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National Well-Being Accounts

Over the past decades, there have been periodic national and international surveys of subjective well-being, including assessments of life satisfaction, but these measures have not been used systematically by policymakers. In a 2004 article in *Psychological Science in the Public Interest*, Diener and Seligman argued that nations should establish regular assessments of well-being to complement the economic indicators (e.g., GDP, savings rates, consumer confidence) and objective social indicators (e.g., crime rates, longevity, rates of infant mortality). They recommended that policymakers be informed by national measures of well-being because economic and objective social indicators can omit much of what is important and can even mislead us about much of what we value. The authors further noted that there has been a serious disconnect over the years between the increase in economic variables such as per capita income and the lack of growth in life satisfaction, as well as increasing rates of depression. As nations grow wealthy, differences in well-being are

less frequently due to differences in income and more frequently due to other factors such as social relationships, enjoyment at work, feelings of security and belonging, the lack of serious stressors, and possessing meaningful long-term values and goals. Monitoring well-being at a national level will alert the citizenry to important information beyond economic growth that should help guide policy.

Subjective well-being is known colloquially as “happiness” and refers to the various ways in which people evaluate their lives positively. In the emotional realm, it involves positive feelings and experiences in relation to what is happening and few negative or unpleasant experiences. In terms of conscious thought, it involves judging life to be satisfying and fulfilling. Because subjective well-being is a state in which a person feels and believes that life is going well, it reflects the many different values that are strived for by the individual. Unlike economic indicators, which locate a person’s well-being primarily in the material realm of marketplace production and consumption, well-being indicators assess the full range of inputs to the quality of life, from social relationships to spirituality and meaning, from material consumption to feelings of relaxation and security.

The goals of national accounts of well-being would be to inform policymakers about groups and situations where misery should be alleviated, to educate the citizenry about factors that will enhance their well-being, and to place well-being in the spotlight so that economic impact is not the only consideration when governmental policies are debated. Business and other organizations, as well as individuals and governments, could use the information provided by indicators of well-being. Because well-being indicators can include

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both broad evaluations such as life satisfaction, and judgments of narrower experiences such as feelings of enjoyment at work, the indicators can give a broad assessment of how the lives of target groups are doing, as well as specific information about domains where quality of life could be improved. In both cases, well-being indicators reflect how positively or negatively people are experiencing their lives, and such experiences reflect a core aspect of quality of life that should be of utmost concern to policymakers.

Historical Context

In the early phases of the industrial revolution, when meeting the basic needs of the citizenry for food and shelter was of paramount concern, economics was of primary importance and helped to dramatically increase the quality of life. However, economic indicators by themselves do not provide a complete assessment of whether nations are flourishing. Industrially developed societies now have the means to fulfill the basic needs of their citizens, and a continuing emphasis primarily on economic growth might lead to ever-greater material consumption and production but little increase in well-being. Beyond money, people seek happiness, meaning, engagement, and satisfaction, and these are influenced by many other factors besides material wealth. In order to build societies in which well-being is widespread, we must measure it directly rather than relying solely on economic indicators as a major proxy.

Before his assassination, Robert F. Kennedy eloquently stated the premise underlying national indicators of well-being:

Too much and too long, we seem to have surrendered community excellence and community values in the mere accumulation of material things....The Gross National Product includes air pollution and advertising for cigarettes, and ambulances to clear our highways of carnage. It counts special locks for our doors, and jails for the people who break them. The GNP includes the destruction of the redwoods and the death of Lake Superior. It grows with the production of napalm and missiles and nuclear warheads.

And if GNP includes all this, there is much that it does not comprehend. It does not allow for the health of our families, the quality of their education, or the joy of their play. It is indifferent to the decency of our factories and the safety of our streets alike. It does

not include the beauty of our poetry or the strength of our marriages, or the intelligence of our public debate or the integrity of our public officials.

GNP measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country. It measures everything, in short, except that which makes life worthwhile.¹

The indicators of well-being advocated in this chapter are able to reflect the full range of things that make life worthwhile—from the integrity and security of our neighborhoods to the compassion and wisdom of our citizens. A severe limitation of economic measures is that they emphasize what is traded in recordable market activities, overlooking crucial aspects of the quality of life such as social relationships, religion, and moral values. Because the broad spectrum of well-being measures includes our emotional reactions as well as our satisfaction with diverse areas of life, they can more fully assess the range of factors influencing our quality of life, aside from economic production and consumption.

In the following chapter, we elaborate on the concept of subjective well-being and discuss why it will capture those aspects of life so beautifully articulated by Kennedy. We will describe various conceptions of the good life and discuss whether subjective well-being is truly desirable. Next, we discuss the various components of subjective well-being and how each is measured. We also assess the validity of self-reports of well-being. We then describe the relevance of well-being to governmental policymaking. Finally, we consider various concerns about national accounts of well-being. We argue that although well-being measures are not perfect, they have sufficient validity to warrant their use by policy leaders.

Conceptions of Well-Being

Since time immemorial, philosophers, religious leaders, and ordinary people have pondered what makes a good life. In the Confucian ideal, a person's responsibilities to others and society figure prominently in defining the good life. In the view of Aristotle, happiness (called *eudaimonia*) consisted of virtuous actions

¹Robert F. Kennedy. Address to an election rally at the University of Kansas, on March 18, 1967.

that fulfill the full spectrum of human potential. The idea of subjective well-being has some roots in Greek hedonism. Although some early hedonists were concerned with the immediate pursuit of bodily pleasures, later refinements of hedonism emphasized the inclusion of mental and spiritual pleasures and the careful selection of pleasures so as to enhance long-term well-being. The utilitarian philosophers followed in this tradition and defined the good society as one that provided the most happiness for most people.

Modern conceptions of well-being include elements from each of the traditions above. As noted earlier, subjective well-being encompasses a range of indications that one's life is going well. Although pleasure is included as one aspect of subjective well-being, the concept is much broader in that it includes purpose, meaning, and feelings of fulfillment. Furthermore, it is recognized that long-lasting pleasant feelings usually emerge from making progress toward important goals and values. Thus, subjective well-being is not mere hedonism: people do not merely want to feel happy, they want to feel positively because they are achieving the things they believe are valuable and worthwhile. True subjective well-being then not only consists of pleasant emotional feelings but also the judgment that one's life is worthwhile and that the pleasant feelings are due to living a life that one believes is good. In addition, healthy social relationships in which one is both supported by and supportive of others, as advocated by Confucius, are seen as important causes of well-being. Thus, subjective well-being is a concept that includes all the various ways that a person evaluates his or her life in a positive manner.

Desirability of Subjective Well-Being

If policymakers are to give serious consideration to well-being indicators, an important question is whether subjective feelings and thoughts of well-being are indeed desirable. People do value states such as happiness. Across the world, college students believe that happiness is one of the most important values (Diener 2000). People are often motivated to select activities that produce pleasant feelings and avoid unpleasant experiences unless there are compelling reasons to undergo them. Although philosophers differ on what they consider to be the "good life," it is widely assumed that it must contain some form of subjective well-being in which the person

evaluates his or her *own* life in a positive way. After all, a virtuous or otherwise good life is not complete if the person feels miserable, or even only neutral. Without positive experiences and thoughts about our lives, we would be but robots or computers.

Besides feeling good, it turns out that happiness has other benefits, while chronic unhappiness can be detrimental. In terms of health, negative emotions such as stress, frustration, chronic anxiety, and anger can lower our immune strength, contribute to cardiovascular disease, and foster other health problems. It appears that both morbidity and mortality are related to the frequent and prolonged experience of unpleasant emotions. Although brief experiences of unpleasant emotions can be natural and adaptive in certain situations, the long-term experience of negative emotions seems to take a toll on physical health and can also contribute to mental health problems. More serious forms of unhappiness such as depression can substantially raise the risk of health problems such as the recurrence of a heart attack.

