

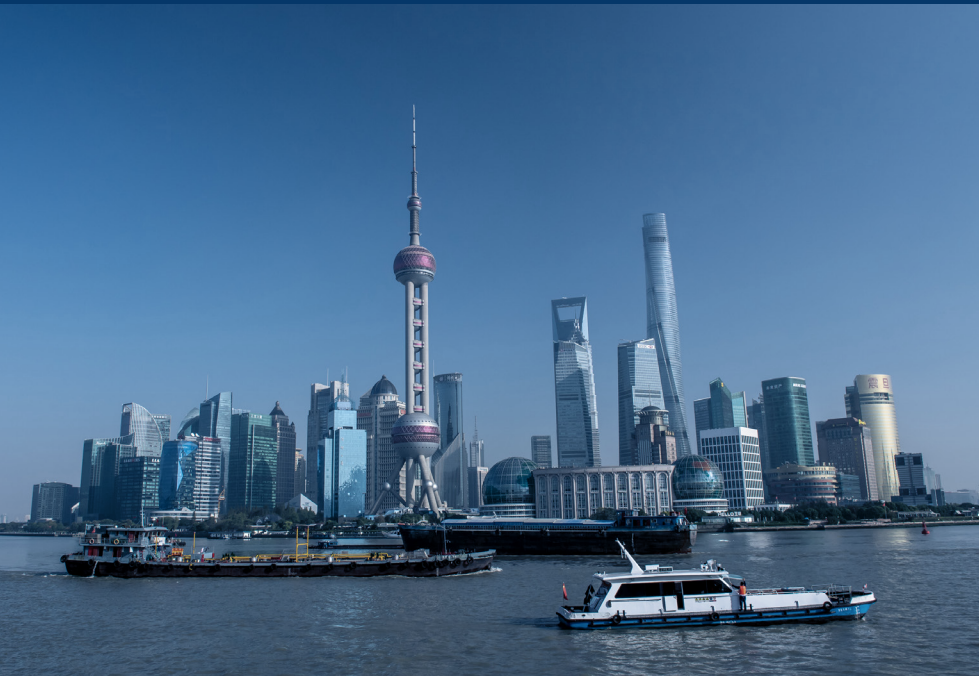
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Progress paradoxes and sustainable growth

Some insights from the new science of well-being

Carol Graham



B | Global Economy
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This series is dedicated to the memory of Brooke Shearer (1950-2009), a loyal friend of the Brookings Institution and a respected journalist, government official and non-governmental leader. This series focuses on global poverty and development issues related to Brooke Shearer's work, including women's empowerment, reconstruction in Afghanistan, HIV/AIDS education and health in developing countries. Global Economy and Development at Brookings is honored to carry this working paper series in her name.

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Introduction

The past century is full of progress paradoxes, with unprecedented economic development, as evidenced by improvements in longevity, health, and literacy.¹ At the same time, we face daunting challenges such as climate change, persistent poverty in poor and fragile states, and increasing income inequality and unhappiness in many of the richest countries. Remarkably, some of the most worrisome trends are in countries with rapid economic growth and falling poverty. Not surprisingly, there is much debate about the sustainability of our future.

Economic growth and the traditional metrics used to assess it—GDP paramount among these—are necessary but not sufficient to guarantee inclusive and sustainable growth in the global economy. Well-being metrics, which build from large-scale surveys of individuals and capture the income and non-income determinants of well-being, provide a different picture of what is happening to people within and across countries—stories the economic numbers do not tell. By providing insights into the kinds of policies that will sustain human welfare in the future, these metrics are important complements to income-based data.

¹ Kenny (2011), Kharas (2017).

A tale of three countries

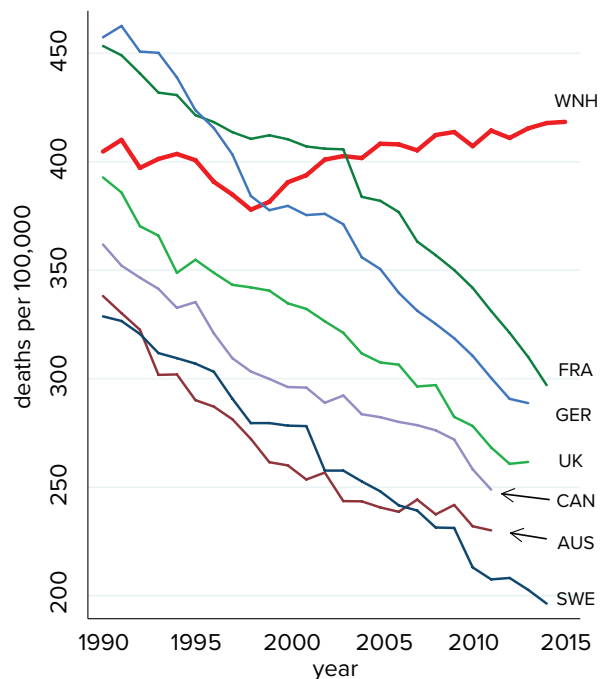
The U.S. has one of the wealthiest and most vibrant economies in the world. Growth has been steady for years, the stock market is booming, and unemployment is at record lows. Yet life expectancy is falling—unique among rich countries—due to preventable deaths such as suicide, drug overdose, alcohol poisoning, and other preventable causes among less than college-educated whites, the traditional bastion of the American working class (see Figure 1).²

An increasing proportion of this group—15 percent of prime-age males—is out of the labor force altogether, a figure projected to reach 25 percent by 2025.³ My research with Sergio Pinto finds that these same cohorts report much less hope for the future and more stress than do poor African Americans and Hispanics, who face higher objective disadvantages. These markers of ill-being link closely to the individual and locational patterns in the “deaths of despair”, and minorities are much less likely to die of these deaths (see Figures 2a and 2b).⁴ This toxic combination has not only yielded a loss of welfare and productive potential, but has spurred the resurgence of nativism and support for anti-system populists who promise a return to the past.

