

Measuring Well-Being in the United States

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Americans are stuck in a cycle of chronic disease. In October 2007, the Milken Institute reported that the economic impact of the most common chronic diseases in this country is more than \$1 trillion and threatens to reach \$6 trillion by mid-century (DeVol & Bedroussian, 2007). Our recent survey of American residents 18 and older indicates that two-thirds are suffering from one or more disease condition and the same proportion are overweight or obese. One in five suffer from three or more disease conditions (Gurley & Harter, 2008).

Although these numbers are staggering, actions can be taken to put this nation on a path to health and well-being. We believe change will come from an understanding of how health and psychology interact, and in what locale (i.e., the nation, state, community, workplace, school) they can be most effectively influenced.

As a start, we need comprehensive statistics to help answer some fundamental questions: What is the well-being of the United States? How does it vary by day, location, and walk-of-life? Will the well-being of U.S. residents change in the next decade, year, month, or day? These are questions we hope to answer, in great detail, with a recent initiative that began at the start of 2008.

In an effort to create new measures for leaders to consider when making policy decisions, Gallup, the world-renowned provider of public opinion data, and Healthways, the largest provider of wellness programs for health care plans and businesses in an effort to keep employees healthy and health care costs low, are partnering to measure the health and well-being of U.S. residents, daily, for 25 years. This endeavor is the first of its kind, with 1,000 calls a day, seven days a week. The intent is to capture the most comprehensive picture of health and well-being based on and inspired by the World Health Organization definition of health as “not only the absence of infirmity and disease, but also a state of physical, mental, and social well-being.”

To date, this year, we have asked each of more than 200,000 U.S. residents approximately 70 questions about their lives including their sense of well-being, health, economics, work, community, and daily experience.

“The power of the approach used in the Gallup-Healthways Well-Being Index is in its size and scope,” said Julie Gerberding, director of the Centers for Disease Control and Prevention. “Surveys and studies that get information from large numbers of people have the potential to provide much information that can be used to shape and deliver programs that improve health. Having a daily snapshot of how Americans view their health and well-being can also provide insights that can help guide public health policies.”

The Measurement Challenge

The measurement endeavor leverages the work of psychology and medical science by blending Gallup's behavioral and polling research with Healthways' care management and health support services. It also integrates the findings of leading scientists, chief among them Nobel Laureate and APS Fellow Daniel Kahneman, Princeton University; APS Fellow Ed Diener, University of Illinois; and Arthur Stone, of SUNY-Stony Brook; as well as economist Alan Krueger, Princeton.

In particular, definitions of well-being have fallen into two broad categories: The traditional neoclassic measures, such as income, GDP, life expectancy and poverty rates, and subjective or psychological measures of well-being that seek to measure how people feel about their lives. The latter, based on more recent research, can be further separated into two general types: those measures that arise from the evaluating or remembering self, and those that arise from the experiencing self.

Kahneman and Diener have been influential in conceiving the contemporary psychological views of well-being. In the consensus *Guidelines for National Indicators of Subjective Well-Being and Ill-Being*, Diener defines subjective well-being as "all of the various types of evaluations, both positive and negative, that people make of their lives. It includes reflective cognitive evaluations, such as life satisfaction and work satisfaction, interest and engagement, and affective reactions to life events, such as joy and sadness" (Diener, 2005). Kahneman makes particular note of the distinction between experienced well-being and evaluative well-being (Kahneman & Riis, 2005). Experienced well-being is concerned with momentary affective states and the way people feel about experiences in real-time, whereas evaluative well-being is the way they remember their experiences after they are over.

The Gallup-Healthways Well-Being Index uses the life evaluation question series first developed by Hadley Cantril (1965) of Princeton and his colleagues.

In addition, the evaluative dimensions of well-being are captured through individual assessments of specific life domains, such as one's standard of living, community, job, relationships, and personal health.