The effects of pleasant emotions on health are, at this time, more uncertain than the effects of unpleasant emotions, although there are some data suggesting that pleasant emotions can foster health and longevity. Outside of the realm of physical health, there is accumulating evidence that positive emotions have adaptive value and that people who chronically experience frequent pleasant affect tend to have beneficial outcomes in several areas of life. Such "happy" individuals are not only more likely to be successful in their own lives but also more likely than unhappy people to act in ways that benefit their communities and societies. For instance, happy people are more likely to get married, to remain married, and to be happily married—factors which contribute to a stable society.

People who tend to chronically experience positive emotions are more likely to earn higher salaries, to receive higher supervisor ratings at work, and are better organizational citizens (for instance, helping others at work). They are more likely to trust others in their communities and be involved in volunteer work. People who are happy are more likely to be sociable and amiable, and to like and be liked by others more than people who are unhappy. Furthermore, happy people are more likely to have self-confidence and be leaders. Finally, there is some evidence that the subjective well-being of citizens may facilitate support for democratic governance (Inglehart and Klingemann 2000; Tov and

Diener 2008). Thus, happiness is not just a private affair that feels good to the individual; it is in the best interest of societies that citizens be happy.

Thus, happiness not only feels good but also fosters effective functioning. However, this does not mean that people should be elated all of the time. Most happy people are rarely elated or intensely happy; milder levels of pleasant moods are the norm, with intense pleasant emotions being a rarity. Furthermore, happy people do experience unpleasant emotions—they get sad, angry, and fearful on the appropriate occasions, and these emotions can facilitate adaptive functioning. Nevertheless, the desirable society is one in which situations evoking negative emotions are infrequent. It is becoming increasingly clear that the good society is not only one that allows individuals to pursue happiness but also one that arranges many conditions that are conducive to happiness, such as providing the strong health, transportation, and governance structures that sustain the stability and quality of life.

It has been objected that governments should not intervene in the happiness of individuals because subjective well-being is a private affair, and governments should not interfere with the lives of its citizens. This overlooks the fact that governments already intervene in numerous ways in everyday life. Economic affairs that might be seen as private matters are partly shaped by governmental policies concerning taxation, tariffs, interest rates, minimum wage laws, and limits on work hours. The intended use of well-being indicators is not to invite greater intrusion upon individual lives but to provide information that makes governmental intervention beneficial. Furthermore, some of the greatest successes of governments have been in areas—such as public health—which were once seen as private affairs. Governments cannot make citizens happy; individuals must do this for themselves. But governments can, in many ways, provide the circumstances that allow this to occur. In addition, evidence of the social benefits of well-being has mounted to the point that one can question whether happiness is only an individual concern. Governments are unlikely to create policies that directly produce cheer and joviality, but they can take steps to insure that citizens are generally pleased with their lives and that existing conditions facilitate a preponderance of pleasant emotions as people work, love, and play.

Another objection to making well-being a policy concern stems from the perception of happiness as a

hedonistic state of pleasure that should not be the goal of individuals with serious values and goals. Some think of pleasant emotions in purely hedonistic terms, but we reiterate that people feel positive emotions when they are achieving their goals and values and not simply “having fun” or experiencing physical pleasure. That is, feeling contented, joyful, satisfied, and pleased results from doing things we value and do not arise *solely* from involvement in entertaining activities. Thus, long-term levels of pleasant emotions reflect something deeper than pure hedonism—that people are making progress toward things they value. Loving and caring for others, trusting and wanting to help others, engagement in interesting work, and joy over a job well-done are all positive emotions that result from people’s deeply held values.

In conclusion, people around the globe believe that happiness is important. It is not the only thing that is important—people have other values as well. But happiness can reflect progress toward those values. Furthermore, people who are frequently in pleasant states and are satisfied with their lives tend to be more effective and successful and act in ways that benefit society. Of course, happiness is not a sufficient guarantor of productive and caring citizens, but it is one very helpful, facilitative factor. Having discussed briefly the nature and implication of well-being, we turn next to the specific components of well-being. Understanding the multifaceted nature of well-being is critical if it is to be measured in ways that are useful to policymaking decisions.

Components of Subjective Well-Being

Although terms such as “subjective well-being” and “happiness” imply that it is a single entity, in actuality, it is a broad concept that includes a number of diverse elements, which together form well-being. No single concept represents the full nature of well-being, and the various types of well-being correlate only moderately with each other. Just as a person’s financial well-being cannot be fully described by income and must also include savings, debt, cost of living, and so forth, a person’s subjective well-being cannot be fully assessed by a single measure such as life satisfaction. Although something can be learned from such a measure, a complete rendering of subjective well-being requires the assessment of several different factors.

On-line Versus Recall Measures

People can evaluate life at the moment—how they feel right now—or they can reflect back over life and report how they felt over some period of time such as the past year. This distinction turns out to be critical because the average of on-line momentary reports is not always identical to people’s recall of their experience. Both types of measures can provide important insights into well-being. When people report their “on-line” momentary moods and emotions, fewer memory biases are present—individuals are simply reporting how they feel at the moment, and therefore, less information must be considered. When such reports are averaged over time or across certain types of activities or situations, one can obtain important information about how a person is feeling in various situations on average. However, when people *recall* how they felt over time, there can be discrepancies from the on-line reports, owing to their individual self-concepts, beliefs, and expectancies. For example, recalling how one felt during the past month could be influenced by one’s mood at the moment or one’s expectations about situations; individuals can also selectively forget certain experiences. Thus, recall measures are only modestly accurate at estimating people’s ongoing experiences of well-being, and the two types of measures provide related but distinct information about well-being.

When do the two types of measures diverge? We know that certain cultural groups diverge more on recall measures than on on-line measures of well-being, suggesting that either memory or self-presentation may selectively alter the reports of some groups more than others. For example, although European Americans often report more happiness than Asian Americans and Japanese, this difference is larger in recall measures of the past week than in on-line measures taken on a daily basis (Oishi 2002). When people evaluate past episodes such as a vacation, they may misremember their experiences in accordance with their *overall* impression of the event. There is also evidence that happier people may recall their moods as being more positive while unhappy people may recall their moods as being more negative than they were on-line. People may *remember* being happier with their partner than they report on-line when a relationship is going well, but not when the relationship is unrewarding.

In light of the discrepancy that can occur between on-line reports and recall measures, should we restrict ourselves to the on-line measures only? Not necessarily. As mentioned earlier, on-line and recall measures do correlate at moderate to strong levels, meaning that the recall measures can provide a quick approximation of people’s experiences. Oftentimes, a recall measure will provide the best prediction of future behavior because it partly reflects what people expect from themselves and their environment. However, on-line measures can more accurately depict people’s true experiences in various activities, with less distortion from their expectations. Although on-line measures can be expensive if they are collected over a period of weeks, estimates of on-line moods and emotions can be made based on systematic recall of experiences during previous days. When on-line and recall measures converge, they offer stronger evidence for the conclusions to be drawn. When the two types of measures diverge, as they occasionally do, they can give insights into the variables that affect each score. A complete accounting of people’s subjective well-being will include both on-line estimates and recall measures as each type of measure has its strengths.

Broad Versus Narrow Measures

Well-being measures can also focus on satisfaction with broad aspects of life (e.g., one’s work or marriage) or narrower aspects of life (e.g., commuting to work, one’s work supervisor, or one’s home). Oftentimes, the narrow measures are less influenced by self-concept or personal expectations because they are more grounded in actual experiences with concrete aspects of life. Furthermore, the narrow measures can often point more clearly to policy interventions because of their specific focus, whereas the broad measures may be too vague to suggest particular policies that are likely to influence them with any certainty. Consequently, narrow measures might also be more appropriate for monitoring the impact of policy interventions. Thus, in designing national accounts of well-being, it will be useful to include or even focus on specific aspects of life. Nevertheless, broad measures may still be useful in capturing a wide range of factors (e.g., personality, values, etc.) that narrow measures do not assess due to their limited scope.

