or indirectly. The aim is to outline general trends, and highlight some examples in some detail. It is therefore out the scope of this chapter to consider an exhaustive list of examples for each dimension with its sub-items. This way of presentation of these dimensions is intended to give readers as broad a view as possible, rather than focus on specifics. In this manner, a general understanding may be gained of how to conceptualise happiness in the city and possible associated activities. As mentioned earlier, the use of technology is seen here as an enabler and certainly not the main focus. The emphasis is the experience of the residents, and is therefore a citizen-centric view.

Examples in the following dimensions are not intended to be seen as exclusive to a particular dimension, and they may overlap with other dimensions. However, they each illustrate an aspect of the project as considered in the context of the dimension.

4.1 Economy

One of the important dimensions in any city is its economy and its ability to support business and commerce. It is a primary reason for the existence of the city, and it is why people are there, as

cities are economies of agglomeration (Glaeser, 2010). Such support is especially important in the case for entrepreneurship, and small/medium businesses, as these form the lifeline of a city's economy. Cities may support business in many ways, such as increasing efficiency of interaction with government and reducing barriers to business. In the context of this document, the city's 'economy' dimension refers to various aspects such as; **efficiency, entrepreneurship, productivity, innovation, unemployment, and inclusive labour force** (see glossary for definitions).

Due to the importance of the city economy, to the existence of the city itself, and for the welfare of its residents, most cities work to help their businesses as a priority. Some cities provide online business-centric service platforms, as is the case in the city of Quito in Ecuador, which operates the *Citizen Services Platform*. The purpose of the platform is to tackle red tape problems making it easier for citizens to undertake procedures for different purposes through the web. Citizens can handle different procedures in just one place. This reduces the need for citizens to commute to public offices, losing time queuing in lines and also prevents corruption and discretionary practices. For example, citizens can get permission for starting a business within 24 hours (especially for business that have low risk to the public or potential hazards), without the need to go to the municipal offices. Further, the platform uses Artificial Intelligence to provide real-time answers to citizens' most frequent requests. Between 2016 and 2017 the amount of transactions done through the Citizen Services Platform more than doubled. While 365,197 transactions were done online, 317,973 transactions were done in person at a public office; citizens also use the platform to get familiar with the procedures and sometimes still prefer to conduct them in person. The platform seeks to make of Quito a more competitive city. Similarly, the Dubai Economy department has collaborated with Smart Dubai to use the latest IBM Watson AI technology to provide a multi-channel service called "Rashid" ("Guide" in Arabic), built on the multi-service omni-channel platform, DubaiNow. The AI service helps potential entrepreneurs navigate the commerce rules within the city, by providing a simplified chat interface that can answer their questions using natural language, and then provide them with precise directions

on their next steps, with a full list of requirements and documentation.

There is no doubt that such automated high technology services have the potential to make people's lives easier and more efficient, freeing them to do more with their time, and alleviating frustration and dissatisfaction, thereby raising happiness in the city.

Another project in Quito is the multiple-award winning initiative, *Agrupar*, which aims to develop urban agriculture in order to guarantee food security, fight malnutrition and become an alternative source of income. Agrupar is managed by ConQuito, the agency for economic promotion in Quito. The project uses data from the municipal *Open Government* platform (gobiernoabierto.quito.gob.ec) to find critical areas in Quito that show malnutrition problems and implement the project in these areas. Agrupar also organises the commercialisation of products from the urban gardens through WhatsApp chat groups. This has become a simple and successful way to help producers to distribute and sell their products in different markets through Quito. The Agrupar project was recently awarded the *Climate Change Award* 'Impulse for Change' as a sustainable agriculture initiative with the inclusion and participation of women in Quito. There are around 65,000 people that benefit from the project, of which 80% are women. By removing barriers and having an inclusive outlook, this project also helps feed the economy as well as increase well-being by giving people a sense of independence and purpose.

4.1.1 Case-1: Social Media Entrepreneur (Dubai, UAE)

A growing body of evidence suggests a strong connection between social capital and individual happiness (Kier, Fung, Fung, & Sproule, 2011). Fostering an entrepreneurial economic environment is a common activity in cities pursuing a happiness and smartness agenda. There is a connection between social entrepreneurship and civic engagement that can impact the happiness and well-being of the people of a city. City custodians that support 'global entrepreneurs' at the local level have an opportunity to increase civic engagement by fostering a pro-social entrepreneurship environment. Research has shown that social entrepreneurs with 'born-global'

companies are driven by a motivation to give back, both to the host country that they are in and which is supporting their business, and also their country of origin if the two differ (Hochadel, 2017). Initial findings indicate that “those entrepreneurs building global companies and participating in transnational and transmigrant business networks are also embedded in and working for the improvement of their local context.” As city custodians work to build a more entrepreneurial ecosystem as part of city happiness efforts, they may also be working to increase civic engagement through social entrepreneurship.

Therefore, to help with increasing entrepreneurship in general, and social media based businesses in particular, Dubai Economy, the local government organisation in Dubai which is responsible for trade licensing, created an online platform called *e-Trader*, to help fast track licensing for social media Entrepreneurs. The platform allows social media (YouTubers etc.) to be able to easily get a trade license, in order to have the benefits of operating within a legal framework, whilst still being able to benefit themselves, their clients and their city. To date, e-Trader platform has received overwhelming success, with 869 trade license applications since its launch.

4.1.2 Case-2: LISC - Local Initiatives Support Corporation (USA)

Societies that are more inclusive generally achieve better results on health and happiness (Montgomery, 2013). Also, the social inclusion approach should address need or alienation wherever it exists (UNDP, 2007). Such an approach means going beyond enforcing human rights, to reducing poverty and barriers to social connection in the city. The inclusive approach opens up pathways for everyone to access economic and civic opportunities, and includes all members of societal activities, such as economic and social processes. Cities can use evidence-based design and technology to ensure that the broadest range of people can access the benefits of city life.

There are organisations that take such a philosophy into the realm of practice, like the Local Initiatives Support Corporation (LISC), a non-profit that brings together governments, private companies and non-profits to revive poor communities

across the USA. Established in 1980, LISC has a clear mission to create “resilient and inclusive communities of opportunity across America - great places to live, work, visit, do business and raise families.” Aside from many specific initiatives focused on areas such as health and education, LISC also operates the *Economic Development* initiative. This aims to improve the health of neighbourhoods by “investing in the physical and social assets of a community’s business district. To make this happen, we support programs and invest in projects that cultivate entrepreneurship, attract new businesses, diversify the local retail mix and stimulate employment.”

Across the US, people’s home postal code can be used to predict their access to quality jobs, schools, safe streets and good housing - and their life expectancy. LISC’s *Affordable Housing* initiative combines population need data with evidence-based design in cities such as Phoenix to drive grants, loans and equity investments in housing that give more people access to the city while reducing health care costs (LISC, 2017). For example, LISC has constructed medium-density affordable housing (4-6 story apartment buildings) in walkable neighbourhoods on a new light rail corridor in the Phoenix region.

The initiative adopts a Transit-Oriented Development (TOD) approach to urban development and situates affordable housing in walkable areas near high-quality transit. In this way, LISC brings residents closer to jobs, while reducing their expense on private automobiles. By encouraging more walking, this concurrently lowers public healthcare spending. In Brockton, Massachusetts, LISC financed a new health centre beside a grocery store. The synergy induced more walking, which tackled the neighbourhood’s diabetes and heart disease challenges.

4.2 People & Society

There is no doubt that cities are for people and society at large. Therefore, in order to thrive, a city must support its people and strengthen its society, in its various guises and cultures. Specifically, there are key elements that require attention in this dimension, and these include domains such as **health, education, continuous learning, culture, social services, human capital, and leisure, social cohesion, social inclusivity** (see glossary for definitions).

A city is certainly a de facto arena for public life. In the *Mayor's Guide to Public Life*, public life is seen as what “happens in public spaces, on streets, and in between buildings... thrives when all people can enjoy being in public together.” The guide further describes a vibrant public life such that it “promotes health, makes our cities safer... civic engagement... economic opportunity and mobility, builds social capital, and connects people to their local communities.” (Gehl Institute, 2017). Studies do show that the lack of civic participation can lead to a wider degradation of the social capital of a society (Putnam, 2000). But, what kind of interventions can raise happiness in such an arena?

With their tagline “Credible Evidence for Better Decisions, To Improve Lives”, the UK organisation called *What Works* aims to help others to ensure resources are well-spent on interventions that have a high chance of delivering the required outcome and positive impact on well-being, for people in general, and some are applicable in public life. They publish regular updates on their work, and one example of such is the “What is Community Wellbeing? Conceptual review” which is intended to clarify the various aspects of well-being in the community context, including measures, indicators and interventions (What Works Wellbeing, 2017). There are other sources of similar information, such as the Stanford University repository of evidence-based interventions *Social Psychological Answers to Real-World Questions* (SPARQ, 2017).

However, at a more personal level, physical health has a positive correlation with happiness (Ryff & Singer, 2003; Veenhoven, 2008). Happy people are more likely to be healthier. But also, physical health itself is of value to people, and since movement and exercise are associated with health, this creates a case for redesigning movement back into the lives of urban citizens. There is a growing movement marking the beginning of an active travel revolution. Trends in many global cities are seeing major policy, behaviour change and technology programmes to understand, encourage and design activity back into people's lives. This touches upon many areas of design, operation and management, and cuts across various lenses upon the city, smartness and well-being, bringing various actors into each other's lives in ways that was never previously the case. For example, land-use planning, long-

term infrastructure investment, public health outcomes, corporate wellness, and platform business models. Most fundamentally, it is being enabled by multidisciplinary research, thoughtful human-centric design, community and citizen co-creation, a spirit of city experimentation and digital technologies. In terms of drivers and outcomes, these deliver against major challenges including obesity and type 2 diabetes, congestion, dangerous air quality, social isolation and mental health. By way of context, the USA spends \$3 trillion each year treating health problems. Health care costs constitute 17% of the USA's entire gross domestic product. Design, movement and a vibrant public life have an important role to play in reducing these costs while increasing happiness. Illustrative examples are thriving, like Amsterdam's *Healthy Weight Programme* (Amsterdam City, 2013a), and other cities like Paris, Santander, San Francisco, and Dubai. In London, *GoodGym*, has runners ‘do good and get fit’ by visiting and doing tasks for people at risk of loneliness. Some initiatives have had a wider scope. Canada's national *Public Health Officer* issued a report suggesting explicit urban design responses aimed at maximizing health and well-being, leading to lower public health-care spending. Such a report emphasises the link between the built environment and health, where it “raises awareness about how our built environment provides a foundation for healthy living and ultimately our health. It is possible to improve or worsen the health of populations by changing our physical world.” (Chief Public Health Officer, 2017).

Many cities conduct citywide events aimed at boosting physical exercise and healthy habits. For example, as a way to boost both health and happiness in Dubai, the city leadership challenged the residents to a fitness drive. With a focus on fun and getting fit, the *Dubai Fitness Challenge* consisted of a “month of citywide events and activations, including more than 1,500 free workout classes at 88 partner fitness and sports facilities, 75 pop-up fitness locations for easy and convenient workouts, 16 partner sporting events, five weekend family fun carnivals and a whole range of sports and fitness activities.” Participants were able to take part using a website and dedicated mobile app, who were further incentivised with access to over 1,500 free classes as well as e-vouchers. This challenge had a

large following amongst government and private sector organisations as well as individuals.

However, for mental health, the urban setting can be hostile. People living in cities are more likely to suffer from mental illness (Kwon, 2016). Though no direct examples have been found to show smart technologies being used to enhance mental health at a city scale, the scale of the opportunity and risks are too high to ignore (see chapter on mental health in this report). There are many mechanisms that would impact mental health in an urban context, including; social isolation and loneliness, excessive stimulation and stress, crowding and reduced privacy, economic stress, transport conditions, and inadequate interaction with nature (Litman, 2017). There are however, many examples of mental health being addressed at an urban, as well as at a country scale. For example, in the UK, the *Improved Access to Psychological Therapies* initiative (IAPT) and the *Centre for Mental Health*, and in various cities, the *Centre for Urban Design and Mental Health* (UD/MH) (McCay, Suzuki, & Chang, 2017). There is also a rich academic literature on the intersection of urban and mental health domains. In today's digital landscape it is possible to screen and profile health and behavioural data to find people with potential vulnerabilities and mental health issues, though such approaches are subject to data privacy and data availability challenges. For example, the Fire Services branch of the Canadian City of Surrey analysed data on mental health and emergency calls, and found a strong geographic correlation between the two, leading the department to invest in mental health services as a means of fire prevention. New York's *HHS-Connect* on the other hand used data-sharing as their key success factor. Their project connected different government departments to reduce the likelihood of homeless people finding themselves back in jail. The innovative system would identify likely individuals, and allow social services to prioritise them for assistance, which put the individuals on a more positive track. *HHS-Connect* became a primary tool for the New York Health and Human-Services team, being accessed over 60,000 times per week, and has now evolved into *NYC Opportunity*, a more holistic service which aims to reduce poverty and improve equity within the city (Gill, Dutta-Gupta, & Roach, 2014; NYC, 2017).

Based on their experience in designing for better mental health in Tokyo, some recommendations are provided by the *Centre for Urban Design and Mental Health* (McCay et al., 2017). For example, they suggest to empower and incentivise residents to install nature everywhere (and easy access to out of town nature); nudge vehicles into larger streets to prioritise active transport, social street-life, green space etc.; popular indoor spaces like shopping malls can be green, active, and pro-social like a high street; innovative design interventions should include blue light and nature images in train stations; social interaction should be at the heart of more public space design; long working hours means the importance of commute and office design to promote better mental health; and increase awareness for urban planners and designers, as they need to appreciate urban design and mental health opportunities.

Education and continuous learning correlate with happiness (see chapter on education in this report), and human capital in general. Human capital approximately refers to the level of human traits such as education, knowledge, and culture that may be the target of investment in a society (Mincer, 1958). Interestingly, though income is reported to be the highest correlate of happiness at the national and personal level, this is not the case for societal forms in between. In a recent study exploring the various factors that contribute to *The Happiness of Cities*, human capital is shown to be the primary contributor to happiness in the city (Florida, Mellander, & Rentfrow, 2013). Therefore, in a modern digitally enabled city, there are many opportunities to invest in human capital using such technologies as online learning (e.g. Massive Open Online Courses - MOOCs), to increase the competence of the labour force in general, and in today's technological trends, in smart skills such as data science and artificial intelligence.

An example of municipal attention to education is seen in Quito with the *Bachillerato Virtual Inclusivo* (Inclusive Virtual Baccalaureate) (Quito City, 2014). The initiative launched in 2014 by the Municipality to offer a second chance to adults who had dropped out of secondary education. According to national data, around 26,000 adults in Quito dropped out of school during the last three years of secondary school. *Bachillerato*

Virtual Inclusivo allows adults to finish school through online education modules, in order to pursue a degree, find better work and be able to better support their families. The system allows the students to connect with each other at different Municipal community houses where they also get advice and support from a tutor. Online learning is also complemented with workshops focused on building life-projects and other recreational activities. The initiative prioritises those areas in Quito where school desertion is highest, as well as incidence of adults who have not finished school. Such a service raises social capital, leading to improved well-being as well as increases in economic opportunities for people, reducing the negative effect unemployment has on happiness.

4.2.1 Case-1: Healthy Weight Programme (Amsterdam, Netherlands)

Upon the recognition that 12% of ten-year-olds in the Netherlands, and one in four to five young people living in the city of Amsterdam are overweight, the municipality decided to act by launching the *Amsterdam Healthy Weight Programme* in 2013. They found that problem seems to be unequally distributed and localised to certain areas of the city, as well as being higher in concentration in communities of limited education and low income.

The municipality considered their sphere of influence and recognised other stakeholders who must be included in the plans, such as parents and the children themselves. They also used the *Rainbow Model* to conceptualise their policy, a widely used model for addressing social inequalities in health (Dahlgren & Whitehead, 1991, 2006). The policy model takes into account various layers, such as individual life-style, cultural and environmental factors, as well as themes such as education, poverty, housing, and working environment. The programme was then organised to “1) influence individual lifestyle factors by means of professionals, 2) influence children’s immediate social and physical environments and 3) influence relevant living and working conditions.” (Amsterdam City, 2013b). While the overall plan prioritises the heaviest neighbourhoods, as well as the heaviest schools, it uses a ‘running’ metaphor that recognises multiple phases from a *sprint* to a long term endurance *marathon*. The sprint phase (2015-

2018), the *5000 meters*, aims for a healthy weight for 0-5 year olds, the *half-marathon* for 0-10 year olds (by 2023), while the *marathon* for all young people in Amsterdam (by 2033). The phases are split into integrated clusters of activities, for example the sprint phase has; *prevention*, *cure*, and *facilitation*. In this way, the city managers have accepted their responsibility and role in creating a more equitable and healthier city, leading to increased well-being.

4.2.2 Case-2: Community Hub (Prince Albert, Canada)

In many cities, human services systems, such as police and social services, are response-driven. As such, they often fail to intervene before harm occurs to people who live at risk of abuse, mental health crises or illegal activity. For example, some at-risk youth in Canadian communities fall into the criminal justice system, in part because social services are not offered to them while their risk factors are elevating, as opposed to after a crisis.

Many smaller communities lack ready access to human service providers. The *Hub* model uses information and communication technology to overcome barriers of communication, geography, information sharing and service access in such communities.

This model, pioneered in Prince Albert, Saskatchewan, Canada, mobilises multiple human services in a highly-disciplined process of ongoing risk detect intervention. One example: Almost four years ago the police found a 13-year-old girl highly intoxicated and unconscious in a snowbank late at night. After receiving attention at hospital, she was returned to her mother. The police observed other indicators of elevated risk at the home. They brought this case forward at the Hub meeting the following day. Within 24 hours, a small multi-disciplinary team met with the mother and daughter. It was learned that a number of months earlier, the mother had recently entered into an abusive relationship with a man recently released from prison. The girl’s grades had deteriorated, the family was under support by social services, and the mother exhibited clear signs of domestic violence. This relationship was having a profound impact on the family. Support was provided to get the woman out of the relationship, and the family was provided with the comprehensive social and

mental health supports required. The girl and her family have not required any additional support since this intervention.

This Hub model, by providing upstream and earlier service access, has led to a reduction of risk before harm occurs to community members (e.g. violence, overdose). Multiple evaluations have shown that the hub model of information sharing improves service access, reduces barriers to service, and decreases aggregate risk. Nationally [CM5], 95% of clients in Canada (N = 9,500) accept the services and supports offered to them through this upstream intervention model.

4.3 Governance

Ultimately a city needs to be governed, and the way it is governed and how the residents undertake civic engagement will influence the well-being of the residents. In this sense, there are many aspects to a city's governance that are important for a happy city, such as **leadership, transparency, participation, public services, and public-sector efficiency** (see glossary for definitions).

Today's successful leaders exhibit attributes and behaviours that foster an environment of better governance, with a focus on delivering on happiness. This can be seen at national levels, such as Bhutan's move away from GDP and adopting instead the *Gross National Happiness* (GNH) as the primary indicator of progress, and the UK government's well-being initiatives, as well as city managers like Melbourne's councillors, redesigning and transforming the city for people, or leaders like Seoul's 'Listening Mayor' spearheading the *Sharing City* initiative, and Dubai's ruler launching a state-wide and systematic *Happiness Agenda*. Such is the emphasis on moving away from traditional problem solving, towards a broader positive approach akin to design thinking, with open and transparent decision making.

The tradition of local leadership is pragmatic by necessity. Local leaders need to ensure the well-being and safety of the citizens and residents, which in modern times takes the form of meeting basic needs, such as safety and health. Local leaders need to ensure that waste is collected, the roads are safe, education and emergency services are provided and the local budget is balanced to provide for these basic services.

However, local leaders in emerging global cities working towards happiness take a broader approach to local governance, where some "elected officials have embraced a role shift from administrator and deliverer of city services at the local level to becoming an activist, a legislator and innovative political entrepreneur at both the local and national levels." (Hochadel, 2017). Leaders should be looking for opportunities to increase social capital and the quality of life in their cities, with residents gaining higher expectations, as they get to know more about what other leading cities are doing.

Rather than a solitary focus on local transactional activities, such leaders seek more global transformational activities to create a more thriving local ecosystem. It is these local leaders in emerging global cities, with a focus on quality of life, knowledge hubs and specialised economies, that are increasingly seen pursuing a happiness agenda at the local level (Clark, 2016).

New research has identified qualities of local leadership that could facilitate the transition of a local area to one that seeks to improve well-being through global connectedness (Hochadel, 2017). These local leaders are combining local pragmatism with a more global, idealist outlook – a sense that through shared global alliances they can improve their local well-being. These leaders work to meet local needs whilst also achieving global solutions to shared problems – such as improving local air quality and the impacts of climate change. A local government that has built a global governance structure is the London Borough of Hackney. Hackney's economic turnaround during a time of austerity indicates it has an ability to be adaptable to global dynamics. However, it is unclear if the recovery can be sustained. During the last 10 years it has been able to brand itself as an arts and technology hub, thereby creating a compelling global identity which is recognised in many places around the world. Hackney's councillors are willing to experiment with new ways of working, test new partnerships and seek solutions abroad. It has shown that it can attract investment as well as tourists and that it is willing to engage in creative public/private partnerships to achieve goals. It is this type of local leadership, with a strong focus on creating a thriving local economic ecosystem, supporting social entrepreneurship, facilitating local-to-global connections and

encouraging a high level of civic engagement that helps to foster conditions for happiness.

Modern city leadership are also increasingly engaging city residents and visitors to find out about their needs, and giving them more room for inclusive participation, and in some cases co-design. One alternative form of civic engagement is crowdsourcing, which allows people a regular channel of communication to the city managers. This may be done by various means, usually through the web or mobile apps, as used in Amsterdam's crowdsourcing portal '*Voice of West*' (Amsterdam City, 2017), and Dubai's *Smart Majlis* (described below). However, the EU's *Sharing Cities* programme goes further, aside from sharing best practice regarding affordable smart city solutions, it offers a "framework for citizen engagement and collaboration at local level, thereby strengthening trust between cities and citizens."

However, although participation is important in order to allow the people of the city to voice their opinion, and to have a good platform to be heard, attention should be given to the biases inherent of crowdsourcing. A study exploring quality of idea and social effects within innovation platforms concluded that "Online consumer votes are unreliable indicators of actual idea quality" (Hofstetter, Aryobsei, & Herrmann, 2017). Social biases such as influencers having more 'likes' than their idea deserves, as well as reciprocal voting, which tended to skew data, reducing the meritocratic quality of the innovation funnel. The research recommends using a smaller crowd of specialist, rather a larger random crowd.

Such an approach to engagement also increases transparency in the way it also provides accountability, including accountability to the 'promise' of increasing happiness, as is the case with Dubai's Happiness Agenda, making progress transparent with the published results of the Happiness Meter.

Still, some organisations are experimenting with further ways to innovate in engagement methods. For example, *HappyToPay*, a joint initiative by Smart Dubai and Dubai Police, where city drivers who have incurred a traffic fine, are presented with a special screen on the police mobile app, which gives them an opportunity to view the expenditure ratios of the city's annual budget, in terms of the expenditure on various domains in the city, e.g. health and security. The app also

provides them with a way to suggest their 'preferred' ratios. Such engagement, not only increases transparency, but also gives people a way to voice their opinion to the city leadership. Another example is the multi-partner EU funded project, *OrganiCity*, which explores how various stakeholders in the city; citizens, business, and the city managers, are able to collaborate and co-create "digital solutions to urban challenges" (OrganiCity, 2016). Again, such collaborative projects bring people's needs onto the design table, while maintaining a sustainable business case, to solve city challenges.

4.3.1 Case-1: Smart Majlis (Smart Council) (Dubai, UAE)

In 2015, Dubai's leadership launched the *Smart Majlis* by declaring a target to give "all members of society the opportunity to attend our Majlis [council] and to present their ideas and comments, consult together and work hand in hand to promote the development process. This can only be implemented if we integrate the traditional idea of the Majlis with advanced technology."

The Smart Majlis is an online and mobile app platform that allows participants, anywhere in the world, to submit suggestions, and innovative ideas aimed towards improving the city of Dubai. The initiative's stated objectives are to provide a direct channel to the senior leaders in the city. The system provides management of the ideation stream, while ensuring inclusivity, and rewarding innovation. A key part of the initiative is the transparency of the process. With over 41 government and semi-government entities registered in the system, participants are able to track their submissions as their ideas are; accepted, redirected or rejected. Receiving entities are accountable for the ideas they receive and must show clear reasons for rejections. Also, individuals submitting ideas remain the owners of the copyright of the ideas. An important part of the system is the trust users have, especially that the city's Ruler stated that he will personally follow progress of the ideas that make it through the process. Interestingly, 50% of the ideas came from local Dubai residents, while the remainder came from international "Dubai fans". The Smart Majlis system met with overwhelming success with state-wide adoption and use, and is managed by a team of 450 trained individuals across the city.

4.3.2 Case-2: Gobierno Abierto (Open Government) (Quito, Ecuador)

When cities are brave enough to be transparent and open with data, citizens can be empowered to create applications and initiatives that make life easier, more convenient and more affordable for all. Barcelona's *Open Data BCN* is a fine example in this regard, and *Transport for Cairo*, used crowd-sourced data to create the first ever map of that city's informal transit network, as well as Transport for London's elaborate data portal (Transport for London, 2017).

Further, residents of Jakarta use a mobile app, and back-end dashboard for the city managers, to help monitor many aspects of the city, such as flooding, bribery, and damaged roads. The basic idea is also used in Quito, with the *Open Government Platform* (gobiernoabierto.quito.gob.ec). Through "Gobierno Abierto" ("Open Government"), the municipality has been able to gather and update scattered data around the city. Quito's open government platform is part of an open government global initiative seeking to; improve governance performance through the enforcement of transparency in public administration, foster collaboration between citizens for the development of solutions that can solve problems of public interest, improve public services through a platform that allows information management and interaction between citizens and public administration, and strengthen democracy and its institutions. The Open Government Platform is linked to Quito's development plan, which is guided by three principles: a smart city, a city of opportunities, and an inclusive city. To this end, the platform is supported by three principles: *transparency* regarding decision making, budget allocation, actions and outputs, *collaboration* to foster the coproduction of innovative urban solutions through technology, *participation* to foster the involvement of citizens in public affairs and strengthen the compromise of political organizations with citizens.

The platform gathers different layers of data about the city, including services, infrastructure, demographics, poverty indicators, access to services and others. The platform allows citizens to download city statistics and geographical data, as well as management indicators regarding the work lead by the municipality. Further work is underway to make the platform more available

to citizens, with new features, such as participatory budgets through the web. Mostly, the data have been used by citizens, regarding economics, inclusion, tourism, housing, demographics and gender.

4.4 Mobility

People need to somehow move around the city to go about their lives and conduct their business. There are of course many ways residents and visitors travel within the city, and the quality of city mobility influences their well-being. There are several aspects to mobility, such as ***autonomous vehicles, active travel/mobility, commute, public transport, and logistics*** (see glossary for definitions).

Of the many types of travel within a city, commuting is of a high priority as it is a primary activity for people. However, long commute times are certainly negatively associated with well-being (Stutzer & Frey, 2008). Consistent with previous research, a study conducted by the UK's *Office of National Statistics* (ONS), concluded that "given the loss of personal well-being generally associated with commuting, the results suggest that other factors such as higher income or better housing may not fully compensate the individual commuter for the negative effects associated with travelling to work" (ONS, 2014). However, for people who change from driving to transit (and potentially Autonomous Vehicles (AV)) or active travel such as cycling, the research found that there is long term improvement in life satisfaction (Olsson, Gärling, Ettema, Friman, & Fujii, 2013).

Due to the various benefits of active travel to the city and its people, such as low cost mobility, reduced congestion, and increased environmental welfare, there has been a significant rising trend in the deployment of initiative like bicycle sharing schemes in many cities across the world; London, Chicago, Barcelona, and Warsaw, to name a few. Though there are also obvious benefits towards health and well-being, where "greater time spent actively commuting is associated with higher levels of physical wellbeing" (Humphres, Goodman, & Ogilvie, 2013).

Also when asking "Does active commuting improve psychological wellbeing?" one study concludes that "in addition to potential physical health benefits, the positive psychological

wellbeing effects identified in this study should be considered in cost-benefit assessments of interventions seeking to promote active travel.” (Martin, Goryakin, & Suhrcke, 2014).

Another form of active travel which has also seen growing interest, is running. One particular hackathon event in London has tried to capitalise on this is *RunHack*. The event had a declared goal to “make our cities more run-friendly”, by tackling real and perceived barriers to running happily, safely and with ease in cities. The event surfaced over 50 ideas - from products and services that increase feelings of safety and confidence; to ways of assisting people move between mass transit and active travel; to new road rules to help runners, walkers and cyclists. The outcomes are being used in start-ups and to influence city organisations, such as *Transport for London* and global transit body UITP with their own research, public policy, campaigns, products and services.

However, it is important to note that some studies reported that though active travel such as cycling or walking will improve overall physical well-being, the context of the environment of the activity, e.g. heavy traffic or undesirable neighbourhoods, will influence their overall experience as well as their anxiety levels (Bostock, 2001). Such findings suggest that adequate and safe provision for active travel is important to raise mental well-being. Nonetheless, being able to know what active travellers are doing within the current infrastructure may also be helpful to city managers, and such data could be obtained from a variety of sources. For example, Strava's new *Global Heatmap* shows where people are using the mobile app to track their physical exercise, including cycling and running (Strava, 2017). Many cities, e.g. Amsterdam, are now using such data to plan infrastructure, as well as using other sources and insights for better planning of activity areas (Social Glass, 2014).

Autonomous Vehicles (AV) also have the potential for improving well-being, not just active travel. However, this new option has mixed opinions, as some have also highlighted its potential to corrode well-being. The global transport body, UITP, suggests that AVs a potential game changer for urban mobility, and in their SWOT analysis of AVs, they highlight some strengths as “social inclusion: more mobility options for all (elderly people, disadvantaged

communities, children, less populated areas), solutions for Last-Mile, Door-2-Door, neighbourhood and feeder services” (UITP, 2017). Others also suggest gains in health from AV operation in last mile travel (Woodcock, Givoni, & Morgan, 2013).

However, others have pointed out that aside from some benefits, due to the ease of use, AVs may increase travel miles and congestion, and therefore have the potential to spark a “resurgence of sprawled development and its interconnected impacts [such as] higher obesity levels or other negative health impacts intertwined with lower levels of walking and cycling.” (Thomopoulos & Givoni, 2015). They also suggest that such an innovation may “exacerbate social segregation between those able to afford AVs and those who will not.” On the other hand, they also highlight potential benefits of a “unique opportunity to de-privatise car use through sharing... (sharing can take place temporally and spatially)”, where AVs make it easier to persuade people to leave their cars, in favour of a shared vehicle. Such an evolution could lead to further positive outcomes by reducing environmental impacts. In addition, they also encourage shifting focus from *private autonomous* to *public autonomous* where “gains can even be extended if such autonomous public transport is integrated with higher levels of walking and cycling especially for the last mile travel.” (Thomopoulos & Givoni, 2015; Woodcock et al., 2013).

Therefore, with the increase in shared and autonomous vehicles, it is important for city custodians to consider how they regulate such a technology, and how they allocate its infrastructure with respect to other shared modes of transportation, as well as cycling and walking. Managers should therefore consider taking proactive approaches to ensure these innovative technologies do not worsen sprawl and congestion. Still, there are undoubtedly legitimate cases of various other forms of transport to access the city. However, the demand for such forms may be managed in order to incentivise and dis-incentivise appropriate users. This will reduce congestion, as well as improve well-being.

Mobility departments should therefore consider their remit to include well-being. By managing demand and creating better mobility choice architecture, they succeed in improving life

satisfaction by changing people's lifestyles and well-being. Just as cities such as Mexico City are using demand data to shape parking fee policy, regions such as Metro Vancouver are preparing responsive road pricing schemes that shape demand and residents' daily mobility choices in order to maximize ease, efficiency and healthy behaviour for all. In a bid to control traffic in the city, the Mayor of London's office introduced the *Congestion Charge*, which required drivers to pay a fee to enter the inner zone of the city. Five years after the introduction of the initiative, the number of cars in the zone fell by 41%, the number of buses rose by 19%, and bicycle use increased by almost 50% (Gehl, 2010). These cities are already undertaking, or planning, activities that shape demand using smart mobility pricing, or adopting autonomous busses in priority lanes, or using big data and policy to favour users who share vehicles and use carpooling options. Such activities 'nudge' people's behaviour towards happier and more sustainable living, are organised by various entities such as *Behavioural Insights Team* (UK Gov), and the *Social and Behavioral Sciences Team* (SBST) "Nudge Unit" (USA Gov). Some cities are also experimenting with various incentives to shift commuter volume. In Chicago the results of a pilot project showed that 18% of commuters were persuaded to travel at different times during a period with a predicted rise due to a major sporting event. Travelers were offered various incentives such as a refund or a charity donation. The data showed alleviated congestion and a better travel experience (UI Labs, 2017).

Nonetheless, the expectations of travelers for a better user experience are on a constant rise, and innovators such as Uber and Lyft take advantage of the ubiquity of smart technologies in the hands of travelers to create new markets and complement/compete with city transit. Many cities are riding this new wave of constant innovations to see how they can improve the travel experience, as well as reduce congestion. The *Office of Extraordinary Innovation* (OEI), in Los Angeles CA, teamed up with such companies to create various offerings, and most recently are piloting a service called *Metro MicroTransit*, which "performs like a continuous vanpool and will dynamically route vehicles to meet Metro rider demand, saving time compared with fixed-route options, and removing single-

occupancy vehicles from our streets and free-ways." (Schank, 2017). Such alliances are springing up around the world and are seen as "private sector technology meets public sector policy goals, bringing the best of both sectors together for the common good."