Gauging experienced well-being, on the other hand, seeks to bypass the effects of "judgment and memory." Experienced well-being has historically been measured using the experience sampling method or the day reconstruction method, both of which seek to capture feelings and emotions as close to the subject's immediate experience as possible. Inspired by the work of Kahneman and colleagues, the Gallup-Healthways Well-Being Index adapted these methods to a large-scale survey environment by framing a series of experience and emotion questions within the context of the last 24 hours. For example, the respondent is asked a series of questions that relate to experiences of positive and negative emotions, including feelings of enjoyment, happiness, stress, and anger. Respondents are asked whether they felt well-rested the previous day, whether they were treated with respect, smiled or laughed a lot, had a lot of energy, worried about money, and learned or did something interesting, for example. They are also asked about time use, such as the amount of time spent socially or commuting to work.

By design, the Well-Being Index overcomes the measurement challenges by bringing together both the experiencing and evaluative dimensions of health and well-being. Synthesizing these two approaches into a single, large-scale survey will provide new understanding of impacts on Americans' overall lives and their daily experience.

The Survey Process

On any given evening, approximately 250 Gallup interviewers conduct telephone interviews with randomly sampled respondents 18 years of age and older, including cell phone users and Spanish-speaking respondents from all 50 states and the District of Columbia. For sample sizes of 1,000, the 95 percent margin of sampling error is +/- 3 percentage points. For the entire sample of more than 200,000 respondents, the 95 percent margin of sampling error is less than 0.3 percentage points.

Given the fundamental influence of health on overall well-being, the survey has a particularly large number of questions regarding health conditions and habits, including prevalence of overall disease burden and specific diseases, short-term and long-term illness, subjective emotional and physical health, access to care, health habits, body mass index, and social support.

Gallup also conducts world polls of more than 130 countries around the world, and many of the questions and domains within the Gallup-Healthways survey are identical to those included in Gallup's World Poll. The core dimensions and primary well-being questions have been previously tested for reliability and validity evidence for residents in all regions of the world (Gallup, 2007).

Given its size, the database can be sliced to look at small segments of the population. For instance, any subgroup that represents 1 percent of the population already contains more than 2,000 respondents. This allows scientists the opportunity to study well-being in much more detail than has previously been possible.

The survey includes many of the standard demographics, including race, religion, income, education, employment status, occupation, and household density. Location data, such as zip codes, will allow researchers to map the responses to particular parts of the country and accumulate data for local-level comparison and interpretation.

The data collection design affords researchers the opportunity to study daily variation and also to aggregate responses across different entities within the country to develop meaningful indices and integrate with other secondary data. Additional studies will involve studying longitudinal panels within organizations, integrating psychological, healthcare utilization, biometric, and physiological data to assess the impact of interventions on the various measures of health and well-being.

Some Early Results: Thriving, Struggling, or

Suffering?

Considering the ladder of life scale developed by Cantril and his colleagues, we characterize respondents according to how they both view their present life and their near term future (five years from now). Across countries, this scale correlates very highly with objective measures such as GDP and life expectancy (Deaton, 2007). Within countries, it correlates highly with income, education levels, and reported disease conditions. "Thriving" residents have positive views of the current life and a lot of hope for the next five years. "Suffering" residents have a dim outlook on the present and perceive little if any hope for the future. The remaining residents (representing the majority of the United States) appear to be "struggling" or just getting by.

The thriving residents currently represent 44 percent of the U.S. population 18 years and older. They have their basic needs, such as food and shelter, met. They have fewer disease conditions, fewer sick days, higher incomes, are more highly educated, and have better work environments. For perspective, 83 percent of respondents in Denmark and 2 percent in Cambodia are “thriving.” The percentage of people “thriving” in the United States has declined significantly from earlier in the year (49 percent were thriving in January; Harter & Arora, 2008).

Fifty-one percent of U.S. adults are “struggling.” Although struggling residents tend, on average, to have lower incomes, poorer work environments, and more sick days and disease conditions, they have a lot of hope for the next five years. And it is this hope that best distinguishes them from the suffering residents. However, in comparison to the thriving residents, the struggling residents are much more likely to worry about money on a daily basis. The percent “struggling” in the United States has increased from 47 percent in January to 51 percent in June.