Structure of Well-Being Concepts

Additional aspects of well-being must also be distinguished. First, the pleasantness and unpleasantness of emotional experience (i.e., their valence) are not necessarily polar opposites—they represent distinct aspects of experience. The frequent experience of pleasant affect does correlate with the infrequent experience of unpleasant affect, but the two are only modestly inversely related. Thus, individuals might experience very little of either type, while others may frequently experience both. Moreover, a person who experiences a decrease in negative emotions will not invariably experience an increase in positive emotions—the two can occur somewhat independently. Second, the emotional aspects of well-being are distinguishable from the cognitive aspects. Cognitive judgments, such as life satisfaction or satisfaction with one's work, do not map perfectly onto a person's emotions—one can be relatively satisfied and yet not experience high levels of positive emotions. Thus, a complete assessment of subjective well-being requires more than a simple life satisfaction or happiness question; well-being is a multifaceted phenomenon and requires multipronged assessment.

Combining the various aspects of well-being (e.g., temporality, broadness, valence, emotions, and cognition), both Dolan (Dolan and White 2006) and Diener and his colleagues (Kim-Prieto et al. 2005) have developed a temporal model of well-being, starting at external events and circumstances and moving through experience to recall and global evaluations. This model is represented in Table 7.1 and provides one useful way of sampling the domain of well-being measures. In the upper regions of the table, positive and negative emotions are shown as they occur in a temporal sequence beginning with instigating events and proceeding to global judgments. Various positive and negative feelings can be assessed at different stages of the temporal sequence. After individuals experience an event, they can recall and evaluate it. Each of these different facets of well-being can be relevant to quality of life.

In the next region of the table below emotions, we show the various types of cognitive judgments that can be made about one's life—from life satisfaction to narrower judgments about specific domains such as work, health, and marriage. Finally, the table includes other types of well-being such as optimism and trust in

others. These too are forms of well-being because they reflect evaluations of various aspects of a person's past, present, and future life. What the table clearly indicates is that a thorough assessment of well-being requires the measurement of many concepts, just as the assessment of health must include many different types of measures. A thermometer, X-ray, blood pressure cuff, and eye examination can all yield valuable information about health that is relatively independent of the other measures. However, just as a few measures can often give a reasonably good estimate of a person's health, a few measures of subjective well-being can often yield summary scores that reveal much about how individuals feel about their lives. Thus, certain summary measures can be quite useful, but more specific measures are needed for a full assessment of well-being.

Although national surveys tend to emphasize broad, general questions, the model in Table 7.1 helps us evaluate well-being concepts at each of the temporal stages in terms of their relevance to policy questions. Although trait-like, "in general," evaluations tend to dominate measures of well-being, on-line measures and perceptions of domains will often be very relevant to policy discussions. Thus, Table 7.1 is valuable in alerting researchers to the fact that there are important aspects of well-being that are not captured by broad survey questions about happiness and life satisfaction. Comprehensive, national accounts of well-being should therefore consist of a variety of measures in order to reflect a range of well-being components.

Validity of Self-Report Measures of Well-Being

A basic question about the validity of measures is "Valid for what?" In the case of well-being indicators, we want measures that accurately reflect people's experiences of their lives as desirable—to fully capture the concept of "utility" as used by economists. The strongest form of validity is to build a theoretical network in which the properties of the measures are completely understood. In this endeavor, we review the evidence supporting the validity of self-report measures of well-being. We also discuss how the scaling of such measures can be validly interpreted.

Table 7.1 Various well-being concepts

| | Events and circumstances (“objective” measures) | Perceptions of events, domain perception, including appraisals and standards | Reactions to events and circumstances | Later recall of reactions and experiences | Trait-like, global, life, and other evaluative responses |
|---|--|---|---|---|---|
| Temporal model of affect (moods and emotions) | | | | | |
| <i>Positive (pleasant) emotions</i> | | | | | |
| Joy | Pleasant situations, interesting work and leisure activities, and times when the person accomplishes his or her goals. These situations are often captured by economic and social indicators | People’s evaluations of the positive aspects of their lives, as in reports of satisfaction (see below) | Daily reconstruction method (DRM) and on-line experience sampling methods (ESM) | Recall of pleasant feelings during periods such as the past month or past year or a specific activity such as work or a vacation | Reports of the person’s positive experiences “in general” |
| Enjoyment, fun | | | | | |
| Interested | | | | | |
| Elated, ecstatic | | | | | |
| Calm, relaxed | | | | | |
| Affectionate, caring | | | | | |
| Loving, warm | | | | | |
| Happy, pleased | | | | | |
| Proud, pride | | | | | |
| Grateful, thankful | | | | | |
| Optimistic | | | | | |
| Active, energetic | | | | | |
| Awe, wonder | | | | | |
| Optimism | | | | | |
| Nostalgia, reminiscence | | | | | |
| Etc. | | | | | |
| <i>Negative (unpleasant) emotions</i> | | | | | |
| Anger, rage, irritation | Unpleasant situations, boring work, and times when the person fails to accomplish his or her goals. External or “objective” measures of adverse situations | People’s evaluations of the negative aspects of their lives, as in reports of dissatisfaction (see below) | Daily reconstruction and on-line experience sampling methods of unpleasant feelings | Recall of unpleasant feelings during specific periods such as the past month or past year or a specific activity such as work or a vacation | Reports of the person’s negative experiences “in general” |
| Sad, melancholy, depressed | | | | | |
| Fearful, anxious | | | | | |
| Worried, stressed | | | | | |
| Guilt, shame | | | | | |
| Jealous, envious | | | | | |
| Frustrated | | | | | |
| Regret, rumination | | | | | |
| Pessimism | | | | | |
| Etc. | | | | | |
| Cognitive judgments of life and various aspects of life | | | | | |
| Judgments of life as: | Respondents make broad judgments about their lives as a whole, evaluating their lives in general terms | | | | |
| Satisfying | | | | | |
| Purposeful | | | | | |
| Meaningful | | | | | |
| And so forth | | | | | |
| Judgments of life domains: | Respondents offer evaluations of specific aspects of their lives that may be broader (e.g., work) or narrower (e.g., income at work), in terms of liking, satisfaction, desire to change, and so forth | | | | |
| Work | | | | | |
| Social relationships | | | | | |
| Health | | | | | |
| Leisure | | | | | |
| Income | | | | | |
| Housing | | | | | |
| And so forth | | | | | |
| Judgments of self-domains: | Respondents offer evaluations of aspects of their own functioning, and the functioning of the groups that are central to their identity | | | | |
| Self-efficacy | | | | | |
| Ability to help one’s group | | | | | |
| Respect from one’s group | | | | | |
| Family is doing well | | | | | |
| And so forth | | | | | |
| Motivational and other concepts reflecting well-being | | | | | |
| Engagement | The person finds activities, such as work, to be worthwhile, interesting, and involving | | | | |
| Optimism | The person believes that generally good things will happen in his or her future, although recognizing that some bad events are inevitable | | | | |
| Trust | The person, in general, trusts others in his or her community | | | | |
| Positive energy | The person feels energetic and has the energy necessary to work for her or his goals and values | | | | |

Convergence with Other Measures

Self-reports of well-being tend to correlate with other types of measures of “happiness,” which suggests that they have some degree of validity. The other forms of measurement of well-being are diverse, including:

- A. Biological measures of positive and negative states (prefrontal cerebral brain asymmetry, hormone levels such as cortisol, immune system strength, cardiovascular system parameters, wound healing, and so forth). Biological indicators often correlate modestly with self-reports of well-being, in part, because the biological measures reflect many factors besides happiness. However, the correlations are consistent and understandable and therefore lend substantial support to the validity of self-report scales.
- B. Informant reports (family and friends reporting on the happiness of a target person). When individuals who know a respondent are queried about how happy they believe the person is, those reports correlate with the self-reports of the respondent. When a number of informant reports are averaged together to reflect a broader view of the target’s happiness, they often correlate moderately with the target’s own assessment.
- C. Reaction time (people react quickly to positive information about their lives). There is some evidence that happy people are more likely to attend to positive information and respond more quickly to positive characteristics that might be associated with their lives.
- D. Memory (happy people remember more positive than negative events from their lives). The validity of the self-report measures of well-being is supported by the fact that people reporting themselves to be happy are more likely to remember many positive events from periods of their lives such as the past year and have a difficult time remembering many negative events from the same period.
- E. Open-ended questions and interviews. In a few studies, respondents have been intensively interviewed after answering the self-report scales. Even when interviewers do not know the respondent’s answers to the self-report scales, their judgments about the respondent’s happiness converge with the answers given to the scales.
- F. Smiling and behavior. People who are happy have been found to smile more often and to behave in

other ways indicating a positive mood (e.g., being more sociable, having an open posture).