China is one of the most successful stories of rapid growth and poverty reduction in modern history. GDP per capita and household consumption increased fourfold between the years 1990 and 2005, and life expectancy

increased to 75.3 years from 67 years in 1980. Yet in that period, life satisfaction fell dramatically and mental health reports and suicides increased, the latter reaching one of the highest rates in the world in the 1990s.⁵ The unhappiest cohorts were educated workers in the private sector, precisely those who were benefiting the most from China’s “new” economy. Long working hours and lack of sleep and leisure time were important drivers of this trend, as is deteriorating air quality due to increased smog and traffic.⁶

Figure 1. Mortality rise in the United States



Source: Case & Deaton (2015).

² Case and Deaton (2017).

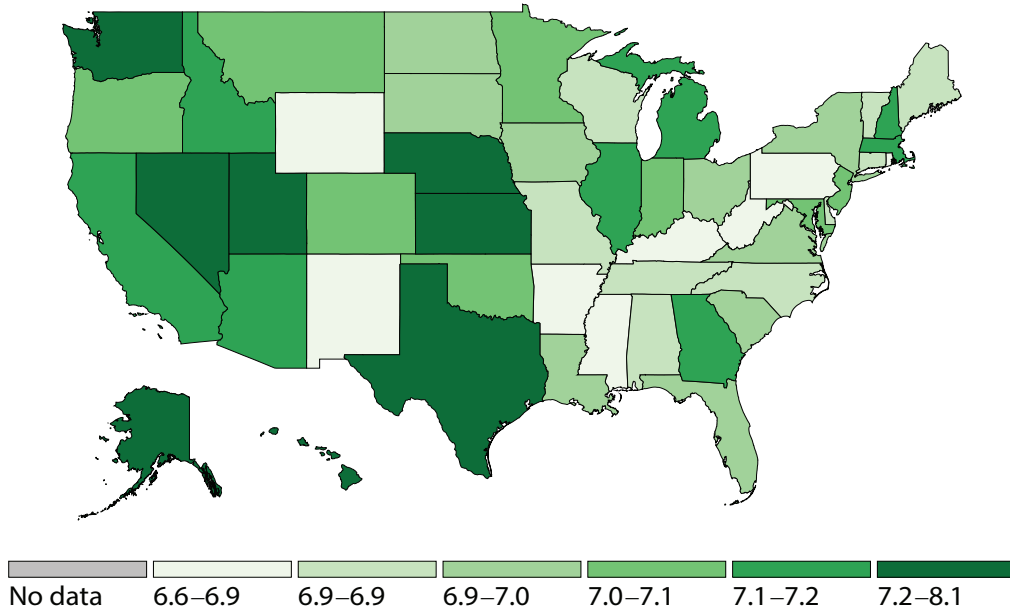
³ Eberstadt (2016).

⁴ Graham and Pinto, 2018.

⁵ Easterlin et al. (2012).

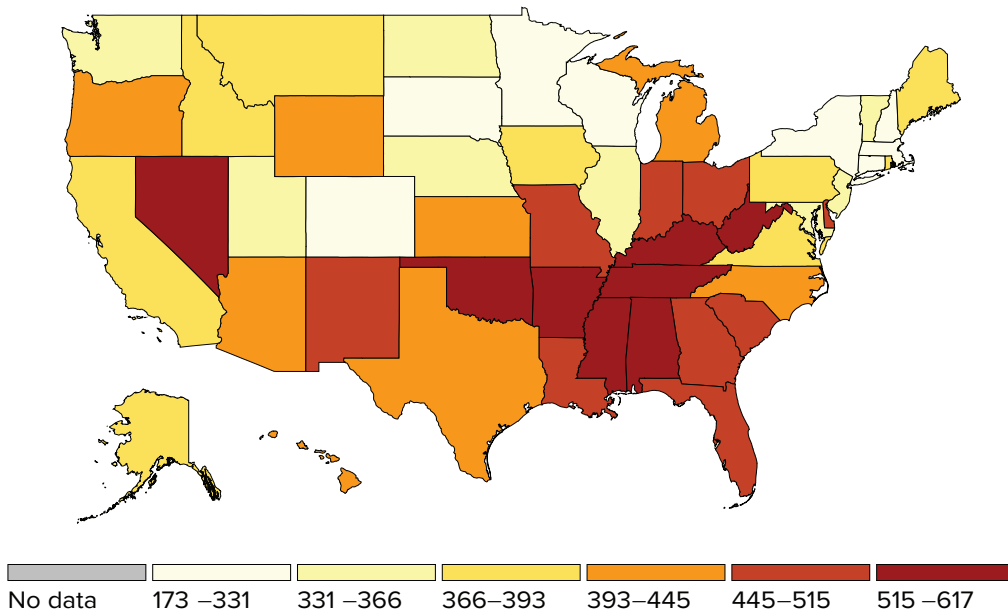
⁶ Graham, Zhou, and Zhang (2017).

Figure 2a. Optimism (0-10) by state, for poor whites (2010-2015 average)



