

Happiness and economics: insights for policy from the new ‘science’ of well-being

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Abstract

Behavioral economists’ revival of homo-sapiens now includes the study of happiness. The analysis is based on surveys of the subjective well-being of myriad individuals within and across countries. It is a tool for better understanding human well-being, and for answering questions that revealed preference based approaches cannot answer, including the welfare effects of institutional arrangements individuals cannot change; of choices that are the result of addiction and self-control problems; and of situations in which they do not have agency. This paper reviews the methods; key research questions, including the causal properties of well-being; and potential policy applications.

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Introduction

Behavioral economics has contributed a great deal to our understanding of individual economic decision-making by departing from orthodox models based on hyper-rationality and introducing homo-sapiens –with all of his/her psychological complexity– back into the picture. Among other things, the research has shown that many consumption choices are irrational and ill-informed; that individuals value losses disproportionately to gains, and that many individuals are hyperbolic discounters and value consumption today exponentially more than higher levels of income in the future.

Another new branch of economics, which was facilitated by behavioral economists’ revival of homo-sapiens, is the study of happiness and well-being. Happiness economics uses surveys of the subjective well-being of hundreds of thousands of individuals within and across countries as a basis for analysis. The approach provides a tool for understanding the determinants of human well-being, as well as for answering questions that traditional revealed preference based approaches cannot answer. These include the welfare effects of institutional arrangements that individuals cannot change –such as inequality or bad governance; of choices that are the result of addiction and self-control problems; and of situations in which they do not have the agency to make choices –as in low expectations in contexts of extreme poverty.

While research on well-being was initially met with deep skepticism in economics, widespread use of the surveys has resulted in its moving to the mainstream. And as economic analysis has taken on an increasingly broad range of topics –ranging from public health and social policy to crime to intra-

household behavior– it makes sense that a methodological approach which aims to better understand the determinants of human well-being and the behaviors associated with its different dimensions has become a complement to standard economic metrics. Indeed, a number of countries, such as the U.K. Canada, and Chile, have incorporated well-being metrics into their official statistics (Stone and Mackie 2013).

The approach

Economists initially eschewed the use of surveys, assuming that the data therein were not credible as there is no consequence to what people say (as opposed to consumption data based on revealed preferences within a fixed budget constraint). Yet over time, behavioral economics called into question the reliability of choice based data, and the increasing use of well-being surveys by economists yielded robust and consistent patterns across countries and over time. As with all economic measures, the answer of any specific individual may be biased by idiosyncratic, unobserved events. Bias in answers to happiness surveys can also result from unobserved personality traits and correlated measurement errors. These can be corrected via individual fixed effects in panel data; alternatively, it is possible to control for individual character traits via specific questions in cross section data (Graham and Lora 2009).

There are remarkably consistent patterns in the determinants of happiness and life satisfaction. Studies by a wide number of authors and using different data sets for different countries and regions find essentially identical patterns in

the determinants of subjective well-being, both across countries and over time (Blanchflower and Oswald 2004, Easterlin 2003, Frey and Stutzer 2002, Graham and Lora 2009, Diener and Kahneman 2010).

In addition, subjective well-being patterns track robustly with a range of objective indicators. Research by Andrew Oswald and Stephen Wu (Oswald and Wu 2010), based on a sample of 1.3 million U.S. citizens, compares life satisfaction responses to quality of life patterns estimated from solely non-subjective data (using data based on willingness to pay). They find a state by state match between subjective and objective well-being. Meanwhile, my new research with Sergio Pinto finds that trends in stress, worry, and desperation across the United States track closely with mortality data for the same locations (Graham 2016).

Psychologists also find validation in the answers to these surveys based in physiological measures of happiness, such as the frontal movements in the brain and in ‘genuine’ –Duchenne– smiles (Diener and Seligman 2004). Recent research finds that genetic composition accounts for approximately 30% of the variance in well-being across individuals, and respondents who report higher levels of well-being also have gene alleles that are more efficient at carrying serotonin (DeNève and Oswald 2012).

In addition to large scale surveys of life satisfaction or *evaluative well-being*, scholars have made great headway in developing metrics for assessing moods at particular moments and during different activities throughout the day; so-called *experienced or hedonic well-being* (Kahneman and Deaton 2010). Surveys which track respondents’ moods throughout the day track closely with simpler metrics, such capture the respondent’s mood the day before, which fit into large scale surveys (Stone and Mackie 2013).