The fast rate of change in technical innovations is not unique, as urban transportation models are very much evolving too. There are however major social, and legislative challenges to be overcome, with various providers having to rethink their operating commercial models. For example, in San Francisco and other cities, the Ford-owned minibus *Chariot* (which crowd-sources its daily routes), whilst popular with its customers, has caused congestion at bus stops, and has failed in some cases to ensure that drivers are properly licensed. The company has therefore been on the receiving end of other commuters complaining, and has certainly not raised their levels of happiness (Marshall, 2017). Such challenges have also been seen in many cities, as well as incumbents like taxi drivers complaining of turf transgression, and even officials of city transportation are unsure of the effect such new services will have on their own offering (Hill, 2014). As such, new 'smart' mobility systems are running up against old challenges in cities, such as the limits of public road space. When private service providers are invited to use data and network solutions to enable new ride-sharing systems, policymakers and transportation authorities need to ensure that traditional city infrastructure and services are not overwhelmed or disadvantaged.

Nevertheless, driven by the goal of improving the overall commuting experience in the city, some mobility authorities are using sophisticated traffic real-time optimisation systems, like SCOOT, used in London, Toronto, Beijing, and being deployed in Dubai. These systems have had typical reductions of journey times by 15% (Wang, Liu, Wang, & Li, 2013). Still, other city managers, e.g. in Amsterdam, look at the task from a positive angle. They ask about how can they change the seemingly negative language, e.g. 'traffic jams', into a positive action, e.g. 'get to work', and use technology to drive such initiatives from a positive experience point of view. Such a point of view will necessarily be looking at what are classically seen as problems, but turning them into citizen-centred design opportunities that look for ways of delivering

citizen needs, with a more inclusive stance, and using smart technologies to do so.

Safe mobility for pedestrians is also an important consideration. A major report on the traffic statistics in the USA showed that “overwhelmingly, children, older adults and people of color suffer disproportionately from traffic violence.” (Smart Growth America, 2014). Though similar analysis may not be readily available for other countries, the fact that there is a significant disparity in the safety records within groups of race and age in the USA, raises an alarm that should be attended. This is an ethical concern, a public health challenge and a smart cities challenge. Transportation planners in the USA are pursuing a data and evidence-based approach to deal with it. The most widely-used traditional approach to setting vehicle speed limits uses the speed at which 85% of vehicles travel during uncongested times (NACTO, 2017). Although this approach was developed for rural highways, it has long been applied to busy, urban streets. But planners are now calling for a new approach driven by better data. The US National Association of Transportation Officials is calling for change. While others in the transportation profession are calling for the creation of a new network of sensors to measure not just vehicles (Lower, 2017), but the number and speed of vulnerable road users. With better data on vulnerable users (including pedestrians and cyclists) urban street networks can be redesigned and speed limits can be set to protect all travellers. Cities such as Vancouver and Copenhagen count cyclists. Meanwhile, urban streets are now being redesigned to ensure Vision Zero (or zero traffic fatalities) in cities from Vienna to New York City (Vision Zero Network, 2017).

The above are just some of the factors to be taken into account regarding mobility and well-being. In order to monitor these factors in a more systematic manner, in 2016, the Urban Mobility Innovation Index was launched, and aims to highlight the various aspects of mobility within a city, to ultimately help the city improve its mobility. The index also includes customer experience and well-being elements. For example, the seamlessness of the user’s journey, connectivity across the system (providing multi-modal choices), the usability of the city’s transport system, safety, accessibility, as well as fairness and equity of the transport system as proxies for happiness.

Data are collected globally from cities invited to participate in the index (UMii, 2016), which are then consolidated into a report. The index and its report provide insights into urban mobility and innovation in cities across the world. Such indices that include the human element into mobility suggest that it may be useful to consider redefining multi-modal transport experiences, and not consider commute time as the only main factor (e.g. traffic jams), but also the quality of the experience itself.

4.4.1 Case-1: Demand Management (Arlington County, USA)

Based on their research that supports the case for building transportation demand management to improve communities, Mobility Lab (an international think tank based in Arlington county, VA) are able to work in a living lab for transportation development. They take advantage of the prevalence of smartphones penetration (approximately two thirds in the USA), along with increasing availability of open data within cities like Washington D.C., New York City, Chicago, and Los Angeles. They build tools that allow people to consider new transportation options to combine various modes of transport like walking, biking, driving, ridesharing, and transit for getting to social activities and work. Their work has persuaded 40,000 people to switch from car to active travel. Also, their tools included real time transit information, crowd sourced bicycle station location suggestions, and heat maps for bicycle accident hotspots, giving people more options for travel.

4.4.2 Case-2: Autonomous Shuttle (Civaux, France)

Regardless of the various challenges, there is a time and place for autonomous vehicles. Transdev, the French mobility company, is already operating a fleet of AVs at the nuclear power plant site in Civaux, France, using autonomous shuttles to transport personnel around the site (UITP, 2017). Also, in mid-2017, they announced their plans in partnership with Delphi, the automotive company headquartered in England, to operate the first European on-demand driverless mobility services on open roads in Paris-Saclay and Rouen (Transdev, 2017).

However, aside from the many trials, one that is worth mentioning is the project in the Japanese town of Nishikata (Tajitsu, 2017). The town is the testbed for an autonomous shuttle. *Robot Shuttle* arrives at the door of elderly people's home to take them to places such as social gatherings, without the need for them to go to a bus stop. This is not yet operational but does demonstrate the viability of the concept. Such projects combine mobility with well-being by increasing social contact, especially for segments that most need such interventions towards increased well-being. These systems are also being explored in other cities such as Singapore and Dubai.

Such projects are able to provide better quality mobility, reducing the chances of accidents (with human error being the most likely cause of accidents), and also providing more frequent mobility in places where it is low, giving aging populations access to community and health services that would be otherwise not so accessible.

AV technology is already here, with AV-ready Tesla for private travel, and the above shuttle being ready for public travel. As mentioned in the UITP policy brief (UITP, 2017), cities should already be making plans, to integrate AVs into the city transport system, as viable last-mile mobility solutions, taking into consideration the various challenges and opportunities.

4.5 Environment

The quality of the natural environment of a city is a key contributing factor towards well-being in the city. However, this has both a direct local impact, as well as a global impact. Therefore, it is important to attend to various environmental aspects such as ***air quality, waste, electricity & water consumption, and sustainability*** (see glossary for definitions).

No doubt that many cities are keen to improve the quality of their natural environment. The large C40 consortium of city mayors, made the *Fossil-Fuel-Free Streets* declaration: "As mayors of some of the world's great cities, we are committed to transforming them into greener, healthier, and more prosperous places to live. Our streets must be safe and accessible for everybody and our air must be clean and free

from harmful emissions. This will improve the quality of life for all citizens, and help tackle the global threat of climate change." (C40, 2017). Such direct action by prominent mayors is indeed positive towards improved well-being, sustainability and efficiency in the city. However, to what extent do such interventions benefit the environment directly, or ultimately benefit the environment as an end product, but is initially targeting well-being benefits? For example, a business-centric initiative may help the environment (e.g. recycling), whilst also helping the owners and benefactors of the business, by providing employment, purpose, income etc. There are many projects that aim to positively change people's consciousness about the use of natural resources, with concurrent sustainability impacts, including the use of smart meters and associated incentives and persuasion techniques reduce consumption, such as gamification and social pressure. In Vancouver, the *Greenest City* action plan addresses GHG (Green House Gases) reduction and access to nature simultaneously. For example: capturing rainwater in 'rain gardens' to reduce load on storm water system, while creating biophilic environments for citizens to enjoy on every street. Another example is *Amsterdam Rainproof*, an initiative that supports citizens to take measures with regards to heavy rainfall. Besides affecting large infrastructures, the impact of local measures is also important, e.g. roofs and gardens (Amsterdam City, 2014). This program is supported by the water company (owned by the City), helping citizens to take measures and work together with insurance companies and local construction companies.

However, some programmes also contribute to the cities overall environmental KPIs, such as Quito's carbon and water footprint calculator. The aim is to create consciousness about the environmental footprint in the city. An online calculator allows a citizen to calculate their carbon and water footprint for different activities. Citizens may choose between different categories: home, school or business. The calculator compares every person's footprint with the average target footprint. Once the footprint calculated, the citizen receives feedback from the municipality regarding tips and recommendations to reduce their footprint and how to compensate for it. The project is part of transforming Quito into a more sustainable

and environmental friendly city through citizen education and good environmental practices.

4.5.1 Case-1: Water Clearing Facility (Maribor, Slovenia)

With limited funding for major projects, the Slovenian government wanted to address the environmental decay of the river Drava, running through the city of Maribor, which was the result of neglect after a long period of war. The natural habitat for much wildlife had deteriorated, leaving health risks to the local inhabitants. The city managers wanted to fix the situation and return it to a better condition and to follow a strategy of a sustainable and circular economy. They understood that “having well-preserved natural surroundings is important for the well-being of inhabitants, it provides better air quality (in this area further work remains to be done) and it makes the city attractive to live in or just to come and visit.” (U4SSC, 2017).

The city managers used the PPP (Public-Private Partnership) approach to clean up river water quality with a waste water clearing facility and improve many aspects of the quality of life in Maribor (U4SSC, 2017). Though they were already following the city's *Integrated sustainable urban development plan*, they wanted to end up with “further integration of the river in inhabitants' lives, with different activities on the river banks planned with the preservation of drinking water quality is kept in mind.”

The project eventually reaped many benefits for the city and its citizens in many ways. The project created new green economy jobs, reduced dependence on materials from public utility companies; educated citizens on the “benefits of a sustainable way of dealing with waste and different materials”, and water consumption was lowered, while cleared waste water was brought back into the city system. Upon completion of the project, aside from returning the water quality within standards and enabling wildlife to flourish again, residents were able to enjoy the river for sports and leisure activities without health risks, thereby improving the overall quality and comfort in the city.

4.5.2 Case-2: Goodwill Waste (Seoul, South Korea)

In the ‘Sharing City’ city of Seoul, the city managers were faced with the challenge of finding a workable balance regarding waste collection and disposal. The proposed method was the *Volume-based Garbage Collection Fee* (VGCF), which was different to the existing system which was a property-based tax (Kim, 2004). The new system was based on the principle of co-production, being a cooperation between citizen and city and is akin to volunteering, giving residents a sense of civic engagement. Another aspect was the fee which is based on the amount of waste being collected. These two aspects, gave residents an indirect incentive to recycle, by being motivated to sort their waste before collection, as this reduced the fee they paid. The scheme was indeed successful at shifting behaviour and resulted in a reduction of waste per capita of 30%, from the start of the scheme in 1994 till 2000. The scheme also resulted in increased amount of recyclable material collected, and importantly increase the sense of civic engagement by the residents, which is a strong contributor to well-being. This is in addition to the fact that people knew they were helping the environment, and the actual physical benefit towards a more sustainable city.

4.6 Living Enablers

Though life in the city is influenced by many activities, as shown in the various dimensions listed in the previous sections, there also exists the location and space itself as the physical substrate and the many other urban structures to enable living in the city. These structures take various forms, concepts and scales, such as **green & blue spaces, housing, safety, infrastructure, urban planning, and connectivity** (see glossary for definitions).

With regards to living in a city, the concept of a place is important to the extent that people have to live somewhere, and where and how they live is intimately connected with the quality of their lives. A *place* essentially has three elements; *materiality*, the physical part; *meaning*, as constructed by individuals or groups; and *practice*, what people actually do (Cresswell, 2015). Though in today's increasingly digital and smart world, the experience of ‘place’ may be

mediated by technology. Consequently, places can be simultaneously used for various activities (e.g. socialising, working, and shopping), all from the same place.

How people perceive such materiality of a place, or even their mental ‘image’ of the city as a whole, is a topic of longstanding academic interest (Gibson, 1979; Lynch, 1960). A typical recommendation is to make the city’s form more vivid and memorable to the residents and visitors, leading to a more navigable, understandable and legible environment. Further, the nature of people’s perception of their space occurs at various scales of a city relative to the human form (Hall, 1963, 1966). Equally, cities should be inclusive and accommodate all segments of society, with their different needs. This is especially important in the current growth of the aging population, and therefore attention should be given to “age friendly cities” (Handler, 2014). The scale can also be at various ‘speeds’ and perspectives, e.g. at walking pace, and driving pace, but rarely experienced at the helicopter view, which is unfortunately a common view for some architects looking at a model of the city during the planning process (Gehl, 2010).

Nonetheless, there is much to extol the virtues of the walking pace, in a walkable city. Walkable cities are deemed healthy cities, physically and socially (Speck, 2012), and many architectural firms actively promote and design for walkability, where “walking positively transforms a city’s health, economic productivity, and ecological outlook. For us as individuals, it influences how we connect with family, friends, work, and nature.” (Arup, 2016). Therefore, since walkability makes a city more liveable, encouraging such an activity has a positive influence on well-being. To mediate for such activities, and provide a more contextually relevant view, a particularly interesting depiction of a city is not to see it from a static distance or geographical point of view, but from a dynamic sense that takes action into account, such as walking, or more generically, reachability. An interesting novel way of viewing a city presents the user in the middle of concentric rings that show walking distance in terms of walking time (Lui, 2017). In this way, a person will be able to compare many destinations that are the same walking distance away. Such an interface would encourage people to walk by offering choice that is relevant to the way they experience the city.

Another walking related app goes further and rates cities in terms of walkability (Walk Score, 2017). Also used by real estate agents and buyers, the *Walk Score* app can score walking routes, taking various qualitative aspects, such as amenities, street barriers, and delays due to crossings. Ultimately, living space has to accommodate these perceptions and scales, whilst still offering the opportunity for social connections, and even fun, since humans are a social creature, and places have a strong influence on well-being, even more than possessions (National Trust, 2017).

Increasing the sense of a meaningful place has been highlighted by Jane Jacob’s emphasis on close and regular interactions between people, and the sociality of sidewalks (Jacobs, 1961), leading to better places. There are many publications that address how principles of place-making achieve “urban happiness” (Sepe, 2017; Silberberg, 2013). One such publication on “placemaking and the future of cities” suggests a bottom-up process, where place-making is a process which “results in a place where the community feels ownership and engagement, and where design serves function. Here, human needs will be met and fulfilled... [an] approach that empowers and engages people in ways that traditional planning processes do not. It draws on the assets and skills of a community, rather than on relying solely on professional ‘experts’.” (Project for Public Spaces, 2012). The authors explain in detail ten specific ways to improve a city from a place-making point of view in order to create “vibrant, safe, attractive public spaces.” For example, they emphasise multi-use squares and parks, building local economies through markets, creating a comprehensive public space agenda linked to the public health agenda, and restructuring government to support public spaces. An interesting recommendation is what they call “the power of 10” which emphasises the exponential benefits derived from the multiplicity and variety of activities and uses within spaces.

Though the topic of urban planning will be given full attention in the upcoming report, as the follow-up to this chapter, it is still worth giving a brief mention here in order to contextualise it within the city dimension of *living enablers*. Therefore, to support people in being able to practice what they do in their city, it is important to consider the design of the city. In general, according to a study in New Zealand (Ministry

for the Environment, 2005), employing good urban design practice results in a better quality of life, and has the potential of improving the health and social fabric of a city. Such benefits may be realised by paying attention to basic elements of urban design, such as mixed land-use, density, connectivity/mobility (see mobility section), and user participation, (see governance section). Also, data on the psychophysiological effects of urban spaces and systems can be used to inform design decisions in order to create environments that boost feelings of restoration, place attachment and trust in strangers, as well as workplace productivity (Silberberg, 2013). Such insights may also be used to alter individual decisions regarding transportation choice, civic participation and likelihood of return to a place. The city of West Palm Beach in Florida, used research in neuroscience of place to inform a design competition on waterfront and downtown revitalisation (Happy City, 2017b). Tactical interventions in New York, London and Bogota are also being used to test effects of evidence-driven design. In Vienna, city planners draw on the user experience domain to boost gender equity in public space design.

Also, as will be discussed further in the upcoming follow up chapter, the way that a built environment is laid out and organised, and the how it affects people's daily interactions with each other, has an influence on "our feelings of trust, our willingness to help strangers, and our happiness with our living conditions." (Ellard, 2015, p. 138). This has been demonstrated by many studies, ever since the classic "lost letter" experiment that explored trust in an urban setting (Milgram, Mann, & Harter, 1965).

Still, a city should also provide for connecting its people within the cityscape, not just physically, but also digitally. Due to the ubiquity of Internet connectivity, it may be easy for policymakers to forget that not everyone enjoys easy access to telecommunications. Since, Internet connectivity correlates to happiness as seen in Gallup World Poll data, it may be seen as a basic living enabler in a modern city. The provision of such a service has been a growing trend, and has many benefits such as fostering citizen interaction with the city, improve people's access to municipal data, support innovation, and improve tourism activities, and inclusivity (for those who cannot afford it). WiFi delivery in public places, has been provided

by various means, including PPP, as seen in London, Seoul, Dubai, and NYC. In Quito, Ecuador, the municipality installed the *#QuitoTeConecta* initiative, which seeks to improve connectivity in the city and provide citizens and tourists with free access to internet in public spaces. Since 2014, 460 WiFi points have been installed in strategic parks around the city, primary public transport stations, municipal communal houses, and jointly with university campuses. On average, 5000 users connect to the city internet network on a daily basis. New York City is also ensuring connectivity for all by transforming 7,500 payphones into *LinkNYC*, a free municipal Wi-Fi network offering up to gigabit speeds, free phone charging and free national calling. On-street advertisers pay for the upgrades. Thus, the program reuses existing infrastructure, while boosting the profile of local businesses and, most of all, gives more people more access to the Internet.

However, not just the layout of a city influences people's well-being, so does nature. The concept of *Biophilia* is interesting, as put forward by the biologist E.O. Wilson in the 1980s – the idea that there is a natural, instinctive bond between human beings and the natural world (Wilson, 1984). This topic has been well researched in environmental psychology, resulting in a wide body of knowledge about the experience of nature (Kaplan & Kaplan, 1989). For example, natural spaces have less crime, and people are happier; "Residents living in 'greener' surroundings report lower levels of fear, fewer incivilities, and less aggressive and violent behavior" (Francis E Kuo & Sullivan, 2001). Also, the availability of green and blue spaces is associated with better mental and general health (de Vries et al., 2016), and biophilic design can improve the quality of life, even in prisons (Söderlund & Newman, 2017). More recently, this has been recognized as a crucial aspect in the design of workspaces, due to the impact of greenery on productivity and creativity. At *Carlo Ratti Associati*, an urban design agency, they often apply this concept – such as at the *Agnelli Foundation offices* in Turin, where people can work in a well-designed garden. Access to parks and natural spaces strongly correlated with trust, neighbourliness, health, productivity. See the NRPA's publication on *Parks and Other Green Environments* for specific urban case studies (Frances E Kuo, 2010).

The concept of 'home' is being explored afresh, not only that of workplaces. The changing nature of household composition in many cities is having an effect on social well-being and urban efficiency. For example, the most common household in countries such as Canada, consists of one person. Architects and entrepreneurs are exploring new housing models, such as co-living spaces (www.roam.co in various cities, or London's *Collective Old Oak Common*), co-housing and adult dorms. Governments have been slow to prioritize such innovations or monitor their effect on social trust and well-being. One example of redefining living space has been seen as a result of increasing San Francisco rents, which are encouraging some people to extend their sharing philosophy into living arrangements. Young professionals in the city and greater Bay Area are taking over leases of grand estates and transforming them into communal living spaces. The *Open Door Development Group* is a real estate investment firm established to buy buildings and convert them into co-living spaces. By creating curated communities rather than luxury housing, its founders believe they can build diversity into the plan.

The City of Vancouver in British Columbia (BC), Canada, has also identified a relationship between residential towers and low social trust and social connectedness. Consequently, *BC Housing*, a public housing agency, and *Happy City* (an urban well-being agency), created an evidence-based toolkit on maximising social relationships in multi-family housing, connecting dozens of studies to specific actions in design (Happy City, 2017a). The evidence in this toolkit is now being used to guide design of private socially-supportive housing models such as *Tomo*, a 12-unit co-housing light project in Vancouver which includes unique and adaptable spaces to facilitate social group bonding at various scales (Bula, 2017).

4.6.1 Case-1: Making places for people (Melbourne, Australia)

Starting from a low point of "an empty, useless city centre" in 1978, the City of Melbourne, following the formulation and adoption of the 1985 Strategy Plan, reinvented itself as a "place for people", thanks to a clear and concerted shift towards "focusing on the needs of homo sapiens", as Gehl puts it. Commencing in 1985 the City started an incremental process of improving the

pedestrian network, making gathering spaces of excellent quality, strengthening street activity by physical changes, and encouraging more people to live in and use the city. In 1993, the City invited Gehl Architects from Denmark, to collaborate in measuring the incremental changes designed to make the city safer, healthier and more liveable, whilst striving for sustainability. After conducting extensive research in the city itself, the City and Gehl Architects set a basis for future measurement and made some key recommendations to continue the process started in 1985 (Melbourne City, 1994). The City continued the incremental implementation of the Strategy and were able to report key results in 2004 (Melbourne City, 2005). They found that the city had a better pedestrian network, there were more gathering places that were welcoming to everybody, the city was livelier and having more active streetscapes, and more people were taking advantage of a 24-hour city. Though data on growth of use of public places were not controlled for population growth, which means that the rise could be simply attributed to an increase in overall population, still, the rise in itself is an indicator of the success of a city, being a place where people want to be.

Melbourne's mayor noted that the city has seen a "consistent application of a range of urban design strategies and individual initiatives of varying scales. It has focused on achievable actions, and aimed at reinforcing the existing qualities of the city.

The publication *Places for People: Melbourne City 1994* offered a vivid, factual picture of the quantity and types of activity occurring in the city's public places...the findings [in 2004] demonstrate Melbourne's remarkable success in attracting more public life through physical improvements to existing public places, providing additional public space ... The nature of public life has quite radically changed with more people choosing to stay for optional rather than purely necessary activities until late evening. The results clearly illustrate that places designed to be people-friendly attract people, and public life will follow." (Melbourne City, 2005). The case of Melbourne demonstrates how systematic people-centric urban planning activities, following the feedback loop described earlier, can yield success in improving people's lives in a thriving city.

4.6.2 Case-2: Bájale al Acoso (No to Harassment) (Quito, Ecuador)

A good example of using technology to raise the sense of safety in the city, leading to increased happiness in the city, comes from Quito in Ecuador. “Bájale al Acoso” (roughly translated as ‘no to harassment’), is a mobile platform used to report sexual harassment cases that occur at the municipal public transportation system. In 2012, 83% of the women who lived in Quito considered public transportation unsafe. Data shows that a third of women and girls in Quito have suffered of some kind of sexual harassment either on public spaces or at their homes.

The programme’s goal is to prevent sexual harassment in public spaces, such as the municipal public transportation system. It also seeks to improve social conscience about violence against women and work through social sanctions, where victims have the chance to report their case to the Police. The programme aims to increase the number of effective reports regarding sexual arrestment, which has historically not been visible; just 6% of girls or women end up making a formal complaint. Six safety spots are located at the main bus stations, with specialised staff trained in protocols for prevention and attention to the cases, as well as 220 drivers of the municipal public transportation system.

Any girl or woman who has suffered from sexual harassment can send a SMS or text message denouncing the incident and the number of the transportation unit she is in. A control centre gets the message and responds to the case within the next 3 minutes, meanwhile an alarm is activated in the bus.

The victim can seek for accompaniment from a public official who will wait for her at the next bus stop, and also deal with the perpetrator of the harassment. As smart phones are not widespread within the population that uses public transportation, the SMS platform guarantees universal access.

Before the project began, 91% of women who live or work in southern Quito, had experienced sexual harassment in public spaces in Quito (Source: UN Women and Patronato San José, Municipality of Quito, 2012), and 82% of women in Quito thought that public transportation is unsafe (Citizen Security Observatory, 2015), and

39% of women in Quito have suffered of some kind of sexual harassment in the public transportation system. Since the implementation of the program in March 2017, 768 reports have been received through the SMS platform, 28 cases have been judged, 14 cases have had a sentence. Five of these sentences included prison between 12 and 36 months. Nine cases ended in an acquittal sentence. 100% of reports were attended, either through a phone call or by Bájale al Acoso staff, as well as by the Municipal Police and the National Police.

The Bájale al Acoso solution is part of the programme “Quito, a safer city for women and girls”, which seeks to build a safer and more inclusive city for girls and women. It is linked to the *Development Plan for the Quito*, which is guided by three principles: Quito as a smart city, a city of opportunities, and an inclusive city. This programme is a good example of the use of inclusive technology for the direct benefit of citizen, and directly influencing happiness and well-being.

5. Conclusion

Though this chapter no doubt has natural overlaps and areas of cross-over with other chapters in this report, e.g. personal happiness, and happiness in the workplace, the focus here is more on seeing the opportunities that are presented in terms of projects at a city level. The sections organise these projects along the dimensions of a smart city, and have shown many examples of projects that directly and indirectly lead to improving well-being and happiness on a city scale. However, conducting the research and collating the findings into this chapter has also highlighted some insights that are worth mentioning.

When discussing the notion of a ‘smart city’, people may think of technology as a key element in such discourse. However, a wider and more inclusive scope is worth considering in order to redefine smart cities to avoid an exclusive focus on technology. Such a view may help to democratise the notion of a smart city, to be inclusive of cities that do not have big budgets, but can still do a lot toward making their cities smarter for higher well-being. Smarter in this sense means to wisely use resources, methods and techniques (including high technology), for the wider benefit of all

stakeholders towards a more equitable and inclusive smart city (Wardell Ghirarduzzi, 2017). Actions and interventions cannot truly be considered 'smart' unless they provide benefit for the widest range of city residents and visitors. The biggest challenge for smart city providers is to ensure that actions respond to the needs of populations who have traditionally not benefited from technological innovation. It is perhaps easy to provide efficient, networked solutions for a city's wealthiest. However, it is harder to extend benefits to people who do not have smart phones, cars or credit cards.

Still, looking at some methods and techniques that may improve life in the city, might raise the question of confidence in such methods, that indeed they will have the desired impact. The topic of evidence-based interventions is of course important when considering wise use of resources. However, as discussed in the section on the feedback loop, such constraints have their challenges. Therefore, rather than insisting on only the highest level of evidence, the recommendation is to use a similar approach towards interventions that aim to increase happiness in the city (as used by UK's Nesta). In this way, it is a more inclusive and pragmatic approach towards a wider variety of interventions, yet still able to distinguish between the quality of evidence, and therefore set expectations.

Nonetheless, when the city managers shift towards using evidence-based interventions and are more inclusive in their interventions, the level of trust and confidence towards the managers, from the people in the city, will no doubt increase. There is plenty of evidence that a strong contributor to happiness is the sense of trust in the social environment a person is living, and the city is no exception (Helliwell et al., 2017). However, this sense is not limited to trust in the governance apparatus directly, but also indirectly through the use of technology channels. Therefore, much effort needs to be expended to increase people's trust in the technology itself, instead of the 'old and trusted' methods. Such increase in the trust of more efficient and convenient channels, will contribute to increasing the adoption of such channels, which would lead to increased well-being. Trust is needed for the success of interventions, and trust should also be the end goal of many interventions because

it is a correlate of well-being. City custodians may therefore aim to increase trust in two ways:

- Create interventions that specifically increase trust within society at large, as this will increase trust in the city; people to people, and people to city.
- Add 'trust' as an element in interventions, as this will increase happiness as part of the intervention itself, since trust is a known contributor to happiness.

Trust and well-being may be further enhanced as a result of investment in human capital, as there is evidence regarding the strong correlation of human capital with happiness at the regional and city scale. This suggests it is worthwhile further investigation and acting to invest in education and the knowledge base of a city, as well as cultural activities that not only increase happiness, but also makes cities more competitive. It is also worth exploring ways that technology may be able to help make such investments more efficient. Such investment in human capital as well as material capital must be sourced efficiently. Accordingly, smart cities custodians are leveraging existing and upcoming commercial interest to drive efficiency in the city through *Public Private Partnership* (PPP). This approach also applies to happiness. In this respect, by ensuring commercial sustainability of happiness project, the city will be able to increase happiness without directly paying for it, yet provide the platforms for the benefit of multiple stakeholders. There are many examples of joint-projects and interventions that are concerned with increasing happiness in the long term in a sustainable way, without the need for direct city operational resources. Such trends are redefining government, where it is seen as the broker for PPPs whilst upholding public interest.

With the aim of guiding city custodians towards the awareness required to increase happiness in the city, this chapter has considered the mechanism of systematically increasing happiness in the city, and has discussed various examples at different levels of detail. In order to be more relevant to the current digital context and smart city trends, examples were also drawn to help connect with these trends. The discussion also focused its attention on the different dimensions in the city, in order to give a breadth of the examples, and therefore a wider

understanding of happiness at the scale of the city. However, any plans to enhance a city should beware of how the “folly of building-centric urban renewal reminds us that cities aren’t structures; cities are people.” (Glaeser, 2012). Renewal programmes should be truly people-centric, striving towards using data-driven and evidence-based interventions, with a long-term view, to ensure that such plans are in sync with the essence of the city, and really do work to help all people be happy in the city.

Finally, it is worth noting that a lot of what gives the city its character and patina, are the activities of the people themselves, rather than the actions of the custodians. Much of what happens in the city is bottom-up. This is what gives a city or a place its authenticity, and people like such natural imperfect weave to the tapestry of the city. As discussed in the sections on place-making, this bottom-up creativity is what makes a place, and as such is of value. Indeed, the follow-up chapter to this one, will be exploring how cities organise this tapestry, and highlighting successful urban planning activities that encourage the development of happier and liveable cities, for all.

6. Glossary

To aid a common understanding of the terms used with this chapter, this glossary quotes from various official, academic and other sources. In order to show different points of view, more than one definition or context are given.

Economy

Entrepreneurship

Entrepreneurship can be defined as a private initiative that manifests itself throughout the economy in many different ways and focuses on generation of value. (OECD, 2017a)

Entrepreneurship can be defined as the “process of using private initiative to transform a business concept into a new venture or to grow and diversify an existing venture or enterprise with high growth potential. Entrepreneurs identify an innovation to seize an opportunity, mobilize money and management skills, and take calculated risks to open markets for new products, processes and services.” (Evaluation Office UNDP, 1999)

Entrepreneurship may be defined as the “phenomenon associated with entrepreneurial activity, which is the enterprising human action in the pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets. In this sense, entrepreneurship is a phenomenon that manifests itself throughout the economy and in many different forms with many different outcomes, not always related to the creation of financial wealth, for example they may be related to increasing employment, tackling inequalities or environmental issues.” (OECD, 2017a)

Productivity

Productivity measures the volume ratio of output to input in an economy. Productivity may be defined as a “ratio of a volume measure of output to a volume measure of input use. While there is no disagreement on this general notion, a look at the productivity literature and its various applications reveals very quickly that there is neither a unique purpose for, nor a single measure of, productivity.” (OECD, 2001d)

Efficiency

Efficiency is the ratio of output to given input with focus on maintaining quality, and is defined

as “Increasing output for a given input, or minimising input for a given output, with a regard for maintaining quality.” (Jackson, 2012)

Efficiency is the “ratio of produced outputs (or what has been achieved) to the resources used to create them (money, time, labour, etc.). The effects of improved efficiency extend beyond obvious cost-saving factors, and recent research shows a direct relationship between public sector operational efficiency and economic growth (Public Choice 2008). Furthermore, higher efficiency in public sector organizations improves the image and public legitimacy of the government.” (UNDP, 2011)

Innovation

Innovation involves the introduction of a new or significantly improved product, process or method using the most up to date and best-fit models. Innovation “involves the introduction of a new or significantly improved product, process or method, will increasingly be needed to drive growth and employment and improve living standards.” (OECD, 2010)

In UNDP Innovation Facility document innovation is seen as “not an end in itself. It is about finding better ways to create impact for people and the planet, to strengthen resilience and more inclusive societies. It is about using the most up to date and best-fit models to get the best development result possible. Accordingly, UNDP’s innovation framework calls for innovative approaches to development which employ a range of new methodologies, technologies and media to support national governments tackle complex challenges, improve service delivery and engage citizens”. (UNDP, 2016b)

Unemployment

Unemployment is a state when a person is without work, is currently available for paid work or is actively seeking for work during a certain period of time. Unemployed are “People who during a specified period were (i) without work, meaning without paid employment or self-employment, (ii) currently available for paid employment or self-employment, and (iii) seeking work through active steps taken. A “relaxed” definition of unemployment includes just (i) and (ii) above. Some of these are discouraged from actively seeking work because of current employment conditions.” (UN Viet Nam, 2003)

“Unemployment tends to be associated with an increase in crime, suicide, violence, drug abuse and other social problems that can increase personal insecurity. Jobs foster social stability and social cohesion, and decent jobs strengthen people’s abilities to manage shocks and uncertainty.”(UNDP, 2014)

Inclusive Labour Force

Inclusive Labour Force can be defined as providing equal work opportunities for everyone in the labour market, especially vulnerable groups. “The global financial crisis has reinforced the need for activation policies to make labour markets more inclusive. This means providing the unemployed and other groups at the margins of the labour market with the support, incentives and skills and training they need to move into employment. It also means providing better opportunities for workers in low-paid, insecure jobs to move into more stable, rewarding and productive jobs. This is fully recognised by the G20 Leaders who, at their Summit in Los Cabos in 2012, reaffirmed the commitment to put quality jobs at the heart of the recovery. In particular, they emphasised the need to promote policies that generate employment for youth and other vulnerable groups... Policies must tackle the long-standing structural obstacles that are keeping many youth, women, people with disabilities and low-skilled workers out of work or under-employed. In the context of rapid population ageing, successfully engaging these groups in the labour market is crucial, not only for improving their own well-being, but also for strengthening overall economic growth, equality and social cohesion.” (OECD, 2013a)

“Policy action is needed to foster resilient, flexible labour markets that can weather economic downturns with limited social costs and to promote inclusive labour markets that allow under-represented and vulnerable groups to participate in rewarding and sustainable employment.”(OECD, 2016a)

Social Inclusion

“A social inclusion approach implies addressing need or alienation wherever it exists”. (UNDP, 2007) The UNDP’s National Human Development Report 2007 describes the concept of social inclusion as being “at the heart of EU social policy-making, is very much congruent with both the human development and the human rights-based approaches to socio-economic

development. These approaches draw upon economic and social rights analyses and take into account all entitlements relevant for enlarging the choices of individuals to live a decent and meaningful life. In addition, they share a common concern about equity, non-discrimination and inclusive participation”.(UNDP, 2007)

The UNDP report further describes “A social inclusion approach implies addressing need or alienation wherever it exists. Social inclusion reaches beyond the enforcement of rights in legal terms by tackling material deprivation, stigmatization and social separation and hence the approach seeks to understand this complex social phenomenon in terms of causes as well as outcomes. It also has an operational bias, devising workable policy responses, effectively recognizing that the State has a ‘duty of care’ to include and involve all members of society in political, economic and social processes”. (UNDP, 2007)

People and Society

Health

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” (World Health Organization, 2017a)

“Functionings are the various things a person may value being and doing — such as being happy, adequately nourished and in good health, as well as having self-respect and taking part in the life of the community.” (UNDP, 2016a)

An alternative view on health is suggests that “The WHO definition of health as complete wellbeing is no longer fit for purpose given the rise of chronic disease”, and proposes changing the emphasis towards “the ability to adapt and self-manage in the face of social, physical, and emotional challenges”. (Huber et al., 2011)

Education

The greatest inequalities are in education, with pronounced long-lasting effects on capabilities. (UNDP, 2016a)

“Education is the key that will allow many other Sustainable Development Goals (SDGs) to be achieved. When people are able to get quality education they can break from the cycle of poverty. Education therefore helps to reduce inequalities and to reach gender equality. It also

empowers people everywhere to live more healthy and sustainable lives. Education is also crucial to fostering tolerance between people and contributes to more peaceful societies.” (United Nations, 2017a)

“Education should equip students with the skills they need to lead healthy, productive, meaningful lives.” (World Bank, 2018)

Continuous Learning

Continuous Learning can be defined as any formal or non-formal learning activity carried out by individuals in order to improve knowledge and competencies. (OECD, 2001a)

“The concept of lifelong learning, or lifelong education, became current in the 1970s. In its early development the concept was equated with giving adults access to formal courses at educational institutions. In choosing the goal of “lifelong learning for all in 1996”, OECD Education Ministers signalled a major departure by adopting a more comprehensive view. This goal covers all purposeful learning activity, from the cradle to the grave, that aims to improve knowledge and competencies for all individuals who wish to participate in learning activities. International organisations such as UNESCO and the European Commission have also adopted the more comprehensive approach.” (OECD, 2001a)

“The lifelong learning framework emphasises that learning occurs during the whole course of a person’s life. Formal education contributes to learning as do the non-formal and informal settings of home, the workplace, the community and society at large.” (OECD, 2001a)

“People at each stage of life need not only to be given specific opportunities to learn new things, but also to be equipped and motivated to undertake further learning, where necessary organised and directed by themselves. Curricula, pedagogical practices and the organisation of learning all need to be examined from this perspective.” (OECD, 2001a)

Culture

“Culture defined as ‘the set of distinctive spiritual, material, intellectual and emotional features of a society or a social group’ (UNESCO, 2001).” (UNESCO/UNFPA/UNDP, 2015)

“Culture should be regarded as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs.” (UNESCO, 2001)

Social Services

“Social service, also called welfare service or social work, any of numerous publicly or privately provided services intended to aid disadvantaged, distressed, or vulnerable persons or groups.” (Pinker, 2017). However, some definitions include other societal themes such as health and education.