- G. Experience-sampling (on-line) measures. We can reduce certain measurement artifacts such as memory biases by sampling people’s moods and emotions at various moments in their everyday lives. Measures might be taken at random times during waking hours over a week or through systematic recall of moods and events at the end of each day. When such measures are taken and averaged, they correlate at moderate to substantial levels with broader, global reports of well-being collected from a one-time survey.

Correlations between well-being self-report scales and the alternative measures of happiness range from modest (.20) to moderate (.50) and are almost always positive. The moderate size of the correlations is to be expected because the measures weight different aspects of well-being—self-reports reflect people’s labeling of their experience; informant reports reflect perceptions by others of people’s behaviors; smiling is heavily influenced by sociability and social norms; and biological measures reflect various physiological systems that underlie or have indirect effects on the components of well-being. Furthermore, each of the alternative measures suffers from its own shortcomings, which further reduces the correlations. Nevertheless, the correlations are consistent enough to indicate that self-report survey measures of well-being have a degree of validity.

Prediction of Outcomes

At times, skeptics ask what well-being predicts, and the answer is—many things. For instance, low life satisfaction is associated with increased risk for suicide. At both the national and individual levels, several studies have shown that measures of life satisfaction predict suicide and are associated with suicidal ideation and behavior. As we mentioned earlier, self-reported well-being and ill-being measures also predict positive outcomes such as sociability, advancement at work, trust in others, prodemocratic attitudes, volunteering, higher income, and certain health outcomes. Thus, not only do the measures correlate with other assessments of well-being per se but also they predict behaviors that follow from well-being and ill-being.

Stability over Time and Responsiveness to Major Life Events

There tends to be a substantial amount of stability in well-being measures when they are assessed at various points in time, for example several months apart. This stability is due largely to the stability of people's temperaments as well as their life circumstances, both of which can affect their feelings of well-being. However, when substantial changes in life circumstances occur, such as the death of a spouse, unemployment, or severe disability, well-being *does* change. Again, the pattern of change in the self-report measures of well-being suggests a degree of validity for the measures.

Understandable Patterns of Findings That Replicate

Measures of well-being show a pattern that is readily comprehensible, usually forming a predictable pattern that replicates across studies. For instance, lower levels of subjective well-being appear in very poor nations or very poor neighborhoods relative to more affluent areas. Well-being levels are also low in nations that have undergone a rapid deterioration in conditions, such as the former Soviet bloc countries. In contrast, high levels of well-being exist among democratic societies and those in which interpersonal trust is also high. Although there are anomalous findings in the literature on well-being, most findings are replicable and understandable.

At the individual level, the correlates of reported subjective well-being also show a predictable pattern. For example, individual poverty correlates with low levels of well-being. However, beyond a certain level of affluence, further increases in income make only a small difference to well-being. Other factors such as disabilities that interfere with the person working, the death of a spouse, and being laid off from one's job all lower people's life satisfaction. Not all of the observed patterns have been expected, but there are enough replicable patterns in the well-being data associated with important differences in life circumstances to give a degree of confidence in the well-being scales.

At the same time, the well-being measures reveal patterns of well-being and ill-being that are not always self-evident from common sense alone. For example, the impact of unemployment on well-being can last a

few years, and levels of well-being do not necessarily completely recover even after regaining employment.

Cardinality and Interpersonal Comparability of Scores

The measures of well-being that are most likely to be used by policymakers are large-scale surveys of populations in which respondents use rating scales to report on various aspects of their subjective well-being. Can we compare the scores of different individuals; does one person's "3" exceed another person's "4"? Important evidence that well-being scores *can* be compared across individual respondents is that the scales frequently correlate with predictors such as income as well as with other measures of well-being. If the scores were not comparable across individuals, predictable correlations would not arise. How individuals use the scales may be relatively similar to each other though not exactly the same. For example, a person reporting an "8" on a 10-point happiness scale is virtually always happier than someone who reports a "3," and the latter is much more likely to suffer from clinical depression. However, a person who reports a "7" might not invariably be less happy than a person who reports an "8." Thus, the scales are likely to be approximately ordinal in nature and comparable across individuals at that level.

The interval nature of well-being data can be examined through statistical methods such as Item Response Theory. Occasionally, scale adjustment based on these methods leads to altered conclusions about the well-being of groups. However, the use of nonparametric ordinal statistics to treat well-being data has typically not led to different conclusions from those based on parametric statistics that assume equal scale intervals. More research in this area is needed. What can be said is that most conclusions based on correlations remain the same whether one assumes cardinal (interval) scaling or not, but that conclusions based on the means of groups might change for groups that are not very dissimilar after adjustments for interval scaling are made. In the future, researchers should more frequently examine the scale properties of various scale items within different cultural and sociodemographic groups. It may be that respondents who are less familiar with survey formats are prone to using the scales in idiosyncratic ways. However, such analyses are best accomplished when multi-item scales are employed.

In conclusion, there is broad evidence that well-being measures have validity. Even though the measures are subjective and refer to private internal experiences that are not directly accessible to others, a wide range of evidence converges on the conclusion that the self-report scales do assess important aspects of people's experience and how they feel and think about their lives. Just as with measures in other fields such as economics or chemistry, the self-report scales of subjective well-being have imperfections and limitations. However, we are increasingly coming to understand these shortcomings, which means that we can correct for them and take them into account.

Policy Uses of National Accounts of Well-Being

Now that we have discussed the concept of subjective well-being, its measurement, and validity, we come to the question of the policy uses of well-being. Why might policymakers want to use surveys of well-being to inform policy decisions? First, as we will soon elaborate, the economic measures that are the mainstay of policy decision-making do not capture many important aspects of life. To reiterate, well-being is extremely important to people but is only modestly assessed by variables such as income. Second, various forms of subjective well-being predict positive outcomes for the individual and society. Thus, not only is subjective well-being valued by most people but it also yields important benefits. Although the good society requires a number of other elements, feelings of well-being are a critical component. Thus, it is to the advantage of societies to monitor subjective well-being and take measures where possible to enhance it.

The Limits of Economic Measures

In order to understand the role in policy of accounts of well-being, it is important to understand the limitations of the regnant economic indicators. The economic model is built on the idea of a rational consumer, who spends their time and money in a way that maximizes "utility" (approximately equivalent to happiness or well-being). Within the constraints of their resources, according to this model, people work to earn money, spending it through acts of consumption intended to

maximize well-being. If individuals are informed and have free choice, then they will make choices that they believe will maximize feelings of well-being. In many economic models, people make a tradeoff between work and leisure, with the former being undesirable and the latter being desirable, that is just offset by the amount of pleasure they can acquire by purchasing goods and services.

Although there is substantial validity in the economic view of people, there are also many shortcomings. For one thing, people do not always act in their own best interests in a "rational" way. For instance, repeatedly in laboratory experiments, it has been shown that people will forego their own best interests to punish "cheaters," even though they themselves have absolutely nothing to gain. The moral action, in this case, trumps people acting in their own best monetary interests. Outside the laboratory, people often help others even when it is not in their "rational" best interest to do so. In these instances, the economic measures can omit important aspects of quality of life. Similarly, there are data to show that choices are not always transitive, as assumed by models of rational choice. Just because a person chooses A over B, and B over C, does not mean they will inevitably choose A over C. Thus, people do not always make rational choices in a way assumed by economic theory. A related problem is that choices are seen as good in economic models because with more choices, the person has the potential for greater utility. However, Schwartz and Ward (2004) have gathered compelling evidence suggesting that too many choices can interfere with well-being rather than enhance it.