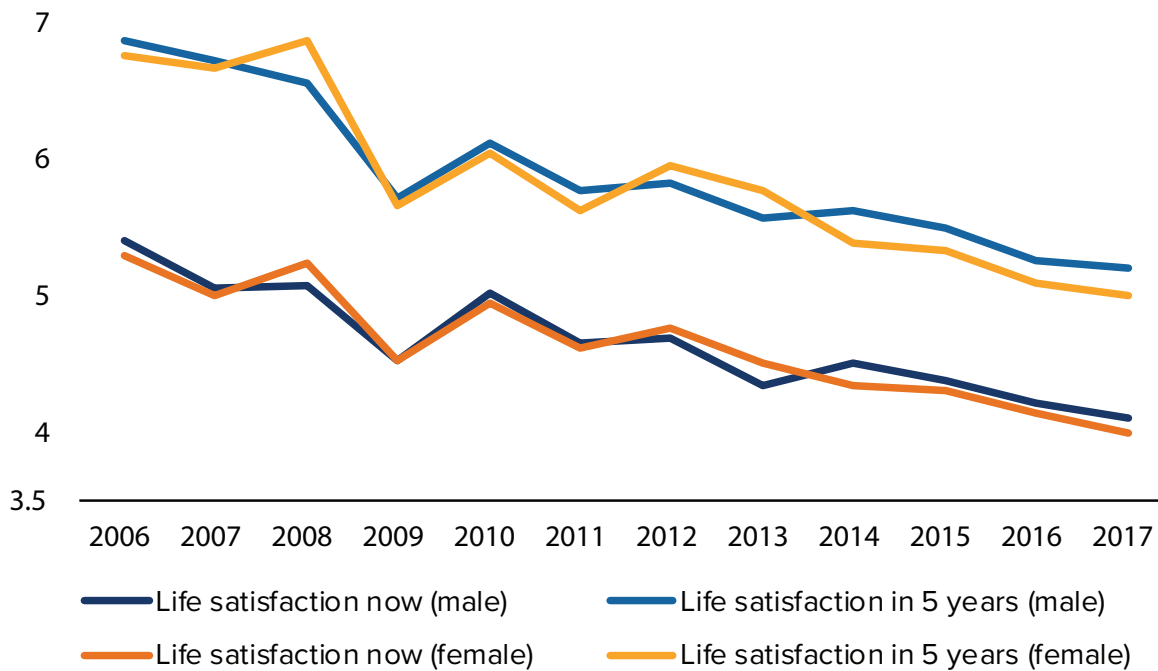
Source: Gallup Healthways. Author calculations.

Figure 2b. Mortality rate by state, whites aged 45-54 (per 100,000, 2010-2015 average)



Source: CDC WONDER. Author calculations

Figure 3. Life satisfaction in India, current and future (2006-2017)



Source: Author calculations based on Gallup World Poll. Note: Some areas were excluded, particularly in Northeast states and on remote islands. The excluded areas represent less than 10% of the population.

The most recent success story of rapid growth and poverty reduction is India, with extreme poverty falling from 38 percent to 21 percent from 2004 to 2011.⁷ Yet life satisfaction dropped significantly—10 percent or a full point on a 0-11 scale—from 2006-2017 (see Figure 3).⁸ Optimism about the future also fell at the same rate, although starting from a slightly higher level.⁹ Among the myriad causes are rising expectations, increasing income inequality, and tensions over gender rights.

Another stark marker is suicide. By 2016, India had 18 percent of the world’s population but over a quarter of all global suicides, an increase of 40

percent from 1990 (these numbers may be low due to underreporting). Indian women account for 36 percent of the world’s total suicides for females and Indian men account for 24 percent of the male total. There were large differences across ages and states—with young and elderly women and elderly men having much higher rates.¹⁰ This was also the case for poorer states. (Because of the high rate of population growth and large population, suicide rates actually went down slightly during this period, even though absolute numbers of suicide increased significantly.)

⁷ World Bank, World Development Indicators, multiple years.

⁸ This is roughly equivalent to the unprecedented drop in life satisfaction in the U.S. during the first six months of the financial crisis (9).

⁹ Authors’ calculations based on Gallup World Poll Data, 2005-2017.

¹⁰ Dandona et al. (2018).

While both genders show a stark downward trend in life satisfaction, they do not reflect the gender differences in suicide rates. In part, this is a sad artifact of construction: life satisfaction surveys do not have scores for those who have taken their lives. Strong norms may also affect the response scales. Recent research, based on vignettes asking respondents to report their life satisfaction under alternative scenarios, suggests that women in places with strong gender discrimination report to be happier than they are due to low expectations (discussed in detail below).

Again, rising unhappiness and ill-being coincide with the positive story that standard economic indicators and aggregate numbers are telling. Indeed, the increased suicides in the U.S., China, and India buck against trends in the rest of the world. Suicide rates are falling elsewhere—by 29 percent since 2000, and are primarily concentrated among older people. In contrast, in the U.S. they are concentrated among the middle-aged and in China and India, among young women.¹¹ In these countries, people are foregoing the prime years of their lives as many of their fellow citizens prosper.

Do these paradoxes signal that our models of growth—and the lifestyles they result in—are out of touch with the realities and desires of the average human being? Is growth alone is not enough? Are current growth models sustainable going forward?

¹¹ In Russia, a high rate of suicide is concentrated among middle-aged men, although that rate has fallen along with the drops in alcoholism after the worst of the post-Soviet transition. *The Economist* (2018).

Measuring well-being: The metrics and the method

A nascent collaboration of a few economists and psychologists over a decade ago has become an entire approach in economics and in the social sciences.¹² Scholars have developed a robust base of knowledge about the determinants of well-being across individuals, countries, and time, with the standard variables showing remarkably consistent patterns.¹³ More recently, the research finds that higher levels of individual well-being tend to lead to better future outcomes, in the income, health, and social arenas.¹⁴

The metrics inform questions that the standard revealed preferences approach—based on observed consumption choices as proxies for welfare maximization—cannot fully answer. A first such question is the welfare effects of macro-economic and institutional arrangements individuals cannot change, such as inequality, poor governance, and pollution. A second is how to explain behaviors driven by norms, addiction, or self-control problems rather than by rational choices. The metrics give us a means to assess the relative importance of these factors, as well as how the institutional arrangements surrounding economic growth enhance or hinder well-being.

The approach gives us new insights into how humans experience and assess economic processes, helping to explain progress paradoxes such as those above. Economics informed by

well-being also helps us understand adaptive preferences reflecting low expectations or strong norms, preferences for equity and altruism, the role of stigma, and more. In contrast to the default assumption of utility maximizing *Homo economicus*, the approach provides important complements to income-based metrics when considering a more sustainable future for *Homo sapiens*. Well-being metrics concord with income measures in showing that sufficient income is necessary to human well-being. Yet they also show that factors such as health, meaningful work, and fairness and friendships are as if not more important.