The following definition was approved by the IFSW General Meeting and the IASSW General Assembly in July 2014: Global Definition of the Social Work Profession:

“Social work is a practice-based profession and an academic discipline that promotes social change and development, social cohesion, and the empowerment and liberation of people. Principles of social justice, human rights, collective responsibility and respect for diversities are central to social work. Underpinned by theories of social work, social sciences, humanities and indigenous knowledge, social work engages people and structures to address life challenges and enhance wellbeing.” (International Federation of Social Workers, 2014)

“Programs and services that improve the well-being of individuals, families, and communities.”

Society

“The aggregate of people living together in a more or less ordered community.” (Oxford University Press, 2017b)

“Sociologists call this social structure [society] - the ordered relationships and patterned expectations that guide social interaction - and it is fundamental to life in all societies.” (Thompson & Hickey, 2005)

Human Capital

“Human capital is the stock of skills that the labor force possesses.” (Goldin, 2016)

“Individuals differ in both inherited and acquired abilities, but only the latter clearly differ among countries and time periods. Human capital analysis deals with acquired capacities which are developed through formal and informal education at school and at home, and through training,

experience, and mobility in the labor market. The central idea of human capital theory is that whether deliberate or not, these activities involve costs and benefits and can, therefore, be analyzed as economic decisions, private or public.”(Mincer, 1981)

“Human capital as embodiment of skills is a convenient conceptualization of its role as coordinate factor of production in its contribution to national economic growth. Human capital as a source of new knowledge shifts production functions upward and generates worldwide economic growth.” (Mincer, 1981)

“But that gradually changed, and since the early 1960s, there’s been increasing agreement on one key part of the growth puzzle, namely, the importance of people – their abilities, their knowledge, and their competences – to economic growth. Or, in other words, human capital.” (Keeley & OECD, 2007)

“Human capital is defined by the OECD as the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being.” (Keeley & OECD, 2007)

Leisure

Leisure can be defined as activities that are enjoyable and pleasurable. (OECD, 2009)

“Leisure can be defined as specific activities conventionally thought of as “leisurely”. A more thorough definition may be based on what the majority of people would list as leisure activities, such as television watching, participating in sports or exercise, reading, seeing movies, and so on. Finally, leisure can be defined as a state of mind, meaning engaging in enjoyable or pleasurable activities.” (OECD, 2009)

Governance

Digital Government Services

Digital Government Services can be defined as government services provided by means of digital technologies in a user or citizen-driven setting. (OECD, 2016b)

A digital government environment is one that is “largely user-driven, with users voicing their demands and needs and thereby contributing to shaping the government policy agenda and the nature of and means for receiving integrated

direct personal services. Achieving Digital Government will, in some areas, require progression through a period of e-government, the middle stage in digital transformation. Under e-government, governments make greater use of digital technologies, particularly the Internet, to achieve better government, focusing on delivering services tailored to individuals needs in a user or citizen-driven setting, while also achieving improved efficiency and productivity.” (OECD, 2016b)

Government Efficiency

Government Efficiency can be defined as government services provided with increased value for money. (Deloitte, 2013)

“The recent economic crisis has increased pressures on governments to achieve efficiency gains in delivering public services. Based on conventional economic theory, “efficiency” is defined as the relationship between one or more inputs (or factors of production) and one or more outputs.” (OECD, 2015)

“Efficiency is about doing more for less. It involves maximizing outputs such as the volume of services provided, minimizing inputs such as the amount of resources or capital required to produce those services and maintaining or improving quality. Efficiency can be measured by how much it costs to deliver a program compared to previous years or compared to peers, or the relative outcomes that governments obtain from a certain level of expenditure. Rising citizen expectations, ageing populations and global economic volatility have put pressure on governments to increase the value for money of public services” (Deloitte, 2013)

Participation

Citizen participation can be defined as people’s ability to engage in dialogue with their government and to participate in the political process. (United Nations Department of Economic and Social Affairs, 2003)

Citizen participation implies “the involvement of citizens in a wide range of policymaking activities, including the determination of levels of service, budget priorities, and the acceptability of physical construction projects in order to orient government programs toward community needs, build public support, and encourage a sense of cohesiveness within neighborhoods. There are

many models of participation. At one end of the scale sits information provision – a one-way government-to-citizen provision in which a government simply tells its citizenry what it wants them to know through media or other means. At the other end is the active citizenship or empowerment model, in which citizen groups are involved in agenda-setting and decision-making and monitoring. Following the continuum model of participation, the International Association of Public Participation (IAP2) conceptualizes participation in five categories of relationships: inform, consult, involve, collaborate and empower.” (UN Public Administration Glossary, 2017)

“The EParticipation Index assesses how relevant and useful these features are from the point of view of people’s ability to engage in dialogue with their government as consumers of public services and to participate in the political process as citizens.” (United Nations Department of Economic and Social Affairs, 2003)

Transparency

“Transparency refers to unfettered access by the public to timely and reliable information on decisions and performance in the public sector, as well as on governmental political and economic activities, procedures and decisions. (UN Public Administration Glossary, 2017)

Transparency refers to unfettered access by the public to timely and reliable information on decisions and performance in the public sector.” (Armstrong, 2005)

Leadership

“Leadership is an important and crucial variable that leads to enhanced management capacity, as well as organisational performance. A leadership focus also plays an integrating role among various Human Resource Management components including recruitment and selection, training and development, performance management, public service ethics, and succession planning.” (OECD, 2001e)

“Strong leaders can ensure that capacity development receives proper emphasis in all forums, which is why the relationship between capacity development and leadership is fundamental for transformation. It is critical to foster leadership to protect capacity investments from the beginning, because poor leaders can destroy decades of patient building of human

skills or institutions, or even use available knowledge to provoke social regression. They can confuse ownership claims and leave a vacuum that other less legitimate leaders, including experts, readily fill. The bottom line: high capacity with poor leadership can make an organization or country stumble, but even with low capacities, sound leadership can move a country forward.” (Lopes & Theisohn, 2003)

“Leadership is a process whereby an individual influences a group of individuals to achieve a common goal.” (Northouse, 2007)

Mobility

Autonomous

“Autonomy in general means the capability of a system, process or an item to design its input-, throughput- and output-profiles as an anticipative or reactive answer to changing constraints of environmental parameters. One specific criterion of autonomous processes or items is to render a decision by itself on the basis of parameters, which can lead to different but in principal predetermined process or order fulfilment steps.” (Scholz-Reiter, Windt, & Freitag, 2004)

Active Travel / Mobility

“Active travel means a mode of transport which involves physical activity such as walking and riding a bike to get from one destination to another - including travel to and from the places we live, work, learn, visit and play. These are some of the most efficient and effective ways to incorporate regular exercise into our daily lives, reducing many long-term health risks and contributing to our mental and physical health and well-being.” (Australian Capital Territory (ACT) Government, 2017)

Commute

“Travel some distance between one’s home and place of work on a regular basis.” (Oxford University Press, 2017a)

“Commuting, by nature of standing between work and home both physically and temporally, is a uniquely positioned time period when employees are neither at work, nor at home.” (Jachimowicz, Lee, Staats, Menges, & Gino, 2016, 2017)

Public Transport

“Public transportation refers to all service involved in the transportation of passengers for

hire by means of street railway, elevated railway, subway, underground railroad, motor vehicles, or other means of conveyance generally associated with or developed for mass surface or sub-surface transportation of the public, but does not include any service involved in transportation by taxicab, airport limousine, or industrial bus.” (US Legal, 2016)

“Formal public transport services are those available to the public for payment, run on specified routes to timetables with set fares, and within the context of this report, in an urban area.” (UN-Habitat, 2013)

Logistics

“Logistics is defined as the process of planning, implementing and controlling the efficient and cost-effective flow and storage of raw materials, goods, equipment and personnel from the point of origin until the completion of an activity, in accordance with end-user’s requirements. In its broadest sense, logistics includes all the elements that constitute a delivery infrastructure, however, in this context, focus will be on the aspects of logistics that are relevant to the procurement process.” (UN IAPWG (Interagency Procurement Working Group), 2006)

Environment

Air Quality

“Air quality standards refer to levels of air pollutants prescribed by regulations that may not be exceeded during a specified time in a defined area.” (OECD, 2001b)

“Air pollutants are emitted from anthropogenic and natural sources; they may be either emitted directly or formed in the atmosphere; they have a number of impacts on health, ecosystems, the built environment and the climate; they may be transported or formed over long distances; and they may affect large areas.” (European Environment Agency, 2015)

Waste

“The way a country manages its solid waste has significant long-term implications for public health, the economy and the natural environment. Therefore it is essential to promote an environmentally sound solid waste treatment and disposal programme. Generally, adequate waste management indicates that the authorities are aware of the health and environmental risks and

that they support or impose suitable measures to prevent or reduce waste.” (United Nations)

For example, the EU’s Landfill Directive defines municipal solid waste as, “waste from households, as well as other waste which, because of its nature or composition, is similar to waste from households.” (OECD, 2014)

Electricity & Water Consumption

“Water and energy are basic components of life, economic growth and human progress. This is a reality for the poor as securing access to both water and energy is still the cornerstone of alleviating poverty and breaking up the vicious circles and backwardness it creates. As well as for those already on the road towards development, where most of the growing demand for energy and food arises, and where making water and energy more abundant and accessible is an integral part of economic progress that comes through important challenges such as matching limited water and energy supplies with increasing demands and managing food security.” (United Nations, 2014)

Sustainability

Sustainability refers to:

“(a) use of the biosphere by present generations while maintaining its potential yield (benefit) for future generations; and/or

(b) non-declining trends of economic growth and development that might be impaired by natural resource depletion and environmental degradation.” (OECD, 2003)

“The publication in 1987 of ‘Our Common Future’ provided the most commonly used definition of sustainable development as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs.” This formula has enormous human appeal and has stood the test of time.” (Vitalis, 2003)

Living Enablers

Green spaces

“Green space (land that is partly or completely covered with grass, trees, shrubs, or other vegetation). Green space includes parks, community gardens, and cemeteries.” (United States Environmental Protection Agency (EPA), 2017)

“Green spaces such as parks and sports fields as well as woods and natural meadows, wetlands or

other ecosystems, represent a fundamental component of any urban ecosystem. Green urban areas facilitate physical activity and relaxation, and form a refuge from noise.” (World Health Organization, 2017b)

“Urban green space includes everything in cities that has vegetation. Collectively it is sometimes referred to as ‘Green infrastructure’, encompassing the entire working landscape in cities that serve roles such as improving air quality, flood protection and pollution control”. (UN-Habitat, 2015a)

Housing

“A housing unit is a separate and independent place of abode intended for habitation by a single household, or one not intended for habitation but occupied as living quarters by a household at the time of the census. Thus it may be an occupied or vacant dwelling, an occupied mobile or improvised housing unit or any other place occupied as living quarters by a household at the time of the census. This category includes housing of various levels of permanency and acceptability”. (OECD, 2001c)

“Housing unit is a separate and independent place of abode intended for habitation by a single household, or one not intended for habitation but occupied as living quarters by a household at the time of the enumeration. It may be an occupied or vacant dwelling, an occupied mobile or improvised housing unit or any other place occupied as living quarters by a household at the time of the census.” (United Nations, 2001)

Safety

“Personal security is a core element for the well-being of individuals, and includes the risks of people being physically assaulted or falling victim to other types of crime. Crime may lead to loss of life and property, as well as physical pain, post-traumatic stress and anxiety. One of the biggest impacts of crime on people’s well-being appears to be through the feeling of vulnerability that it causes.” (OECD, 2017b)

Infrastructure

“Investments in infrastructure – transport, irrigation, energy and information and communication technology – are crucial to achieving sustainable development and empowering communities in many countries. It has long been recognized that growth in productivity and incomes, and improvements in health and education outcomes

require investment in infrastructure.” (United Nations, 2017b)

“Infrastructure has been identified by the World Bank, for example, as critical for transformational change to achieve economic growth and transition to more sustainable development pathways (World Bank, 2012).” (Scott & Seth, 2012)

“Infrastructure decisions are long-lived. They influence the purchase of consumer durables and the location choices of households and firms. As such, they create substantial inertia in socioeconomic systems. Because the economic system reorganizes itself around infrastructure, this inertia can even exceed the physical lifetime of specific infrastructure investments.” (World Bank, 2012)

Infrastructure are “many and diverse: roads, tunnels, bridges, railways, airports, harbors, canals, subways and tramways, dams, irrigation networks, water pipes, water purification plants, sewers, water treatment plants, dumps and incinerators, power plants, power lines and distribution networks, oil and gas pipelines, telephone exchanges and networks, district heating equipment, etc.” (Prud’homme, 2004)

Urban planning

Planning also performs a crucial function for nurturing healthy and happy societies. Planning decisions influence mobility behaviour and social connections.

“Urban and territorial planning can be defined as a decision-making process aimed at realizing economic, social, cultural and environmental goals through the development of spatial visions, strategies and plans and the application of a set of policy principles, tools, institutional and participatory mechanisms and regulatory procedures. Urban and territorial planning has an inherent and fundamental economic function. It is a powerful instrument for reshaping the forms and functions of cities and regions in order to generate endogenous economic growth, prosperity and employment, while addressing the needs of the most vulnerable, marginalized or underserved groups.” (UN-Habitat, 2015b)

Connectivity

Connectivity can be defined as people’s ability to connect to the city’s core physical infrastructure, as well as to other citizens, local governments

and entrepreneurs. (World Economic Forum, 2014)

For digital connectivity: “Connectivity is the foundation for the digital economy. The Internet has already connected more than three billion users across the globe and about 14 billion devices.” (OECD, 2016b)

For physical connectivity: “One way of responding to our cities’ connectivity needs is through the concept of a ‘30 minute city’.” “A 30 minute city is one where, no matter where you live, you can easily access the places you need to visit on a daily basis.” (Commonwealth of Australia, 2016)

There are also broader conceptualisations of connectivity where “connectivity has two types of components: hard and soft. Hard connectivity is the core physical infrastructure connecting people to energy, water and other services... Soft connectivity also refers to an environment of connectedness for citizens and entrepreneurs. It concerns the ability of citizens to connect with their local governments, express their opinions, get access to services and feel connected to their communities. In addition, it concerns the ability of entrepreneurs to connect with each other and to a wider innovative system.” (World Economic Forum, 2014)

References

- Al-Azzawi, A. (2013). *Experience with Technology: Dynamics of User Experience of Mobile Media Devices*. London: Springer.
- Amsterdam City. (2013a). Amsterdam Healthy Weight Programme. Retrieved from <https://www.amsterdam.nl/bestuur-organisatie/organisatie/sociaal/onderwijs-jeugd-zorg/zo-blijven-wij/amsterdam-healthy/>
- Amsterdam City. (2013b). *Amsterdam Healthy Weight: Summary of Programme Plan 2015-2018*. Retrieved from https://www.amsterdam.nl/publish/pages/847273/summary_amsterdam_healthy_weight_programme.pdf
- Amsterdam City. (2014). Amsterdam Rainproof. Retrieved from <https://amsterdamsmartcity.com/projects/amsterdam-rainproof>
- Amsterdam City. (2017). Stem van West. Retrieved from <https://stemvanwest.amsterdam.nl/>
- Armstrong, E. (2005). Integrity, Transparency and Accountability in Public Administration: Recent Trends, Regional and International Developments and Emerging Issues: United Nations.
- Arup. (2016). Cities Alive: Towards a walking world.
- Australian Capital Territory (ACT) Government. (2017, 29 November 2017). Active Travel. Retrieved from <http://www.transport.act.gov.au/getting-around/active-travel>
- Batty, M. (2013). *The New Science of Cities*. MA: MIT Press.
- Bostock, L. (2001). Pathways of disadvantage?: walking as a mode of transport among low income mothers. *Health and Social Care in the Community*, 9(1), 11-18.
- Boston City. (2017). CityScore. Retrieved from <http://www.boston.gov/cityscore>
- Bula, F. (2017). Making connections: Tomo Housing. Retrieved from <https://beta.theglobeandmail.com/real-estate/vancouver/ten-vancouver-families-planning-urban-village-to-fosterconnections/article35829165/>
- C40. (2017). Fossil-Fuel-Free Streets Declaration. Retrieved from <http://www.c40.org/other/fossil-fuel-free-streets-declaration>
- Cambria, E., & Hussain, A. (2015). *Sentic computing: A Common-Sense-Based Framework for Concept-Level Sentiment*. London: Springer.
- Cantril, H. (1965). *The pattern of human concerns*. New Brunswick, NJ: Rutgers.
- Chief Public Health Officer. (2017). *Designing Healthy Living - The Chief Public Health Officer's Report on the State of Public Health in Canada 2017*. Retrieved from Ottawa: <http://www.canada.ca/en/public-health>
- Clark, G. (2016). *Global Cities: A Short History*. Washington D.C.: Brookings Institute Press.
- Commonwealth of Australia. (2016). Department of the Prime Minister and Cabinet. Smart Cities Plan.
- Cresswell, T. (2015). *Place: An Introduction* (Second Edition ed.). Chichester: Wiley-Blackwell.
- CRS/EU. (2007). Smart cities - Ranking of European medium-sized cities. Vienna UT: Centre of Regional Science.
- Dahlgren, G., & Whitehead, M. (1991). Policies and strategies to promote social equity in health. Background document to WHO - Strategy paper for Europe. *Institute for Future Studies*.
- Dahlgren, G., & Whitehead, M. (2006). European strategies for tackling social inequities in health: Levelling up Part 2: World Health Organization.
- de Vries, S., ten Have, M., van Dorsselaer, S., van Wezep, M., Hermans, T., & de Graaf, R. (2016). Local availability of green and blue space and prevalence of common mental disorders in the Netherlands. *British Journal of Psychiatry Open*, 2(6), 366-372. doi:10.1192/bjpo.bp.115.002469
- Deloitte. (2013). The Government Summit Thought Leadership Series. Government Efficiency.
- Dubai Data Establishment. (2015). Dubai Data Law. Retrieved from <http://dubaidata.ae/>
- Ellard, C. (2015). *Places of the heart: The Psychogeography of everyday life*. NY: Bellevue Literary Press.
- EU. (2016). General Data Protection Regulation (GDPR). Retrieved from <https://www.eugdpr.org/>
- European Environment Agency. (2015). *Air quality in Europe - 2015 report*. Retrieved from Luxembourg: <http://cdn.thejournal.ie/media/2016/11/air-quality-in-europe-2015-report.pdf>
- Evaluation Office UNDP. (1999). *Essentials - Entrepreneurship Development*. Retrieved from <http://web.undp.org/evaluation/documents/Essentials-on-entrepreneurship.pdf>
- Florida, R., Mellander, C., & Rentfrow, P. J. (2013). The Happiness of Cities. *Regional Studies*, 47(4), 613-627. doi:10.1080/00343404.2011.589830
- Gehl Institute. (2017). *A Mayor's Guide to Public Life*. Retrieved from <http://mayorsguide.gehl.institute.org/>
- Gehl, J. (2010). *Cities for people*. London: Island Press.
- Gibson, J. J. (1979). *The Ecological Approach to Visual Perception*. New York: Houghton-Mifflin.
- Gill, S., Dutta-Gupta, I., & Roach, B. (2014). New York City's HHS-Connect. Retrieved from <http://datasmart.ash.harvard.edu/news/article/new-york-citys-hhs-connect-501>
- Glaeser, E. (2012). *Triumph of the city; How urban spaces make us human*. London: Pan.
- Glaeser, E. (Ed.) (2010). *Agglomeration Economics: Conference held November 30-December 1, 2007* (National Bureau of Economic Research ed.). London: University of Chicago Press.
- Goldin, C. (2016). *Handbook of Cliometrics: Human Capital*. Heidelberg: Springer Verlag.
- Goldsmith, S., & Crawford, S. (2014). *The Responsive City: Engaging communities through data-smart governance*. San Francisco: Jossey-Bass.
- Hall, E. T. (1963). A System for the Notation of Proxemic Behavior. *American Anthropologist*, 65(5). doi:10.1525/aa.1963.65.5.02a00020
- Hall, E. T. (1966). *The Hidden Dimension*. Garden City, NY: Anchor Books.
- Hamill, J. (2014, 28 January). Could Google Maps Help End Poverty? *Forbes*.
- Handler, S. (2014). *Alternative Age-friendly Handbook (for the socially engaged urban practitioner)*. Manchester: UK Urban Ageing Consortium - MICRA.
- Happy City. (2017a). Happy Homes: A toolkit for building sociability through multi-family housing design. Retrieved from <https://thehappycity.com/resources/happy-homes/>

Happy City. (2017b). Happy Street Living Lab.

Helliwell, J., Layard, R., & Sachs, J. (2017). *World Happiness Report 2017*. Retrieved from <http://worldhappiness.report/>

Hill, D. (2014). Essay: Clockwork City, Responsive City, Predictive City and Adjacent Incumbents. Retrieved from <http://www.cityofsound.com/blog/2014/11/essay-clockwork-city-responsive-city-predictive-city.html>

Hiscock, R., Wren-Lewis, S., Sabel, C., & Manley, D. (2016). The Happiness Pulse - A Measure of Individual Wellbeing at a City Scale: Development and Validation. *Social Indicators Research*.

Hochadel, A. (2017). *Local Leadership in a Global Era: Policy and Behaviour Change in Cities*. London: Palgrave Macmillan.

Hofstetter, R., Aryobsei, S., & Herrmann, A. (2017). Should You Really Produce What Consumers Like Online? Empirical Evidence for Reciprocal Voting in Open Innovation Contests. *Journal of Product Innovation Management*. doi:10.1111/jpim.12382

Huber, M., Knottnerus, J. A., Green, L., van der Horst, H., Jadad, A. R., Kromhout, D., . . . Smid, H. (2011). How should we define health? *BMJ*, 343(d4163). doi:10.1136/bmj.d4163

Humphres, D. K., Goodman, A., & Ogilvie, D. (2013). Associations between active commuting and physical and mental wellbeing. *Preventative Medicine*, 57(2), 135-139. doi:10.1016/j.ypmed.2013.04.008

International Federation of Social Workers. (2014). Policies. Retrieved from <http://ifsw.org/policies/definition-of-social-work/>

ITU. (2016). Draft Recommendation on key performance indicators for smart sustainable cities to reach sustainable development goals *Study Period 2013-2016* (Vol. TD 1465 (GEN/5)). Kuala Lumpur: International Telecommunication Union, Telecommunication Standardization Sector.

Jachimowicz, J. M., Lee, J. J., Staats, B. R., Menges, J. I., & Gino, F. (2016, 2017). Commuting as Role Transitions: How Trait Self-Control and Work-related Prospection Offset Negative Effects of Lengthy Commutes. *Harvard Business School NOM*. doi:10.2139/ssrn.2714478

Jackson, P. (2012). Value for money and international development: Deconstructing myths to promote a more constructive discussion. Paris: OECD.

Jacobs, J. (1961). *The Death and Life of Great American Cities*. New York: Random House.

Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. New York: Cambridge University Press.

Keeley, B., & OECD. (2007). OECD Insights Human Capital How what you know shapes your life: How what you know shapes your life. Paris: OECD.

Kier, C., Fung, T., Fung, L., & Sproule, R. (2011). Searching for Happiness: The Importance of Social Capital. *Journal of Happiness Studies*, 12(3), 443-462.

Kim, J.-H. (2004). *Sustainable Urban Waste Management System in Metropolitan Seoul, South Korea*. Retrieved from

King, V. (2016). *10 Keys to Happier Living: A Practical Handbook for Happiness*. London: Headline.

Kitchin, R. (2017). Data-Driven Urbanism. In R. Kitchin, T. P. Lauriault, & G. McArdle (Eds.), *Data and the City*. Abingdon: Routledge.

Kuo, F. E. (2010). *Parks and Other Green Environments: Essential Components of a Healthy Human Habitat*. Retrieved from National Recreation and Park Association: http://www.nrpa.org/uploadedFiles/nrpa.org/Publications_and_Research/Research/Papers/MingKuo-Research-Paper.PDF

Kuo, F. E., & Sullivan, W. C. (2001). Environment and Crime in the Inner City: Does Vegetation Reduce Crime? *Environment and Behavior*, 33(3), 343-367. doi:10.1177/00139160121973025

Kwon, D. (2016, 20 May). Does City Life Pose a Risk to Mental Health? *Scientific American*. Retrieved from <https://www.scientificamerican.com/article/does-city-life-pose-a-risk-to-mental-health/>

Lambert D'raven, L., & Pasha-Zaidi, N. (2014). Positive Psychology Interventions: A Review for Counselling Practitioners. *Canadian Journal of Counselling and Psychotherapy*, 48(4), 383-408.

Leick, G. (2001). *Mesopotamia: The Invention of the City*. London: Penguin.

LISC. (2017). Affordable Housing. Retrieved from <http://www.lisc.org/our-initiatives/affordable-housing/>

Litman, T. A. (2017). Urban Sanity: Understanding Urban Mental Health Impacts and How to Create Saner, Happier Cities. Victoria, Canada: Victoria Transport Policy Institute.

Lopes, C., & Theisohn, T. (2003). Ownership, Leadership And Transformation Can We Do Better For Capacity Development? London and Sterling, Virginia: Earthscan Publications Ltd.

Lower, J. (2017, 9 October). Speeding up Technology Use for Setting Equitable Speed Limits. Retrieved from <http://meetingoftheminds.org/speeding-technology-use-setting-equitable-speed-limits-23344>

Lui, P. (2017). A new kind of map: it's about time. Retrieved from <https://blog.mapbox.com/a-new-kind-of-map-its-about-time-7bd9f7916f7f>

Lynch, K. (1960). *The Image of the City*. Cambridge, MA: MIT Press.

Marshall, A. (2017, 21 October). Chariot is suspended in San Francisco, and the transportation biz is still hard. Retrieved from <https://www.wired.com/story/chariot-suspended-transportation-hard/>

Martin, A., Goryakin, Y., & Suhrcke, M. (2014). Does active commuting improve psychological wellbeing? Longitudinal evidence from eighteen waves of the British Household Panel Survey. *Preventative Medicine*, 69, 296-303. doi:10.1016/j.ypmed.2014.08.023

McCay, L., Suzuki, E., & Chang, A. (2017). Urban design and mental health in Tokyo: a city case study. *Journal of Urban Design and Mental Health*, 3(4).

Melbourne City. (1994). Places for People 1994. Melbourne, Australia: City of Melbourne.

Melbourne City. (2005). Places for People 2005. Melbourne, Australia: City of Melbourne.

Milgram, S., Mann, L., & Harter, S. (1965). The Lost-Letter Technique: A Tool Of Social Research. *Public Opinion Quarterly*, 29(3), 437-438. doi:10.1086/267344

Mincer, J. (1958). Investment in Human Capital and Personal Income Distribution. *Journal of Political Economy*, 66(4), 281-302.

Mincer, J. (1981). Human Capital and Economic Growth. *National Bureau of Economic Research Working Paper Series*, No.803.

- Ministry for the Environment. (2005). *The Value of Urban Design: The economic, environmental and social benefits of urban design*. Wellington, New Zealand: Ministry for the Environment.
- Montgomery, C. (2013). *Happy City: Transforming our Lives through Urban Design*. London: Penguin.
- NACTO. (2017). *NACTO Policy 2017: Creating Safe, Sustainable, Multi-Modal Urban Transportation*. Retrieved from <https://nacto.org/wp-content/uploads/2017/03/NACTO-Policy-2017.pdf>
- National Trust. (2017). *Places That Make Us*. UK: National Trust.
- Northouse, P. G. (2007). *Leadership: Theory and Practice*: SAGE Publications.
- NYC. (2017). NYC Opportunity. Retrieved from <http://www1.nyc.gov/site/opportunity/index.page>
- OECD. (2001a). Chapter 1. Lifelong learning for all policy directions.
- OECD. (2001b). Glossary of statistical terms. Air Quality Standards. *Organisation for Economic Co-operation and Development*. Retrieved from <http://stats.oecd.org/glossary/detail.asp?ID=91>
- OECD. (2001c). Glossary of statistical terms. Housing Unit. *Organisation for Economic Co-operation and Development*. Retrieved from <http://stats.oecd.org/glossary/detail.asp?ID=1263>
- OECD. (2001d). *Measuring Productivity: Measurement of aggregate and industry-level productivity growth* OECD Manual. Paris: OECD Publications.
- OECD. (2001e). *Public Sector Leadership For The 21st Century: Executive Summary*.
- OECD. (2003). Glossary of statistical terms. Sustainability. *OECD Glossary Of Statistical Terms*. Retrieved from <http://stats.oecd.org/glossary/detail.asp?ID=2625>
- OECD. (2009). *Society At A Glance 2009: OECD Social Indicators*. Chapter 2. Special Focus: Measuring Leisure in OECD Countries.
- OECD. (2010). *The OECD Innovation Strategy: Getting a Head Start on Tomorrow*. Paris: OECD Publishing.
- OECD. (2013a). *Activation Strategies for Stronger and More Inclusive Labour Markets in G20 Countries: Key Policy Challenges and Good Practices*: OECD.
- OECD. (2013b). *OECD Guidelines on Measuring Subjective Well-being*: OECD Publishing.
- OECD. (2014). *Policy Roundtables: Waste Management Services 2013*. Retrieved from <http://www.oecd.org/daf/competition/Waste-management-services-2013.pdf>
- OECD. (2015). *Government at a Glance 2015*.
- OECD. (2016a). *Ministerial Statement Building More Resilient and Inclusive Labour Markets*. Paris: OECD.
- OECD. (2016b). *OECD Comparative Study. Digital Government Strategies For Transforming Public Services In The Welfare Areas*. Retrieved from Paris: <http://www.oecd.org/gov/digital-government/Digital-Government-Strategies-Welfare-Service.pdf>
- OECD. (2016c). *OECD Regional Well-Being: A user's guide*. Retrieved from <http://www.oecdregionalwellbeing.org/>
- OECD. (2017a). *Entrepreneurship at a Glance 2017*. Paris: OECD Publishing.
- OECD (Producer). (2017b). OECD Better Life Index: Safety. *OECD Better Life Index*. Retrieved from <http://www.oecdbetterlifeindex.org/topics/safety/>
- OECD. (2017c). OECD Better Life Index: Safety. *OECD Better Life Index*. Retrieved from <http://www.oecdbetterlifeindex.org/topics/safety/>
- Olsson, L. E., Gärling, T., Ettema, D., Friman, M., & Fujii, S. (2013). Happiness and Satisfaction with Work Commute. *Social Indicators Research*, 111(1), 255-263. doi:10.1007/s11205-012-0003-2
- ONS. (2014). *Commuting and Personal Well-being*. Retrieved from Office for National Statistics:
- OrganiCity. (2016). Retrieved from <http://organicity.eu/>
- Oxford University Press. (2017a). *English Oxford Living Dictionaries*. Commute. English Oxford Living Dictionaries. Retrieved from <https://en.oxforddictionaries.com/definition/commute>
- Oxford University Press. (2017b). English Oxford Living Dictionaries. Society. *English Oxford Living Dictionaries*. Retrieved from <https://en.oxforddictionaries.com/definition/society>
- Palti, I., & Bar, M. (2015). A manifesto for conscious cities: should streets be sensitive to our mental needs? Retrieved from <https://www.theguardian.com/cities/2015/aug/28/manifesto-conscious-cities-streets-sensitive-mental-needs>
- Pentland, A. (2014). *Social Physics: How Social Networks Can Make Us Smarter*. New York: Penguin.
- Pinker, R. A. (Producer). (2017). Social Service. Introduction. *Encyclopedia Britannica*. Retrieved from <https://www.britannica.com/topic/social-service>
- Porter, M. E., Stern, S., & Green, M. (2017). Social Progress Index (SPI) 2017. Retrieved from <http://www.socialprogressindex.com/>
- Project for Public Spaces. (2012). *Placemaking and the Future of Cities*: Project for Public Spaces & UN-HABITAT.
- Prud'homme, R. (2004). *Infrastructure and Development*. Retrieved from <http://siteresources.worldbank.org/DEC/Resources/84797-1251813753820/6415739-1251814066992/remy1-12.pdf>
- Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster Paperbacks.
- Puttick, R., & Ludlow, J. (2013). *Standards Of Evidence: An Approach That Balances The Need For Evidence With Innovation*. London: Nesta.
- Quercia, D., Schifanella, R., & Aiello, L. M. (2014). *The Shortest Path to Happiness: Recommending Beautiful, Quiet, and Happy Routes in the City*. Paper presented at the Conference on Hypertext and Social Media, Santiago, Chile.
- Quito City. (2014). *Bachillerato Virtual Inclusivo*. Retrieved from <http://educacion.quito.gob.ec/colegios/bachillerato/>
- Ratti, C., & Claudel, M. (2016). *The City of Tomorrow: Sensors, Networks, Hackers, and the Future of Urban Life*. London: Yale University Press.
- Ryff, C. D., & Singer, B. H. (2003). The Role of Emotion on Pathways to Positive Health. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of Affective Sciences*. New York: Oxford University Press.