Micro-econometric well-being equations have the standard form: $W_{it} = \alpha + \beta x_{it} + \varepsilon_{it}$, where W is the reported well-being (evaluative or experienced) of individual i at time t , and X is a vector of known variables including socio-demographic and socioeconomic characteristics; the error term captures unobserved characteristics. There are also now established best practices for data collection. To minimize order bias or question framing, for example, most well-being questions should be placed at the beginning of surveys. Other recommendations pertain to day of the week bias, unipolar versus bi-polar scales, scale length, and reference norms (OECD 2011).

Policy applications of subjective well-being data

It is impossible to summarize the range of topics in the well-being literature that are relevant to policy. Yet there are some key themes which frame many of the findings and what they can contribute to policy. These are the differences across well-being dimensions, and norms and adaptation.

These are reflected in the “the happy peasant and frustrated achiever problem” (Graham and Pettinato 2002), in which we find surprising discrepancies between individuals’ subjective

assessments and their objective circumstances. Extremely poor people with low expectations may report to be “happy” while those who are exiting poverty report frustration. The paradox lies in part in the failure of some surveys to clarify which well-being dimensions is under study, and in part in differential expectations. If individuals are simply asked an open-ended happiness question, respondents may assess their happiness at the moment OR over the life course.

Some very poor individuals may have high hedonic scores (as long as basic needs are met), due to naturally high levels of positive affect or to low expectations. There is a more consistent correlation between evaluative well-being and income. Kahneman and Deaton (2010) find that emotional well-being and income in the U.S. are positively correlated up to median levels (roughly \$75K), but life satisfaction correlates with income all the way up the distribution. More income does not buy positive emotions but insufficient levels make it more difficult to manage negative ones, adding to the many challenges already faced by the poor. A related example comes from Latin America. We find that, when queried about well-being, the rich are more likely to highlight the role of work and health in their lives, as they are the means that allow them to choose the kinds of lives they want to lead. In contrast, poor people highlight friends and religion as social insurance mechanisms, as they often face stressful daily existence, resulting in short-sighted and risk-averse decision-making (Graham, Haushofer and Fehr 2014).

Individuals with more means and higher levels of evaluative well-being have a better sense of what their futures look like, and are more likely to delay gratification to make investments in those futures. Individuals with less capacity to craft their futures (and lower prospects of upward mobility) may focus more on the daily experience dimension of well-being because their futures are far less certain. They have higher discount rates, as they have less capacity to make investments in the future and less confidence they will pay off. Individuals with low expectations, who have adapted to adverse circumstances, may respond differently to incentives than those with higher expectations. This beliefs and behaviors channel helps explain poverty traps.

Another adaptation example adaptation is in the health arena. Individuals are better able to adapt to unpleasant certainty than to uncertainty (Graham 2011). We find that the well-being costs of conditions that are associated with greater uncertainty, such as uncontrolled epilepsy, chronic pain, and anxiety, are much higher than those associated with unpleasant but certain mobility problems (Graham and Lora 2011). This does not suggest that one condition should be valued more or less than the other, but yields insights into differential ability to cope with various conditions.

Different cultures and cohorts also have different norms of health. Those who are accustomed to poor health are less likely to report illness and more likely to report health satisfaction than those with better health norms. Respondents in Guatemala are more satisfied with their health, on average,

than those in Chile, even though Chilean health conditions are significantly better (Graham and Lora 2009). Adaptation to poor conditions can affect demand for services and/or responses to incentives.

Hedonic metrics, meanwhile, can play a practical role in understanding of quality of life. Studies based on these metrics find that commuting time, is one of the most stressful times of the day for most respondents, while time spent with friends and family or in purposeful work is much more pleasant. The metrics are well suited for circumstances such as end of life care, when the objective no longer is to prolong individuals’ lives but to make the time that they have more tolerable and pleasant. Hedonic metrics are already being used to assess medical interventions where successful treatment extends beyond increasing life expectancy and includes social integration and assessing how different end of life treatments affect both patients and care-givers (Frank 2012, Dolan and Tsuchiya 2013).

Meanwhile, the consistent patterns that are detectable in the relationship between subjective well-being and a range of policy arrangements across large samples, as in the case of preference for work/income versus leisure, or specific public goods versus levels of taxation could be particularly useful in the making the more complex assumptions necessary for assessing different social or health care policy arrangements. No one approach provides a magic bullet to the challenge of accurately assessing human well-being and its relation to heterogeneity in individual preferences. A range is necessary to deepen our understanding and the potential of policy to provide solutions; subjective well-being metrics are a promising addition.

Does well-being cause anything?