Public understanding of the approach is critical, and such metrics should be part of normal statistics collection, and not tied to governments or political issues. There is now established best practice for implementing well-being surveys, with consensus on the importance of measuring *three distinct dimensions of well-being*: hedonic, evaluative, and eudaimonic.¹⁵ Each of these reveal different elements of quality of life and well-being, ranging from daily moods to life course evaluations to purposefulness.

Hedonic metrics capture individuals' affective states and their role in daily living. These correspond roughly to the Benthamite concept of well-being: maximizing contentment for as many people as possible. The metrics build from

¹² Frey and Stutzer (2012); Layard (2005); Clark (2018).

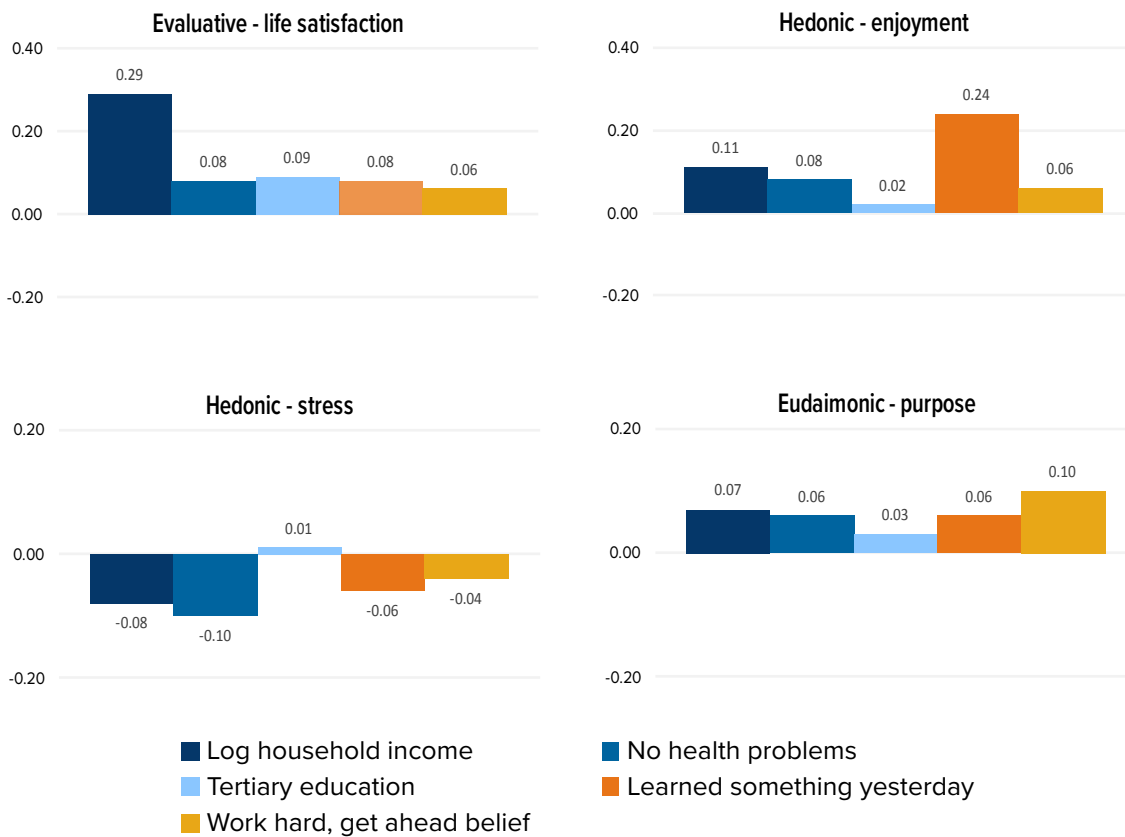
¹³ Graham (2009); Helliwell, Layard, and Sachs (2012-2018).

¹⁴ DeNeve and Oswald (2012); Graham, Eggers, and Sukhtankar (2004).

¹⁵ Stone and Mackie, eds. (2013).

Figure 4. How income does (and does not) matter to three well-being dimensions

Effect on well-being indicator (in std deviations)



Source: Author calculations based on Gallup World Poll 2009-2017. Bars obtained from regressing respective well-being indicators on socio-economic and demographic controls (all binary, except household income—continuous)—with time and country fixed effects. Variables standardized: bars represent the change in the well-being indicator associated with a 1 standard deviation change in the corresponding variable.

daily recall questions, which ask respondents if they experienced enjoyment, stress, or anger frequently the day before. They are good for evaluating daily quality of life, such as the short-term effects of various health conditions and treatments, and for assessing the benefits of engaging in certain activities, such as volunteering and exercise.

Evaluative metrics capture individuals' satisfaction with their lives as a whole. They are the most commonly used and are best suited to assessing life-course well-being. This includes

respondents' ability to choose the kinds of lives they want to lead. The questions are based on long scales (usually 0-10 points), in which respondents place their lives on a scale or ladder where the lowest satisfaction is on the bottom and the highest on the top.

Eudaimonic metrics capture the Aristotelian concept of happiness, combining sufficient means with control over one's own destiny. These questions ask whether individuals have purpose or meaning in their lives. The answers correlate with evaluative ones, but display

distinct patterns.¹⁶ They often expose differences between experiences which are purposeful but not pleasurable, such as reading the same story to a small child repeatedly, and pleasurable but not purposeful, such as watching television.¹⁷ In general, income correlates more closely with evaluative metrics than with hedonic ones, with the correlation tapering off much earlier for the latter (see Figure 4). Deprivation is bad for all dimensions of well-being, but after a certain point, more money will not make you smile or enjoy your commute more.¹⁸

Positive and negative affective states (hedonic well-being), such as daily happiness and stress, capture distinct emotions and must be measured separately. Life evaluations, in contrast, capture the same cognitive assessment on a continuous scale. The latter should appear up front in the surveys, so that preceding questions, such as about individuals' jobs, incomes, or marriages, do not bias the responses.