- Schank, J. (2017, 17 October). User-Experience & the Future of Public Transit. Retrieved from <http://www.lacomotion.com/perspective-user-experience-the-future-of-public-transit/>
- Scholz-Reiter, B., Windt, K., & Freitag, M. (2004). *Autonomous Logistic Processes : New Demands and First Approaches*. Budapest: Monostori, L. (ed.): Proc.
- Schwab, K. (2015, 12 December). The Fourth Industrial Revolution: What It Means and How to Respond. *Foreign Affairs*.
- Scott, A., & Seth, P. (2012). *Infrastructure services post-2015*: Overseas Development Institute.
- Sepe, M. (2017). The Role Of Public Space To Achieve Urban Happiness. *International Journal of Sustainable Development and Planning*, 12(4), 724-733.
- Silberberg, S. (2013). *Places in the Making: How placemaking builds places and communities*. Retrieved from <http://dusp.mit.edu/cdd/project/placemaking>
- Smart Growth America. (2014). *Dangerous by Design 2014*.
- Social Glass. (2014). Retrieved from <http://social-glass.tudelft.nl/>
- Söderlund, J., & Newman, P. (2017). Improving Mental Health in Prisons Through Biophilic Design. *The Prison Journal*, 97(6), 750-772. doi:10.1177/0032885517734516
- SPARQ. (2017). Social Psychological Answers to Real-World Questions. Retrieved from <https://sparq.stanford.edu/solutions>
- Speck, J. (2012). *Walkable City: How downtown can save America, one step at a time*. NY: North Point Press.
- Starmans, C., Sheskin, M., & Bloom, P. (2017). Why people prefer unequal societies. *Nature Human Behaviour*, 1(82). doi:10.1038/s41562-017-0082
- Strava. (2017). Global Heatmap. Retrieved from <https://labs.strava.com/>
- Stutzer, A., & Frey, B. S. (2008). Stress that Doesn't Pay: The Commuting Paradox. *Scandinavian Journal of Economics*, 110(2), 339-366. doi:10.1111/j.1467-9442.2008.00542.x
- Tajitsu, N. (2017, 12 September). Japan trials driverless cars in bid to keep rural elderly on the move. Retrieved from <https://www.reuters.com/article/us-japan-elderly-selfdriving/japan-trials-driverless-cars-in-bid-to-keep-rural-elderly-on-the-move-idUSKCNIBNOUQ>
- Thomopoulos, N., & Givoni, M. (2015). The autonomous car - a blessing or a curse for the future of low carbon mobility? An exploration of likely vs. desirable outcomes. *European Journal of Futures Research*, 3(14). doi:10.1007/s40309-015-0071-z
- Thompson, W. E., & Hickey, J. V. (2005). *Society In Focus: An Introduction To Sociology*. Boston: Pearson.
- Tieman, R. (2017, October 26). Barcelona: smart city revolution in progress FT. Retrieved from <https://www.ft.com/content/6d2fe2a8-722c-11e7-93ff-99f383b09ff9>
- Townsend, A. M. (2014). *Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia*. NY: W W Norton & Company.
- Transdev. (2017). Transdev and Delphi Announce Commercial Partnership for Autonomous Transportation. Retrieved from <https://www.transdev.com/en/press/Transdev-delphi-commercial-partnership-autonomous-transportation>
- Transport for London. (2017). TfL: Open Data Users. Retrieved from <https://tfl.gov.uk/info-for/open-data-users/>
- U4SSC. (2017). *Enhancing innovation and participation in smart sustainable cities*. Geneva: ITU.
- UI Labs. (2017, 14 November). For the right incentive, Chicago commuters change peak-hour behavior. Retrieved from <http://www.uilabs.org/press/for-the-right-incentive-chicago-commuters-change-peak-hour-behavior/>
- UITP. (2017). *Policy Brief - Autonomous vehicles: a potential game changer for urban mobility*. Retrieved from <http://www.uitp.org/news/autonomous-vehicles-urban-mobility>
- UMii. (2016). Urban Mobility Innovation Index. Retrieved from <http://umi-index.org/>
- UN IAPWG (Interagency Procurement Working Group). (2006). *UN Procurement Practitioner's Handbook: United Nations: Interagency Procurement Working Group*.
- UN Public Administration Glossary. (2017). UN Public Administration Glossary. Retrieved from <http://www.unpan.org/Directories/UNPAGlossary/tabid/928/Default.aspx>
- UN Viet Nam. (2003). *United Nations Country Team Viet Nam: Discussion Paper No. 3, Challenges to Youth Employment in Viet Nam*. Retrieved from http://www.undp.org/content/dam/vietnam/docs/Publications/4723_Youth_Employment.pdf
- UN-Habitat. (2013). *Planning and Design for Sustainable Urban Mobility: Global Report on Human Settlements 2013*. Retrieved from New York: <http://mirror.unhabitat.org/pmss/getElectronicVersion.aspx?nr=3503&alt=1>
- UN-Habitat. (2015a). *Global Public Space Toolkit From Global Principles to Local Policies and Practice*. Retrieved from Nairobi: [https://unhabitat.org/wp-content/uploads/2015/10/Global Public Space Toolkit.pdf](https://unhabitat.org/wp-content/uploads/2015/10/Global_Public_Space_Toolkit.pdf)
- UN-Habitat. (2015b). *International Guidelines On Urban And Territorial Planning*. Nairobi: UN-Habitat.
- UNDP. (2007). *National Human Development Report 2007: Social Inclusion in Bosnia and Herzegovina*.
- UNDP. (2011). *Towards Human Resilience: Sustaining MDG Progress in an Age of Economic Uncertainty. Governance Principles, Institutional Capacity and Quality*.
- UNDP. (2014). *Human Development report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience*.
- UNDP. (2016a). *Human Development Report 2016: Human Development for Everyone*.
- UNDP. (2016b). *UNDP Innovation Facility | 2015 Year in Review*.
- UNESCO. (2001). *UNESCO Universal Declaration on Cultural Diversity*: UNESCO.
- UNESCO/UNFPA/UNDP. (2015). *Post-2015 Dialogues On Culture And Development*.
- United Nations. *Waste Treatment and Disposal*. Retrieved from http://www.un.org/esa/sustdev/natinfo/indicators/methodology_sheets/consumption_production/waste_treatment_disposal.pdf
- United Nations. (2001). *Compendium of Human Settlements Statistics 2001*. Retrieved from New York: https://unstats.un.org/unsd/demographic/sconcerns/housing/publications/Series_N6.pdf
- United Nations. (2014). *Water and Energy. Information Brief*.
- United Nations. (2017a). *Sustainable Development Goals. 17 goals to transform our world: Goal 4. Quality education: why it matters*.

United Nations. (2017b). Sustainable Development Goals. 17 goals to transform our world: Goal 9. Build resilient infrastructure, promote sustainable industrialization and foster innovation. Retrieved from <http://www.un.org/sustainabledevelopment/infrastructure-industrialization/>

United Nations Department of Economic and Social Affairs. (2003). *World Public Sector Report 2003: E-Government at the Crossroads*. Retrieved from New York: [https://publicadministration.un.org/publications/content/PDFs/E-LibraryArchives/World Public Sector Report series/World Public Sector Report.2003.pdf](https://publicadministration.un.org/publications/content/PDFs/E-LibraryArchives/WorldPublicSectorReportseries/WorldPublicSectorReport.2003.pdf)

United States Environmental Protection Agency (EPA). (2017). Region 1: EPA New England. What is Open Space/Green Space? Retrieved from <https://www3.epa.gov/region1/eco/uep/openspace.html>

US Legal. (2016). Legal Definitions. Retrieved from <https://definitions.uslegal.com/p/public-transportation/>

Veenhoven, R. (2008). ealthy happiness: effects of happiness on physical health and the consequences for preventive health care. *Journal of Happiness Studies*, 9(3), 449-469.

Vision Zero Network. (2017). Retrieved from <https://visionzero-network.org/>

Vitalis, V. (2003). Round Table on Sustainable Development. Sustainable Development.

Walk Score. (2017). Walk Score Methodology. Retrieved from <https://www.walkscore.com/methodology.shtml>

Wang, L., Liu, X.-m., Wang, Z.-j., & Li, Z.-x. (2013). Urban Traffic Signal System Control Structural Optimization. *Mathematical Problems in Engineering*, 2013(706919). doi:10.1155/2013/706919

Wardell Ghirarduzzi, M. (2017). Equity in Smart Cities: The Myth of Neutrality. Retrieved from <http://meetingoftheminds.org/equity-smart-cities-myth-neutrality-20071>

What Works Wellbeing. (2017). *What is Community Wellbeing? Conceptual review*: <http://www.whatworkswellbeing.org/>.

Willig, C. (2001). *Introducing Qualitative Research in Psychology: Adventures in Theory and Method*. Maidenhead: Open University Press.

Wilson, E. O. (1984). *Biophilia*. Cambridge MA: Harvard University Press.

Woodcock, J., Givoni, M., & Morgan, A. S. (2013). Health impact modelling of active travel visions for England and Wales using an integrated transport and health impact modelling tool (ITHIM). 8(1). doi:10.1371/journal.pone.0051462

World Bank. (2012). Inclusive Green Growth: The Pathway to Sustainable Development. Washington: The World Bank.

World Bank. (2018). World Development Report: Learning to Realize Education's Promise. Washington: The World Bank.

World Economic Forum. (2014). A report of the Global Agenda Council on Competitiveness: The Competitiveness of Cities. Geneva: World Economic Forum.

World Economic Forum. (2017). Data Driven Cities: 20 Stories of Innovation. Geneva: Global Future Council on Cities and Urbanization.

World Health Organization. (2017a). Constitution of WHO: principles. *World Health Organization*. Retrieved from <http://who.int/about/mission/en/>

World Health Organization. (2017b). Health and sustainable development, Urban green spaces. Retrieved from <http://www.who.int/sustainable-development/cities/health-risks/urban-green-space/en/>

Chapter 8

Countries' Experiences with Well-being and Happiness Metrics

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This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.



1. Introduction

The debate on the relevance of GDP as a measure of people's well-being is almost as old as the measure itself; this is well illustrated by the famous quote by Robert F. Kennedy: "[Gross National Product] measures everything in short, except that which makes life worthwhile." The limitations of GDP as a welfare measure were also recognized by its architects, Simon Kuznets and Richard Stone (Lequiller and Blades, 2014). While GDP growth is critical for achieving a number of important objectives, from eradicating extreme poverty to adequate financing of social programs and public investments, it should always be recognized as a means to other ends rather than as a goal in itself.

In recognition of GDP's inadequacy to capture many of the critical dimensions of human lives, a strong movement has emerged to go "beyond GDP" and bring into greater focus measures that capture people's living conditions and the quality of their lives. A significant body of research and statistical work has thus been developed aiming to provide alternative or complementary metrics of human progress (see e.g. Stiglitz et al., 2009 and OECD 2011). Many countries have also developed frameworks for measuring aspects of well-being, aimed at gaining a better understanding of people's lives at the individual, household and community level.

Nevertheless, measuring well-being is not an end in itself. For well-being indicators to contribute to better lives, they must be used in decision-making by policy makers and by the general public. Although more and more countries have taken on the challenge of developing well-being frameworks, and these are often well-documented in reports and websites, much less has been recorded about how, or even if, these indicators are actually being used in policy settings. This chapter aims at describing the progress that has been made on measuring well-being and using these metrics in national policy settings. It begins with a look into the national measurement initiatives associated with the beyond GDP movement, and the well-being measurement frameworks that have been developed in different countries. The next section makes the case for using well-being metrics in the policy setting. It is followed by a discussion of how well-being frameworks can be used in policy throughout the

policy cycle to improve policy making. A presentation follows of the common themes and challenges that were observed in seven case studies of countries that have implemented well-being measurement frameworks into policy through various mechanisms (the cases of Ecuador, France, Italy, New Zealand, Scotland, Sweden and the United Kingdom are detailed in the appendix to this chapter). Most of the national experiences recorded in this chapter are fairly new however, implying that, at this stage, impacts are difficult to identify and challenges exist; there is no blueprint for successful implementation. So, the last section sets the stage for a chapter in the next edition of the Global Happiness Report, which will explore remaining questions and issues to be addressed in order to advance the use of well-being measurement frameworks in policy making.

2. Development of well-being metrics —Beyond GDP

For many years, Gross Domestic Product (GDP) has been accepted as the main yardstick to measure economic performance and welfare. GDP is, however, a measure of economic production rather than of people's well-being. It does not capture important quality of life elements, such as leisure time, social connections or the quality of working environment; it does not reflect inequalities, which are important for the assessment of the well-being of any community of people; and it is blind to the effects that changes in the scale of economic production may impose on the stock of resources that sustain well-being over time.

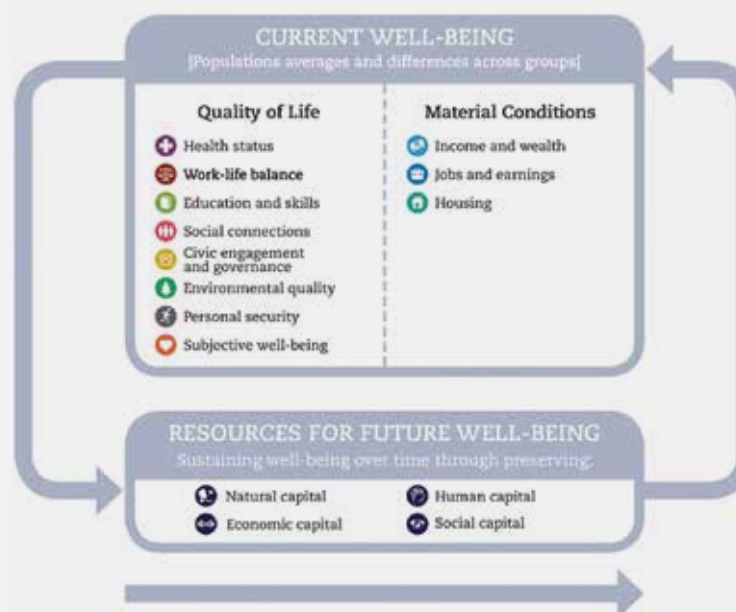
The "beyond GDP" agenda has advanced significantly throughout the past few decades, and several noteworthy initiatives and frameworks have been developed in recent years. The OECD has been particularly active in pushing this agenda. In 2011, it developed a framework on measuring well-being that both reflected and supported the development of measurement frameworks on a national level. (Box 2.1). Many countries have also 'breathed life' into the measurement agenda by establishing frameworks that are published and updated regularly.

Table 2.1 presents 12 national measurement frameworks, the leading agency, and the use of

Box 2.1. The OECD Better Life Initiative

In 2011, the OECD Statistics Directorate developed a framework for measuring well-being, shaped in consultation with member countries, and drawing upon the recommendations of the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz, Sen, Fitoussi, 2009), as well as variety of other national and international initiatives. This framework identifies 11 dimensions as being essential to people's lives "here and now," ranging from health status and education and skills; to the quality of the local environment, personal security and subjective well-being; as well as more material dimensions such as income and wealth, housing, etc. (see Figure 2.1). In addition, four stocks of resources (natural, human, economic and social capital) are highlighted as important for sustaining well-being outcomes over time.

Figure 2.1. The OECD conceptual framework of well-being



The biennial OECD report *How's Life?* presents a comprehensive set of internationally comparable well-being indicators for OECD and partner countries. The November 2017 edition presents the latest evidence on both current well-being and resources for future well-being, with a focus on change since 2005. It features an in-depth examination of well-being inequalities in OECD and partner countries, describing "vertical inequalities" (i.e. the gaps between people at the top and people at the bottom of the distribution), "horizontal inequalities" (i.e. gaps between groups of people, including by gender, age and education level), and well-being deprivations (i.e. the share of the population falling below a threshold value or standard of well-being). In addition, special thematic chapters examine migrants' well-being, and governance and well-being. At the same time, the OECD has created the "Better Life Index" (www.oecdbetterlifeindex.org) as a communication tool to engage with citizens in the "beyond GDP" debate. The website enables users to explore a selection of the OECD's well-being indicators, and to build their own international index of well-being, by rating the dimensions of well-being that matter most to them.

subjective well-being within these frameworks. Although the motivations underlying the development of measurement frameworks differed across countries, some features are notably similar. First, most of these frameworks have been developed in the past decade, although there are frameworks that date as far back as 1974 (e.g. the Netherlands' 'Life Situation Index').

A second common characteristic observed is that all of the frameworks have taken a multi-dimensional approach, typically combining data about people's economic circumstances and material living conditions with indicators that consider a wide range of quality of life factors. A third common feature of these different initiatives is that consulting with wide audiences was part of the process for designing the frameworks. This has been done with varying levels of intensity and related either to the indicators or to the dimensions covered by the framework. Box 2.2 describes some of the public consultations that were held as part of the process of creating well-being measurement initiatives and frameworks.

A final common feature of these national initiatives is that, while all share an understanding of people's well-being as a multi-dimensional construct, they also often include measures of

people's subjective well-being (or happiness) as one of their key components. The last column of Table 2.1 describes how indicators of subjective well-being feature in these national initiatives. Life satisfaction features frequently, but other types of subjective measures are also used. See below for a more detailed discussion of developments in measuring subjective well-being.

Conversely, one notable difference in national initiatives concerns their leadership and motivation. In some countries, the frameworks were developed by a Center-of-Government agency (e.g. the Prime Minister's office in Sweden and the United Kingdom, and the Federal Chancellery in Germany, with responsibility for regular publication then sometimes delegated to other agencies) or by a combination of policy-related agencies (e.g. Slovenia, Italy, France, Finland), with a clear motivation for the use of well-being metrics in policy settings. In other cases, the responsibility lies with National Statistical Offices or similar agencies (e.g. Austria, the Netherlands), suggesting that the underlying motivation is more that of providing additional information beyond GDP, without necessarily embedding this information into an explicit policy framework.

Table 2.1 Selected National Well-being Measurement Initiatives and Indicator Sets

Country	Measurement initiative/ indicator set	Leading agency	Short description	Use of Subjective Well-being in the framework
Australia	Measure of Australia's Progress (MAP)	Australian Bureau of Statistics (ABS)	The ABS has been publishing a report of 26 indicators in four dimensions (Society, Economy, Environment, Governance) measuring progress in Australia since 2002. The latest publication of the report was in 2013. ¹	Measures of subjective well-being were not included in this framework.
Austria	How's Austria	Statistics Austria	Statistics Austria publishes an annual report, since 2012, on 30 key indicators categorized into three dimensions: material wealth, quality of life and environmental sustainability. An interactive tool allowing exploration of historical trends and comparison across indicators was also developed. ²	A measure on subjective well-being is included in the framework, based on life satisfaction on a scale of 0 (not at all satisfied) to 10 (fully satisfied). Data source: EU Statistics on Income and Living Conditions (EU SILC).

Country	Measurement initiative/ indicator set	Leading agency	Short description	Use of Subjective Well-being in the framework
Belgium	Complementary indicators to GDP	National Accounts Institute	In 2014, a law adopted stipulated that an annual report will be published by the National Accounts Institute (Institut des comptes nationaux) on Complementary Indicators to GDP, aimed at measuring people's well-being and societal development at the federal level. The report has been published in 2016 and 2017, and details trends for 67 indicators grouped in 13 themes and covering three conceptual dimensions: current generation (here and now), future generation (later) and other countries (somewhere else).	A measure on subjective well-being is included in the framework ("Evaluation de sa propre existence"), based on life satisfaction on a scale of 0 (not at all satisfied) to 10 (fully satisfied). Data sources: EU Statistics on Income and Living Conditions; European Social Survey.
Ecuador	Buen Vivir	INEC (Ecuador Statistics Office)	In support of wider work on Buen Vivir (see Table 3.1, below), the Ecuador Statistics Office (INEC) compiled a set of indicators to monitor progress according to the Buen Vivir concept (see case study, in Appendix).	A 2015 framework developed by the Office of Statistics proposes measuring several elements of subjective well-being or flourishing: evaluation of life (Cantril Ladder); life satisfaction (on a 0-10 scale); positive and negative affect (hedonic well-being); spirituality; and eudaimonia.
Finland	Findicator	Statistics Finland and the Prime Minister's Office	Launched in 2009 by Finland's Prime Minister's Office and Statistics Finland, the Findicator (Findikaattori) is an online compendium of over 100 indicators on social progress, with a specific category on well-being indicators. The well-being indicators include 23 indicators across eight dimensions. ³	Subjective well-being, as measured by life satisfaction, is in the Findicator data set, but not under the well-being category but as part of the sustainable development category. Data is from the European Quality of Life Survey.
Germany	Gut Leben in Deutschland	Federal government	The German federal government has launched the "Wellbeing in Germany—what matters to us" initiative as a commitment to the December 2013 coalition agreement, which stated that "We wish to align our policies more closely with the values and hopes of German citizens and we will therefore conduct a dialogue with them in order to gain an understanding of their views on wellbeing issues...". Following a national consultation process and the findings of other national and international research projects and discussions, 12 dimensions and 46 indicators were in order to describe and measure the current status and trends in wellbeing in Germany. The indicators will be updated on a regular basis. ⁴	Measures of subjective well-being were not included in this framework, but the first report of the initiative makes reference to various indicators as drivers of life satisfaction.
Italy	Measures of equitable and sustainable well-being	National Council for the Economy and Labour (CNEL) and National Institute of Statistics (ISTAT)	The "Equitable and Sustainable Well-Being" ("Benessere Equo e Sostenibile"—BES) project led to the creation of a well-being framework, following the recommendation of a committee convened by the Italian Prime Minister, which is monitored through a set of indicators and an annual report by ISTAT. A law approved in 2016 stipulated that a narrower framework be developed for reporting to parliament in the context of budgetary discussions (see Table 3.1, and case study below).	The BES includes life satisfaction, leisure time satisfaction, positive judgement of future perspectives and negative judgement of future perspectives as indicators of subjective well-being, from a total of 130 indicators.

Country	Measurement initiative/ indicator set	Leading agency	Short description	Use of Subjective Well-being in the framework
Japan	Commission on Measuring Well-Being	Commissioned by government	In 2010, a Commission on Measuring Well-Being was established under the by the national government's Cabinet Office, with the participation of experts. Its stated aim was to promote research and studies on new growth and well-being, as well as to develop and improve statistics on related indicators, as a part of a "New Growth Strategy" adopted by the government. The discussions of this Commission were published in the December 2011 report "Measuring National Well-Being—Proposed Well-being Indicators." The framework is based on three domains: socio-economic conditions, health and relatedness, and each domain contain both subjective and objective indicators. ⁶	The current level of happiness has been measured in the National Survey of Lifestyle Preference conducted since 1978 by asking individuals to score their happiness between 0 and 10.
Netherlands	Monitor of Well-Being	Central Bureau of Statistics	In 2017, The Dutch Cabinet commissioned Statistics Netherlands (CBS) to compile an annual Monitor of well-being, with the aim that it will serve as the instrument to facilitate the public and political debate on well-being. The policy assessment agencies—the Netherlands Bureau for Economic Policy Analysis (CPB), the Netherlands Environmental Assessment Agency (PBL) and the Netherlands Institute for Social Research (SCP)—will also contribute to the Monitor. In addition they will conduct a periodic exploration of well-being based on the monitor. The monitor will be based on the Sustainability monitor, which has been published since 2011 and reports on progress in three themes: The set of indicators consists of three individual dashboards: quality of life here and now; resources for the future and the impact on other countries, and a total of nine dimensions. ⁷	To be confirmed—the first Monitor is yet to be released.
Slovenia	Indicators of Well-Being in Slovenia	Institute of Macroeconomic Analysis and Development (IMAD), Statistics Slovenia (SURS), the Slovenian Environment Agency (ARSO), National Institute of Public Health (NIJZ)	Indicators of well-being have been developed as part of the National Development Strategy launched by the Slovenian government in 2015 to establish a common vision of Slovenia's future to 2050 (see case study, in Appendix. The indicator set is implemented by a consortium of four institutions: the Institute of Macroeconomic Analysis and Development (IMAD), the Statistical Office of the Republic of Slovenia (SURS), the Slovenian Environment Agency (ARSO) and the National Institute of Public Health (NIJZ). The indicators are presented in three categories: Material, Social and Environmental well-being. The indicators are updated once a year, and data is presented from 1996. ⁸	The framework includes both life satisfaction and happiness.

Country	Measurement initiative/ indicator set	Leading agency	Short description	Use of Subjective Well-being in the framework
United Kingdom	Measuring National Wellbeing (MNW) program	The UK Office for National Statistics	The MNW started in 2010. Its aim was to monitor and report "how the UK as a whole is doing" through measures of well-being. A progress report is published biannually covering areas including health, natural environment, personal finances and crime. The measures include objective and subjective data.	The Annual Population Survey (and a variety of other official surveys) includes four subjective wellbeing questions into the Annual Population Survey, the largest of their household surveys. People are asked to respond on a scale of 0 to 10, to these questions:

Box 2.2. Public consultations within national measurement framework initiatives

Several countries have undertaken public consultations as part of the process of developing measurement frameworks relating to well-being. These can be held at different stages of the process of establishing the well-being framework, and accordingly, the inputs from the consultations can shape the framework in different ways. Public consultations require time and resources, and can considerably extend the time needed to complete a process of selecting indicators, but can also contribute meaningful insight into what matters most to people.

Consultations can have several advantages: they can be used to ensure the measurement approach and selected indicators resonate with the public, and have the legitimacy that comes from meaningful engagement with a wide range of stakeholders; they offer a visible way to demonstrate commitment to people's well-being through exploring what is important for the public to know and measure; and they can raise awareness among the public and foster broad acceptance of the measurement framework and recognition of its potential usefulness.

International examples of consultations on well-being include:

- In **Italy**, as part of the process of establishing the BES framework (BES—benessere equo e sostenibile—“equitable and sustainable well-being”), a steering group was established on the “Measurement of Progress in Italian Society,” including 33 representatives of entrepreneurs, professional associations, trade unions, environmental groups, Italian cultural heritage groups, women groups, consumer protection groups and civil society networks. The group aimed at developing a multidimensional approach to the measurement of well-being. In addition, a Scientific Commission with 80 researchers and experts from ISTAT (Italian Statistical Office), universities and

other institutions was also established to consult on this process. Moreover, a survey representative of the Italian population was conducted (about 45,000 people interviewed), inquiring which dimensions are important for well-being. This was further supported by a dedicated website, a blog and an online survey to consult with the public on the committee's decisions (approximately 2,500 respondents). Finally, after the presentation of the first report, the initiative was presented in a series of meetings in different regions of Italy.

- The **New Zealand** Treasury conducted targeted workshops in the development of its Living Standards Framework. In the first round of consultation, held in 2009, workshops were held with government, business, academia and community groups to get feedback on the proposed framework, the communication of the framework and what topics or themes were important, with some 200 participants. Additionally, an advisory group was set up to consult on the framework, and the group included representatives both from government and outside it.⁹
- **Germany** initiated a “national dialogue” on the main issues that are important for quality of life in 2015, which took place over a period of six months.¹⁰ This process was aimed at identifying the measures that can be used to describe quality of life, through identifying what is important to people. The dialogue consisted of several forms of public consultation: meetings, online surveys and postcards. About 200 meetings were held throughout the country with over 8,000 participants. The Chancellor, members of government, and Cabinet Ministers participated in 50 of these meetings. Civil society, representative organizations, business associations and trade unions also supported the dialogue. Over 7,000 people responded through the

online survey and the postcards. The outcomes of the dialogue were incorporated, together with international comparison and research projects, into a framework with 12 dimensions and 46 indicators, which will be updated on a regular basis.

- In the **United Kingdom**, the consultation process formed the beginning of the “Measuring National Well-being” program in November 2010, with a six-month National Debate. This consultation asked people ‘what matters’ in order to understand what should be included in measures of national well-being. The National Debate was carried out by the Office of National Statistics (ONS) and included: 175 events held around the UK, involving around 7,250 people and received more than 34,000 responses, as well as responses from organizations representing many more people. Meetings were also held with citizens, hard to reach groups, organizations, charities, various experts, the National Statistician’s Advisory Forum and a Technical Advisory Group (ONS, 2011). Following the National Debate, the UK ONS has taken formal public consultation on several other well-being measurement issues, including proposals of domains and headline measures of national well-being, as well as on measures of human and natural capital.
- In **France**, following the enactment of the law on “New Wealth Indicators,” the process of selecting indicators involved a two-fold process of consultation. The first part saw the establishment of a working group of over 60 people, comprising researchers, representatives of civil society, international organizations and

experts. The working group established an initial list of themes and indicators. The second part of the process was a wider public consultation, intended to assess the adequacy of the indicators and prioritizing the themes and indicators in order to narrow down the final set. Three types of consultations were held: an online survey, where over 4,000 respondents taking part were asked to order the themes according to their importance; a telephone survey with a representative sampling of the total population, where respondents were asked to rank the themes and indicators; and four focus groups were set up with 10 participants in each, where the approach, themes and indicators selected were debated.

Box 2.3. OECD Guidelines on Measuring Subjective Well-Being (2013)

Core question module

The following question asks how satisfied you feel, on a scale from 0 to 10. Zero means you feel “not at all satisfied” and 10 means you feel “completely satisfied.”

A1. Overall, how satisfied are you with life as a whole these days? [0-10]

The following questions ask about how you felt yesterday on a scale from 0 to 10. Zero means you did not experience the feeling “at all” yesterday while 10 means you experienced the feeling “all of the time” yesterday. I will now read out a list of ways you might have felt yesterday.

A2. How about happy? [0-10]

A3. How about worried? [0-10]

A4. How about depressed? [0-10]

The following question asks how worthwhile you feel your activities were yesterday, on a scale from 0 to 10. Zero means you feel your activities were “not at all worthwhile”, and 10 means “completely worthwhile”.

A5. Overall, how worthwhile do you feel your activities were yesterday? [0-10]

2.1. Advances in the measurement of subjective well-being in national statistics

In the context of the Global Happiness Council, subjective well-being measures collected in national statistical offices are of particular interest. When the OECD’s *Better Life Initiative* was launched in 2011 (see Box 2.1), one of the first methodological research projects involved preparing guidelines on the measurement of subjective well-being. This followed a specific recommendation made in the *Report of the Commission on the Measurement of Economic Performance and Social Progress* (Stiglitz et al., 2009), which encouraged national statistical offices to incorporate questions on subjective well-being in their standard survey vehicles. At that time, there was considerable interest in the question of how and what to measure, with a variety of methods already in use, but a lack of international consensus on good practice, and a number of sceptics in the measurement community who needed further convincing about the validity and value of these data.

The OECD Guidelines on Measuring Subjective Well-Being (OECD, 2013) thus aimed to provide support for national statistical offices and other data producers in designing, collecting, publishing and analyzing subjective well-being data.

Subjective well-being can be defined as “good mental states, including all of the various evaluations, positive and negative, that people make of their lives and the affective reactions of people to their experiences” (OECD, 2013). It encompasses at least three different elements:

- **Life evaluation**—a reflective assessment on a person’s life or some specific aspect of it
- **Affect**—a person’s feelings or emotion states, typically measured with reference to a particular point in time
- **Eudaimonia**—a sense of meaning and purpose in life, or good psychological functioning

The *OECD Guidelines* provided the methodological basis for the development of quality subjective well-being metrics in the three dimensions above. Areas covered included:

- (1) Concept and validity, including providing a conceptual framework; a discussion of data quality; the relevance of subjective well-being measures in a policy context; and the accuracy of the measures.
- (2) Methodological considerations in the measurement of subjective well-being, covering issues such as: question wording and response formats; question order and context effects; survey mode and timing; and response styles and the international comparability of the data.
- (3) Measuring subjective well-being, discussing survey content and planning; survey and sample design; questionnaire design—including key covariates to be collected alongside subjective well-being data; and survey implementation.
- (4) Output and analysis of subjective well-being measures, including the use of subjective well-being data to complement other well-being and economic indicators; better understanding the drivers of subjective well-being; and subjective well-being as an input to cost-benefit analysis.