There is also the question of what well-being causes. The science has developed to a point that scholars can identify causal channels related to different dimensions of well-being. Individuals with higher levels of well-being (on average) tend to have higher prospects of upward mobility and, as a result, invest more in their own and in their children’s future. These investments are, in turn, reflected in better labor market and health outcomes (Graham and Sukhtankar 2004, DeNeve and Oswald 2012, DeNeve and Xuereb 2013).

Some of my early work in this area, based on panel data for Russia, showed that residual or unexplained happiness in an initial period regression was correlated with higher levels of income and better health in later periods (Graham and Sukhtankar 2004). The same individuals who had higher levels of residual happiness also had higher prospects of upward mobility. DeNeve and Xuereb (2013) conducted a review of the research on well-being and positive outcomes. They found that there were health benefits, such as longevity, and in the income and social arenas, such as increased productivity, altruism, volunteering, and social relationships; and longer-term time preferences.

If well-being has positive causal properties for individuals’

lives, is it a worthwhile policy *objective*? Many scholars in the field, including me, are deeply skeptical of “happiness” as an explicit objective of policy. Happiness per se is not a well-defined objective and could easily be subject to political manipulation. There is more potential for policies that focus on discreet well-being dimensions, and clear points of intervention where they could play a positive role.

Reducing the daily struggles and stress of the poor, for example, which prevents them from planning and investing in the future is one example. Providing incentives for alternative employment arrangements which enhance well-being and productivity, and improving the daily experience of patients who are at the end of their lives are others. There is also some evidence that providing individuals with information on how particular behaviors affect their well-being or “happiness”, particularly if based on surveys in their own communities, is more effective at influencing behaviors—such as smoking or exercising— than generic information about the health consequences of those behaviors (Graham).

Remaining questions

Well-being metrics have the potential to contribute a great deal to policy design, policy monitoring, and policy assessments, as well as to our understanding of human welfare more generally. Yet as with any method, and particularly a fairly new one, there are also unanswered questions and limitations. Some methodological issues, such as question framing, day of the week effects, and appropriate question scales, among others, are easily resolvable and, as discussed above, there is increasing consensus on best-practice for doing so in survey design (OECD 2011). Other questions, though, are of a more substantive nature and need more attention from scholars, particularly as the metrics are increasingly being used in policy discussions.

The first of these, discussed in detail throughout the article, is adaptation. If well-being metrics are taken at face value, and particularly if the respective well-being dimension is not well-specified, then very poor respondents may report to have higher levels of well-being despite significantly inferior objective conditions. While that in and of itself is an insight into the remarkable human capacity to adapt, it could also lead to ill-informed decisions, if policy implications were directly inferred from the responses. We have increased understanding of how differential capabilities and the responses to different kinds of well-being questions (hedonic versus evaluative) relate to each other. Yet the deeper question of when and what people can and cannot adapt to is not well understood.

There is also the question of what is a meaningful change in well-being? Scholars in the field concur that moving national average life satisfaction from 6 to 7.5 over the course of one year is a rare change that entails increases in well-being for hundreds of thousands of individuals. Yet the average layman or woman would not know if that movement was a large, small, or an insignificant change.

Part of the solution to this question is explaining the met-

rics and scales and getting the public accustomed to them. For example, the average layman/woman does not know how many people become unemployed when the unemployment rate goes up 1% in a month. Yet he or she knows that it is a significant change. He or she also knows, intuitively, that a 0.1% change is not something to worry about. This understanding stems from familiarity with the metric rather than from understanding the numbers in either example. Developing such understanding requires having the metric in the public domain for an extended period of time.

Yet the question also has a more substantive component which requires establishing priorities. The questions are based on categorical/ordinal scores, and a score of 6 is not necessarily twice a score of 3. Yet moving a large number of people out of misery, say from 1's and 2's to 4's and 5's would be a very significant change for most populations, and is, arguably, more important than moving who are already higher up the scale higher. Still, increasing aggregate levels of well-being, regardless of their distribution may also be a priority. These may be competing objectives, as policies to reduce misery and mental distress are typically distinct from those that raise aggregate levels of well-being. And the priority attached to either objective could vary across societies, again requiring discussion of what the policy priorities are.

Despite the limitations, there is great potential for the metrics to be useful in policy discussions; we are not far from a time when they will complement GDP data in many countries (as they already are in some). It took decades to achieve consensus on what should be included in GDP, and there is still debate and ongoing adjustment. It should be no surprise, then, that there is still debate on how and where to use well-being metrics in the policy realm, as well as questions requiring further research. That is a worthwhile exercise which can, in the end, result in better understanding of the human condition and in better policies to enhance it.

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