Indicators), we review some of the shortcomings of national economic accounts in capturing even the production and consumption of goods and services in nations. However, we want to emphasize here the divergence of economic indicators from indices of well-being. For example, over the past 50 years, income has climbed steadily in the United States, with the gross domestic product (GDP) per capita tripling, and yet life satisfaction has been virtually flat. As can be seen in Figure 1, since World War II there has been a dramatic divergence between real income (after taxes and inflation) and life satisfaction in the United States, and a similar pattern can be seen in the data from other nations, such as Japan.

Even more disparity shows up when ill-being measures are considered. For instance, depression rates have increased 10-fold over the same 50-year period, and rates of anxiety are also rising (Twenge, 2000). Indeed, Twenge reported that the average American child in the 1980s reported greater anxiety than the average child receiving psychiatric treatment in the 1950s. There is a decreasing level of social connectedness in society, as evidenced by declining levels of trust in other people and in governmental institutions (Putnam, 2001a). Because trust is an important predictor of societal stability and quality of life (Helliwell, 2003a), the decreases are of considerable concern.

We predict that psychology will play a central role in measuring national well-being. Both scientists and practitioners will be required to determine how to rigorously assess well-being and how to intervene to change it. Moreover, other behavioral sciences, such as sociology, anthropology, and neuroscience, will play important roles. Furthermore, economists will also be involved. They have recently turned their attention to understanding and monitoring well-being. Economists now examine surveys of happiness and life satisfaction to uncover the effects of factors such as unemployment, income equality, commuting, and smoking. Recent conferences on well-being have been attended as much by economists as by psychologists. The European Union nations now monitor psychological well-being with the Eurobarometer, and the German Socioeconomic Panel Survey provides policymakers with information on income, employment, life satisfaction, and related variables in a large sample of respondents that are being assessed repeatedly over time. Organizations such as the Pew Foundation assess well-being in nations around the globe, and the World Value Survey has assessed happiness and life satisfaction in about 70 nations.

Thus, the beginnings of worldwide monitoring of well-being are evident, and economists and sociologists have been heavily involved in this effort. Psychologists are in an ideal position to develop and improve relevant measures and to design interventions that would be maximally effective in increasing well-being.

**THE UNSYSTEMATIC NATURE OF CURRENT FINDINGS AND MEASURES**

In the next section, we review many policy-relevant findings that illustrate the divergence between economic indicators and well-being indicators. First, though, we want to discuss some of the shortcomings of the research. It is our contention that a much more systematic approach to the measurement of well-being is needed in order to provide leaders with the best possible well-being indicators. Current findings are based almost entirely on the work of individual researchers, who address their own questions, usually using relatively small, accidental samples of respondents. Furthermore, different investigators measure different concepts (e.g., happiness, stress, distress, life satisfaction, or depression), and it is rare for a broad range of concepts to be assessed in a single study.

In order to examine the number of studies that include multiple well-being concepts, we scanned a large database of publications in psychology journals, PsychLit. Our search found 94,650 publications...
on “depression” and 4,757 on “life satisfaction” in January 2004, but only 701 of these mentioned both constructs. There were 2,158 publications that discussed “positive affect,” but only 93 of these mentioned “life satisfaction.” Of the 3,520 publications mentioning “negative affect,” only 107 also mentioned “life satisfaction.” Current researchers usually assess one or two well-being variables, but rarely measure the broad range of concepts that are relevant to well-being. Thus, it is very unusual for a study to include measures of diverse concepts such as pleasant emotions, life satisfaction, unpleasant emotions, and optimism, despite the fact that these constructs are separable and show different patterns (Lucas, Diener, & Suh, 1996). This shortcoming is readily apparent in the studies that we review in the next section.