Table 2.2. Measuring subjective well-being in national statistics: taking stock of recent activity in OECD countries

	EU SILC	European Health Interview Survey	Other (additional) NSO data collections		
	(included the evaluation, evaluation and effect in 2013)	(included affect in 2013-2015)	Life evaluation	Affect/experiential well-being	Eudaimonia
Australia			From 2014, every 4 years	From 2001, every 3-4 years	
Austria	•	•	From 2004, now annually		
Belgium	•	•			
Canada			From 1985, annually	From 2015, annually	2016, frequency tbc
Chile			From 2011, biennially		
Czech Rep.	•	•			
Denmark	•	•	From 2015, frequency tbc	From 2015, frequency tbc	From 2015, frequency tbc
Estonia	•	•			
Finland	•	•			
France	•	•	From 2011, annually	From 2011, annually	
Germany	•	•			
Greece	•	•			
Hungary	•	•	From 2013, biennially		From 2013, biennially
Iceland	•	•			
Ireland	•	•			
Israel			From 2006, annually	From 2002, annually	
Italy	•	•	From 2012, annually		
Japan					
Korea			From 2013, annually	2013-2015 (Social Integration Survey)	2013-2015 (Social Integration Survey)
Latvia	•	•			
Luxembourg	•	•			
Mexico			2012, frequency tbc	2012 and 2013, experimental	2013/14, frequency tbc
Netherlands	•	•	From 1974, now annually	2016, frequency tbc	2016, frequency tbc
New Zealand			From 2014, biennially	From 2008, biennially	From 2014, biennially
Norway	•	•			
Poland	•	•	From 2011, now annually	From 2011, every 4 years	From 2015, every 4 years
Portugal	•	•			
Slovakia	•	•			
Slovenia	•	•	From 2012, annually		
Spain	•	•		2011	
Sweden	•	•			
Switzerland	•		From 2007, annually	From 2013, annually	
Turkey	•				
UK	•	•	From 2011, annually	From 2011, annually	From 2011, annually
United States			2010, 2012, 2013 (ATUS); from 2005 (CDC), irregular frequency	From 2010, annually (National Health Interview Survey); 2010, 2013 (ATUS)	From 2005 (CDC), irregular frequency
Totals	26	24	19 (34 including EU SILC)	14 (33 including EU SILC)	10 (31 including EU SILC)

Source: Exton, Siegerink and Smith (forthcoming).

The *Guidelines* also included a set of question modules, designed for inclusion in household surveys and other routine data collections, with the goal of improving the quality, consistency and international comparability of subjective well-being data. The question modules embodied what was known about good measurement practice, balanced with the need to maintain consistency with established methods for which most evidence on validity and usefulness had been established. A “core” set of five short questions was intended to provide a minimal set of measures for widespread use (Box 2.3)—including a primary measure of life satisfaction, for when space constraints permit only a single question to be included. But the proposed modules also offered more in-depth batteries of questions, addressing experienced well-being as measured through time-use surveys, as well as scales for capturing domain-specific life evaluations, multiple aspects of eudaimonia, and a richer set of affective experiences.

In 2016, the OECD conducted a survey of member and partner countries’ national statistical offices (NSOs), to gather information about the use of subjective well-being questions in official data collections (Table 2.2). This found that 34 out of 35 OECD countries now collect life evaluation data and more than three-quarters of NSOs have collected at least some data on eudaimonia and affect, which follow in some respects the recommendations included in the *OECD Guidelines* (Exton, Siegerink and Smith, forthcoming).

Yet, despite considerable recent progress on measurement, the range of different question formulations in use across different statistical offices continues to pose challenges for the international comparability of subjective well-being data, even within OECD countries. The greatest consensus exists around the use of a 0-10 life satisfaction measure, now available for 30 countries (OECD, 2017a). A particularly important breakthrough has been the 2013 EU Statistics on Income and Living Conditions (EU SILC) ad-hoc module on subjective well-being, administered in all EU countries, plus Iceland, Norway, and Switzerland and Turkey. This featured life satisfaction and eudaimonia questions that are consistent with the *OECD Guidelines*, as well as affective experiences summed over a period of four weeks. A decision has now been taken to include the central life satisfaction question as a

core part of the annual EU-SILC. Meanwhile, data collections consistent with the *OECD Guidelines* in Canada, New Zealand, Australia, Mexico, and Korea are helping to gradually complete the OECD picture. This international perspective can be particularly important for benchmarking purposes in individual countries, providing a comparative picture on both average levels and the size of disparities between populations groups. And international benchmarking can be especially valuable in the absence of long-term trend data within countries, which will still take some time to build up.

Overall, many NSOs still consider subjective well-being data as experimental statistics, i.e. not having yet passed the mark to become official statistics, and even when collected, subjective well-being is not always included in the national well-being policy frameworks (e.g. Germany, Italy, see Table 3.1. below). There is thus still room for improvement in developing and supporting robust subjective well-being data collection that is comparable over time and across countries so as to facilitate their use in policy making.

3. Using well-being metrics in policy settings

The development of well-being measurement initiatives and indicator sets is an important step in building the evidence base and developing a shared understanding of what makes for better lives. Nevertheless, supplying a breadth of information on the lives of people does not in itself fulfil the ambition to improve policy and decision-making. Although the assembling, regular measurement and publication of data on people’s well-being is a prerequisite, and can in itself be influential on policy, there is also the risk that newly developed indicators may become “just another report” rather than leading to a substantial change in the setting and framing of policy. So how can governments use these indicators to make better policies for better lives?

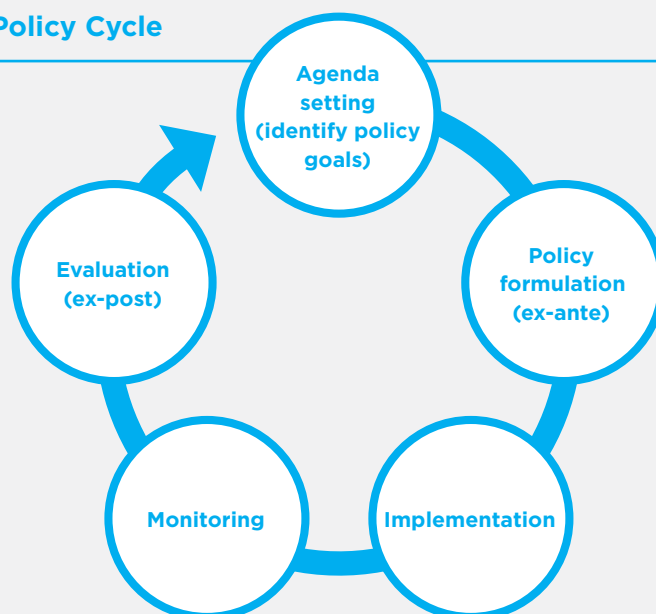
3.1. The policy cycle, and stages at which indicators and evidence can be used

There is a wide range of ways in which indicators and evidence, in broad terms, can shape policy: from influencing public debate on strategic priorities and emergent issues, through to use in

studies commissioned by government agencies to evaluate the impact of specific policy programs. One way to characterize the various opportunities for metrics to influence policy decisions is to consider the different stages of the policy cycle (Figure 3.1). Based on various policy cycles described in the literature (e.g. Jann et al 2006, Cairney, 2013), it consists of the following stages:

1. *Agenda setting* (identifying policy goals)—based on a strategic analysis of the current situation and its drivers, a strategic review of policy goals leading to identifying areas that require government intervention, followed by prioritization and agenda setting. This could involve central government agencies, parliament and civil society;
2. *Policy formulation* (ex-ante)—investigation of policy options, evaluating costs, benefits and feasibility, selecting relevant policy instruments and levers. This stage would usually involve the government agencies responsible for designing and delivering the policy interventions, resource allocating government agencies, and parliament in some high-impact policies;
3. *Implementation*—executing programs and policy interventions by government agencies that are responsible for the implementation and are provided with the necessary resources, in accordance with prioritization and policy formulation;
4. *Monitoring*—a prerequisite for the next step of evaluating policy impacts is that the policy interventions are monitored, both during and after implementation. Monitoring involves taking stock of the inputs used for the policy intervention, the outputs generated and the outcomes observed; a comprehensive evaluation can also benefit from monitoring the counterfactual of the policy intervention. In this stage, the relevant government agency implementing the policy will be involved, but there is also a role for external stakeholders, such as civil society, to monitor the impacts of policy interventions;
5. *Evaluation* (ex-post)—assessing the results of the policy intervention in view of the policy goals, considering termination versus continuation. This stage of policy making can involve all potential stakeholders: government agencies, parliament, civil society and others affected by the policy.

Figure 3.1 The Policy Cycle



3.2. What is different about a well-being or “beyond GDP” approach?

Many well-being indicators already have a well-established role in policy and are used throughout the policy cycle. Jobs and earnings, educational attainment, housing affordability, and health outcomes, for example, are often monitored closely by ministries with relevant responsibilities in these areas. So how and why is it different when policy is approached through a well-being lens? How might policy-making be different—and better? Some of the potential value-added of considering well-being indicators in a policy context include:

- **Providing a more complete picture**—and in particular drawing attention to outcomes that matter to people’s living conditions and quality of life, but that are often not currently considered in routine policy analysis.
- **Supporting the strategic alignment of outcomes across government.** Throughout the policy cycle, cooperation and cohesion across government is essential. Government agencies often operate in silos, focusing on the resources and outputs for which they are directly accountable and without reference to the wider impacts of their actions, and are predisposed to focusing on the outcomes for which they are directly responsible. For example, crime and justice agencies tend to focus on the direct impacts of their actions in reducing crime and enforcing safety measures when setting priorities, despite the fact that spill-overs from other policy areas and society-wide patterns on personal safety outcomes and subjective well-being are large. Policy spill-overs also operate in the other direction, with the personal safety as a major determinant of outcomes in other policy areas. Personal security, for example, is a driver of education outcomes, health and social connections. Similar spill-overs occur in nearly all policy areas. By framing an explicit range of outcomes to be considered, frameworks for measuring people’s well-being can promote consistency across government and provide a common language for agencies to discuss these consequences. Additionally, the integration of well-being frameworks can potentially generate interactions between government agencies.

It can also assist in clarifying responsibilities across and within different levels of government and different groups of stakeholders, increasing co-ordination among policies.

- **Highlighting inequalities and the diversity of experience through providing data at the granular, people-centered level.** In contrast to many aggregate measures that focus on the performance of economic systems as a whole, a focus on people and outcomes at the individual and household level enables the analysis of inequalities, pockets of deprivation and vulnerability, and/or groups among whom outcomes are diverging over time.
- **Considering both well-being outcomes today and resources for tomorrow.** A key critique of GDP is that it fails to take sustainability into account—both in terms of whether economic growth is itself sustainable over time, but also whether that growth is being achieved in a sustainable way—i.e. without environmental and social costs that offset the overall societal benefits of growth, and could undermine the stability of that growth in future. The broad-based economic, environmental and social coverage of well-being measures is therefore a key advantage. In addition, many approaches to measuring well-being include forward-looking components, such as indicators covering the natural, human and economic capital stocks that will support future well-being. This balances out the focus on “here and now” when thinking about the progress of societies, and also enables governments to examine whether progress on well-being today is being achieved at the expense of depleting stocks of resources for future generations.
- **Fostering public debate.** This allows a discussion which is based on an underlying common concept of what makes for a good life, between all stakeholders, from politicians, civil society, businesses and policy makers. For example, public engagement and consultations (e.g. Box 2.2) can provide a space for the public to comment and relate to the set of indicators or dimensions being proposed, encourage shared ownership of indicators, and stimulate debate about what matters most for well-being.
- **Promoting evaluation of the impact of policy programs on people’s lives.** If different

government departments could be encouraged to consider a wide range of well-being outcomes and impacts, this has the potential to help make policy trade-offs and spill-overs more explicit and more clearly articulated. Accountability for results is fundamental to efficient and effective governance. Accountability is also the ultimate rationale for the evaluation of policy interventions *ex post*, and is an important input into strategic priority setting. Well-being frameworks can form the basis for the accountability procedures for government agencies. In defining the set of desired outcomes expected from policy interventions through a range of indicators relating to people's well-being, *ex post* policy evaluation can lead to higher accountability on a wider range of outcomes than previously considered. The agreement around the dimensions and indicators that reflect people's well-being can also streamline external accountability measures, such as parliamentary oversight, audit agencies and civil society, by creating a common language and a consensus on measured outcomes.

3.3. Mechanisms for integrating well-being indicators in policy decision-making

Routine reporting of well-being statistics can, in itself, help to highlight issues and inform policy decisions in the agenda-setting phase of the policy cycle, without recourse to special policy tools or levers. For example, simply making data on levels, inequalities and trends in well-being available to a wide range of stakeholders (e.g. civil society, politicians, business and the media) can shift opinion, inform debate, and influence policy priority-setting.

Nevertheless, to unleash some of the potential benefits of well-being metrics outlined in the previous section, it is necessary to go beyond simply *making indicators available* to wide audiences. For example, integrating well-being metrics in the stages of policy formulation and evaluation requires a conscious decision on the part of those performing or commissioning this research and analysis, as well as a demand (from decision-makers) for an evidence base on which to draw, and an established set of tools and techniques recognized across the analyst profession within governments (such as the methods set out in the United Kingdom Treasury's

Green Book: Appraisal and Evaluation in Central Government, HM Treasury, 2011).

Several OECD countries have therefore developed more formal and/or structured mechanisms to ensure that well-being or "beyond GDP" indicators are integrated into their policy processes. These can target specific aspects of the policy cycle, or encompass several steps. Table 3.1 provides an overview of 10 countries that have developed such mechanisms, the leading agency, stage of the policy cycle that the mechanism is integrated in, and the use of subjective well-being indicators. For seven of the 10 countries reviewed in Table 3.1, detailed case studies are presented in the Appendix.

Table 3.1 Examples of mechanisms and frameworks for integrating well-being metrics into policy-making, from selected countries

Country	Mechanism	Leading agency	Short description	Step of the policy cycle targeted	Use of subjective well-being in the framework
Australia	Well-being framework	Treasury	A well-being framework developed in 2004 by the Treasury in order to underpin analysis and advice across the Treasury's policy responsibilities. The framework consists of five elements of well-being: the level of consumption possibilities, their distribution, the degree of risk borne by individuals and society, the degree of complexity we face in our choices, and the level of freedom and opportunity we enjoy. In 2016 the Treasury Secretary moved away from the Living Standards framework and undertook a new one, focusing on the budget, productivity and globalization. ¹¹	Policy formulation, policy evaluation	In the Treasury's framework, it is stated that "[the framework] is open to both subjective and objective notions of wellbeing, and to concerns for outcomes and consequences as well as for rights and liberties". ¹²
Ecuador	1. Constitution 2. National Development Plan 3. Buen Vivir Secretariat	Government	The concept of <i>Buen Vivir</i> was integrated into the Ecuadorian constitution in 2008, and in June 2013 then-President Rafael Correa created the " <i>Buen Vivir</i> Secretariat," a new Ministry within the national government. A key mechanism is the National Development Plans, which lay out the national strategy for <i>Buen Vivir</i> every four years.	Agenda-setting, policy formulation, policy evaluation	The National Development Plan 2017-2021 includes 38 objectives, with a range of indicators for each goal.
France	Budget law, drawing on New Indicators of Wealth	France Strategy and the Economic, Social and Environmental Council (EESC)	In April 2015, the French Parliament passed law 411, which requires the Government to submit an annual report to Parliament on the progress in view of 10 new leading indicators that reflect the country's economic, social and environmental situation. In addition, the report will include an impact assessment of the main reforms envisaged in light of these indicators, and if the government requests, it can be debated in Parliament.	Agenda-setting, policy formulation; policy evaluation	Of the 10 indicators in the framework, one relates to subjective well-being, in the form of life satisfaction with a ladder of 0 to 10. Data is from EU-SILC.
Italy	Budget law, drawing on "Measures of equitable and sustainable well-being"	Ministry of Economics and Finance	Building on ISTAT's "Measures of equitable and sustainable well-being", a law approved in 2016 stipulated that a narrow subset (12) of these indicators should be annually reported to Parliament in the context of budgetary discussions.	Agenda-setting, policy formulation and evaluation	Measures of subjective well-being are not currently included in the set of indicators for parliamentary reporting. They do feature in the wider BES measurement initiative.

Country	Mechanism	Leading agency	Short description	Step of the policy cycle targeted	Use of subjective well-being in the framework
Netherlands	"Accountability Day"	Netherlands Cabinet	In February 2017, the Dutch Cabinet commissioned Statistics Netherlands to compile an annual Monitor of well-being (see Table 2.1, above). The Monitor will form the basis of Cabinet considerations on the state of well-being in the Netherlands. These Cabinet's considerations will subsequently be part of the accountability debate in the House of Representatives, which takes place on the third Wednesday in May.	Agenda-setting	To be confirmed.
New Zealand	Living Standards Framework	Treasury	The Treasury Living Standards Framework was developed in 2011, as part of an internal process intended to enhance policy advice and as a response to external criticisms regarding the Treasury's vision. The Living Standards Framework is intended to provide evidence-based advice to Ministers on the lives of New Zealanders, and is intended as an input into the policy process, rather than a decision-making tool in itself.	Policy formulation	The Living Standards Framework does not specify the indicators to be used, but provides the conceptual framework. The guidelines of the framework assert that "measuring living standards with subjective measures of well-being provides a useful cross-check of what is important to individuals".
Scotland	Scotland Performs	Government	The Scottish government's National Performance Framework was first published as part of the 2007 Spending Review. It is a 10 year vision for Scotland which uses an outcomes-based approach to measuring government's achievements, rather than inputs and outputs. The National Performance Framework forms the basis of performance agreements with public service delivery bodies, and is used to monitoring their effectiveness.	Monitoring; evaluation	The indicators featured in the Scotland Performs framework include mental wellbeing (derived from an average score on the Warwick-Edinburgh Mental Well-Being Scale (WEMWEBS) for adults aged 16+ years).
Sweden	New measures for prosperity	Ministry of Finance	The New Measures of Well-being developed by the Swedish government as a complement to GDP have been integrated into the Budget Bill 2017.	Agenda-setting, policy evaluation	Within the social dimensions, life satisfaction is measured using data from the SOM-institute survey. The survey provides four responses to the question of Life Satisfaction: "Very satisfied; Fairly satisfied; Not very satisfied; Not at all satisfied." ¹³

Country	Mechanism	Leading agency	Short description	Step of the policy cycle targeted	Use of subjective well-being in the framework
United Kingdom	The What Works Centre for Wellbeing; various central government activities	The What Works Centre for Wellbeing (an independent agency); various central government departments, previously coordinated by the Cabinet Office	Efforts to bring well-being metrics into policy in the United Kingdom have taken several different forms. One is the What Works Center for Wellbeing, an independent collaborative center that aims to develop and boost generation of high quality evidence on well-being intended for decision-makers in government, communities, businesses and other organizations to use in their work.	Agenda-setting, policy formulation, policy evaluation	The What Works Center for Wellbeing uses various measures of subjective wellbeing in different parts of its work, whether evaluation, research or advocacy, often based on (but not limited to) the four questions used by the Office of National Statistics in the Annual Population Survey (see Table 2.1).
United Arab Emirates	The Happiness Policy Manual	Ministry of State for Happiness and Wellbeing, The National Program for Happiness and Positivity	In October 2017, a Happiness Policy Manual was published by the National Program for Happiness and Positivity, proposing the use of happiness in policy making. The approach to implementation is presented through three stages of the policy cycle: policy formulation, policy assessment and policy implementation.	Whole policy cycle	Use of data on subjective well-being is central to the Happiness Policy Manual, and the Manual suggests using a range of data on subjective well-being, including life satisfaction, eudaimonia and satisfaction with specific quality of life dimensions.

The case studies presented in the Appendix to this chapter provide more detail and context on seven of these initiatives. The countries presented as case studies are Ecuador, France, Italy, New Zealand, Scotland, Sweden and the United Kingdom. For each case study the settings in which the policy mechanisms and frameworks were developed are described. From the case studies, it is possible to identify some common themes, differences and challenges that arise when implementing well-being frameworks into policy settings through various mechanisms. A short discussion of these follows.

3.4. Some commonalities, differences and challenges in using well-being indicators in policy settings

The case studies presented in the Appendix point to some of the challenges and complexities of developing mechanisms for integrating well-being indicators into policy making and decisions. Some common themes emerge relating to the measurement framework, the process and the political context.

3.4.1. The process of implementing well-being indicators in the policy cycle

As noted earlier, in some countries, well-being indicators were not specifically developed with policy use in mind. By contrast, in others, the process started with a conceptual or paradigm shift, aiming to expand what is considered as important to improve people's lives, such as in Ecuador. Or somewhat similarly, the well-being indicators were integrated into a performance monitoring framework that had already been developed, such as in Scotland.

The stage of the policy cycle in which the indicators are used differs as well. Well-being indicators are mostly used at the policy formulation stage, such in New Zealand and Ecuador, or at the evaluation stage, such as in the cases of the other countries. In France, Italy and Sweden, indicators are more commonly used at the agenda setting stage, with parliamentary reporting at the start of the budget process. Notably, the recently published UAE Happiness Policy Manual addresses the use of happiness data throughout the policy cycle, so following its implementation may prove useful for future research.

3.4.2. The selection of well-being indicators

The number and type of indicators used in policy settings varies significantly across countries. In Sweden, Italy and France, where implementation is mainly through reporting to parliament, the number of indicators is significantly limited, from 6/10 (France) to 12 (Italy) and 15 (Sweden) to facilitate communication. At the other extreme, in the cases of New Zealand and the United Kingdom, a very wide variety of indicators are available from the respective NSOs, to be used for cost-benefit analysis or ex post evaluation of wide range of policy interventions such as in the UK What Works Centre, or for ex ante policy design, such as in New Zealand. Ecuador and Scotland lie in between, with a defined number of indicators, and well-defined monitoring procedures (through the National Development Plan in the case of the former, and a National Performance Framework in the case of the latter).

The use of subjective well-being indicators in policy settings also varies across countries. For example, in Italy, one of the criteria for selecting indicators for the budget law was being able to forecast trends three years ahead; due to limited data collection and quality, subjective well-being indicators were excluded from the list. By contrast, a strong emphasis on subjective well-being outcomes is adopted by the What Works Centre for Well-Being in the United Kingdom.

3.4.3. The political process

In some cases, well-being policy frameworks have been supported by parliament, whether or not they were first initiated by parliament or government. This is the case for France, Italy, and the Netherlands, where the intention is for parliament to have an evidence base with which to hold government accountable for performance, through annual reporting of well-being indicators. To a lesser extent this is also the case in Sweden. In other cases, a central government agency has taken the lead, such as in New Zealand where the Treasury is in charge of the framework, or Ecuador, where the *Buen Vivir* Secretariat and the Planning Ministry (SENPLADES) are in the lead.

More broadly, as shown in Table 3.1, some of the initiatives presented here have benefited from strong leadership, often involving a prominent political figure promoting the concept of well-be-

ing. The most notable example is Ecuador, where the previous president, Rafael Correa, initiated a revision of the constitution to incorporate the concept of *Buen Vivir* in it. This was also the case in France, with the introduction of a law by a member of Senate, Eva Sas, and in the United Kingdom, with the launch of the Measuring National Well-Being Program by former Prime Minister David Cameron.

Finally, it is worth recalling that most of these initiatives are still quite recent, so adjustments and modifications are to be expected and it is probably too early to draw lessons. Nevertheless, for those with a few years of implementation, it is clear that ensuring continuity in political engagement with respect to well-being concepts and policy objectives remains essential (see Australia in Table 3.1). Potential difficulties can be compounded when the initiatives are strongly associated with a political figure—i.e. can the actions to implement well-being frameworks outlast their instigator? This remains to be seen, and most likely depends also on how widely accepted the well-being approach is by the public and whether it is mainstreamed within the civil service.

4. Summary and Conclusions

This chapter has described national initiatives to measure well-being and the mechanisms for using well-being metrics in policy settings.

While national experiences vary, commonalities also exist. Context matters too, whether political or procedural, and all the case studies featured in this chapter are describing new developments in the way that measuring well-being is impacting policy making. This review sets the stage for a deeper discussion on how well-being metrics can be best integrated into policy making, which will be part of the 2019 edition of the Global Happiness Council report. Many questions still remain to be answered, and monitoring the developments in this area is crucial for a deeper understanding.

Continuing exploration of the barriers to uptake of well-being frameworks in policy settings will serve this purpose. The project on ‘Bringing alternative indicators into policy’ identified three types of barriers for use of well-being indicator sets in policy (BRAINPOoL, see Seaford and Berry, 2014):

- *Political barriers*—these include a lack of legitimacy for the process to develop new indicators, a poorly defined narrative and a lack of strong political imperative to look “beyond GDP,” i.e. limited demand for the use of alternative well-being indicators from the political level.
- *Indicator barriers*—these are mainly related to the methodology used for measuring well-being and sustainability, and to the lack of consensus around a dashboard of indicators as a measure of well-being.
- *Process and structural barriers*—these barriers relate to the support and incentives within policy making for using well-being frameworks, as well as institutional resistance to change and poor communication of the frameworks to potential users and stakeholders.

Some of these obstacles are apparent in the case studies reviewed in this chapter, while others are harder to identify. The process for selecting which indicators to monitor is complex, and there is still room for improvement if consensus is to be achieved. As described, countries vary in both the number of indicators and their composition.

It is evident that the well-being measurement initiatives, when based on a clear conceptual framework, are useful in outlining how to think about people’s well-being, and how to broaden the set of outcomes that the policy process should try to target. However, it is unclear whether this should be in the form of a specific set of indicators adhered to stringently, or whether it should be viewed as a prism through which to examine various policies.

Different audiences and actors might also require different tools. The National Statistical Offices deal with clearly defined statistics, with set methodologies that allow comparison and scrutiny. But ministries, parliaments and accountability agencies might not relate to the indicators but rather to the conceptual framework, while still achieving the objective of broadening the set of considerations in policy setting to important aspects of people’s lives. Civil service and policy analysts may also require different tools or a hybrid, allowing both an in-depth analysis based on well-being metrics as well as communication tools, for example. Communication with the wider public will require a different strategy, and

making the data accessible and understandable is key to promoting the use of well-being metrics.

Further investigation should also address several challenges which have been apparent in this review of national experiences:

- In order to evaluate the ‘success’ of the well-being metrics in impacting policy making, it is necessary to define and identify what an expected impact is. Identifying the impact of a single indicator on policy is difficult. Policy processes are complex and diffuse, especially agenda-setting where well-being metrics are likely to have the greatest immediate influence, and, it will be extremely rare to find evidence of specific decisions being taken on the basis of a single analysis or piece of evidence.
- The development of evidence-based policies will require continued iterative progress in data collection, dissemination, analysis, and policy experimentation. Sustaining the use of well-being metrics over time is a challenge. What steps are necessary in order to mainstream the use of metrics and prevent initiatives from fading away? What is the role of advocacy and what tools are effective in widening the interest across stakeholders?
- Structural barriers could hinder integration. For example, government agencies and ministries tend to focus on the outcomes for which they are directly accountable, even within a well-being framework. This can result in the marginalization of dimensions that, while important for people’s well-being, are not under the specific responsibility of a government agency and so will not be addressed appropriately. Conversely, expanding the range of outcomes for which policy should be responsible might see the encroachment of agencies into areas which they do not have sufficient knowledge or experience (for example, should the Ministry of Education or the Ministry of Health be responsible for healthy education programs?).
- Demonstrating causality in a public policy context is always difficult. Prime experimental conditions for establishing cause and effect are extremely rare when trying to improve people’s lives in a fair and balanced way through major national policy decisions. Collection of the right kinds of data, at the

right times, is also central to building the necessary evidence base. Policies targeted at specific outcomes may inadvertently affect a multitude of other factors, or generate unintended outcomes. In the case of well-being metrics there is an additional challenge—because of the multidimensional nature of well-being, the interlinkages between different well-being metrics can be difficult to map out and identify. For example, in the policy evaluation stage of the policy cycle, using well-being metrics broadens the set of outcomes assessed, but isolating the impacts of various dimensions of well-being is most challenging. For many of the well-being indicators that have only been recently introduced in large-scale and high-quality data collections in countries’ national statistics—including subjective well-being—it will take some time yet to build the time series needed to investigate major policy questions of interest, and to enable analytical work such as forecasting. Routine inclusion of well-being metrics in studies commissioned to evaluate policy impacts is also needed to build up the evidence base required.

In the next Global Happiness Council report, further exploration of these issues and best practices will be presented.

Endnotes

- 1 <http://www.abs.gov.au/ausstats/abs@.nsf/mf/1370.0>
- 2 http://www.statistik.at/web_en/statistics/-----/hows_austria/index.html (accessed on 25/10/2017)
- 3 <http://www.findikaattori.fi/en/hyvinvointi> (accessed on 25/10/2017)
- 4 <https://www.gut-leben-in-deutschland.de/static/LB/en> (accessed on 25/10/2017)
- 5 http://www.cbs.gov.il/statistical/stat151_eng.pdf (accessed on 30/10/2017)
- 6 “Measuring National Well-being: Proposed Well-being Indicators”, The Commission on Measuring Well-being, Japan. December 2011 http://www5.cao.go.jp/keizai2/koufukudo/pdf/koufukudosian_english.pdf; https://www.japanfs.org/en/news/archives/news_id032635.html (accessed on 31/10/2017)
- 7 <http://download.cbs.nl/pdf/2015-a324-pub.pdf>; <https://www.cbs.nl/en-gb/news/2017/07/cbs-to-compile-a-monitor-of-well-being> (accessed on 31/10/2017)
- 8 <http://www.kazalniki-blaginje.gov.si/en/wb-slo.html> (accessed on 30/10/2017)
- 9 http://www.stats.govt.nz/browse_for_stats/environment/environmental-economic-accounts/public-sustainable-development-workshop-summary.aspx
- 10 https://buergerdialog.gut-leben-in-deutschland.de/DE/Home/home_node.html
- 11 David Uren, Economics Editor, “Treasury department to get back to basics under Joh Fraser” The Australian, 22 September 2016. <http://www.theaustralian.com.au/national-affairs/treasury/treasury-department-to-get-back-to-basics-under-john-fraser/news-story/852e47a30515a74d90d7ef49cbd52da9> David Uren, Economics Editor, “Treasury department to get back to basics under Joh Fraser” The Australian, 22 September 2016. <http://www.theaustralian.com.au/national-affairs/treasury/treasury-department-to-get-back-to-basics-under-john-fraser/news-story/852e47a30515a74d90d7ef49cbd52da9> (accessed on 25/10/2017)
- 12 <https://treasury.gov.au/publication/economic-roundup-is-sue-3-2012-2/economic-roundup-issue-3-2012/treasury-wellbeing-framework/>
- 13 http://som.gu.se/digitalAssets/1593/1593632_swedish-trends-1986-2015.pdf
- 14 The Twentieth constitution of Ecuador states that: “We, the sovereign people of Ecuador, hereby decide to build a new form of citizen coexistence in diversity and harmony with nature, to reach the good way of living, the *sumak kawsay*”. Constitution of the Republic of Ecuador, Preamble, 2008 Asamblea Constituyente (2008). Available at: http://www.asambleanacional.gov.ec/documentos/constitucion_de_bolsillo.pdf [Accessed 19 Oct. 2017].
- 15 González, J. (2017) Secretaría del Buen Vivir ya empieza su proceso de cierre [online], El Universo <https://www.eluniverso.com/noticias/2017/05/29/nota/6205012/secretaria-buen-vivir-ya-empieza-su-proceso-cierre> [Accessed 22 Nov. 2017]
- 16 Ibid.
- 17 Ibid.
- 18 Available here: <https://educacion.gob.ec/el-libro-de-todos-los-ninos/>
- 19 ¿Qué ha hecho la Secretaría del Buen Vivir? [online], El Telégrafo <http://www.eltelegrafo.com.ec/noticias/buen-vivir/37/que-ha-hecho-la-secretaria-del-buen-vivir> [Accessed 22 Nov. 2017]
- 20 Informal translation
- 21 León, M. (2015). Buen Vivir en el Ecuador: Del concepto a la medición. [online] Available at: https://www.researchgate.net/profile/Mauricio_Leon5/publication/305557457_Buen_Vivir_en_el_Ecuador_del_concepto_a_la_medicion/links/5793658d08aed51475bda6c0/Buen-Vivir-en-el-Ecuador-del-concepto-a-la-medicion.pdf?origin=publication_detail [Accessed 19 Oct. 2017].
- 22 Available at: <http://dx.doi.org/10.1787/9789264191655-en>
- 23 For example, la Région Hauts-de-France and l’Île-de-France.
- 24 The government is required to submit the draft budget law to Parliament by the first Tuesday of October. The budget is first debated in the National Assembly, which has 40 days for the debate, and then the Senate, which has 20 days to debate the law. The October debate is preceded by pre-budget debates in the second quarter, where the government presents a report on the national economy’s evolution and a public finances outlook. The Parliament must approve the budget within 70 days of the October submission (OECD, 2004).
- 25 LOI n° 2015-411 du 13 avril 2015 : « Le Gouvernement remet annuellement au Parlement, le premier mardi d’octobre, un rapport présentant l’évolution, sur les années passées, de nouveaux indicateurs de richesse, tels que des indicateurs d’inégalité, de qualité de vie et de développement durable, ainsi qu’une évaluation qualitative ou quantitative de l’impact des principales réformes engagées l’année précédente et l’année en cours et de celles envisagées pour l’année suivante, notamment dans le cadre des lois de finances, au regard de ces indicateurs et de l’évolution du produit intérieur brut. Ce rapport peut faire l’objet d’un débat devant le Parlement. ». [https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000030478182&cat-](https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000030478182&categorieLien=id)
- 26 Informal translation.
- 27 Premier Ministre - SIG (2015), “Les nouveaux indicateurs de richesse” <http://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/a9rb245.pdf> and Premier Ministre - SIG (2016), “Les nouveaux indicateurs de richesse”
- 28 The law does not stipulate a period of reference for the presentation of the indicators. Their presentations depend mainly of the data availability.
- 29 The group of countries is composed of Italy, Spain, Germany and the United Kingdom.
- 30 The Committees are tasked with preparing the debate before discussions in the plenary session of the Assemblée Nationale and coordinating with government. The committees proportionally represent the political groups of the Assemblée Nationale and bring together 72 or 73 deputies.
- 31 <https://www.performance-publique.budget.gouv.fr/documents-budgetaires/les-circulaires-budgetaires/circulaire-budgetaire-31032017>
- 32 The Performance Indicator Set was first established in 2001 with the passing of a law defining the legal process for setting the national budget. The budget for a year is devised in two phases: in the first phase, the budget is