Surveys do not ask respondents if particular things (such as income) or activities (such as smoking or exercising) make them happy or stressed. Surveys begin with respondents' reported well-being along the dimensions noted above, and then collect extensive information on respondents' socio-economic and demographic traits. Respondents are not aware that we are linking the latter set of questions with their well-being reports, avoiding the biases that come from focusing an individual's attention on a specific domain of life.

We analyze the data via econometric equations taking the following form:

$$W_{it} = \alpha + \beta x_{it} + \varepsilon_{it}$$

in which W_{it} is the reported well-being (in a specific dimension) of individual i at time t , and βx_{it} is a vector of individual traits such as age, income, gender, employment and marital status, objective or reported health, and area of residence. The epsilon captures innate individual traits that we are unable to observe but that matter to well-being (see Figure 5). We then can explore the well-being associations of variables that vary, such as commuting time, smoking and other health behaviors, as well as macro and institutional arrangements such as inflation and unemployment, inequality, and governance, among others.

Most studies identify strong associations. Yet we can only infer causality in those that use over-time data for the same respondents or experiments that rely on exogenous interventions and compare well-being before and after. Otherwise, there is often two-way causality; happier people are more likely to marry each other and to make friends for example, as well as to derive benefits from those relationships.

Among other methodological challenges are *cardinality versus ordinality*. The metrics use ordinal response categories that do not assume cardinality (although they mirror cardinality in the equations). Yet we cannot assume that a score of 8 on the life satisfaction scale is equivalent to twice as much life satisfaction as a scale of 4.

Another challenge is *scale interpretation*. Two respondents may well interpret the response scales differently and, as such, their responses are not directly comparable.¹⁹ Large samples help mitigate the problem, due to the consistent patterns in the answers across people and time.

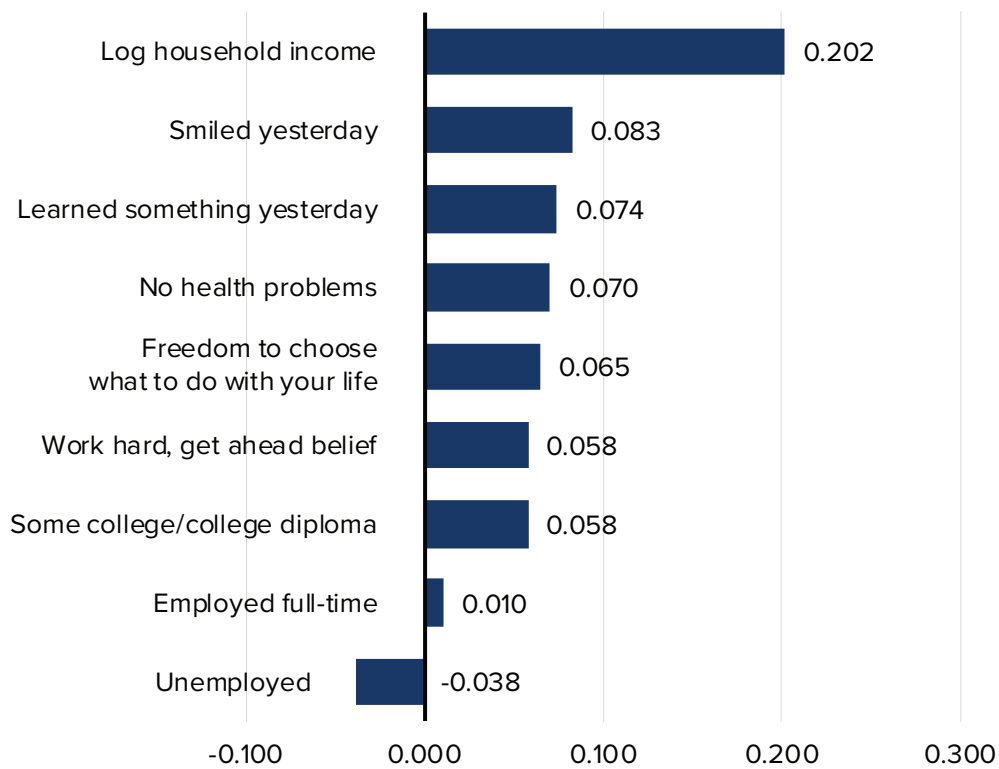
16 Graham and Nikolova (2015).

17 Dolan (2014).

18 Kahneman and Deaton (2010).

19 Benjamin et al. (2017).

Figure 5. The correlates of life satisfaction around the world



Source: Author calculations based on GWP 2009-2017, published in Graham, Laffan, Pinto (2018).
Note: Model as in Figure 4, with life satisfaction as the dependent variable.

A related issue is explaining the scales. If the lay reader sees national average happiness increased from 6.2 to 6.9 in a year (a large movement), that person would not know if that was positive, negative, or inconsequential. If the metrics are included in policy discussions, there will be a natural learning process as they become more common in the public domain. The average person knows that a 1 percent increase in the unemployment rate is a bad thing, and that a 0.1 percent increase is not significant, while likely not knowing how many people those numbers actually entail. Yet as numbers appear regularly in the public discourse, there is wide (de facto) understanding of what they mean.

A more difficult question is that of *adaptation*. People are remarkably adaptable to many experiences (good and bad), and can return to their natural level of well-being. The challenge is that when a poor person in bad health says that they are quite satisfied with their health, do we know that is true or that they have learned to live with bad conditions which they have no expectations of surmounting.