Five percent of U.S. adults are “suffering” (up from 4 percent in January and 3 percent in February). Suffering residents are much more likely to have disease conditions, sick days when they can’t perform their usual activities, and are less likely to have basics such as food and shelter. They are also more likely to be divorced or widowed. For perspective, less than 1 percent of those in Denmark are “suffering,” compared to 47 percent in Zimbabwe.

The Daily Pulse

U.S. residents vary considerably in the quality of their daily experience, with more than 60 percent feeling a lot of happiness/enjoyment without a lot of stress/worry on a good day, to as low as 40 percent on a bad day in the United States this year. The best days of the year have largely fallen on weekends and holidays. Positive experience has peaked on New Year’s Day, Super Bowl Sunday, Easter, Mother’s and Father’s Day, and the 4th and 5th of July.

The worst days have been weekdays coinciding with bad news from the financial markets – including January 28, some days in March surrounding the turmoil in the markets, and April 2nd when announcements were made about a slowdown in the U.S. economy. Social time has been particularly relevant in explaining good days versus bad days. Residents with little social time are less likely to have good days, and those with 6-8 hours of social time per day with friends or family are particularly likely to have good days. Working people need even more social time to have a good day.

Double Whammy — Disease Burden and the Work Environment

Coronary heart disease is a leading cause of death in the United States. But recent longitudinal research shows that in addition to age, socio-economics, health habits, and other physiological indicators, the workplace environment plays a pivotal role in explaining future coronary heart disease, even after controlling for prior health history. In an 8-9 year longitudinal study, workers who received praise for good work, the information to do their work, and less criticism from their boss had a 30 percent lower likelihood of coronary heart disease (Kivimaki et al., 2005).

Our current research shows strong interactions between disease burden, workplace environment, and sick days (when workers can’t perform their usual activities due to illness). Negative work

environments are those that are dissatisfying, involve a bad boss, or don't leverage the strengths of workers. One or more factors indicative of a negative work environment are reported by nearly 20 percent of workers. The rate of reported negative work factors varies considerably by occupation type, with a high of 29 percent among manufacturing, production, and transportation workers and a low of 3 percent among business owners. One or more sick days in the prior 30 are reported by 24 percent of workers. Among the 24 percent reporting any illness days, the monthly average is 6 days.

Looking at the interaction of disease burden, negative work environment and sick days, the Well-Being Index data shows that workers with one to three disease conditions and no negative work factors have an average of 13.6 sick days per person per year. However, workers with one to three disease conditions and one or more negative work factors have 48 percent more sick days (20.2 days per person per year). When a similar comparison is made between workers with four or more disease conditions with and without negative work factors, the same compounding effect is demonstrated, with 30 percent more sick days among those with negative work factors (68.9 days per year vs. 52.7 days per year). The impact of disease and a negative work environment on American organizations is between 210 and 593 million sick days per year for at least one disease condition and a negative work environment.

The Well-Being Index also includes a corporate version of the survey, which we hope will provide new knowledge about how the interactions between health, well-being, and work can be optimized for the benefit of America's workforce and economic productivity.

The Well-Being Index as a Basis for Future Research

A growing body of research is revealing the impact of physiological and behavioral mediators of well-being, as evidenced by such varied indicators as increased release of oxytocin, an anti-stress neurohormone (Taylor, 2002), increased health habits (Taylor, 2007), and increased smoking cessation rates (Christakis, 2007; Cobb, Graham & Abrams, 2008). Health habits are no doubt either directly or indirectly associated with our social behavior through social networks, norms, and leisure choices. Bringing together broadly representative data on the daily experiences of American residents with the social, psychological, and health factors that mediate well-being will extend this knowledge. Our hope is that discovery of patterns from the Well-Being Index database will stimulate experimental studies and applications that help shed light on pathways to positive change at all levels: government, community, and individual.

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