- divided among the ministries and in the second phase each minister defines how their budget will be allocated between missions and programs. For the 2018 budget, the budget is composed of 31 missions comprising 121 programs. A set of performance indicators is associated to each mission and program, in order to set targets for the next three years and for retrospective assessment at the end of the budgetary year. At the mission level, 95 indicators have been identified and more than 600 indicators are used at the program level.
- 33 <https://www.senat.fr/leg/pp16-611.html>
- 34 CGET (2016), "New regionalised indicators for defining wealth", En Bref, N°15, <http://www.cget.gouv.fr/sites/cget.gouv.fr/files/atoms/files/en-bref-15-cget-03-2016-gb.pdf>
- 35 The submission of the DEF report marks the beginning of the annual budget cycle, by defining macroeconomic projections for the next three years and providing the broad orientation for fiscal policy, including the size of expenditure cuts required for the subsequent Budget and Stability laws.
- 36 Respondents were asked to rate the 12 conditions of well-being identified by the Committee on a 0-10 scale (for more details, refer to: <http://www.misuredelbenessere.it/fileadmin/upload/benessere-stat-report.pdf> (Italian only))
- 37 Being self-selected, the sample of 2.518 individuals who responded to the online consultation was not representative of the Italian population. The respondents were mainly aged 25-64 (90% of the sample), two thirds of them having at least an upper secondary degree and almost half of them living in Northern Italy (48%; 32% in the Centre and around 19% in the South) (for more details, refer to: <http://www.misuredelbenessere.it/fileadmin/relazione-questionarioBES.pdf> (Italian only))
- 38 There is no direct link to the Sustainable Development Goals.
- 39 "Comitato per gli indicatori di benessere equo sostenibile"
- 40 Income is equalized when it has been adjusted to take into account the household composition (as children and adults have different needs and there are economies of scale when people live together)
- 41 The Committee has, however, raised concerns about the quality of this indicator.
- 42 See for example http://www.stats.govt.nz/browse_for_stats/environment/environmental-economic-accounts/public-sustainable-development-workshop-summary.aspx
- 43 In a speech to the New Zealand Treasury, David Gruen of the Australian Treasury explained that by focusing on providing "broad context and high level direction" rather than providing a tool that would deliver concrete answers to policy questions the intended purpose and usage of the framework was not always clear to staff (New Zealand Treasury, 2012).
- 44 See http://www.stats.govt.nz/browse_for_stats/snapshots-of-nz/Measuring-NZ-progress-sustainable-dev-%20approach/sustainable-development/innovation.aspx
- 45 Scottish National Party Manifesto 2007, accessed 15 November 2017, <http://www.politicsresources.net/area/uk/ass07/man/scot/snp.pdf>
- 46 Virginia Performs website, accessed 15 November 2017, <http://vaperforms.virginia.gov/>
- 47 Scotland Performs website, accessed 15 November 2017, <http://www.gov.scot/About/Performance/scotPerforms>
- 48 "National Indicators" on Scotland Performs website, accessed 16 November 2017, <http://www.gov.scot/About/Performance/scotPerforms/indicator>
- 49 "National Performance Framework Changes" on the Scotland Performs website, accessed 16 November 2017, <http://www.gov.scot/About/Performance/scotPerforms/NPFChanges>
- 50 See, for example, "Briefing on the National Performance Framework" by Scottish Environmental LINK, Oxfam and STUC, accessed 14 November 2017, <http://www.scotlink.org/wp/files/documents/NPF-briefing-Jan-2017-2.pdf>
- 51 See, for example, 2015 Scottish Government presentation, accessed 14 November 2017, http://www.befs.org.uk/wp-content/uploads/2016/12/NPF_-_BEFS_-_19_Nov_15_presentation-1.pdf
- 52 NHS Health Scotland, The Warwick-Edinburgh Mental Well-being Scale, <http://www.healthscotland.com/documents/1467.aspx>
- 53 "Wellbeing outcomes and national government: Scotland", Blog Post, <https://www.whatworkswellbeing.org/case-study/wellbeing-outcomes-national-government-scotland/>
- 54 "Technical Notes" on Scotland Performs website, accessed 17 November 2017, <http://www.gov.scot/About/Performance/scotPerforms/TechNotes>
- 55 Scottish Government's response to the Report of the Finance Committee on the Draft 2015-2016 Budget, accessed 17 November 2017, [http://www.parliament.scot/S4_FinanceCommittee/General%20Documents/Cabinet_Secretary_for_Finance_Constitution_and_Economy_to_Convener_dated_3_February_2015\(1\).pdf](http://www.parliament.scot/S4_FinanceCommittee/General%20Documents/Cabinet_Secretary_for_Finance_Constitution_and_Economy_to_Convener_dated_3_February_2015(1).pdf)
- 56 "Draft Budget 2016-17, Finance Committee Guidance to other Committees, accessed 17 November 2017, http://www.parliament.scot/S4_FinanceCommittee/General%20Documents/Guidance_to_subject_committees.pdf
- 57 "Justice in Scotland: Vision and Priorities", accessed 7 December 2017, <http://www.gov.scot/Publications/2017/07/9526>
- 58 Community Empowerment Bill FAQs, Scottish Government website, accessed 17 November 2017, <http://www.gov.scot/Topics/People/engage/CommunityEmpowermentBillFAQs>
- 59 Ministry of Sustainable Development, Sweden, Article no. M2006.26, Summary of Government Bill 2004/05:150, "Environmental Quality Objectives: - A Shared Responsibility"
- 60 <http://www.miljomal.se/Environmental-Objectives-Portal/Undre-meny/About-the-Environmental-Objectives/> accessed 13.10.2017
- 61 A performance framework is embedded into the national budget in Sweden through the classification of overall government expenditure into 27 distinct "Expenditure Areas". On the basis of these, high-level goals and indicators can be set. However, the use of the framework is not very systematic, as there is no overarching coherent concept that organizes the framework. Although the Expenditure Areas include goals and key indicators, the indicators are selected by agencies and are not necessarily directly related to the goals (OECD, 2017b).
- 62 "Får vi det bättre? Om mått på livskvalitet", Betänkande av Utredningen om mått på livskvalitet, Stockholm 2015 <http://www.regeringen.se/contentassets/dbb4c911287747b3943b-4f61cf2b344f/far-vi-det-battere-om-matt-pa-livskvalitet-.pdf>

- 63 Statistiska centralbyråns, "Indikatorer om hållbar utveckling och livskvalitet till budgetarbetet" SCB, Stockholm
- 64 See <https://wellbeingeconomics.wordpress.com/about/>
- 65 See <https://www.gov.uk/government/speeches/pm-speech-on-wellbeing>
- 66 Ibid.
- 67 See <https://www.gov.uk/government/publications/social-impacts-task-force-update-on-recent-work>
- 68 See "Wellbeing Policy and Analysis: An update of wellbeing work across Whitehall", June 2013, accessed 24 November 2017, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224910/Wellbeing_Policy_and_Analysis_FINAL.PDF
- 69 See, for example <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/sept2016>
- 70 See <https://blog.ons.gov.uk/2017/03/28/national-statistical-blog-reinventing-the-well-being-wheel/>
- 71 See <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/apr2017>
- 72 See, for example, O'Donnell et al. 2014, where wellbeing and subjective wellbeing are treated synonymously.
- 73 See <https://www.gov.uk/government/news/new-what-works-centre-for-wellbeing>
- 74 See <https://www.whatworkswellbeing.org/about/about-the-centre/>
- 75 http://www.alliance4usefulevidence.org/assets/Ansa_A4UE_whatworks_final_Full-report-standard.pdf
- 76 See <https://www.gov.uk/government/news/dr-david-halpern-reappointed-as-what-works-national-adviser>
- 77 While the Centre was created in 2014, the first few months were spent identifying appropriate research areas and teams, with the first three-year work program launched in June 2015.
- 78 <https://www.whatworkswellbeing.org/>
- 79 <https://www.gov.uk/government/publications/thriving-at-work-a-review-of-mental-health-and-employers>
- 80 <https://www.gov.uk/government/publications/culture-white-paper>
- 81 <https://www.gov.uk/government/publications/improving-lives-the-future-of-work-health-and-disability>

References

- Burton, T., Morrissey, S., and T. Ng, (2017) *Improving economic policy advice*. The Treasury.
- Cairney, P. (n.d.), *Policy Concepts in 1000 Words: The Policy Cycle and its Stages*, Paul Cairney: Politics & Public Policy (blog), <https://paulcairney.wordpress.com/2013/11/11/policy-concepts-in-1000-words-the-policy-cycle-and-its-stages/> (Accessed on 07 November 2017)
- Camera dei deputati (2016), *Atto del governo sottoposto a parere parlamentare N.428, articolo 14, comma 2, della legge 4 agosto 2016, n. 163*, <http://documenti.camera.it/apps/nuovosito/attigoverno/Schedalavori/getTesto.ashx?file=0428.pdf&leg=XVII#pagemode=none>, (accessed on 16 October 2017).
- Camera dei Deputati (2016), *Relazione illustrativa relativa all'atto di governo 428*, http://documenti.camera.it/apps/nuovosito/attigoverno/Schedalavori/getTesto.ashx?file=0428_F001.pdf&leg=XVII#pagemode=none, (accessed on 16 October 2017).
- Camera dei deputati (2017), *Relazione finale del Comitato per gli indicatori di benessere equo e Sostenibile*, http://documenti.camera.it/apps/nuovosito/attigoverno/Schedalavori/getTesto.ashx?file=0428_F002.pdf&leg=XVII#pagemode=none, (accessed on 16 October 2017).
- Camera dei deputati (2017), *Schema di decreto ministeriale recante individuazione degli indicatori di benessere equo e sostenibile, Atto del Governo 428*, <http://documenti.camera.it/Leg17/Dossier/Pdf/BI0431.Pdf>, (accessed on 16 October 2017).
- Carnegie Trust (2011), "More than GDP: Measuring what Matters", <https://www.carnegieuktrust.org.uk/publications/more-than-gdp-measuring-what-matters/>
- Carnegie Trust (2013), "Shifting the Dial in Scotland: How Scotland Performs on wellbeing and what it should do next", <https://www.carnegieuktrust.org.uk/carnegieuktrust/wp-content/uploads/sites/64/2016/02/pub1455011589.pdf>
- CMEPSP Commission on the Measurement of Economic Performance and Social Progress (2009), "Report of the Commission on the Measurement of Economic Performance and Social Progress", <http://ec.europa.eu/eurostat/documents/118025/118123/Fitoussi+Commission+report>
- Cnel - Istat (2012), "La misurazione del Benessere Equo e Sostenibile (BES)", <http://www.misuredelbenessere.it/fileadmin/upload/docPdf/BES.pdf>, (accessed on 16 October 2017).
- Campbell, Alan, (2012), *The National Performance Framework and Scotland Performs*, Scottish Parliament Information Centre.
- Cnel - Istat (2012), "Le opinioni dei cittadini sulle misure di benessere: Risultati della consultazione online", Roma, <http://www.misuredelbenessere.it/fileadmin/relazione-questionarioBES.pdf>, (accessed on 16 October 2017).
- Exton, C., Siegerink, V., and Smith, C. (forthcoming), *Measuring subjective well-being in national statistics: taking stock of recent OECD activities*, OECD Publishing, Paris.
- France Stratégie-CESE (2015), *Au-delà du PIB, un tableau de bord pour la France*, Note d'Analyse, N°32
- Gleisner, B., Llewellyn-Fowler, M., and McAlister, F. (2011), "Working towards higher living standards for New Zealanders", *New Zealand Treasury paper 11/02*, New Zealand Treasury
- HM Treasury, (2011), *The Green Book. Appraisal and Evaluation in Central Government*, London
- INSEE (2013), *Qualité de vie et bien-être vont souvent de pair*, Insee première, N°1428.
- INSEE (2014), *Une approche de la qualité de vie dans les territoires*, Insee première, N°1519
- Istat (2011), "L'importanza delle dimensioni di benessere per i cittadini", *Statistiche Report*, <http://www.misuredelbenessere.it/fileadmin/upload/benessere-stat-report.pdf>, (accessed on 16 October 2017).
- Istat (2013), "Rapporto Bes 2013: il benessere equo e sostenibile in Italia", http://www.istat.it/it/files/2013/03/bes_2013.pdf, (accessed on 16 October 2017).
- Istat (2015), "Rapporto Bes 2015: il benessere equo e sostenibile in Italia", http://www.istat.it/it/files/2015/12/Rapporto_BES_2015.pdf, (accessed on 16 October 2017).
- Jann, Werner & Wegrich, Kai. (2006). 4 Theories of the Policy Cycle. 43-62. 10.1201/9781420017007.pt2
- Jany-Catrice F. and Marlier G (2015), *L'Indicateur de Santé Sociale (ISS) des régions françaises*, L'Encyclopédie du Développement Durable, N°219.
- León, M. (2015). *Buen Vivir en el Ecuador: Del concepto a la medición*. [online] Available at: https://www.researchgate.net/profile/Mauricio_Leon5/publication/305557457_Buen_Vivir_en_el_Ecuador_del_concepto_a_la_medicion/links/5793658d08aed51475bda6c0/Buen-Vivir-en-el-Ecuador-del-concepto-a-la-medicion.pdf?origin=publication_detail [Accessed 19 Oct. 2017].
- Lundin N., "Getting Government Organised to Deliver on Agenda 2030 and the SDGs", Country Brief—Sweden, presented at the side event "Getting governments organized to deliver on SDGs" at the UN High-Level Political Forum 2017 on Sustainable Development, 18 July 2017, New York.
- Ministry of Economy and Finance (2016), *Estratto dalla Legge n.163 del 4 agosto 2016 (doc 1/2016)*, http://www.mef.gov.it/ministero/comitati/CBES/documenti/Estratto_dalla_Legge_n_163_del_2016.pdf, (accessed on 16 October 2017).
- O'Donnell, G, Deaton, A., Durand, A. Halpern, D. and R. Layard (2014), Report of the Commission for Well-being and Policy, Legatum Institute, <https://lif.blob.core.windows.net/lif/docs/default-source/commission-on-wellbeing-and-policy/commission-on-wellbeing-and-policy-report---march-2014-pdf.pdf?sfvrsn=0>
- OECD (2004), "France", Part IV. Case Studies of Selected OECD Countries, in *The Legal Framework for Budget Systems—An International Comparison*, OECD Journal on Budgeting, Special Issue, Vol. 4 No. 3, OECD publishing, Paris.
- OECD (2011), *How's Life?*, OECD publishing, Paris.
- OECD (2013), *OECD Guidelines on measuring subjective well-being*, OECD publishing, Paris. <http://dx.doi.org/10.1787/9789264191655-en>
- OECD (2016), "Budgeting in Italy", *OECD Journal on Budgeting*, Volume 2015/3, OECD Publishing, Paris
- OECD (2017a), *How's Life? 2017: Measuring Well-being*, OECD Publishing, Paris. http://dx.doi.org/10.1787/how_life-2017-en
- OECD (2017b), "Budgeting in Sweden", *OECD Journal on Budgeting*, Volume 2016/2, OECD Publishing, Paris
- OECD (2014), *OECD Environmental Performance Reviews: Sweden 2014*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264213715-en>
- ONS Office for National Statistics (2011), "Measuring what matters: National Statistician's reflections on the national

debate on measuring national well-being", http://socialvalueint.org/wp-content/uploads/2016/12/nsreporten_tcm77-230272.pdf

RSE Royal Society of Edinburgh (2013), "The Scottish Government's National Performance Framework: a response to the Scottish Parliament's Finance Committee", Advice Paper 13/08, https://www.rse.org.uk/wp-content/uploads/2016/09/API3_08.pdf

Scottish Government (2016), "An Introduction to Scotland's National Performance Framework", <http://www.gov.scot/Resource/0049/00495539.pdf>

Scottish Government (2015), "Scotland Performs Update 2015-2016", <http://www.gov.scot/Resource/0046/00460523.pdf>

Scottish Government (2007), "Scottish Budget Spending Review 2007", <http://www.gov.scot/Publications/2007/11/13092240/0>

Seaford, C. (2014), *Beyond GDP: From Measurement to Politics and Policy*, <http://www.brainpoolproject.eu/wp-content/uploads/2014/03/BRAINPOOL-Final-Conference-Background-Paper-FINAL.pdf> (Accessed on 07 October 2017).

SENPLADES (2017). *Plan Nacional para el Buen Vivir 2017-2021: Planificamos para toda una vida* [online] Available at: <http://www.planificacion.gob.ec/wp-content/uploads/downloads/2017/07/Plan-Nacional-para-el-Buen-Vivir-2017-2021.pdf> [Accessed 19 Oct. 2017].

SPICe Information Centre (2012), "The National Performance Framework and Scotland Performs", Financial Scrutiny Unit Briefing, Scottish Parliament, http://www.parliament.scot/ResearchBriefingsAndFactsheets/S4/SB_12-12.pdf

Stiglitz, J.E., A. Sen and J.-P. Fitoussi (2009), *Report by the Commission on the Measurement of Economic Performance and Social Progress*, <https://www.insee.fr/en/information/2662494>

UK Cabinet Office, (2013), *Well-being Policy and Analysis. An Update of Well-being Work across Whitehall*. <https://www.gov.uk/government/collections/national-wellbeing>

Appendix: Seven Case Studies of Well-Being Indicator and Policy Frameworks

Ecuador: The good life (*Buen Vivir*)

The concept of “*Buen Vivir*” (the good life) has been at the core of Ecuador’s initiative to integrate well-being frameworks into policy making. *Buen Vivir* goes beyond the anthropocentric view of well-being and values the well-being of nature, not from a utilitarian perspective but with its own intrinsic worth. At the initiative of President Rafael Correa, *Buen Vivir* was included in a revision of the constitution in 2008.¹⁴ *Buen Vivir* was placed at the center of the country’s National Development Plans, and a dedicated *Buen Vivir* Ministry was established in 2013.

Buen Vivir—a concept embedded in the National Constitution

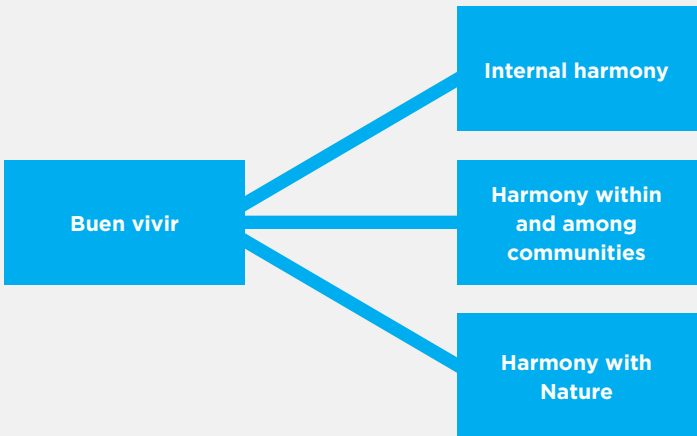
Approved by referendum in September 2008, the Ecuadorian Constitution defined a social vision for the years to come. Its articles go beyond civic rights, the organization of power and the limits of the political regime, to conceptualize the values and world view of the native Quechua peoples around what they call Sumak Kawsay, which in Spanish can be translated as “Buen Vivir.” The academic literature presents

various definitions for the term, each of them highlighting different values and theoretical frameworks. However, the Constitution was the result of a democratic process that brought together 130 Ecuadorian citizens in a Constitutional assembly, agreeing on common ground: that *Buen Vivir* can be understood as the achievement of internal harmony; of harmony within the community and among communities, as well as harmony with Nature. This last dimension is of particular importance due to the country’s renowned biodiversity embodied in the Galapagos Islands. Ecuador is in fact the first nation to recognize nature as having constitutional rights.

Ultimately, this vision aims for new form of sustainable development, which considers progress beyond economic growth by focusing on people’s well-being within communities and respecting Nature as a subject, not simply as a human resource.

In 2013, former President Correa issued an executive decree to create a “State Secretariat for Good Living” (or *Secretaría del Buen Vivir*, in Spanish). Although its original mandate was until December 2017, it was terminated following last year’s presidential election. Nevertheless, the initiative lasted for just under four years, and was allocated a budget of approximately 12 million USD.¹⁵ A total of 21 people worked for the Secretariat,

Figure A.1 The three core components of Buen Vivir



Source: Adapted from “Buen vivir en el Ecuador: del concepto a la medición”, p.52.

with different backgrounds ranging from fields such as sociology and anthropology, to communications and project management.¹⁶ The three main areas of activity were research and promotion of “good living” practices via national media channels and schools, development proposals to other ministries on the topic of *Buen Vivir*, and the dissemination of *Buen Vivir* on an international scale. According to Spanish sociologist and former Director, Jesús Sanz,¹⁷ all objectives were met with just 30% of the budget provided. Projects included a “National Values Plan” implemented across public institutions, the launch of a book for children on “values and virtues” at the 2016 CELAC summit.¹⁸ initiatives in close collaboration with other institutions to promote volunteering, and over 100 videos for national television on citizens’ experience in the pursuit of happiness.¹⁹

The next step taken by the Ecuadorian government to implement this new vision was to incorporate the concept of *Buen Vivir* in the National Development Plans, which set out four-year objectives for the political project (2009-2013; 2013-2017; 2017-2021). The Ministry of Planning (SENPLADES), states in its most recent report (SENPLADES, 2017): “*The citizens’ revolution is committed to Buen Vivir, for everyone. We want a society in which people can satisfy their needs, live and die worthily with social equality and justice, free of violence and discrimination, achieving individual, social and natural harmony.*”²⁰

The National Plan for Buen Vivir 2017-2021 stems from a Constitutional mandate for the Government, which is to “*plan national development, eradicate poverty, promote sustainable development and an equal redistribution of resources and riches, to achieve Buen Vivir*” (Article 3). It sets out goals for national policy, based on core elements of the Constitution that guarantee certain rights. Subtitled “Planning for a lifetime,” the main objective of the national plan is to adopt an inclusive approach so that no one is left out of the development process for *Buen Vivir*. This approach is structured around three main policy areas: “Lifelong rights for all citizens,” “an economy at the service of society,” and “a wider society for a better State.” Each area contains three goals representing national interests, with detailed target levels to be achieved by 2021. The 38 targets are based on a range of indicators aligned with each goal.

Buen Vivir metrics at the heart of policy alignment

Such a central role in the national development strategy required a measurement tool in accordance with the conceptual outline drawn by the Constitution, in order to help design and evaluate public policy. In close collaboration with the SENPLADES, the Ecuadorian National Institute for Statistics (INEC) was responsible for developing a holistic, multidimensional metric for monitoring the programs carried out by the national government. In 2015, INEC delivered its

Table 4.1 Buen Vivir dimensions and indicators at a glance

Dimension	Example indicators
Habitat and housing	Households with acceptable living conditions, adequate sanitation systems, safe housing ownership.
Water and sanitation	Access to water through safe sources, access to adequate sanitation, hygiene.
Health	Access to and contact with health services, quality of services and installations, acceptable waiting time.
Jobs and security	Employment opportunities, necessary employment conditions, child labor.
Education	Adult educational attainment, educational equipment: computers, sports facilities, internet, libraries, laboratories.
Relations amongst communities and subjective well-being	Trust amongst people and communities, solidarity and volunteering, human flourishing.
Environmental practices	Good water-saving and energy-saving practices, good consumption practices, sustainable mobility.

first methodological proposal for measuring *Buen Vivir*, in a report²¹ that would be the starting point for a study in tandem with the Statistical Commission for the Construction of New Metrics for *Buen Vivir*. Based on the dimensions presented in Error! Reference source not found., *Buen Vivir* is composed of three components, each based on different units of analysis: people, communities and nature. Due to the lack of methodological knowledge on simultaneously integrating three units of analysis into a single synthetic indicator, the strategy adopted by INEC has been to start measuring *Buen Vivir* using the first component: people. Given the equal importance *Buen Vivir* gives to the other components, this implies expanding the indicators so that they reflect flourishing and quality of life, and not just subsistence.

The selection of seven dimensions and over 35 objective and subjective indicators is based on the various rights recognized by the Constitution, international experiences of life quality measurement (including the OECD Guidelines on Measuring Subjective Well-being²²), as well as national literature on the more subjective and spiritual facets of *Buen Vivir* (Table 4.1).

Initially, a workshop among local actors and academics was organized in order to identify common ground amongst the different schools of thought, within the legal framework stipulated by the Constitution. Shortly afterwards, a second workshop brought together international actors (OECD, FAO, OPHI among others) to open up the debate. Finally, discussion groups were put in place to hear the voice of civil society on what matters most for *Buen Vivir*. Although the final goal of constructing a multidimensional index is yet to come to fruition, important measures have been implemented since 2016, such as the inclusion of a set of questions to the national household survey to begin quantifying certain indicators that to date, had never been measured in Ecuador.

France: New Wealth Indicators (Les nouveaux indicateurs de richesse)

A law stipulating that government will present a report on “New Wealth Indicators” to parliament on an annual basis was approved by parliament on April 14th 2015. The report should cover progress made in view of the “New Wealth

Indicators,” and will also assess the impact of the main reforms enacted in the previous year according to these indicators. The timing of the report was set to coincide with the national budget process.

Previous initiatives prepared the ground for the New Wealth Indicators law

At the time of the law proposal, several previous initiatives had already raised public awareness and informed policy makers. For example, since the early 2000s, several local authorities²³ had developed alternative measures of performance beyond GDP. In 2003, the Nord-Pas-de-Calais region first computed a Human Development Index (HDI) at the regional level. Building on this first initiative, and with the assistance of researchers and representatives of civil society and trade unions, the regional government of Nord-Pas-de-Calais then developed a set of indicators measuring the social health of all French regions in 2008 (Jany-Catrice, Marlier, 2015).

That same year, President Nicolas Sarkozy established the Stiglitz-Sen-Fitoussi *Commission on the Measurement of Economic Performance and Social Progress*, which has subsequently had a profound role in the integration of beyond GDP indicators. Based on the recommendations of the *Commission*, the French National Statistics Office (INSEE) ran a survey in 2011 measuring French quality of life and has since published several documents on this topic (INSEE, 2013). INSEE has also developed a set of indicators to assess the quality of life at different regional levels (INSEE, 2014).

In the same period, the “Forum pour d’autres indicateurs de richesse” (“Forum for other indicators of wealth”) was created by a group of researchers and civil society actors aiming to support the use of alternative indicators when forming and assessing public policies. This forum regularly publishes documents, organizes debates and participates in public conferences in order to communicate the importance of using alternative indicators to complement GDP.

The New Wealth Indicators law was approved with no objection

The New Wealth Indicators law was first filed on October 14th 2014 by a group of three parliamentarians led by Eva Sas (Senator from

the Green Party). The law proposal was approved unanimously by the National Assembly and the Senate. While the law proposal suggested that the report on the new wealth indicators would be published in October, when discussions on the budget law are held in parliament,²⁴ some representatives argued that it should be published in June when the final public spending for the previous year is approved by parliament.

The final version of the law approved on 14 April 2015 stipulates that:²⁵ *“The government will submit annually to the parliament, on the first Tuesday of October, a report presenting the evolution, over the last years, of new wealth indicators as indicators on inequalities, quality of life and sustainable development, as well as a qualitative or quantitative assessment of the main reforms initiated in the previous, in the current, and in the following year. The report will be presented during the debates on the budget law and these new indicators will be compared*

*to the GDP. The report can be debated in the Parliament.”*²⁶

Two issues were of vital importance in the law for Representative Eva Sas, initiator of the law: (i) that the law would not prescribe the list of indicators—the indicators must instead be selected after a large national consultation that would include researchers, representatives of civil society, international organizations and experts. An additional requirement was that surveys would be run to further validate that the indicators accurately reflected the views of citizens. (ii) That the report can be debated in a plenary session in Parliament at the government’s request. This is to allow for the New Wealth Indicators to be considered concurrently with the discussions of the budget law.

After the law on the new wealth indicators was ratified, “France Stratégie,” a consultative body attached to the Prime Minister, and the Economic, Social and Environmental Council (CESE), a

Table 4.2. France’s New Wealth Indicators (Les nouveaux indicateurs de richesse)

Themes		Indicators suggested by France Stratégie-CESE and the public consultation	Indicators selected by Government in the 2015/6 reports	Indicators included in the budget Performance Indicator Set
Economics	Employment	Employment rate	Employment rate	Yes
	Investment	Fixed assets or R&D expenditure (% of GDP) or Triadic patent families	R&D expenditure (% of GDP)	Yes
	Financial stability	Debt-to-GDP ratio by sectors (government, firms and households)	Debt-to-GDP ratio by sectors (government, firms and households)	No
Social	Health	Healthy life years	Healthy life years	Yes
	Quality of life	Life satisfaction	Life satisfaction	No
	Inequalities	Income decile share ratio (S90/S10) or income poverty or material deprivation rate	S80/S20 and material deprivation rate	No
	Education	Share of people with tertiary educational attainment or share of people with a vocational and technical degree	Early school leavers (18-25 years old)	Yes
Environment	Climate	Carbon footprint	Carbon footprint	Yes
	Biodiversity	Bird index	Proportion of artificialized areas	No
	Natural resource	Share of municipal waste recycled		No

consultative assembly, initiated comprehensive work in order to select the new wealth indicators.

The final set of indicators presented in June 2016 were the result of an extensive consultation process, which included a working group, which set the ground for the public consultation; and an extensive three-part public consultation, including an online survey, a representative telephone survey and designated workshops (see Box 2.2). At the end of the consultation process, France Stratégie and CESE published a list of 10 themes measured by 15 indicators, with the recommendation to government to adopt 10 of these indicators (France Stratégie-CESE, 2015). For some of the themes, more than one indicator was proposed, allowing the government to select from these. The list of indicators is shown in Table 4.2.

The implications of the law

The law on the new wealth indicators has several implications, the most immediate one being the publication of a report presenting these indicators, and evaluating how the main reforms initiated in the previous, current and following year will affect the indicators.²⁷ The report, published every year in October by the Prime Minister's Office, shows the evolution of the indicators over the past decade²⁸ and compares France's position with the EU average or to a group of European countries.²⁹ It also explains how the main reforms introduced during the previous year impacted the evolution of the 10 indicators (through a short qualitative and, when possible, quantitative assessment). In 2015, the government released the report, presenting it to selected Parliamentary committees³⁰ (Cultural Affairs, Economic Affairs, Finance, and Sustainable Development) rather than in a Parliament plenary session. In 2016, the Prime Minister's Office released the second report on the new wealth indicators, including a more extensive assessment of the effects of reforms, but without discussing the report in either a Parliament plenary session or in parliamentary committees.

A note released in March 2017³¹ by the Minister of Budget suggested the integration of six out of the 10 new wealth indicators into the Performance Indicator Set that were first introduced in 2001³². For the 2018 budget, five out of six of the new

wealth indicators are in fact included in the 95 first-level indicators (Table 4.2).

In July 2017, senator Franck Montaugé of the Socialist party filed a law proposal related to the new wealth indicators, comprised of three articles.³³ The first article proposes to establish a Council for the Evaluation of Public Policy and Well-Being, with the objective of informing parliament on the consequences of public policies on well-being and sustainability. The Council would also be responsible for creating and maintaining a digital platform communicating the new wealth indicators for the general public. The Council would be composed of 18 members of parliament and 18 senators, and be assisted by a scientific committee. The second article of the law suggests an assessment of the new wealth indicators in order to determine if there is room for improvement or complementary qualitative indicators. The final article proposes that an independent body will present a second opinion alongside the publication of the annual report by the Prime Minister's Office. This law proposal will be discussed in parliament by the beginning of 2018.

Additionally, in 2016 the General Commission for Territorial Equality (CGET) published a report on the new wealth indicators at the regional levels,³⁴ and committed to an annual publication of these indicators.

Italy: Equitable and Sustainable Well-Being (*Benessere Equo e Sostenibile*)

The process of implementing well-being frameworks into policy settings began in Italy with the formulation of a measurement framework on well-being. This has provided the basis for subsequent efforts to integrate the set of indicators into policy making through the public finance process.

The annual budget cycle is set, de facto, in two parts: the three-year horizon-planning document (DEF—Documento di Economia e Finanza) issued in April³⁵ and the Budget law submitted to Parliament in mid-October and approved by the end of the year.

The Budget reform's law, which officially introduces well-being indicators in the Italian public finance process, provides for:

- A Report attached to the DEF that includes the evolution of the selected well-being indicators over the last three years and the forecast over the following three years, also considering the possible impact of the economic policy announced by the Government over this period. The report is based on data provided by the Italian Institute of Statistics (ISTAT), and on forecasting simulation models by the Ministry of Economy and Finance (MEF);
- A Report to be presented to the Italian Parliament by February 15th every year, illustrating the impact of the policy measures included in the Budget law on the well-being indicators for the next three years.

The “Benessere Equo Sostenibile” (BES) framework

In December 2010, the National Council for Economics and Labor (CNEL, a constitutional body that advises the Italian government, the Parliament and the regions, and promotes legislative initiatives on economic and social matters) and the Italian Institute of Statistics (ISTAT) launched the “Equitable and Sustainable Well-Being” (“Benessere Equo e Sostenibile”—BES) project, with the goal of agreeing on a measurement framework that could be used to assess people’s well-being in Italy.

The first stage of this project involved the creation of a Steering Committee (“Comitato di Indirizzo”) to select the well-being domains. The Steering Committee was supported by a Scientific Commission composed of ISTAT experts and academics from different fields. The Scientific Commission selected the indicators for each of the domains identified by the Steering Committee, while a Support Group (“Gruppo di supporto”), whose members were selected by ISTAT and CNEL, helped coordinate between the two bodies and the Steering committee.