Another limitation of the economic model is that people do not always make choices that will maximize their well-being. Hsee and Zhang (2004) have shown that when people choose among goods, they tend to use criteria that are not necessarily relevant to how the product will be *experienced*. That is, the factors that influence the choice are not always the factors that influence the enjoyment of the selected product. Similarly, Wilson and Gilbert (2005) have shown that people sometimes are not fully able to forecast their own happiness. For example, they may overemphasize how they expect to feel *immediately after* a choice is made and not fully realize how they will experience something different after the initial phase of excitement. Thus, choice is not always rational, nor does it inevitably lead to the most well-being or happiness. National accounts of well-being could help educate

citizens about their choices, in addition to complementing economic indicators in terms of policy formation.

Well-being measures might also be useful in showing that work can be enjoyable and rewarding. In economic models, work is considered a cost that must be undergone to accrue money for buying things that are of utility; it is not considered that work itself can have utility. Yet, people spend many waking hours at work, and most people enjoy their work to some extent—some finding it to be extremely rewarding. By viewing work as aversive, economists develop models of human behavior that are insufficient in understanding people's behavior and motivations. Thus, well-being measures at work can aid in *both* the creation of more satisfying and productive work environments as well as the development of more adequate economic models. For example, we know that unemployment can be quite aversive to those laid off and lead to significant drops in life satisfaction. This does not square with the idea that unemployment simply results from people *choosing* to trade unpleasant work activity for more leisure, thereby sacrificing income to gain free time. In fact, we know that unemployed people are often quite unhappy, not only because they have lost the self-respect that comes from doing an activity valued by society but also because they have lost an activity that they often find enjoyable. Findings such as those on unemployment and subjective well-being can help behavioral scientists improve economic models and aid policymakers and organizational leaders in increasing quality of life. Factors such as job security, variety at work, and health-care benefits can be compared with increases in income in terms of how they affect well-being.

Finally, though economic measures are presumed to be more objective than well-being measures, they are not perfectly so. It is often not recognized that survey data contribute to the index of gross national product (GNP) and that what enters into the GNP is based on a number of subjective choices. For example, although volunteer work and homemaking can produce substantial amounts of goods and services, economists often omit them from the GNPs of most societies. There are black markets and “gray markets” of illegal or off-the-books economic activities that must be approximated rather than measured directly. Expenses forced on a society by bad circumstances (e.g., jails and police to counter crime) contribute to GNP in addition to expenditures on desirable products (e.g., parks, the arts, university education). Because economic mea-

asures by themselves provide an incomplete assessment of the quality of life, well-being measures have a clear place in policy discussions. Next, we outline three criteria that well-being indicators should meet in order to best complement economic indicators.

Requirements of Measures to be Useful for Policy Analyses

In order to be useful in policy debates, well-being measures must have a number of properties besides validity. In the first place, the measures must assess factors that are seen as a legitimate concern of the government. If the citizenry believes that the government should not intervene to change certain subjective states, then well-being measures would be fruitless because policy interventions would be unlikely to occur. For example, it might be a common belief among citizens that government action to alleviate misery is more justifiable than government actions to create feelings of fun among citizens, and in this case, measures of unhappiness would be more likely to influence policy debates. If the measures are used to create policies to increase the well-being of certain target groups, such as the elderly or disadvantaged groups, a prerequisite is that the citizenry accept policies aimed at helping these groups.

A related requirement is that the measures concern subjective states that are amenable to influence by government policies. If policymakers have no resources or ability to intervene and increase happiness in a certain domain, the well-being measures are unlikely to have much impact. For example, policies that regulate work hours could directly affect job satisfaction and indirectly affect marital satisfaction, but policies designed to increase romantic love between spouses would be difficult to administer as well as unlikely to be accepted by citizens. There are additional factors such as cultural norms and individual personality that influence well-being but may not be appropriate targets for intervention (these and other concerns are discussed later in the chapter). In other words, the most useful measures of well-being are those that are relevant to potential policy concerns.

Finally, the measures of well-being should capture patterns that are not fully reflected in economic and social indicators. If accounts of subjective well-being suggest that crime harms well-being or that poverty

decreases well-being, then the measures are useful because they validate the use of the other indicators. However, if the measures of well-being capture information that goes beyond the economic and objective social indicators, they are much more valuable. For instance, indicators about poverty and crime do not convey the same information as measures about trust and involvement with one's community. The latter type of knowledge could aid individuals and governments in making choices that truly maximize well-being. Policies designed to reduce poverty and crime, though important, may not necessarily improve the quality of relationships in a community. Thus, where economic indicators offer an incomplete picture of well-being, national accounts of subjective well-being can add valuable information.

Implications of Using Well-Being Measures for Policy Decisions

Such uses of the national measures of well-being apply both at the level of individual education and choice as well as at the level of society. Some uses might be quite focused, as in providing information about a specific policy under consideration. However, broad measures could also be relevant for more extensive debates about the overall priorities of the society.

One value of the indicators, especially when published in public forums, is to draw attention and inspire discussion. Topics and concerns that are assessed and discussed in the public media tend to draw people's attention. Thus, when we, as a society, publish economic indicators on a daily basis, people tend to think about economic growth. If we were to publish indicators about national well-being, people, including policymakers, would think about well-being and discuss the well-being of groups that appeared deficient. Especially fine-grained indicators such as work engagement and satisfaction in different industries and work activities can illuminate the areas in which we are successful, as well as those needing interventions.

A primary purpose of the national accounts of well-being would be to educate individuals about when and where people experience high versus low levels of well-being. For instance, the measures might show that people are unhappy when commuting to and from work and therefore could alert individuals to information that is relevant when they seek a residence. Similarly, peo-

ple might be tempted to purchase a home in the path of an airport runway approach because of lower real estate prices. However, if it is found that well-being suffers in such an area due to aircraft noise, homebuyers could make more informed decisions about whether they are truly making a good purchase.

A second area where the national accounts of well-being can be useful is in making adjustments to numbers that are relevant to the administration of government policies (Dolan and White 2007). There are areas such as crime victimization and government expenditures where the evaluation of outcomes is not provided by the market. For instance, crime victimization is not given a value in the marketplace. Although the costs of victimization could be quantified through payment for physical and mental health services, not all crime victims may seek or be able to afford treatment. If policymakers relied only on these "objective" data, they might underestimate the impact of crime in their community and misallocate funds for relevant programs. Well-being measures, however, might reveal less satisfaction with work and family or a reduced sense of trust in one's community. Thus, well-being indicators could provide another measure of the impact of crime victimization that would assist the courts and other agencies.

In a similar vein, formulas for health expenditures or for research on specific illnesses might be based in part on the amount of misery that various ailments are thought to cause. Such accounts can provide a more accurate view of how well-being and ill-being are affected by disease and thereby assist in making more valid adjustments to expenditure formulas than other methods based on guessing or intuition. Another example of a specific policy use of the well-being measures is to adjust government employee salaries. Government employees often receive benefits such as greater job security that those in the private sector do not receive. The value of these benefits can be gauged through well-being measures to help adjust salaries outside of the private sector. These examples are meant to indicate the types of specific, concrete uses to which well-being measures might be put rather than to actually argue for their use in these specific cases.