We are able to get around this in two ways. One is the use of vignettes to test response differences across people of different cultures, races, and gender, which then allows for scale adjustment. For example, in some contexts, women's response scales to well-being questions

are biased upwards, as they answer more positively than they actually feel due to strong gender norms.²⁰

Another is research on what people do and do not adapt to, the understanding of which will provide important insights into the determinants of human well-being. Andrew Clark reviews what we know about adaptation to income changes and to life events such as marriage (which people adapt to) and unemployment (which they do not adapt to).²¹ My research finds that individuals are better able to adapt to unpleasant certainty—such as persistent poverty or bad governance—than uncertainty, even that which is associated with positive change in the long-run.²² Adaptation is a psychological defense mechanism. It may be good from an individual well-being perspective, yet can also result in collective tolerance for bad equilibriums.

A multi-dimensional approach to measurement also helps shed light. My research on poor populations around the world and, more recently, in the United States, reveals many lives that are overwhelmed by negative hedonic experiences, such as stress due to circumstances beyond their control.²³ While some of these individuals may express being happy in a daily sense, they score much lower on life evaluations, as they have much less capacity to invest in their futures and their overall well-being is compromised.

20 Montgomery (2017).

21 Clark (2018).

22 Graham (2009).

23 Graham and Pinto (2018).

Applications to policy questions

While there is much debate about the extent to which well-being should be *the* objective of policy—or even *an* objective of policy—there is far less debate about what the metrics can contribute to policy design, monitoring, and evaluation. A wide body of research supports this proposition. As noted earlier, the metrics are particularly good for assessing the welfare effects of institutional arrangements and/or the explanation of “irrational” behaviors. They also can assess the effects of behaviors such as altruism, equity concerns, or community spirit, as well as the experiential impacts of behavior change “nudges.”²⁴ The following review is simply illustrative.

In the area of institutional arrangements, Rafael DiTella and colleagues find that unemployment rates have stronger negative effects on life satisfaction than do inflation rates.²⁵ Bruno Frey and Alois Stutzer find positive life satisfaction effects from living in democracies, but also that participating in the democratic process produces additional gains.²⁶ John Helliwell and colleagues find that higher levels of trust across countries are positively associated with well-being.²⁷

Other studies have explored trends and behaviors. They find a remarkably consistent U-shaped relationship with life satisfaction across countries and time (controlling for confounding variables such as health and income), with the low point in the middle-aged years.²⁸ Other well-being markers, such as stress, which displays an inverse pattern, confirm this pattern. Blanchflower et al. find that consumption of fruits and vegetables is positively associated with well-being, while many studies highlight the negative association between smoking and well-being.²⁹

The metrics also shed light on social issues. Danny Kahneman and Alan Krueger use time use surveys to explore the effects of different activities on daily moods.³⁰ They find strong negative effects of commuting and positive ones of time spent with friends (but not with young children). Angus Deaton and Arthur Stone find that having children has a negative or insignificant association with life satisfaction, and positive associations with both joy and stress.³¹ Women, meanwhile, are typically happier than are men (even with scale adjustment), as long as they are in countries without strong discrimination. Yet they may experience happiness losses in contexts of changing gender

24 Gosnell et al. (2016).

25 DiTella et al. (2001).

26 Frey and Stutzer (2012).

27 Helliwell et al. (2018).

28 Graham and Ruiz-Pozuelo (2017).

29 Blanchflower and Oswald (2012).

30 Kahneman and Krueger (2006).

31 Deaton and Stone (2014).

rights, as the shifting of social norms may produce intra-household or other conflicts that temporarily reduce happiness.³²

Many of these studies demonstrate that non-income factors—such as norms, expectations, and stigma—matter more than standard economic models assume. Promotions have much more lasting effects on well-being than do salary increases, for example.³³ The unemployed, while consistently less satisfied than the average, are less unhappy when local unemployment rates are higher. This is likely due to experiencing less stigma, even though they are less likely to be re-employed in the future.³⁴ The effects of inequality on well-being differ depending on the context and norms of equity.³⁵

Recent research explores the generally positive association between individual well-being and long-term outcomes. Individuals with higher life satisfaction and/or optimism believe in their futures and are therefore more likely to invest in them. While the environment in which people live undoubtedly plays a role, there seems to be an additional role for innate character traits. Much of well-being is innately determined, and the error term in the econometric equations thus includes important information about individuals' well-being that observable factors cannot explain.

In 2004, along with several colleagues, I used panel data for Russia to isolate this “unexplained” life satisfaction for each individual, and found that it is associated with better income, health, and social outcomes

later on.³⁶ Jean Emmanuel DeNeve and Andrew Oswald use twin studies to show that those with genetic markers of higher well-being have better future outcomes, even when raised in different environments.³⁷ This suggests a channel of causality running from well-being to a range of outcomes.³⁸ By definition, it highlights why well-being should matter to policy that is concerned with future sustainability, and why even policymakers who are skeptical of the approach should pay attention.

The role of optimism alone is a new area. Experimental studies which provoke optimistic thoughts,^{39,40} or provide a simple asset that provides hope among the very poor,⁴¹ lead to more effort or investments producing better outcomes. Research based on panel data for the U.S. finds that individuals born from 1934-1945, who reported to be optimistic in their twenties, were much more likely to be alive in 2015 than their non-optimistic counterparts, with education investments an important channel.⁴² In contrast, lack of hope, even amidst prosperity, can have high negative costs for societies as a whole (discussed above).

While not all findings are directly applicable to policy, all could provide important inputs into better design, with particular relevance to sustainability. Many highlight the benefits of better health behaviors or community involvement for well-being. Others, such as the finding on promotions, suggests that income alone may not result in lasting well-being effects.

32 Graham and Chattopadhyay (2013); Stevenson and Wolfers (2009).

33 DiTella et al. (2001).

34 Knabe et al. (2017); Clark and Oswald (1994).

35 DiTella et al (2004); Ifcher et al. (2018); Deaton and Stone (2014).

36 C. Graham, A. Eggers, S. Sukhtankar *J Econ Behav Organ.* 55 (2004).

37 J. E. DeNeve, A. Oswald, *Proceedings of the National Academies of Sciences* 109, 49 (2012).

38 J.E. DeNeve et al. In *World Happiness Report II*, ed. J. Helliwell, R. Layard, and J. Sachs. New York: Earth Institute, Columbia University (2013).