The measurement framework, which was defined as a “work in progress,” has also been shaped by two public consultations: the first focused on the importance of the 15 aspects of well-being identified by the Committee and was conducted by ISTAT, based on a representative sample of the Italian population through the Italian General Social Survey (“Indagine Multiscopo”) in February 2011;³⁶ the second was conducted online, with

citizens invited to communicate on the domains of well-being identified by the committee through a dedicated website³⁷ (see Box 2.2). Following the first BES report in 2013, more than 100 meetings were organized by ISTAT and civil society actors, which resulted in methodological and technical improvements to incorporate higher-quality and more timely measures within the BES framework.

The BES framework now includes 130 indicators, covering both objective and subjective measures of well-being, equality and sustainability,³⁸ grouped in 12 domains: health; education and training; work and life balance; economic well-being; social relationships; politics and institutions; security; subjective well-being; landscape and cultural heritage; environment; research and innovation; and quality of services. ISTAT is responsible for the annual publication of national indicators, which are based on either administrative data or official surveys. Measures of “Equitable and Sustainable well-being” (BES) are also available at sub-national level (i.e. provincial- and city-levels), thanks to the collaboration of local government.

The policy use of well-being measures in Italy

On the basis of the Budget reform law, on August 4th 2016, the Italian Prime Minister established a Committee with the task of selecting indicators to measure equitable and sustainable well-being, drawing on national and international experience. This followed the proposal by the Ministry of Economy and Finance (MEF), and was enacted through a revision of the Budget law. The Committee was chaired by the Minister of Economy and Finance and was comprised of the president of ISTAT, the Governor of the Bank of Italy and two experts with outstanding scientific experience.

The revision of the budget law stipulated that the indicators selected by the Committee would be integrated into a report drafted by the MEF as the Document on the Economy and Finance (DEF), which is submitted to both houses of Parliament for transmission to the Parliamentary commissions by February 15th each year. The submission of the DEF report marks the beginning of the annual budget cycle, by defining macro-economic projections for the next three years and providing the broad orientation for fiscal

policy, including the size of expenditure cuts required for the subsequent Budget and Stability laws.

The new revision of the law mandates that the DEF would incorporate a report on progress made in view of the well-being indicators. This would cover a period of the previous three years, and forecasts for the next three years. The report would be based on data provided by ISTAT and on forecasting simulation models. The Committee selected 12 indicators from the 130 metrics considered in the BES framework, which are detailed in Table 4.3.

The indicators were selected against the criteria of parsimony (i.e. focusing on a limited number of indicators to facilitate their adoption in the public debate), sensitivity to policy intervention (accountability), data availability, timeliness and availability of long- and high-frequency time-series. Subjective indicators were excluded, on the grounds that they are not suitable for forecasting, although their importance in understanding people's experiences of life was acknowledged by the committee. The committee also highlighted the importance of:

Table 4.3. BES Indicators Selected for the DEF report

Indicator	Details	Source
Average household gross adjusted disposable income per capita	Average income that a person living in Italy can "potentially" spend, after deducting taxes and social contributions and adding the receivable social transfers in kind	ISTAT, National Accounts
Inter-quintile income share (measure of income inequality)	The ratio between the average equalized ⁴⁰ income of the richest 20% of the population and the average equalized income of the poorest 20% of the population	ISTAT, EU-SILC survey
Index of absolute poverty (measure of social exclusion)	Percentage of people living in households with average expenditure below the absolute poverty threshold, over the resident population	ISTAT, Household expenditure survey
Healthy life expectancy at birth	Average number of years that a newborn can expect to live in good health	ISTAT, Mortality tables and Italian general social survey
Obesity and overweight rate (measure of health risk)	Standardized percentage of people aged 18 or more obese or overweight	ISTAT, Italian general social survey
Early leavers from education and training (EU2020 target measure)	Percentage of young people (aged 18-24) who have completed at most a lower secondary education and are not engaged in education, employment or training	ISTAT, Labor force survey
Unused labor participation	Sum of unemployed people and "potential additional labor force" (i.e. people available to work, even if they did not look for a job in the past four weeks) over the total labor force (the total employed and unemployed) and the "potential additional labor force," referring to people aged 15-74	ISTAT, Labor force survey
Employment ratio for women caring for young children	Ratio of employment rate for women 25-49 years with children under compulsory school age to the employment rate of women in the same age range without children	ISTAT, Labor force survey
Criminality index	Number of burglaries, pick-pockets and robberies per 1,000 inhabitants	Police and ISTAT survey on personal security
Efficiency of the judicial system	Length of civil proceedings of ordinary cognizance of first and second degree: average duration in days of civil proceedings defined by a judgment.	Ministry of Justice
Emissions of CO2 and other greenhouse gases (measure of environmental risk)	CO2 and CO2 equivalent methane (CH4) and nitrous oxide (N2O) man-made emissions due to agricultural, urban and industrial activity per capita	ISTAT, Emissions accounts "NAMEA"
Illegal building rate	Ratio of the number of unauthorized buildings to the number of building permits issued by the Municipalities ⁴¹	Centro ricerche economiche sociali di mercato per l'edilizia e per il territorio (CRESME)

- periodically reviewing the list, to take into account the socio-economic evolution of the country, and to reflect the latest measurement and methodological advancements;
- monitoring the evolution of well-being in the three years preceding the DEF beyond the 12 selected indicators; and,
- investing in the improvement and development of forecasting models for the evaluation of the impact of policies in the well-being indicators.

The law entered into force in September 2016 and, in the 2017 publication of the DEF, a first experimental exercise of policy impact and forecasting was conducted on a subset of four indicators (average household gross adjusted disposable income per capita, inter-quintile income share, missed labor participation and emissions of CO₂ and other greenhouse gases). For each indicator, in addition to the information on its evolution over the past three years, a three-year forecasting scenario based on actual policies (i.e. “scenario tendenziale”) and on the policy measures introduced in the DEF 2017 (i.e. “scenario programmatico”) was provided.

In August 2017, the 12 indicators were favorably reviewed by the Budget Committee of the Chamber of Deputies (lower house of the bicameral Italian parliament), with a large consensus across parties and after collecting the opinion of the parliamentary commissions. The president of the Budget Committee of the Senate (higher house of the Italian parliament) has also given a positive review of the indicators. The law will be fully implemented in 2018, under the clause of financial neutrality (i.e. with no additional cost for the public finance). As such, impacts of the reform on policy making are yet to be identified. Continued monitoring of the implementation of the law and of its impacts on the policy setting in Italy will be valuable for learning from this experience.

New Zealand—The Living Standards Framework

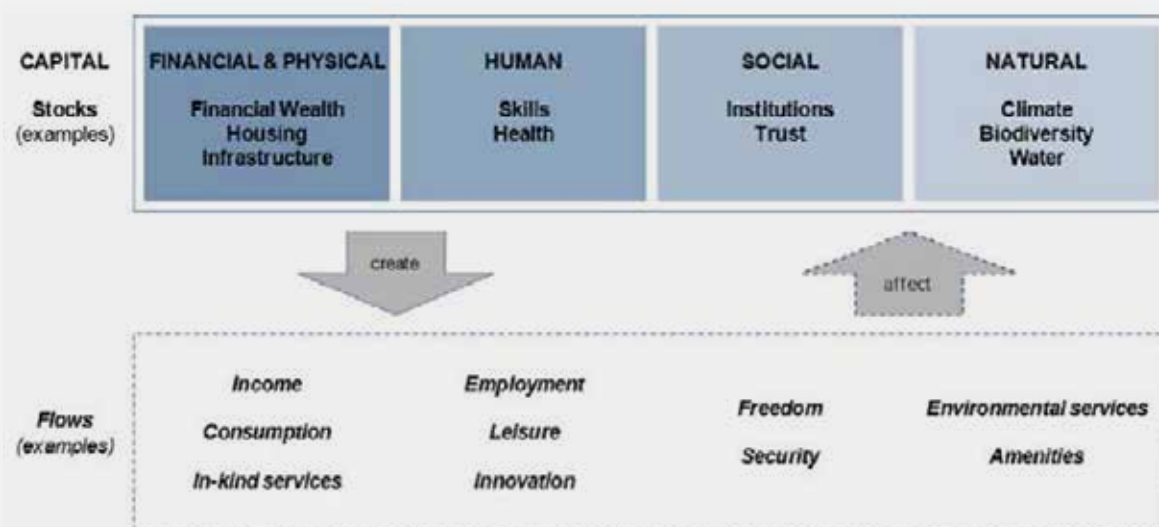
New Zealand has made substantial efforts to implement a well-being framework into policy making, mainly within the work of the Treasury. The experience of New Zealand is more mature than some other case studies presented in this chapter, and shows the importance of adaptability of the framework as well as on-going engagement and senior buy-in.

While this work was carried out as part of the Treasury’s commitment to continuously improve its policy advice, it was also triggered by criticisms about the lack of clarity surrounding the Treasury’s vision (LECG, 2009), as well as by the emergence of an international body of research on the need for government policy to look “beyond GDP.” In particular, the recommendations of the *Commission on the Measurement of Economic Performance and Social Progress* (also known as the Stiglitz-Sen-Fitoussi report, CMEPSP, 2009) was particularly influential, prompting the former Secretary to the Treasury, John Whitehead, to launch an internal work stream to evaluate how the CMEPSP findings could be applied to the department’s research and analysis. The result of these efforts was published as the first version of the Living Standards Framework in 2011 (New Zealand Treasury, 2011). However, Treasury always saw the Framework as a multi-step process (New Zealand Treasury, 2012), which should evolve for different purposes.

The Living Standards Framework

The Living Standards Framework is “intended to help Treasury consistently provide Ministers robust, theoretically-grounded and evidence-based advice that aims to improve the lives of all New Zealanders” (New Zealand Treasury, 2011). It was developed on the basis of a number of guiding principles (New Zealand Treasury 2011, 2012), namely:

- there are a broad range of material and non-material determinants of living standards beyond income and GDP;
- freedoms, rights and capabilities are important for living standards;
- the distribution of living standards across different groups in society is an ethical concern for the public, and a political concern for governments;
- the sustainability of living standards over time is important, implying that policy needs to weigh up short-term and long-term costs and benefits; and,
- measuring living standards through subjective measures of well-being provides a useful cross-check of what is important to individuals.

Figure A.1 Stocks and Flows in the Living Standard Framework

Source: New Zealand Treasury 2011, 2012

The Framework is based on a model of societal stocks and flows (Figure A.1 Stocks and Flows in the Living Standard Framework). Four capital stocks—financial/physical, human, social and natural capital—are identified as the drivers of current flows in society. In turn, flows—such as income, employment, leisure, freedom, security and amenities—affect future stocks and, therefore, future living standards. In the first presentation of the Framework (New Zealand, 2011), a number of dimensions and indicators were proposed as a way to operationalize the model for policy use. In total, 10 dimensions—income, wealth, employment, leisure, education and skills, health, security, environment, and subjective well-being—were represented by 44 preliminary indicators, showing overall performance in New Zealand as well as distribution across the population.

For the next few years the Treasury shifted emphasis to meeting the need to provide guidance to day-to-day policy decisions and choices (New Zealand Treasury, 2012). This meant that, while the capital stocks and flows model still underpinned the Framework, guidance to Treasury analysts on the use of the framework emphasized ‘key focus areas’ to encourage analysts to broaden their policy analysis beyond traditional financial measures of costs and benefits, to consider potential impacts on

economic growth, sustainability for the future, equity, social cohesion, and resilience. These five focus areas were selected to make the tool more practical for Treasury analysts. The focus areas were selected based on four criteria: they are areas where government decisions are a key influence; they reflect Treasury’s role in the Government’s policy process; they focus on areas that make a major (rather than marginal) difference to living standards; and, they represent key areas of tension where Government is often faced with competing objectives (New Zealand Treasury, 2012).

From around 2016, development attention focused on the four capitals and the need to understand their interactions, substitutability, complementarity and trade-offs across them in order to support further deepening of the applicability of the framework to policy advice. The Treasury’s 2016 Long Term Fiscal Statement, called *He Tirohanga Mokopuna*, was released. It used the Four Capitals as a framework for reporting on the long term fiscal issues facing the economy and signaled a renewed emphasis on the stock-flow approach identified previously. The Four Capitals are now depicted as an interwoven mat, with a focus on ‘*raranga*’ or weaving, to signify the interrelationship between the capitals.

Figure A.2. The Four Capitals



Source: New Zealand Treasury

Development of the Living Standards Framework and how it is used in policy

The initial version of the Living Standards Framework was developed over 18 months by Treasury staff. The model and concepts were built through desktop research (drawing on previous national and international findings on the concepts of well-being, sustainability and endogenous economic growth) as well as widespread consultation with other government departments. Data and analysis contributed by Statistics New Zealand and the Ministries of Social Development and of the Environment played a significant role in its development (New Zealand Treasury, 2011). While public consultation on the Framework was limited initially, some of the key contributing elements (such as Statistics New Zealand's work on Sustainable Development⁴²) did integrate public consultation (see Box 2.2). From the start, the Treasury stated that the Framework should be seen as "work in progress," inviting comments and feedback on every iteration.

As already noted, the second stage of the Framework's development focused on identifying ways in which the Framework could be used as a practical tool for day-to-day use by Treasury staff in making policy evaluations and decisions.

Other government agencies (such as the Ministry of Social Development and Statistics New Zealand) were already measuring New Zealand's performance over time and against other countries based on similar frameworks (New Zealand Treasury, 2012). The importance of prioritizing practical usefulness was also emphasized by staff from the Australian Treasury, based on their own experience of developing a broader well-being framework.⁴³

A 2015 review of the policy uses of the Framework (Au and Karacaoglu, 2015) highlighted a number of ways that the Framework had been applied to that point. The Framework had:

- Served as a reminder of the wider dimensions of well-being that Treasury advisers should take into account when formulating policy advice.** The Framework had been used for brainstorming in the early stages of a project, or for conducting a thorough review of the potential effects of a given policy or group of policies. This use had helped policy analysts focus on what matters the most to people, as well as providing a fresh way of thinking about old problems.
- Served as a guide for the quantitative assessment of trade-offs between alternative**

policy options. The Framework had been used to explore which aspects of living standards are most important to people, in order to understand the trade-offs that people are willing to accept and help decision-makers make optimal public policy choices. For example, a multi-criteria analysis based on the Framework using a sophisticated surveying methodology had allowed Treasury researchers to explore people's views related to different pension finance scenarios, to identify the policy package most in line with people's preferences (Au et al. 2015).

- **Served as a guide for designing policies, based on a shared vision of how New Zealanders wish to live.** Together, the five focus areas of the Framework—potential economic growth, sustainability, equity, social cohesion, and resilience—were intended to encompass all policy-amenable aspects of New Zealanders' living standards.

Work to advance and refine the policy uses of the Framework is ongoing. The intention continues to be to apply the Framework in different ways to different policy areas and different stages of the policy process. One important use is to guide analysts to the areas of the research literature which should be reviewed, and the particular research communities with which to connect, to ensure a comprehensive assessment of relevant and up-to-date evidence. This flexibility can be useful in a range of situations. In an April 2015 survey, 59% of the Treasury's public sector stakeholders were aware of the Living Standards Framework; of those who were aware, 63% found it either very or fairly useful (Au and Karacaoglu, 2015).

While in the early stages of the development of the Framework the Treasury chose to focus on the practical usage of the Framework as a heuristic, rather than emphasizing the development of indicators, this was not because the role of measurement was seen as unimportant. On the contrary, the importance of measurement and official statistics was recognized since the beginning, and Statistics New Zealand was one of the most important partners in the evolution of the Framework. Statistics New Zealand had already devoted much work and public consultation to develop a broad range of social, economic and

environmental progress indicators, which were launched in 2008⁴⁴.

The two agencies continue to collaborate to ensure that core indicators used in the Framework are based on official, high-quality statistics to the extent possible, while also having regard to the range of other data available that should be considered to ensure comprehensive coverage of the relevant well-being domains. As the Framework has evolved to be adapted to a variety of different policy contexts and applications, the relevant measures differ depending on circumstances.

The current phase of the work is focused on supporting the stock-flow approach based on the four capitals, and developing the measurement framework to assess current well-being in New Zealand. After a review of a range of available international frameworks, The Treasury has chosen to base the measurement development work on the OECD's Better Life Initiative framework, with the Better Life Index (BLI) and its array of sub-measures (Burton *et al.*, 2017). The Treasury intends to adapt and supplement the BLI measures with additional indicators of particular relevance to New Zealand, as well as refine the set of measures to focus on priority social and economic areas and pressures in New Zealand. This is work in progress.

Scotland: Scotland Performs

The experience of using indicators relating to people's well-being and sustainability in Scotland was preceded by the development of an outcomes oriented performance framework. The framework then integrated indicators relating to people's well-being, broadening the set of outcomes by which government performance was monitored.

In 2007, the Scottish National Party was elected on the basis of a manifesto that promised a number of public sector reforms, including streamlining departmental structures to improve efficiency and reduce silos, exploring new monitoring approaches to assess government performance, and producing a regular 'Health of the Nation' report on a range of economic and social outcomes.⁴⁵ The new Government's 2007 Budget Spending Review introduced the National Performance Framework for the first time, with the aim

Figure 4.1. The structure of the National Performance Framework



Source: Scottish Government (2007, 2016)

of putting these promises into practice (Scottish Government, 2007). The Framework aimed to put the focus of government priorities on outcomes (rather than purely on inputs or outputs), and was inspired by an outcomes-based model used in the Commonwealth of Virginia in the United States, known as Virginia Performs.⁴⁶ Over the years, the Scottish National Performance Framework has continued to evolve, but remains a central element of government planning and performance evaluation in the country.

Description of Scotland's National Performance Framework

The National Performance Framework (NPF) was developed to guide a whole-of government approach for developing policy and assessing progress. Each part of the performance framework is directed towards, and contributes to a single overarching purpose, namely to, “focus government performance and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing economic sustainable growth” (Scottish Government, 2007). This purpose is supported by a number of high-level purpose targets, strategic objectives, national outcomes, and finally by a set of national indicators, as set out in Figure 4.1.

The content, including all underlying indicators, can be accessed on the Scotland Performs website, the main channel for the Scottish Government's reporting on progress within the

NPF.⁴⁷ At the heart of the Framework are the 16 National Outcomes, which together describe a vision for what the Government strives to achieve, covering economic, societal and environmental goals related to business, employment, education and skills, child-well-being, health, inequalities, social exclusion, safety, community, sustainable consumption, and other areas (see Box A.1). The NPF is underpinned by 55 indicators to measure progress towards the outcomes, and support the over-arching purpose.⁴⁸ Each national outcome is linked to a number of indicators, and various indicators are attached to multiple outcomes.

The development of the National Performance Framework

Since the launch of the NPF in 2007, it has been regularly reviewed, and two ‘refreshed’ versions have been released (in 2011 and 2016).⁴⁹ Changes principally concern the indicator set, with some indicators being replaced, and more being added over time (expanding from 45 in the original set to the current 55). In the 2016 refresh, amendments were also made to a selection of the Purpose Targets. For the development and review of the Framework, the Scottish Government has consulted with a number of partners from other sectors, such as academia and civil society.⁵⁰ To date no broader public consultation has taken place at any stage, although assessing how public engagement and communication can be improved has factored into the review discussions.⁵¹

Box A.1 National Outcomes in Scotland's National Performance Framework

1. We live in a Scotland that is the most attractive place for doing business in Europe.
2. We realize our full economic potential with more and better employment opportunities for our people.
3. We are better educated, more skilled and more successful, renowned for our research and innovation.
4. Our young people are successful learners, confident individuals, effective contributors and responsible citizens.
5. Our children have the best start in life and are ready to succeed.
6. We live longer, healthier lives.
7. We have tackled the significant inequalities in Scottish society.
8. We have improved the life chances for children, young people and families at risk.
9. We live our lives safe from crime, disorder and danger.
10. We live in well-designed, sustainable places where we are able to access the amenities and services we need.
11. We have strong, resilient and supportive communities where people take responsibility for their own actions and how they affect others.
12. We value and enjoy our built and natural environment and protect it and enhance it for future generations.
13. We take pride in a strong, fair and inclusive national identity.
14. We reduce the local and global environmental impact of our consumption and production.
15. Our people are able to maintain their independence as they get older and are able to access appropriate support when they need it.
16. Our public services are high quality, continually improving, efficient and responsive to local people's needs.

While the concept of well-being did not factor explicitly into early communication around the Framework, this has been embraced more strongly over time. The recommendations of the Commission on the Measurement of Economic Performance and Social Progress (otherwise known as the Stiglitz-Sen-Fitoussi report, CMEPSP, 2009) and a report by the Carnegie Trust (2011) on the importance of looking beyond GDP were influential in emphasizing the importance of well-being measures and underlining the role of the Framework as a well-being policy tool. An explanation of the 2011 revision stated:

“Consideration was given to the growing interest in wellbeing, following from the Stiglitz-Sen-Fitoussi agenda...and the subsequent report from the Carnegie Trust ...The refreshed NPF continues to provide a range of indicators that, when taken together, provide an overall picture of individual

and societal wellbeing in Scotland. It retains many of the previous indicators of subjective wellbeing, including mental wellbeing, satisfaction with neighborhood, and perception of local crime rate, and adds a new subjective measure of self-assessed general health. It also retains many of the more objective indicators that measure societal wellbeing beyond GDP, such as poverty, housing, crime victimization, biodiversity and renewables, and adds several new indicators such as children's deprivation and cultural engagement.” (SPICe Information Center, 2012)

However, in comparison to the UK National Well-being Program led by the UK Office for National Statistics (ONS), no special emphasis is given to the importance of subjective well-being in the NPF. In addition, the Scottish Framework uses the Warwick-Edinburgh Measure of Mental Well-being (WEMWBS)⁵² rather than the four

questions on subjective wellbeing developed by the ONS (Carnegie Trust, 2013).

Role in government decision-making

The National Performance Framework has had a fundamental impact on the structure and working methods of the Scottish public sector by providing a set of objectives, and accompanying indicators, around which all departments and agencies, at central government and local level, aim to be aligned. As the head of the Scottish Government Performance Unit, Anne-Marie Conlong, put it: “Quite simply, the National Performance Framework transformed how we do government in Scotland—in policy terms, in partnership working and in the leadership, management and culture of our organisation”.⁵³

In terms of direct links between the NPF measures and decision-making processes in government, the situation has evolved over time. Initially, the Scotland Performs website was developed as a stand-alone resource, providing ongoing updates on the progress made in each indicator, with little or no additional reporting provided to Parliament or other stakeholders. The Scotland Performs Technical Assessment Group (made up of Scottish Government chief professional officers and senior analysts) set thresholds for each indicator and target to represent what constitutes a ‘stable’ position. Performance in each indicator is assessed over time, with the time period and method for assessing trends varying depending on the indicator, and communicated in technical notes on the site.⁵⁴ However, over the years, there have been calls to integrate NPF reporting more closely with the policy-making, and especially the budget-setting process (e.g. SPICe Information Centre, 2012; RSE 2013).

As a result, specific measures have been taken to improve the way that measures and analysis related to the NPF are communicated to policy makers, starting with ‘scorecards’ being produced to accompany the budget review process, which usually takes place every two to three years. These scorecards summarize ‘at a glance’ the evolution of indicators for relevant NPF outcomes, for each committee in the Scottish Parliament, showing whether performance is improving, maintaining or worsening. More recently, the scorecards have been accompanied by an additional report setting out more strongly the

inter-relationship between the Government’s activities, spending plans and Scotland Performs, outlining the key choices made and a number of representative examples (Scottish Government, 2015). While it has been noted that this form of reporting has been widely used by Committees,⁵⁵ recent Finance Committee guidelines for the draft 2016-2017 budget process suggests that there is more scope to use the NPF to hold public bodies to account for the delivery of outcomes.⁵⁶

Overall, the ‘Scottish experiment’ in outcomes-based performance management has been widely commended, both in the UK and internationally (Carnegie Trust, 2013). Some department s have gone quite far in producing strategies that link their own actions to the NPF targets and outcomes, accompanied with concrete indicators of change, such as the Justice department’s 2017 strategy document “Justice in Scotland: Vision and Priorities”.⁵⁷ However, linking the high-level purpose, targets and outcomes of the Framework with the government’s actions and spending programs remains an ongoing challenge.

The Scottish Government remains committed to the NPF, and to its continued adaptation for more effective policy guidance for improving well-being and sustainability outcomes in the country. Another review is being undertaken in 2017-2018, which aims to revisit the purpose, outcomes and indicators in a more fundamental way than previous refreshes, given that a decade has now passed since its launch (and the original 10-year ‘vision’). Public outreach will play a much more fundamental role in this review than previously, with discussions with community groups and members of the public being held across a number of different channels and events to provide a more bottom-up perspective.

While the NPF was developed and promoted by the Scottish National Party, which has been in power for its duration, a Community Empowerment Bill came into force in July 2015, meaning that the Framework is now embedded in legislation and will continue no matter who is in government.⁵⁸

Sweden: New Measures of Well-being (*nya mått på välförhållande*)

A framework dedicated to measuring well-being has been implemented into the Swedish budget

law very recently, using a limited set of indicators. However, Sweden has previous experience in using an indicator set for accountability and monitoring of policy, under the Environmental Quality Objectives program.

The Environmental Quality Objectives in Sweden—an earlier implementation of beyond-GDP measures into policy

The use of “beyond-GDP” measures in the Sweden within policy-making settings was made substantial in Sweden with the integration of Sustainable Development indicators into environmental policy. In 1999, the Riksdag approved a new structure for designing environmental policy by establishing fifteen environmental quality objectives (EQO) goals. The Ministry of Environment and Energy sets the responsibility for achieving the EQOs as shared among a wide range of actors, which include public authorities, non-governmental organizations, the business community, households and private individuals.⁵⁹ There are twenty five government agencies that are responsible for following up and evaluating specific environmental quality objectives and eight agencies directly accountable for achieving the objectives. The Swedish Environmental Protection Agency, working with all the relevant agencies, prepares an overall report to the Government, presented every year.

The motivation for setting the EQOs was to ensure accountability and measurement of progress on environmental performance, including regular monitoring of the EQOs, with annual reports to government, and an in-depth evaluation once every parliamentary term. Over the years, the Riksdag has adopted a number of additional and revised interim targets for the EQOs. These targets are replaced on an ongoing basis with milestone targets, which define steps on the way to achieving the EQOs.⁶⁰

Setting the EQOs is based on a wide set of indicators relating to sustainable development, and the Swedish government and parliament have managed to integrate the indicators in a meaningful way in the policy cycle stages of policy evaluation and agenda setting. However, some challenges in implementation exist. The EQOs, as an ambitious environmental agenda, have not established policy priorities in a way

that aligns with available resources, and this has reduced their effectiveness (OECD, 2014). Another challenge is the institutional autonomy of local governments, which leads to significant differences in their implementation capacity so that inconsistencies in implementation are apparent.

The New Measures on Well-being—implementing a well-being framework into the budget process

Building on its experience with integrating beyond GDP indicators into policy through the EQOs, the Swedish government has recently developed New Measures on Well-being, focusing on the long-term sustainability of economic growth as well as the quality of life and well-being of the citizens. The underlying conceptual framework recognizes the multidimensionality of people’s lives and the resources sustaining a better life and a better society over time. The indicators are also related to the UN Agenda 2030 and the SDGs, which as a list of policy commitments agreed by the world leaders also underscores the shared responsibilities for delivering a sustainable future.

The framework, titled “New Measures for Well-being”, was presented in the 2017 Spring Budget Bill. The budgeting process in Sweden is made up of two distinct phases, with a Spring Fiscal Policy Bill in April, setting the aggregates for fiscal policy, followed by a government Budget Bill, detailing the allocations for the budget year ahead (OECD, 2017b). The annual budget process is one of the key parts of the Swedish policy-making process, and it is characterized by strong collaboration across government. Following presentation of the Spring Budget Bill, budget priorities are negotiated and policy measures are discussed widely.⁶¹

This process was initiated with the publication of a report on “Measuring Quality of Life” which was presented to the Swedish government in 2015⁶². This report was commissioned by government in 2014, and aimed at mapping and analyzing proposed indicators for monitoring well-being in Sweden, to complement GDP per capita. In addition, a focus was also directed at measuring the distributions of outcomes among different groups in society.

Based on this report, the Swedish government tasked the National Bureau of Statistics (Statistics Sweden) to develop a framework for

Table 4.4. New Measures for Well-being (nya mått på välbstånd)

Economic Headline Indicators	Environmental Headline Indicators	Social Headline Indicators
GDP per capita	Air quality	Low-level living standard
Employment rate	Water quality	Self-assessed health status
Unemployment rate	Protected nature	Education level
Household debts	Chemical pollution	Education level
Public debts	Greenhouse gas emissions	Life satisfaction

Source: Government Offices of Sweden, "New Measures of Well-being", <http://www.government.se/articles/2017/08/new-measures-of-wellbeing/>

measuring well-being, in consultation with government offices, and to suggest a set of indicators.⁶³ The indicators were to be based on existing data, and take into account gender equality and equality between different population groups and regions when possible.

The fifteen New Measures for Well-being (see Table 4.4) were presented in the spring 2017 Budget Bill. The indicators are divided into three categories: Economic, Environmental and Social. Each category has five indicators, and they are a mixture of both objective and subjective measures.

Developing and presenting this framework is a strong signal from the Swedish government for agencies at all levels of government to adopt it into the key processes of policy-making. More specifically, the government states its intentions to incorporate the New Measures on Well-being in the following ways (Lundin, 2017):

- Monitor socioeconomic development
- Provide input to policy choices and considerations
- Support the assessment of effects of government reforms
- Presented as complementary performance indicators in the spring Budget Bill annually

Coordination of the work on the New Measures for Well-being has been led by the Ministry of Finance. The publication of the framework has generated interest from various stakeholders and academia, and a review of the framework is intended for future publications. At this stage,

there is no intention for the indicators to be used to set national targets. It is not yet clear whether the Ministry of Finance, which is coordinating the work on the New Measures for Well-being, intends on integrating these into the Expenditure Areas.

United Kingdom: What works for Well-being?

The UK Office of National Statistics (ONS) has a long history of reporting on societal outcomes through its regular Social Trends publication, first produced in 1970. In 2007, the ONS started looking in more depth at existing datasets to assess how these could be used to help build a more detailed picture of societal well-being. Two years later, an All-Parliamentary Group on Wellbeing Economics was formed to discuss and promote the development of policies to promote well-being.⁶⁴ Together, these efforts laid the groundwork for the official launch of the UK Measuring National Wellbeing program by then Prime Minister David Cameron in November 2010.⁶⁵ Under this program, the ONS was tasked with developing a new system for the measurement of national progress, guided "not just by how our economy is growing, but by how our lives are improving; not just by our standard of living, but by our quality of life".⁶⁶

Over the years, the National Wellbeing program has led to the development of a comprehensive measurement framework and indicators, and has been accompanied by a number of associated initiatives to raise the profile and impact of well-being measures in policy. These include:

- The Social Impacts Taskforce. The taskforce brings together analysts from across central government and the devolved administrations. It was set up prior to the launch of the National Wellbeing Program (in August 2010) but played an important role in sharing good practice and guidance on policy-relevant well-being analysis in subsequent years.⁶⁷
- The What Works Centre for Wellbeing. Launched in 2014, the What Works Centre for Well-being is an independent, collaborative organization aiming to draw evidence together, develop meaningful methods of comparison and produce practical guidance that government, businesses and communities can use to help improve wellbeing across the UK.
- Multiple initiatives to mainstream well-being into different policy areas and levels of government. A number of government departments began to make more systematic use of well-being frameworks and measures (particular subjective well-being measures), including management and evaluation tools for public health, community learning, local government, occupational health, transport, sports and culture, and environmental quality.⁶⁸

Development of a well-being measurement framework

The dimensions and indicators developed by the ONS for the Measuring National Wellbeing program provide a common understanding and measurement framework for policy work on well-being in the UK. The framework was developed on the basis of extensive public consultation and inputs from stakeholders from across different sectors, which included a national debate, an Advisory Forum and a Technical Advisory Group (see Box 2.2 for further details).

The framework comprises 41 indicators grouped into ten dimensions: personal well-being, our relationships, health, what we do, where we live, personal finance, economy, education and skills, governance and the environment. To communicate the indicators, the ONS developed a 'well-being wheel' to show results at a glance across all dimensions.⁶⁹ However, in 2017, the wheel was replaced by an online dashboard to foster user interaction.⁷⁰ The dataset underpinning the framework is open to the public and the ONS reports on progress

on the headline well-being measures twice a year through its website.⁷¹

While the framework comprises ten dimensions, subjective well-being measures (included in the 'personal well-being dimension') have received particularly close attention in the UK policy context.⁷² The ONS measures subjective well-being through four questions, focusing on the life evaluation (self-reported life satisfaction), eudaimonia (feeling that the things respondents do in their life are worthwhile), positive affect (happiness), and negative affect (anxiety).

The role of the What Works Centre for Well-being

The What Works Centre for Well-being was established to build on the work of the ONS, as well as the findings of the Commission on Wellbeing and Policy.⁷³ While the Centre was set up with government support, and in particular from the Cabinet Office, it is managed as an independent social enterprise, with a mission to "develop and share robust, accessible and useful evidence that governments, businesses, communities and people can use to improve wellbeing across the UK".⁷⁴ It has 17 founding partners that provide in-kind resources and financial support, including a number of government departments as well as the ONS, and major funding bodies such as the Economic and Social Research Council and the Big Lottery Fund. Its funding totaled approximately £600,000 per year for the period 2014-2017, with five full-time staff.⁷⁵

The What Works Centre for Well-being forms part of a network of seven What Works Centres and two affiliate members, each addressing a different policy issue or geographic region. In addition, Dr. David Halpern, Chief Executive of the Behavioral Insights Team, was appointed in the part-time position of What Works for Policy National Advisor in 2013.⁷⁶ The model for all of the What Works Centres is to help to ensure that thorough, high quality, independently assessed evidence shapes decision-making at every level, by:

- collating existing evidence on the effectiveness of policy programs and practices;
- producing high-quality synthesis reports and systematic reviews in areas where they do not currently exist;
- sharing findings in an accessible way; and

- encouraging practitioners, commissioners and policymakers to use these findings to inform their decisions.