Yet another area where well-being measures can be a useful input to policy decisions is in evaluating the impact of government expenditures such as on parks, health care, freeways, and the environment. Currently, spending in these areas occurs within the context of political dialogue in which economists have substantial

input concerning the costs of these expenditures. Economists argue that people's choices reflect their values and desires and, therefore, that people express their personal desires through their expenditures or political actions. However, the political process is complicated by competing constituencies attempting to influence outcomes. Thus, government expenditures alone poorly reflect the desires of significant segments of the population. On that account, well-being measures can serve as a very useful source of information. For instance, the impact of parks or the length of commuting on the well-being of a community can be an important consideration for policy debates.

At the broadest level, the well-being measures can help the citizens of a society weigh their priorities. For example, if mental illness is one of the biggest causes of suffering in wealthy nations, the amount of expenditures in this area might be increased. If people who work fewer hours are happier in a nation, business and government leaders might take steps to reduce the work week. If incomes are rising steeply, but levels of well-being are flat or declining, citizens may think about their personal and national priorities and whether changes are needed. Richard Layard (2005) has argued that measures of well-being can reorient the priorities of societies away from a strict emphasis on economic growth. Such measures will not provide automatic solutions to societal problems, but like economic indicators, they can be a very important source of information. Indeed, in economically developed nations, the well-being indicators might even be more informative than economic indices. Well-being indicators can also add to economic indices by reflecting the interplay of various domains on people's experiences. For example, the work context may influence the family context, and economic indicators might fail to capture this. Individuals might choose to work overtime to earn more money, but their family lives might suffer as a consequence. These "externalities" (unintended consequences of economic activities) might include greater delinquency among children who remain unsupervised by overworked parents. Such consequences are more likely to be reflected in well-being indicators, whereas they might be overlooked by economic measures alone.

There are a number of marketplace areas where the economic focus on "revealed preferences," choices made by producers and consumers, can be extended substantially by adding survey measures of well-being. For example, the impact of inequality, inflation, and

unemployment are instances in which economic measures do not fully reflect how well-being is affected by economic factors. Similarly, how changes in income aspirations influence well-being is important in part because they can predict future economic behavior. Furthermore, the impact of behaviors such as smoking, alcohol consumption, volunteering, and working a second job on well-being is of interest both to policymakers and economists.

Finally, well-being measures can help evaluate the impact of various "dilemmas of the commons." Such dilemmas arise from collective actions over which no single individual has full control. For example, the threat of pollution occurs when large numbers of people drive inefficient automobiles. Nevertheless, there is little incentive for any single person to buy nonpolluting cars if they are more expensive to operate or purchase. The economic model does not fully appraise the situation because the acts of individual consumers have so little effect that people may not weigh it in their personal decisions. However, the effects of pollution can harm the well-being of the community, and this effect can show up in people's evaluations of their lives and environments. Such information could enable individuals to better weigh the costs and benefits of purchasing more fuel-efficient cars.

Specific Examples of Well-Being Measures That Are Relevant to Policy Issues

Different measures of well-being are likely to be relevant to different policy questions. For example, a general measure of life satisfaction might be relevant to policy questions about inequality because large differences between social classes in happiness and contentment can lead to societal instability. More specific measures related to income satisfaction or housing satisfaction, however, might lead to more concrete insights into possible policy alternatives. Below, we give some examples of policy questions, and the potential types of well-being measures that might be most relevant to those issues:

Noise Abatement Measures near an Airport

- Moods of those living in landing/take-off paths (e.g., feeling rested or tired)

Carpooling Lanes

- People's moods when driving alone versus carpooling with others

- People's moods and emotions who commute long or short to work (e.g., at work, during commute, and at home)

State-Supported Day Care for Elderly Alzheimer Patients

- Moods and emotions of Alzheimer caregivers when patient is in daycare or at home
- Life satisfaction of caregivers when respite care is provided or not provided

Minimum Wage Laws

- Life satisfaction among people earning the minimum wage
- Income satisfaction among various groups, including low-wage earners

Wage and Hour Regulations and Systems

- The happiness and life satisfaction of workers who are forced to work overtime, or who voluntarily work overtime
- The work satisfaction of workers who have various flextime arrangements

Allocating Health Research Money or Health-Care Expenditures

- An unhappiness index of people with various medical problems

Age of Retirement

- Life satisfaction of workers at various ages, including people who are elderly
- Work satisfaction of retired workers who return to work
- Moods and emotions at work versus leisure of retired versus working senior citizens

Taxes on Cigarettes

- Moods and emotions of those who reduce their tobacco consumption
- Moods and emotions of those who quit smoking
- Life satisfaction of smokers versus nonsmokers, controlling for other factors
- Health satisfaction of people in households with or without smokers

Schools and Age Boundaries (e.g., Grades K-8 Versus Grades 1-5 and Middle School)

- How much children enjoy school and look forward to school
- Engagement and interest in various school activities and subjects
- On-line measures of moods and emotions in school
- Satisfaction with school, friends, and classmates
- Life satisfaction in various schools or school districts

Parks and Recreation

- Are parks more crucial to well-being in areas where dwellings have no yards?
- Life satisfaction and happiness when parks are plentiful or rare in a city

Setting Social Security Benefits

- Is there a life satisfaction curve in retirement relating well-being to income, such that income differences make only smaller differences above some minimal inflection point?

We are not pretending that we necessarily have pinpointed the precise best measures for each policy issue. Instead, we are trying to convey the fact that multiple types of well-being measures might be relevant to the same policy and that different types of measures might be most relevant to different policy questions. Naturally, economic measures such as the costs of various policy alternatives will also be quite relevant. Nonetheless, the well-being measures can, in many cases, add substantially to the information that policymakers need.

Concerns About National Accounts of Well-Being

In the previous section, we saw the range of measures that might be employed in national accounts of well-being. We now move to the concerns that might be raised when implementing such measures within the context of large-scale national surveys and utilizing them for policy decisions.

Measurement Artifacts

Although there is substantial support for the validity of self-reports of well-being, there are, nevertheless, contaminating influences on these measures that have nothing to do with the actual experience of subjective well-being. We discuss a number of measurement artifacts and evaluate the extent to which they threaten the validity of well-being measures.

Item-Order Effects The order of items in a survey influences how people respond to those items. For example, one item might make salient certain information that otherwise would not have been considered when responding to a later item. Alternatively, an earlier question might change how the respondent interprets

the *meaning* of a subsequent question. Interpretive effects and priming (salience) effects can bias responses to well-being questions. These effects are usually not large, but they can be statistically significant. One solution is to insure that the items always stay in the same order in surveys that are to be compared with one another. Another solution is to systematically vary item order and analyze whether this produces any effects.

Contamination by Current Mood A respondent's mood at the time of the survey can influence the responses given. For example, individuals in an unusually good mood might report that their job is very satisfying, although in a more normal mood, this might not be their typical response. These mood effects have been found to be small in most research, although sometimes, they are statistically significant. Like item-order, the effects are difficult to predict ahead of time because respondents may themselves correct their answers so as to not let mood be a factor. In some cases, they may even overcorrect for their mood. Surveys should not be conducted when broad groups of people are likely to be in an unusually bad or good mood. For example, a survey might not be representative of normal well-being if it were administered immediately after a large disaster or during a national event such as a soccer championship. As long as unusual times are avoided when taking the survey, current mood effects are likely to be random across respondents and will not bias responses for the sample as a whole. On the other hand, governments may want to collect data on current mood some time after a disaster and make comparisons across different areas to help plan for needed services. Because current mood is grounded in immediate experience rather than recall, it can serve as a useful measure of well-being.

Number-Use and Other Scaling Effects Some individuals may use extreme numbers in responding, whereas other individuals may prefer the middle range on a scale. Some individuals may treat certain numbers as wider categories than other numbers, or be attracted to specific values such as the midpoint of the scale or a popular number such as "7." *Item Response Theory* is a form of scale analysis that is designed to examine the issue of number use and how respondents use scales. Furthermore, some forms of response scales are more impervious than others to differences in scale use. For instance, dichotomous items that ask respondents whether they are in *either* a bad mood *or* a good mood

yield less information, but are also less likely to be influenced by number use than a similar question using a 1–10 scale. It pays to be aware of the possibility of scale use differences and to inspect the data for such patterns.