39 A. Oswald, E. Proto, D. Sgroi, *Journal of Labor Economics* 33, 4 (2015)

40 C.C. Hall, J. Zhao, E. Shafir, *Psychological Science* 25, 2 (2014)

41 J. Haushofer, E. Fehr *Science* 344, 6186 (2014).

42 K. O'Connor, C. Graham *Human Capital and Economic Opportunity*, Working Paper 26 (2018).

Policy design based solely on income-based cost-benefit analysis, for example, can fail to capture important externalities of particular policies.⁴³ Closing rural post-offices, for example, may make a great deal of sense from a budget perspective; they are expensive to reach and do not deliver much mail. Yet well-being surveys in the U.K. showed that the daily post office visit is an important social event for isolated residents, particularly elderly ones.⁴⁴ That positive element—which is not evident in income-based calculations—should matter to the decision-making process. Other policy decisions—as in the case of the environment (below)—could result in similar errors of omission.

⁴³ Robinson et al. (2016).

⁴⁴ This insight came from conversations with David Halpern of the Behavioral Insights Team in the U.K. For other examples, see (<https://www.whatworkswellbeing.org/>).

Well-being and the environment: An example of win-win policies in the sustainability arena

The environment is of central relevance to any sustainable growth strategy.⁴⁵ Well-being metrics are well suited to assessing the welfare effects of different environmental arrangements, as well as those of different models of pro-environmental (“green”) practices.

Environment quality—the level of environmental goods and ‘bads’ in an individual’s locale—is associated with how they think about and experience their lives. ‘Bads’, such as airport noise and air pollution, as well as transient negative conditions such as flooding and drought, often decrease life satisfaction.⁴⁶

At the same time, access to environmental goods links to higher levels of well-being. Those living in greener urban areas report higher life satisfaction, and those living close to greenspace and the coast report less mental distress.⁴⁷ A number of mechanisms give rise to these relationships, although there is more to learn (and two-way causality may apply). Environmental quality appears to affect people’s nervous systems directly.⁴⁸ It may also have

indirect effects by shaping the activities that individuals engage in, such as spending time outdoors and engaging in exercise. Exposure to ‘bads’ lowers well-being by causing health problems such as cardiovascular disease.⁴⁹

The effects are significant. Francis Brereton and colleagues find that socio-demographics variables explain about 21 percent of the variation in life satisfaction across individuals across countries, while including spatial variables increases this percentage to 33 percent.⁵⁰

The metrics also shed light on the consequences of engaging in pro-environmental behaviors. These practices typically involve time or money costs, as with recycling and purchasing eco-friendly products. Psychological research has traditionally characterized these behaviors as altruistically motivated—involving prioritizing the well-being of others over one’s own. Yet, as in research cited in the previous section, many behaviors that reflect individuals’ concern for the greater good—beyond utility maximizing—are positively associated with well-being.

45 R. Constanza et al. *Nature* 505, 283-85 (2014).

46 Constanza (2014); Van Praag et al. (2005); Luechinger (2009); Dolan and Laffan (2016); Carroll et al. (2009)

47 White (2013a and b).

48 McKerron and Mourato (2013); Van Bergen et al. (2015).

49 Laffan (2018); Atkinson et al. (2013).

50 Brereton et al. (2008).

Individuals may derive psychological—and other—benefits from engaging in pro-environmental behavior. Activities such as purchasing green products, saving water and energy, and green volunteering link positively to life satisfaction.⁵¹ Other research has linked such behaviors to higher levels of feeling worthwhile.⁵² Recent work suggests that green self-image, reputation, the opportunity to socialize and conformity with social norms may all play a role.⁵³

Such insights are relevant to sustainable growth strategies. If the above positive associations were in the public discourse, more people might be inspired to participate in them. The research also identifies mechanisms behind the associations, thereby identifying potential behavior change levers. Finally, as both environmental quality and behaviors are significantly associated with individual well-being, the research can help us to identify win-wins that come from living in and helping to create a better natural environment.

51 Ziao (2011); Kaida and Kaida (2016); Binder et al. (2016).

52 Laffan (forthcoming).

53 Binder et al. (2017); Schmidt (2018); Welsch et al. (2018).

Well-being as a progress indicator?

There are, of course, a range of views on this question among economists and other academics who study happiness and well-being. Many believe that well-being—and happiness in particular—should be the primary objective of policy. Richard Easterlin, a distinguished proponent of this view, sparked economists’ initial interest in happiness with findings showing that per capita income growth did not translate into increased happiness over the long run.⁵⁴ In later work, he posits that happiness is the best umbrella indicator of progress, given the common drivers of happiness among people all over the world, and the range of dimensions of human experience that it encompasses. His view is that GDP and happiness should not be in the same umbrella indicator, as the trends can run in opposite directions.

Another long-time scholar in the field, John Helliwell, holds a similar view. He believes that well-being provides an encompassing frame within which assessments can be made of the relative importance of other social indicators. He notes the advantage of evaluations that individuals make of their own lives, as they depend entirely on the

basic data collected from population-based samples of individuals and not on what scholars think should influence the quality of their lives.⁵⁵

Lord Richard Layard, meanwhile, an early proponent of happiness as *the* objective of policy, places a particular focus on the high costs that mental illness poses to society. He also highlights its role in poverty and poor physical health outcomes, among others, as well as in the inter-generational transmission of these phenomena.⁵⁶

Bruno Frey and Alois Stutzer support the use of the results of the research as inputs into policy discussions but are strongly opposed to the use of aggregate happiness as an objective of policy.⁵⁷ They view the life satisfaction approach, which places relative weights on the effects of various conditions or institutional arrangements, as an important complement to revealed preferences and contingent valuation approaches. Yet they warn of the dangers of aggregate happiness as a policy objective because of normative differences that influence individuals’ evaluations, the challenges of adaptation and changing aspirations, and the potential for

54 Easterlin (1974, 2016)

55 Helliwell (2018).

56 Layard (2005); Clark et al. (2018).

57 Frey and Stutzer (2012).

governments to manipulate the information if happiness becomes an objective of daily political competition. I share these concerns.