The What Works for Wellbeing Centre applies this model to policy areas relevant for well-being. For the first three years of its operations, starting in June 2015⁷⁷, the research activities of the Centre have been focused on a limited selection of themes, covering: lifelong well-being, work, sport and culture, and community well-being. The themes were selected through discussions with the Centre's partners, as well as through a more widespread consultation with over 4,000 individuals and organizations from across the UK (including six public dialogues). For the Centre's activities beyond the end of the current three-year work program in 2018, discussions are ongoing with existing and prospective partners.

In addition to the policy themes, the Centre also conducts work in three cross-cutting areas: educating stakeholders about how to integrate well-being into policy and organizational change; providing advice and reflection on how to measure and evaluate well-being; and convening actors across government and other sectors.

The impact of the Centre's work on policy

The focus of the Centre is currently on helping to build a movement around the value of taking a well-being approach, and providing evidence-based thought leadership around emerging issues. The Centre has a number of different channels through which to disseminate its findings to policy makers, including through its participation in the Social Impact Taskforce, through its relationship with multiple government departments, and through its representation at the Cabinet Office by the What Works National Advisor. However, as the Centre is focused mainly on providing syntheses of evidence and discussion papers to highlight issues, rather than on advocating for precise policy choices, it is difficult to assess the direct impact of the Centre's work on specific policy decisions. Nonetheless, the reach of the Centre's work is widespread (going beyond the policy sector, to businesses and other organizations). As of 2017, the Centre's website had 82,000 online visitors, and almost 15,000 downloads of its resources. In addition, the Centre had organized over 60 events for over 4000 policy makers, practitioners and academics.⁷⁸ It had also contributed to 225 calls for evidence,

with its work being featured in a number of government reviews and documents, including the Stevenson-Farmer Review of Mental Health and Employers⁷⁹, the Culture White Paper⁸⁰, and the 10-year Plan on Disability, Mental Health and Work produced by the Department of Work and Pensions and the Department of Health.⁸¹

Appendix

Inventory of Policy Ideas from Theme Chapters

ABOUT THIS TABLE

This table presents a comprehensive list of the policy ideas presented in the Global Happiness Policy Report 2018. The most commonly recurring principles are highlighted and labeled Cross-cutting principles.

Basic descriptions of the various policy ideas are given, along with key information on specific instances where the ideas have been implemented. Among the other types of ideas catalogued here are general principles, interventions, and public/private initiatives.

CHAPTER 3. HEALTH

Type	Title—Specific example	Description
Principle	Cascade principle • Incredible Years	Train existing therapists in new treatment programs; recruit the most talented for further training as peer coaches and coach mentors.
Intervention	National mental health plan development • Improving Access to Psychological Therapies, UK • National Depression Detection and Treatment Program, Chile • EMERALD Consortium	Design a national mental health action plan. Plans should not only set targets, but be specific about treatments and delivery strategies. The chapter recommends aiming to treat an additional quarter of people with mental illnesses by 2030, incorporating psychosocial treatments for mild to severe cases, and potential for medication for moderate/severe cases. Digital treatment can facilitate meeting these goals.
Intervention	Provide treatment for those exhibiting mental illness at or before age 20 • Eight programs listed in Table 11	Schools and colleges are a natural place to provide early treatment. Programs are needed to train healthcare workers to provide early treatment.
Intervention	Positive life skills training in schools and colleges	Evidence-based programs should be used if they can be shown to prevent the development of mental illness. Resilience training interventions named in the chapter on Positive Education should be considered.
Intervention	Parent-targeted programs • Incredible Years • Thinking Healthy, Pakistan	Provide training to parents based on evidence of mental health benefits to children. This echoes the value of parent education discussed in the chapter on Personal Happiness, Families subsection, and the parent training included in whole-school positive education frameworks discussed in the chapter on Education.
Intervention	Anti-stigma campaigns • Time to Change, UK	Anti-stigma campaigns have been effective at reducing delay or avoidance of treatment of mental illness.

CHAPTER 4. POSITIVE EDUCATION (PE)

Type	Title—Specific example	Description
Cross-cutting principle	Regular measurement of student, faculty, staff well-being • Dubai Student Well-being Census, UAE • The Wellbeing Profiler, Victoria, Australia • The Shipley School, Pennsylvania, USA	Collecting information on the well-being of everyone involved in education is foundational to improving outcomes. • Dubai conducts a census of grade 6 through 9 student well-being at private schools, with follow-up reporting to help individual schools identify specific needs. • Victoria created a 30-minute online well-being survey. • The Shipley School conducts ongoing measurement of its whole-school PE teaching training and curriculum.
Cross-cutting principle	Rigorous evaluation of interventions • Youth Social Action Trial, Secondary Youth United Foundation • Educación para el Bienestar, Jalisco, Mexico • Paso a Paso Curriculum/Escuelas Amigas, Peru • Healthy Minds Project, UK	Evidence of effectiveness, academic improvements, cost-benefit data, and validation are needed for PE interventions. • Secondary Youth United Foundation is conducting a secondary-school project testing the impact of extracurricular activities on engagement, attainment, motivation, confidence, and teamwork. • Jalisco and Peru have conducted rigorous RCTs of PE curriculum, with subsequent statewide adoption in Jalisco. • The Healthy Minds Project, aimed at evidencing the linking between emotional stability, behavior, and attainment, is in a four-year pilot stage in 33 UK schools.
Principle	Integration of PE curriculum in existing school settings and courses • GNH Curriculum, Bhutan Ministry of Education • “Happy education,” 19th Middle School, Beijing, China • Tsinghua University Primary School, Beijing	PE curriculum should be embedded into existing curriculum, as well as being taught in stand-alone courses. • Bhutan embeds positive life skills curriculum in grades 7 through 12, and also provides a 15-month stand-alone course. • The 19th Middle School of Beijing integrates positive psychology at a middle grade level. • Tsinghua University Primary School embeds PE at the primary level.
Principle	Provide teacher/administrator training • Zengcheng, China • “Happy Gardener” program, Tsinghua University • PE training, UAE	Training existing school staff in PE, rather than bringing in new, specially-trained staff, should be a focus of PE efforts. • The city of Zengcheng, in Guangdong Province, has provided PE training for 10,000 school principals and head teachers, spurring take-up at all age levels. • Tsinghua University provides a free five-day PE training for school principals. • The UAE is conducting a pilot training of teachers and leaders from 10 public schools, with an 18-month follow-up study.
Principle	Whole-school approach • Floreat School, UK • The Shipley School, USA • Wellington College, UK • St. Peter’s College, Australia • Universidad Tecmilenio, Mexico • Buckingham University, UK • Visible Wellbeing, various countries	Several models exist for whole-school PE integration, measurement, and evaluation. • Primary and secondary schools modeling a whole-school approach include Floreat Primary, UK; The Shipley School, USA; Wellington College, UK; and St. Peter’s College, Australia. • Universidad Tecmilenio^(*), in Mexico, and Buckingham University, in the UK, are pioneers of the Positive University concept. Visible Wellbeing is a whole-school framework for building well-being among students and faculty and for enhancing learning that is used in Australia, New Zealand, Hong Kong, and Canada.

Type	Title—Specific example	Description
Intervention	Resilience training • CorStone Children's Resilience Program for Girls, Gujarat, India, and Girls First, Bihar, India • How to Thrive, UK • Penn Resilience Program	Students learn to skills to manage anxiety, trauma, and other negative emotions. • CorStone provides RCT-tested resilience training to low-income adolescent girls in India. • How to Thrive operates programs in multiple UK schools based on the Penn Resiliency Program at the University of Pennsylvania. Such interventions may contribute to preventing the development of mental illness, as recommended in the chapter on Health.
Intervention	Teaching growth mindset • Changing Mindsets, Portsmouth University	Students are taught that personal ability is a product of continuous work and growth, rather than inborn talent. • <i>Changing Mindsets</i> is a test of two models of teaching growth mindset to primary school students.
Intervention	Active, constructive responding • Engage in Education, Catch22 • Improving Talk and Listening, School21 & Cambridge University • Penn Resilience Program	Students learn to respond constructively to another person's victories.
Intervention	Meditation and mindfulness • Mindfulness Collective, Dubai	Students practice one or more meditation and mindfulness techniques. The Mindfulness Collective brings together private school administrators to discuss school-based mindfulness efforts.
Intervention	Decision-making, problem solving, and critical thinking • Building Resilience, Victoria	Students learn to choose the best action plans from available options; to use heuristics to solve theoretical and practical problems; and to conceptualize, synthesize, apply, and evaluate information as a guide to beliefs and actions. • <i>Building Resilience</i> is an online decision-making curriculum resource.
Intervention	Empathy training and coping with emotions • KidsMatter and MindMatters, Australia • Promoting Alternative Thinking Strategies, Manchester University • Good Behaviour Game, Mentor Foundation UK	Students learn about and use empathy techniques; and learn to identify, understand, and manage their emotions, particularly positive ones. • KidsMatter and MindMatters are primary and secondary level whole-school mental health frameworks teaching engagement and connectedness. • Promoting Alternative Thinking Strategies is a primary school project that covers topics such as identifying and labelling feelings, controlling impulses, reducing stress, and understanding other people's perspectives. • The Good Behaviour Game is a project derived from a US trial that aims to improve behavior in primary school, particularly by encouraging good group behavior, and self-control. Whole-school frameworks often involve parent training, echoing the value of parenting training discussed in the chapter on Personal Happiness, subsection Families.
Intervention	What went well	Students record three events that went well today and why.
Intervention	Gratitude visit	Students write a letter of gratitude and read it to the source.
Intervention	Character strengths	Students identify and use good character and their signature strengths in a new way.
Intervention	Best self	Students write about their best selves and proudest moments.
Public/private initiative	On-campus PE research institute • Institute of Positive Education, Geelong Grammar School, Australia	Geelong Grammar School goes beyond the whole-school approach by housing a PE research institute on campus, which provides school-wide training for parents and staff

Type	Title—Specific example	Description
Public/private initiative	Independent PE research organizations • CASEL, USA • Character Lab, USA	Independent research organizations with sufficient funding advance scientific knowledge about PE and can position themselves to undertake well-designed, rigorously evaluated PE efforts in tandem with schools. • CASEL (the Collaborative for Academic, Social, and Emotional Learning) evaluates interventions targeted at five specific PE skill domains. • The Character Lab at the University of Pennsylvania develops empirically validated "playbooks" that help teachers and their students develop their strengths.
Public/private initiative	Formal relationships between governments, education departments, and PE research programs • Education department 'memorandum of friendship' with International Positive Education Network, Dubai • PE programs under development in the Kingdoms of Saudi Arabia and Jordan	Formal relationships can encourage long-term PE take-up. • Outcomes of Dubai's partnership include workshops for parents and staff, inter-school collaboration on mindfulness programs, and full-time staff allocated to teacher and student well-being issues. • Jordan and Saudi Arabia have established partnerships with the Positive Psychology Center of the University of Pennsylvania to plan nationwide PE efforts
Public/private initiative	Positive education conferences • Australian Positive Psychology and Wellbeing Conference • China International Positive Psychology Conference • World Positive Education Accelerator	National and international conferences allow empirical data on PE effectiveness to be shared.

CHAPTER 5. WORKPLACE

Type	Title—Specific example	Description
Cross-cutting principle	Expand evidence base on work and wellbeing	Government should work with academia, civil society, and business to evaluate public- and private-sector workplace interventions for wellbeing via RCT. Effectiveness, associated productivity effects, and intervention costs should be measured.
Principle	Prioritize job creation policy	Specifically, adopt cyclical labor demand smoothing policies to make jobs available in downturns and improve feelings of security among the employed. • Apprenticeships can ease transition out of joblessness. • Temporary employment subsidies can improve security and prevent layoffs during downturns.
Public/private initiative	Job crafting opportunities for employees	Create opportunities for employees to design their jobs around their personal needs, e.g. giving employees control of physical design of office space.
Public/private initiative	Firm-level policies to improve work-life balance	Experiment with flexible work hours and location policies. Devise flexibility programs that improve employee productivity. • The STAR program found strong improvements for employee well-being in a trial among IT workers at a Fortune 500 company. See Box 3 in the chapter.
Public/private initiative	Essential skills training • UPSKILL, Canada	The UPSKILL project tested the impact of a 40-hour essential skills and literacy training program delivered to employees on site during work hours. The project showed a significant increase not only in job performance, but in mental health and trust in the firm. The improvements were particularly concentrated among those at the low end of the skill distribution. See Box 2 in the chapter.
Public/private initiative	Implement best practices for people management	Multiple studies suggest that transparent and consistent policies for training, performance review, and teamwork can significantly increase employee well-being by improving trust in the firm and interpersonal relationships between employees and managers. See Box 4 in the chapter.
Public/private initiative	Encourage pro-social attitudes at the workplace	Multiple studies indicate that mechanisms encouraging charitable giving by employees increase employee wellbeing and firm trust.

CHAPTER 6. PERSONAL HAPPINESS

Type	Title—Specific example	Description
Cross-cutting principle	Ex post and ex ante subjective well-being (SWB) monitoring of policies	SWB monitoring should be conducted before and after urban-level policy interventions aimed at SWB goals.
Urban development: housing, neighborhoods, and urban design		
Principle	Housing, neighborhood quality under purview of government	Due to housing's impact on SWB, policymakers should consider housing, development, and zoning to be within their responsibility.
Principle	Green space • Robert Taylor Homes, Chicago, USA	Availability of parks and natural settings should be prioritized to promote personal and social happiness.
Principle	Shorter commutes	Commute time is deleterious to SWB. Urban policy can be used to lower commute times. The types of urban policy that promote short and active commutes are akin to the active transport recommendations of the chapter on Cities.
Intervention	Zone and redevelop to mitigate consequences of single-use zoning • Omaha 20-minute-city framework, USA	Local governments can take steps to reduce the social isolation created by residential-only zoning. One approach is to increase mixed-use zoning. Ex post and ex ante measurement of SWB is recommended. • Omaha, Nebraska involved stakeholders in a planning process to redesign the urban environment to place work, parks, shopping, and entertainment within a 20-minute walk of residences. The city has undertaken zoning changes and the redevelopment of one neighborhood.
Intervention	Structure taxes to avoid incentivizing single-use zoning	Regional and higher-level government can take care to structure property and sales taxes so that municipalities do not face unduly strong incentives in favor of single-use commercial zoning.
Intervention	Public space redesign with community input and SWB monitoring • Manchester Northern Quarter, UK	Using solicited community input, redesign a public space while performing comprehensive SWB monitoring with a quasi-experimental design.
Public/private initiative	Co-housing	Non-related families live in private dwellings organized around public spaces and community resources. Echoes ideas and examples found in the chapter on Cities.
Public/private initiative	Homeshare • Wesley Homeshare Project, Australia	Caregivers live on site with elderly people in need of companionship in exchange for rent
Public/private initiative	Resident-driven community programs and activities	Events and activity groups of all types organized at the most local level. Examples include neighborhood watch programs and walking groups. Governments can support such activities by providing meeting space, information, funding online community networks and media campaigns, and offering small grants for community groups.
Public/private initiative	Provision of basic prefabricated housing • TECHO, Chile	Directly providing rudimentary but well-constructed prefabricated housing to residents of impoverished areas has been shown to increase life satisfaction and feelings of security. • TECHO, a Chilean NGO, has provided nearly 100,000 homes to slum residents in Latin America. Field experiments with TECHO projects in El Salvador, Mexico, and Uruguay have verified the program's SWB benefits.
Trust and corruption		
Principle	Establish democratic policy-making practices	Heighten freedom of the press. Strengthen mechanisms for citizen input.
Principle	Establish transparency policies	Report public expenditures. Make information accessible. Make government meetings public.

Type	Title—Specific example	Description
Intervention	Establish anti-corruption policies • Estonia	Pass an enforce laws against public and private corruption. Investigate via independent government commissions. Promote ethics training and codes. • Among former Soviet states, Estonia's anti-corruption efforts are particularly successful. In addition to comprehensive laws and investment in capacity for investigation and prosecution, the country's investments in data collection and e-government foster an environment of transparency and trust.
Families		
Intervention	Avoid "marriage penalties"	Tax policies that move two individuals into a higher tax bracket if they marry may have a negative impact on the likelihood of children being raised in two-parent households. Welfare rules that decrease the likelihood of qualifying for social support when parents are married may have a similar negative effect.
Intervention	Establish/improve parental leave policies	Policies that allow one or both parents some leave time after children are born significantly reduce stress on new parents and on marriages.
Intervention	Life course developmental activities	Policies that improve multi-generational family activity benefits children, parents, and grandparents alike. Schools can take efforts to involve grandparents through classroom volunteering, special grandparent groups, or encouraging grandparent involvement in Parent-Teacher Associations. Policies empowering grandparents who serve as primary caretakers, including financial support programs, are also suggested.
Intervention	Domestic violence reduction policies	Encompasses a wide range of options: domestic abuse hotlines, law enforcement training, partner abuse intervention teams, consistent penalties for spousal abuse, Violence Against Women Acts, public service campaigns for nonviolence and against abuse, positive conflict resolution role models in the media, social skills programs in schools, cross-agency social services models such as the Hub model described in the chapter on Cities, alcohol and drug treatment programs. Policies that empower women are especially important. These include policies supporting financial equality for women, including fair distribution of assets in divorce. Laws that allow women to initiate divorce also serve this purpose.
Intervention	Mandatory arrest of abusers • Violence Against Women Act, USA • Minneapolis, USA	An anti-domestic violence intervention worthy of particular consideration is to require arrest during police responses to domestic violence calls. • US-based studies conclude that mandatory arrest of domestic abusers significantly reduce subsequent criminal behavior.
Intervention	Support programs for abuse victims • Helping to Overcome PTSD	Domestic violence shelters, resources for children, and CBT for victims.
Public/private initiative	Family-friendly workplace programs	This group of programs includes flexible hours and work-from-home policies, on-site daycare, and breastfeeding accommodations.
Public/private initiative	Marriage education	Marriage education programs train couples in communication, conflict management, emotional regulation, and supportiveness. Some such programs have been found to increase marital satisfaction and lower divorce rates.
Public/private initiative	Parenting education • Better Parenting Program, Jordan	Research on parent training suggests that programs that expose parents to up-to-date empirical findings on parenting technique, such as the value of reading and the negative impact of corporal punishment, can improve both children's outcomes and parents' marital satisfaction. • Jordan's Better Parenting Program is a locally controlled 16-hour parenting workshop with quasi-experimental survey data demonstrating its effectiveness. The documented value of parenting training echoes the parent training that is sometimes a part of whole-school positive education frameworks discussed in the chapter on Positive Education.
Public/private initiative	Co-parenting classes for couples seeking divorce	Co-parenting classes help separating adults manage their relationship and children after the separation to lessen the stress or harm to children that sometimes arises from conflict between parents. Governments may decide to support the operations of such programs, or even to mandate them as a matter of policy.

CHAPTER 7. CITIES

Type	Title—Specific example	Description
City Governance as Feedback Loop		
Cross-cutting principle	Collect citywide happiness measure	Collect data on happiness within the city on an ongoing basis
Cross-cutting principle	Make happiness an explicit aim of city government • Happiness Agenda, Dubai	Making well-being an explicit aim provides a unifying context for governmental decision-making. This point echoes the central theme of the <i>Global Happiness Policy Report 2018</i> as a whole. • Dubai's ruler explicitly aims to make the city the <i>Happiest City on Earth</i>.
Cross-cutting principle	Crowdsource city service quality data • BOS:311 smartphone app, Boston, USA • Transparent Chennai	Use internet-based reporting platforms to increase government-citizen communication on service quality issues. • Boston's program (initially named <i>Citizen Connect</i>) uses a smartphone app that debuted in 2009. • When city officials fail to initiate such programs, citizens can also create them independently, as occurred in the case of Chennai.
Cross-cutting principle	Guide and evaluate policy using standardized data-processing approaches • SHAPE Tool, Dubai • CityScore, Boston	Develop algorithmic approaches to transforming happiness measures and other data into actionable urban policy priorities. • The SHAPE Tool supports Dubai's decision-making process by weighting performance indicators according to their impacts on happiness, permitting happiness-based cost-effectiveness analysis of city proposals. • Boston uses its CityScore as a detection system for unnoticed but ongoing service deficiencies.
Cross-cutting principle	Consider trust in the city as a desirable policy outcome	Since trust is a strong enabler of happiness, local policies that enhance residents' trust in government may increase well-being. Citizen input, transparency, and clear evaluation standards as described above are useful mechanisms to consider as means of increasing trust.
Cross-cutting principle	Balance the need for evidence with the imperative of innovation • Nesta Standards of Evidence	At the local level, insisting on the highest level of evidence can stifle innovation. Cities may benefit from a framework that evaluates the potential benefits of actions based on a balance of evidence and need. • The Nesta framework defines five successively more persuasive levels of evidence that can rationalize adoption of policies.
Economic Development		
Public/private initiative	Online service platforms • Citizen Services & Agrupar, Quito, Ecuador • Rashid & e-Trader, Dubai	Reduce burden of city regulations with well-designed city service websites. • Quito's Citizen Services and Dubai's Rashid use artificial intelligence to help new businesses with common compliance issues. • Quito's Agrupar uses open data to identify urban malnutrition, and facilitates the commercialization of urban agriculture. • Dubai's e-Trader website specifically aims to reduce barriers for businesses with high potential for positive social impact.
Public/private initiative	Investment funds for affordable and transit-oriented development • Local Initiatives Support Corporation (LISC), USA	Affordable housing development in walkable neighborhoods near transit may be a key ingredient for economic development in expensive or auto-dependent cities. • LISC aims to match grants, loans, and investments in this type of development to in-need urban areas in the United States. This approach echoes emphases on walkability and transport in other sections of this chapter and the chapter on Personal Happiness.

Type	Title—Specific example	Description
People & Society		
Principle	Design urban spaces for walkability and active transport • My Street, Moscow, Russia • Metrominuto, Pontevedra, Spain	Promotion of walking and bicycling is likely to improve health, and therefore happiness. • My Street is the largest pedestrian-oriented improvement program in Moscow's modern history. Its emphasis is façade and lighting improvements. • Pontevedra reduced traffic in the historical city center, and now promotes city walking by distributing "Metrominuto" walking maps. Promoting these activities is related to shorter commutes, echoing the emphasis on that topic in the chapter on Personal Happiness, Urban Design section.
Principle	Mental health-oriented urban design	Urban planners and designers should be aware of the importance of designing for mental health. See recommendations from McCay et al., 2017, in the reference list of the chapter on Cities. Interventions with rigorous evaluation standards, like the Manchester Northern Quarter public space redesign case study (in the chapter on Personal Happiness, Urban Design section), make good candidates for the implementation of this principle.
Principle	Emphasize education of city residents • Bachillerato Virtual Inclusivo, Quito	Human capital development may contribute to significant gains in the happiness of cities. Quito offers an online continuation program that allows adults to complete their secondary education. Other cities may find it advantageous to promote online secondary or higher educational tools such as Massive Open Online Courses (MOOCs).
Intervention	Develop national or city-level mental health policies • Improved Access to Psychological Therapies, UK • Surrey Fire Services, Canada • NYC Opportunity, New York, USA	Echoes the call of the chapter on Health for aggressive national mental health planning. • Some city agencies have successfully integrated mental health data to prioritize outreach and take preventive action on the issues under their purview. Examples of this type of agency-level success include the Fire Services branch of the City of Surrey in Canada, and New York's Health and Human Services Agency.
Intervention	Citywide exercise events and campaigns • Dubai Fitness Challenge • Amsterdam Healthy Weight Programme, Netherlands	Promote social physical activity. Create exercise facilities with easy access and changing/storage facilities. • Dubai challenged residents to thirty minutes of activity per day for thirty days, with free classes, a linked app, and heavy promotion. • Amsterdam designed a health program with the idea of engaging youth citywide, while especially serving the needs of those communities where health inequalities were most acutely experienced.
Intervention	Community hub model for emergency services • Prince Albert Hub, Canada	Use technology and physical proximity to promote interdepartmental human services coordination. • Prince Albert, Canada has documented improved outcomes to residents with complex needs in a rural area by embracing this model. This recommendation is echoed in the chapter on Personal Happiness, in the section regarding domestic violence prevention.
Governance		
Principle	Transparent, equitable decision-making and accountability mechanisms • Smart Majlis, Dubai • Gobierno Abierto, Quito • Sharing Cities, EU	Embrace technological mechanisms to keep urban policy-making transparent and accountable. Policymakers should consider, though, that crowdsourcing tools can lead to the overrepresentation of certain types of opinions due to social biases. Echoes transparency principle from chapter on Personal Happiness, Trust and Corruption section.
Principle	Consider whether shifting the style of local governance will increase focus on happiness policies • Hackney, London, UK	In some cases, a shift from an administrator style of local management toward governance in the "activist," "legislator," or "political entrepreneur" molds may increase residents' expectations, promote the exchange of ideas between cities, and build social capital. Councilors in the London Borough of Hackney are cited as an example. See Hochadel, 2017, in the references list of the chapter on Cities.

Type	Title—Specific example	Description
Mobility		
Principle	Optimize traffic management for minimal commutes and active travel	Mechanisms that support this principle include nudges via congestion pricing, sophisticated demand management technologies, and applications of autonomous vehicles such as Japan's Robot Shuttle. Equitability considerations are also vital in traffic management. Echoes earlier interventions aimed at promoting physical activity and reducing commute times in the chapter on Personal Happiness.
Principle	Proactively regulate autonomous vehicles and ride-sharing services with well-being as a goal	The regulatory environment that greets autonomous vehicles as they proliferate may determine whether their upsides or downsides are more widely felt. Cities should encourage their potential to increase vehicle sharing and active last-mile transport. They should also look for ways to prevent these vehicles from worsening sprawl and congestion. This principle also applies to the growing number of private, dynamically routed bus services operating in many cities. Los Angeles's <i>Metro MicroTransit</i> and San Francisco's Ford-owned <i>Chariot</i> are two examples where happiness impacts appear to vary significantly.
Principle	Prioritize pedestrian safety	Many North American and European cities have recently launched Vision Zero programs aimed at the elimination of pedestrian fatalities. The direct happiness impacts of these programs appear so far unmeasured.
Environment		
Principle	Increase citizen awareness of impact of sustainability interventions on quality of life • Vancouver rain gardens, Canada • Maribor water clearing facility, Slovenia	Sustainability-oriented interventions may be classified by their direct impact on the environment, but also by their well-being impacts. Particularly, environmental interventions may have positive economic impacts and may draw attention to the quality of the city's natural environment. • In Vancouver, rain gardens reduce load on the city's storm water runoff system, while also creating appealing local green spaces that remind residents of the value of environmental protection. • In Slovenia, a wastewater cleanup project reduced pollution in the river Drava to the point that residents were able to use the river for sports and leisure activities without the health risks of the past.
Principle	Increase citizen engagement in environmental programs • Goodwill Waste, Seoul, South Korea	It may be possible to alter models of environmental program delivery in ways that affirm residents' sense of civic engagement, which is a contributor to well-being. • In Seoul, redesigning the fee structure for garbage collection increased recycling rates and residents' sense of engagement simultaneously.
Living Enablers		
Principle	Design public spaces for multiple uses, including walking • West Palm Beach waterfront, USA • Places for People, Melbourne, Australia	Such redesigns should be planned with significant input from city residents. Echoes recommendations in Personal Happiness chapter.
Principle	Provide access to parks and natural spaces	Echoes recommendations previously in Cities and Personal Happiness chapters.
Intervention	Integrated anti-harassment programs for public spaces • Bájale al Acoso (No to Harassment), Quito	Provide specified safety areas and SMS and app-based reporting systems to combat sexual harassment in public spaces known to harbor the behavior. Echoes call for reducing violence against women in chapter on Personal Happiness, Families section.
Intervention	WiFi provision in public places • London, Seoul, Quito, New York, and Dubai	Generally delivered via public-private partnership, echoing a principle suggested in the chapter on Positive Education.
Public/private initiative	Co-living spaces and other initiatives to increase social connection in multi-family buildings • roam.co and Old Oak Common, London • Happy City Toolkit, Vancouver	Co-living spaces are living facilities specifically designed and built for community-oriented living styles. In Vancouver, a public-private partnership has created an evidence-based toolkit on maximizing social relationships in existing multi-family housing. Echoes co-housing recommendation in chapter on Personal Happiness.

CHAPTER 8. METRICS

Type	Title—Specific example	Description
Cross-cutting principle	National statistical offices should develop and collect data on subjective well-being • OECD Guidelines on Measuring Subjective Well-Being, 2013	A growing body of research demonstrates that directly asking people to evaluate their own well-being—rather than an exclusive focus on objective data—is a valid and critical input for policy analysis. Large-scale high-quality data collections are important for building the evidence base for policy, and in particular for population-representative data that can be disaggregated across population groups and at different spatial scales. National statistical offices are uniquely placed to meet this need. • In particular, for life evaluation, a 0-10 personal life satisfaction scale is recommended as a primary measure. • Where survey space allows, information about affect and eudaimonia should also be collected. • Socio-economic, demographic, and other policy-relevant covariates must also be included to facilitate data analysis.
Cross-cutting principle	Aim for international comparability	National metrics are more useful when they facilitate cross-national comparisons of outcomes. Hence, data-collection authorities should aim to follow established international practice for well-being data. • The <i>OECD Guidelines on Measuring Subjective Well-Being</i> summarize what is known about good practice. • As previously indicated, a 0-10 personal life satisfaction scale is recommended as a primary measure. • Canada, New Zealand, Australia, Mexico, Korea, and most European countries currently have some data collections that are broadly consistent with the Guidelines. • Through the EU Statistics on Income and Living Conditions, strides are being made toward routine collection of OECD-consistent data in all EU countries, plus Iceland, Norway, Switzerland, and Turkey.
Principle	Collect well-being data using a multidimensional approach	In addition to subjective measures, it is important to collect a much fuller range of data that describe and support the quality of people's lives. • Every case-study country discussed in the chapter adopts a multidimensional approach to well-being measurement.
Principle	Include measures of the resources that sustain well-being over time • Living Standards Framework, New Zealand • Environmental Quality Objectives and New Measures for Well-Being, Sweden • New Wealth Indicators, France • Equitable and Sustainable Well-Being, Italy	Some nations incorporate forward-looking measures of capital stocks—financial/physical, human, social, and natural—with the goal that gains in present well-being are not made at the expense of the future. • New Zealand's Living Standards Framework explicitly addresses the four capital stocks and their relationships with the five “key focus areas” of higher living standards. • Sweden's New Measures for Well-Being program explicitly focuses on the long-term sustainability of economic growth as well as the quality of life and well-being of citizens, and features economic, environmental, and social headline indicators. • France's New Wealth Indicators and Italy's Equitable and Sustainable Well-Being frameworks address several aspects of human, economic, and natural capital.

Type	Title—Specific example	Description
Principle	Engage the public in the design of well-being measurement frameworks • See Box 2.2	A meaningful consultation process during the initial program design can raise awareness and help ensure that the approach is meaningful to the public. Further, such consultation demonstrates that the program is indeed committed to improving citizens' well-being as they evaluate it themselves; and consequently, it can help the program attain public and political legitimacy. • Box 2.2 provides examples of the consultation processes in Italy, New Zealand, Germany, the UK, and France.
Principle	Consider where in the government to house the well-being initiative	The chapter surveys a variety of choices that countries have made in this regard. It is not clear that there is a single best practice. • In Israel, Sweden, the UK, Italy, Ecuador, the Netherlands, and Germany, the call to develop a well-being framework was initiated by the centre of government (either the head of state, the cabinet, or a central ministry). • In some of these cases, responsibilities were then delegated to other agencies. For example, in the UK, the Office of National Statistics is responsible for the development of the measurement framework and data collection; the What Works Centre for Wellbeing is a social enterprise that works to integrate well-being considerations in the policy process. • In Ecuador, the President issued an executive decree to create a "State Secretariat for Good Living," to research and promote good living practices, making proposals to other government ministries, as well as reaching out to the public directly. • In France, the New Wealth Indicators initiative was triggered by a member of parliament, then delegated to two policy agencies (France Stratégie, attached to the Prime Minister's Office, and the Economic, Social and Environmental Council, a consultative assembly).
Principle	Routinize reporting of and on well-being as part of parliamentary deliberations and debates	Making the reporting of well-being statistics a regular and expected occurrence can help raise their profile and influence policy priorities—for example, if presented to and debated in parliament. Several nations have gone beyond regular report of statistics by scheduling regular reports and high-level discussions on national well-being. • In France and Italy, legislation reform has provided the framework for a high-level debate on national well-being in Parliament as part of the budgetary process. However, de facto, a Parliamentary plenary debate has yet to have taken place in either Italy or France, although there have been some debates in Parliamentary committee. • In 2017, the Dutch Cabinet commissioned Statistics Netherlands to compile an annual Monitor of well-being. This will form the basis of Cabinet considerations and subsequently be part of the accountability debate in the House of Representatives.
Principle	Frameworks for measuring well-being can be integrated in all levels of the policy cycle using various mechanisms	A variety of mechanisms to integrate such measures into policy-making is covered in the chapter. • New Zealand and the UK use conceptual frameworks that bring a wide range of indicators to bear in policy evaluation—ex post, in the case of the UK What Works Centre, and ex ante, as with New Zealand's Living Standards Framework. • The <i>Scotland Performs</i> program places these indicators in a supporting role for monitoring the country's success at meeting a defined National Performance Framework. • Ecuador's National Development Plan plays a similar role to Scotland's National Performance Framework, and Ecuador has further formalized well-being as a national aim by integrating the concept into its national constitution. • France, Italy, and Sweden have integrated the reporting on well-being into the budget process, in various forms. This is mostly based on a report to parliament preceding the detailed budget debates, providing a reference point to subsequent allocation decisions.

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