Mode of Administration Mode of administration refers to whether self-report responses are collected in face-to-face interviews, over the phone, or via the Internet; whether respondents can see a "show card" with the possible responses or only hear the response alternatives; and so forth. If respondents cannot see the response alternatives, responding will entail a memory load, and the ability to handle this will vary across individuals, thereby influencing responses. Although the effects are not always large, the mode of administration can affect mean levels of well-being responses. For example, people may report being happier in face-to-face interviews than in phone interviews or anonymous questionnaires, and these effects can differ among groups. Thus, it is important to keep mode of administration as constant as possible for all respondents if they are to be compared with one another.

Social Desirability A common concern in survey research is that respondents may construct responses to impress the researcher—such responses are usually culturally desirable or intended to form a certain type of impression. The concept of social desirability seems deceptively simple but is, in fact, conceptually complex and has been difficult to assess and control. "Social desirability scales" such as the Marlowe–Crowne have not proven useful because they capture substantive personality differences between people that should not be thought of as response artifacts. For example, individuals' social desirability scores correlated with their well-being as reported by close others (Diener et al. 1991b). Furthermore, people who answer in a socially desirable way in one domain may not necessarily respond in a socially desirable way in another domain. One method of assessing social desirability at the group level is to administer questionnaires to some respondents in an anonymous written format and compare the answers to respondents who were interviewed face-to-face, with the idea that the interview is likely to enhance socially desirable responding.

Translation Across Languages Although severe concerns have been expressed about the equivalence of

measures when they are translated into different languages, little research has, in fact, been conducted on this topic, and the research that has been done to date has not shown serious difficulties with translated scales. It has been found that people in different language areas of Switzerland produce scores that are very similar to other Swiss groups. In my (Diener) laboratory, Shao (1993) used a strategy of asking bilinguals to respond to the Satisfaction with Life Scale in both English and Mandarin but in random orders spaced weeks apart. Few differences were produced by which language was used. In another study, Kuppens et al. (2006) found that the structure of emotions across regions of the world, using college-student subjects, was the same for major emotions, with a clear positive affect and negative affect cluster appearing in every region and language.

One strategy for dealing with translation is the translation/back-translation method, although this approach is controversial owing to the fact that exact wording in back-translation might not be optimal in terms of conveying the concepts involved. Another strategy is to use multiple words and items in order to insure that the general concept is conveyed in each language. Yet another method is to empirically compare the scales by having bilinguals at each research site, take the scales in the various languages, and compare the results.

Although the issue of measurement artifacts deserves further systematic research, it does not preclude the valid assessment of well-being through self-report and across nations. As with measurement, in general, researchers should attend to and address possible artifacts when possible. Self-reports of well-being are valid but should continue to be refined and improved as they are used in national surveys.

Cultural response bias is a more important concern and is discussed later.

Objective Versus Subjective Measures

A related concern in the measurement and use of national accounts of well-being is that they are too “subjective,” whereas economic and social indicators are more “objective” and therefore more reliable. This claim rests on the assumption that other people cannot *see* another person’s subjective well-being, whereas interobserver agreement can be achieved with economic and objective social indicators because everyone

can observe the phenomena in question. There are a number of fallacies in this reasoning.

The first fallacy in this objective–subjective dichotomy is that economic measures consist solely of factors that are observable, whereas well-being measures are concerned only with unobservable factors. On the contrary, economic indicators include variables such as consumer confidence, as well as estimates of unobserved factors such as the “shadow economy” (economic activity occurring outside of the government’s surveillance). Conversely, as we noted earlier, “subjective” variables such as life satisfaction may have objectively observable manifestations such as patterns of brainwave or immune activity.

Another fallacy is that examining unobservable phenomena is unscientific. It should be noted that the most sophisticated of the sciences is built on concepts and phenomena (e.g., black holes, quarks) that are not directly observable but are inferred from various indirect measures. In the same way, measures of well-being can triangulate an underlying phenomenon by observing various indirect manifestations of it (e.g., individuals’ behavior, their ability to rapidly produce positive thoughts, their descriptions of their feelings, and so forth).

A final fallacy is that “objective” economic measures are more accurate than “subjective” well-being measures. However, *both* objective and subjective measures may include errors of measurement. While people might lie and say that they are happy when in fact they are not, economists may overlook productive activity because people avoid reporting it or because the system of recording such activity is faulty. Employment figures derived from surveys may require employers to estimate their workforce and payroll by categorizing their employees in ways that may not be consistently understood across businesses. Finally, it should be noted that the economic measures are filled with subjective choices. Economists decide whether household production should be included in the measures or not. A slew of productive activities, such as volunteer behavior, may not be included in the economic measures simply because it was decided not to include them.

The Issue of Paternalism

Another concern about national indicators of well-being is that they will foster a paternalistic attitude in which

governments interfere in the lives of individuals, either by telling them how to live life or creating policies that have unwanted impacts on individuals. However, it is important to note that governments already intervene in many aspects of modern life, through taxes, laws, and other policies. The intention of well-being indicators is not to bolster paternalism or governmental intrusion but rather to guide and improve the widespread intervention that already occurs and will continue to occur in the future. Economic measures are based on similar reasoning—governments enact numerous regulations that affect the lives and economic activities of their citizens, and these measures simply help to enlighten such policies. Moreover, both economic and well-being measures can be used by businesses and individuals to make decisions.

If government intervention is a fact of everyday life, do the measures of well-being facilitate a degree of interference in personal lives that is not inherent in the economic measures? For example, might changing interest rates to spur economic productivity be less intrusive than policies designed to enhance social relationships? Not necessarily. First, economic interventions such as work hour laws and minimum wage laws are to some extent designed to enhance well-being. Policies related to day care or nursing homes will certainly influence people's social lives and well-being. Whether policies are paternalistic or not will be a feature of specific policies and the behaviors they affect rather than whether the outcomes concern subjective well-being or economics.

A related objection to national accounts of well-being is that they might put pressure on people to be happy or act happy. The idea that people might be pressured to be happy is a misconception of what subjective well-being entails. Because subjective well-being is the feeling that life is going well, most people find it desirable. Not everyone might want to feel giggly and cheerful, of course, but all people want to believe that their life is proceeding as desired. Similarly, a person need not act cheerful in order to have high subjective well-being, and there is nothing in the measures to suggest that people should jaunt about in euphoric reverie. People can achieve subjective well-being by working toward their goals with meaning and purpose and by achieving their values. For some people, this will mean being joyful or happy; for others, this might result in feelings of contentment, satisfaction, and fulfillment. The way to avoid a "happiology" measure of cheerfulness

that is burdensome to many is to create measures of well-being that include fulfillment, interest, trust in others, and attainment of one's goals.

The Limited Sphere of Policymaking: Top-Down Versus Bottom-Up Influences

Some factors that influence well-being may fall outside of the province of policymakers. The experience of objectively good events can contribute to well-being and is referred to as a "bottom-up" process. However, one of the major discoveries in the research on subjective well-being is that a considerable amount of happiness is based on "top-down" influences—how the person tends to *interpret* events.

These factors, such as temperament and cultural norms, lie outside of the control of governments and organizations. This is no different from the economic indicators. Policy leaders can influence money supply, interest rates, and other factors that have an impact on the economy. At the same time, there are factors that are largely outside of leaders' control, such as people's conscientiousness and work ethic or their desire to save money. We now briefly discuss the implications of top-down influences for policy uses of well-being.

Temperament People's temperament or predisposition tends to substantially influence how happy they are. Their upbringing, which includes cultural influences, can also color their evaluation of their lives and the events happening to them. Twin studies also reveal greater similarity in well-being between identical twins than fraternal twins, suggesting the presence of genetic influences. Differences in temperament raise important issues for the measurement of well-being, but they do not completely override the effects of circumstances. Recall that the effects of life events like unemployment and widowhood produce substantial drops in well-being across participants. Because policymakers have little control over temperament and can primarily influence only the structure of external circumstances, it will be important to separate the types of influences that cause specific scores on well-being scales.