There are, of course, sharp critics of the entire approach. Amartya Sen criticized the approach early on, highlighting the “happy slave” problem.⁵⁸ He famously wrote that “the hopeless beggar, the precarious land laborer, the dominated housewife...may all take pleasures in small mercies and suppress intense suffering for the necessity of continuing survival, but it would be ethically deeply mistaken to attach a correspondingly small value to the loss of their well-being...” Yet at the time, there was no clarity about the distinct well-being dimensions. Our recent work on worldwide data shows how much more individual agency and capabilities reflect in life evaluations than in hedonic responses.⁵⁹ The happy slave’s well-being may be high in the daily contentment dimension but low in the life course one.

Yet that does not fully resolve Sen’s challenge. George Lowenstein and Peter Ubel, for example, while critical of the traditional assumption that choices are rational, also pinpoint adaptation as limiting happiness surveys.⁶⁰ They cite the example of patients with chronic health conditions reporting to be happy, even though when asked directly about the conditions, they report that they would rather not have them. The issue of adaptation clearly needs to be accounted for in the application of the metrics to policy questions.

Dan Hamermesh notes the potential of subjective data to address a host of unresolved questions in economics.⁶¹ Yet he criticizes the non-theoretical nature of the early research, noting that economics differs from other social sciences by addressing questions within a theoretical frame of the drivers of human behavior.⁶² This remains a challenge. Many economists and philosophers have begun to take it on directly.⁶³ In addition, the increasing ability to distinguish between different dimensions of human well-being and their linkages to different behaviors provides modest building blocks for a more unified theory of well-being.

Amitai Etzioni criticizes the use of happiness as a metric on moral grounds.⁶⁴ He argues that the hedonic nature of subjective well-being research fits into the “amoral” approach of “satisficers” and “utilitarians” in economics, and highlights the omission of social norms and values in mainstream economic analysis. Yet behavioral economics and well-being research pay a great deal of attention to these things. The consistent patterns in large N data demonstrate the extent to which trust, coherent communities, fairness, and the environment are strongly associated with higher levels of well-being for both individuals and countries.

This is not a hypothetical debate, meanwhile. The government of Bhutan has explicitly made Gross National Happiness (GNH) its national development strategy. The government of the U.K. does not endorse an umbrella strategy, but includes subjective well-being questions (one evaluative, one eudaimonic, two hedonic) in its annual statistics. In collaboration, the OECD has issued best measurement practice guidelines for all statistics offices interested in incorporating

58 Sen (1997).

59 Graham and Nikolova (2015).

60 Lowenstein and Ubel (2008).

61 Hamermesh (2004).

62 For a contrasting view, see McKerron, 2012.

63 Adler and Flueraey (2017).

64 Etzioni (2016).

the metrics. A U.S. National Academy of Sciences panel provided recommendations for use of the metrics in the multi-layered U.S. statistics system to inform policy inputs and assessments.^{65,66}

There are also many local efforts. The What Works Well-Being Program in the U.K. uses well-being metrics to assess the costs and benefits of interventions to assist deprived communities. The U.S. city of Santa Monica implemented a well-being index as a guide to improving municipal policies. Informing sustainability specific objectives is a natural extension of such efforts.

Despite the potential of the metrics, a note of caution is necessary. At least some of the debate on well-being—and, in particular, national happiness as a progress indicator—ends up in discussions of replacing GDP with GNH. In my view, that approach both dismisses standard indicators that are essential to measuring economic and health progress and would forfeit the capacity to explore what the *discrepancies* between objective and subjective indicators tell us, which may be the most valuable information. In addition, that strategy risks losing the attention and potential support of academics, policymakers, and politicians who are willing to use new indicators, but not to toss out the baby (GDP) with the bath water.

The users of these indicators—and especially the public—need to understand that the aggregate indices are based on large numbers of individual responses that yield discrete findings across people, places, and races. The disaggregated data provides a robust tool kit as inputs into policy discussions and assessments. Aggregate well-being indicators are more suited to serving as warning lights on a dashboard: they point to vulnerabilities in particular places or cohorts, and/or to positive trends that provide broader

lessons. In my view, traditional GDP and aggregate well-being indicators can and should co-exist on the same dashboard, and play a role in public and policy-making debates. The approach has much to contribute by highlighting the instances and areas where objective and subjective measures tell very different stories.

In many of these instances, the stories that the standard numbers do not tell are warning signs of unsustainable policies and growth models which result in widespread public ill-being at the same time that incomes are growing. The examples of the three countries above are a case in point.

65 For full disclosure, I served on the NAS panel.

66 A. Stone, C. Mackie, *Subjective well-being: measuring happiness, suffering, and other dimensions of human experience*. (National Research Council of the National Academies, Washington, D.C., 2013).



Conclusion

A new focus on well-being as a partner to economic growth will contribute to a more sustainable future for people and countries around the world. The same factors that result in higher levels of well-being—sufficient income, better health behaviors, sounder environments, community engagement, and participating in the democratic process—walk hand in hand with sustainable growth.

Excessive focus on income and growth alone, meanwhile, as in the case of the tale of three countries cited in this paper, can result in ill-being and high associated social costs. Well-being paradoxes may be a natural part of structural change and economic progress. Yet the lessons the metrics provide about the potential human costs—including environmental ones—can prepare us for better managing change in the future. If and when these costs are too high, they jeopardize the sustainability of the entire process. Higher levels of well-being link to more productivity, better health, and longevity—in short, to better development paths and futures.

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