Cultural Differences The culture in which people are raised can influence their outlook on the world and the degree to which they evaluate events in a positive way. There appear to be differences in well-being between

nations that are due not just to income but to culture as well. For example, East Asians report lower levels of well-being than one might expect based on the objective standard of living in Pacific Rim nations, whereas Latin Americans often report higher levels of well-being than one might expect based on objective conditions in those nations. Perhaps because self-criticism is taught in many East Asian cultures and because social closeness and support is a prominent feature in Latin American nations, the two regions of the world differ on feelings of well-being. However, there is also some evidence that these cultural differences are larger on global measures of well-being than in on-line experience-sampling measures, suggesting that some of the cultural differences might be due to recall and self-concept rather than to actual experience per se. Individuals in cultures that tend to take a critical stance toward life may report lower well-being than respondents in cultures where a more celebratory approach is taken. These differences may not be artifactual in that they can lead to differences in behavior and health, but as yet we know little of how cultural differences in well-being relate to differences in life outcomes. Along with temperament, cultural influences on well-being are important considerations—especially in a multi-cultural context.

One concern in making comparisons across nations or cultures, which represents additional challenges beyond comparing individuals within a culture, is whether the emotions or feelings composing well-being differ. For example, perhaps in one society, feelings of power are desirable while in another society, feelings of compassion are more desirable and pleasant. Research, to date, suggests that there are certain core emotions that are considered pleasant or unpleasant in all regions of the world. For example, feelings of joy, happiness, and contentment are probably felt as pleasant everywhere, whereas feeling sad, angry, and fearful are felt as unpleasant everywhere. It may be that when these emotions are felt, it is because an evaluation of events has been made suggesting that things are good or bad in the person's life. However, other emotions such as pride seem to differ substantially in how they are evaluated across cultures. Thus, cross-national and cross-cultural differences in well-being must be interpreted cautiously. Such differences can be adequately understood only after intensive study of the structure of well-being within each cultural area.

Varying Standards Can Be Used in Computing Well-Being

Probably, one of the biggest advantages in using well-being measures is also one of the biggest sources of confusion—the fact that different people often use different standards when they evaluate their lives (Michalos 1985). For example, a wealthy individual might be dissatisfied with their income because they compare it to even richer neighbors or because they cannot afford a private jet. In contrast, a poor person might be very satisfied with even a tenth of that income. How can government policies be used to enhance well-being when people's reports of their subjective well-being can depend on such drastically different standards? Note that there is a parallel situation in economics, where government policies to increase national wealth must contend with vast differences in incomes between individuals and where policies to increase wealth might help some individuals more than others.

Because people can use different standards in judging their satisfaction with various aspects of their lives, satisfaction reports must be interpreted appropriately. In some cases, we might question why people have what appear to be inappropriately high standards. If people have very high and unrealistic standards that lead them to dissatisfaction, this can negatively affect their behavior. For instance, dissatisfied people may be more likely to quit their jobs, go on strike, or steal from the workplace. Thus, it is important to determine the sources of dissatisfaction. We might, in some cases, want to assess the standards themselves. Certainly, caution is required in comparing the satisfaction of groups that might have quite different standards.

Nonetheless, we know that the evaluation of other factors seems to entail *inherent* standards in which social comparisons are less relevant. For example, people like interesting, engaging activities, and they dislike pain. People enjoy the support and respect of others. They can judge whether they are hungry or full, whether they are interested or bored, and whether they are happy or sad without reference to others. One strength of the well-being research is that it informs us of those domains of life that are subject to easily shifting comparison standards and those that are likely to reflect needs that are universal to all humans.

One challenge in the measurement of well-being for policy purposes is to examine the standards people

are using and determine the policy implications. Furthermore, when standards are extremely high and unrealistic, governments may be faced with destructive dissatisfaction that leads to social breakdown. Thus, although government policies will normally be directed at the factors that influence quality of life in a particular realm, in some instances, they might be directed at the standards used by people. However, there is a danger in governments manipulating people's standards in order to avoid the need for improving social conditions. Thus, like economic indicators, the measures of well-being must be used with care and do have the potential for misuse.

Focus on Misery Eradication?

Some have maintained that the job of governments is to focus on the eradication of misery and, therefore, that well-being measures should be composed of assessments of ill-being such as depression, anxiety, and pain. Indeed, most large-scale surveys, to date, have included primarily measures of psychological and physical symptoms, including mental states such as depression and stress. However, the belief that governments will not be concerned with interventions once life reaches a neutral point is not true. Governments will be interested in life satisfaction, contentment, affection, and joy in part because such states often have positive outcomes such as an enthusiastic and productive workforce, a citizenry that largely trusts their neighbors and leaders, and ultimately, the social stability that is the underpinning of democratic governance. Furthermore, governments at both national and local levels have shown themselves to be interested in improving life beyond neutrality and not just in eradicating misery.

Although the elimination of unhappiness may take priority for both individuals and governments, both are also interested in moving upward even after reaching the neutral point. Take for example, policies of national governments—the creation of national parks, the establishment of national holidays and festivities, support for the arts, building universities, and exploring outer space—that are clearly designed for positive betterment rather than eliminating some clear and present misery. Similarly, local governments such as municipalities build parks and sponsor parades, give monetary support both to youth athletics and professional sports, attract

tourists, and underwrite biking trails and adult self-development classes. Many of the miseries are declining. For instance, hunger has been greatly reduced, and food is available to eradicate starvation around the globe; many diseases have been conquered, and others have been greatly diminished. Misery will often have the first attention of governments. But as miseries are reduced, governments will increasingly move toward increasing positive well-being, and therefore, the well-being indicators must include the full range of well-being, not just negative measures.

Conclusions and Future Directions

There is a substantial amount of valid variance in measures of well-being. Although there are certain measurement artifacts such as current-mood and item-order effects, these can often be controlled or assessed and usually produce small effects. More research needs to be conducted on some artifacts across cultures such as scale usage.

A much more challenging problem with measures of well-being, when used in the policy arena, is to separate top-down from bottom-up effects. After all, governments are much more likely to endeavor to change the environment to enhance well-being than to change people's personalities or cultural norms about emotional feelings. Despite the fact that there are strong indications that the measures have a moderate level of validity, there is also clear evidence that the measures can be influenced by individual differences in personality, cultural norms for the expression and experience of emotion, and by people's desire to appear happy. A major challenge, therefore, is to determine when differences in well-being are due to personality and culture, to environmental circumstances, or some interaction of these factors. This determination will make the measures much more useful to policymakers.

In our laboratory, we view the difference between on-line reports and global reports, as well as the difference between satisfaction with narrow and broad domains, as possible ways to disentangle bottom-up and top-down influences. In addition, we advocate the use of multimethod research in which self-reports of well-being are supplemented by other methods (e.g., biological measures, informant reports, and speeded memory measures). This approach is perhaps most

likely to help disentangle various influences on well-being measures. Nevertheless, it is difficult to use these measures in large-scale surveys of nations, and therefore, developing easier methods of assessing bottom-up well-being is essential.

Besides measurement issues, there are conceptual challenges in using well-being for policy purposes. A prime issue is that of habituation, aspiration level, or "adaptive preferences." Because people very often adapt to some degree to their circumstances and adjust their aspirations to be realistic, people in very different life circumstances may score equally high on certain measures of well-being. This represents a challenge for using well-being in policy debates because we would prefer that the measures reflect circumstances that should be the targets of policy rather than internal factors. Thus, this issue is related to the top-down effects of personality and culture discussed earlier.

Just as with economic measures, there are shortcomings and questions for future research. Nonetheless, we are now at the point where the well-being measures show enough validity to be used in policy debates, and the relevance of these indicators to many policy issues is quite clear. Thus, it is an opportune time to initiate national indicators of subjective well-being.

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