In addition, many findings are based on respondents’ answers to a single question, and such single-item measures can be unreliable and easily influenced by the testing situation. As we progress through our review, readers will notice that in one area of study we base our conclusions on measures of life satisfaction, in another area we draw conclusions from reports of stress, and in yet another area we review measures of positive emotions. It is not always clear how some of the measures map onto more widely used concepts. For example, how are reports of stress related to negative emotions? This is the nature of the current data—a haphazard mix of different measures of varying quality, usually taken from nonrepresentative samples of respondents. Rarely are data longitudinal, and few data sets are based on intensive experience-sampling measures. In the experience-sampling technique, people’s moods and emotions are recorded “on-line” at random moments in everyday life, using a device such as a handheld computer. A similar method is to have people record their feelings and activities at the end of each day. Both methods have the advantage of reducing memory biases in reporting, and allow for the detailed recording of affect within specific situations.

There are excellent reviews of specific concepts such as stress (Cohen, Kessler, & Gordon, 1997), positive and negative affect (Watson, 2000), happiness (Argyle, 2001), and depression (Basco, Krebaum, & Rush, 1997), but these concepts have not been systematically explored in depth in relation to each other in order to determine which concepts are necessary in a combined battery for measuring well-being. The unsystematic nature of the existing data point to the importance of developing a set of national well-being indicators based on the best science and technology available.

Well-being includes pleasure, engagement, and meaning, and the concept of life satisfaction may reflect all of these (Seligman, 2002). The pleasant life is characterized by positive moods, positive emotions, and pleasures. Positive and negative emotions and moods give a person ongoing feedback about whether things are going well or poorly. Moods and emotions can change rapidly because they reflect current evaluations of events. Pleasant emotions signify to the individual that events and circumstances are desirable, and unpleasant emotions signify that they are undesirable (Ortonty, Clore, & Collins, 1988). Engagement involves absorption and what is sometimes referred to as flow, focused attention on what one is doing (e.g., “being one with the music”). Boredom, the opposite of engagement, is a lack of interest combined with negative feelings. Meaning is a larger judgment of belonging to and serving something larger than the self. Finally, life satisfaction is a global judgment of well-being based on information the person believes is relevant. Well-being includes all of the evaluations, both cognitive and affective, that people make of their lives and components of their lives. Thus, a comprehensive assessment of well-being must include several separable concepts.

Development of a rigorous and systematic set of well-being indicators is crucial to our argument that economic indicators should be supplemented with well-being indicators because of the relative advantages and disadvantages of economic and well-being indicators. The main advantage of using money to assess the well-being of nations is that it is exact, that is, it has very high internal validity. The main disadvantage is the central substantive of this report—money lacks external validity because it fails to track actual well-being in developed nations. In contrast, the main advantage of measuring well-being more directly is its internal validity; that is, well-being itself is the true target of the indicators. But the main disadvantage of measuring well-being concerns the issue of internal validity; that is, whether well-being measures truly reflect the quality of life of societies.

Currently societal well-being is assessed by broad, global questions asking people, for example, how happy and satisfied they are, how satisfied they are with domains of life such as marriage and work, and how much they trust others. Near the end of this report, we make suggestions about the measures that should be included in a national well-being index in order to increase precision of measurement. We propose that a national index should employ the global questions now in use, but supplement them with questions targeted at specific aspects of well-being, such as engagement at work, stress due to commuting, levels of depression (among adolescents), and trust in neighbors. In addition, we propose that the indicator system include both a panel component (assessing the same group of individuals repeatedly over time) and an intensive experience-sampling component (assessing individuals on a daily basis for a week or 2; see Kahneman, Krueger, Schkade, Schwarz, & Stone, in press). Thus, we are proposing a national system that is much broader and deeper than the current surveys, which base their findings on just a few global items.

**SELECTED FINDINGS WITH POLICY RELEVANCE**

In order to convince readers that well-being measures have produced important findings with relevance for policy, we review research in six areas related to well-being: societal conditions, income, work, physical health, mental disorders, and social relationships. The findings reveal discrepancies between economic and well-being indicators, and point to conclusions with relevance to policy. Because we believe that social science should be descriptive and not prescriptive, in mentioning specific possible policies we do not mean to advocate them, but rather to give examples of the policies that might follow from the findings.

**National and Political Factors Related to Well-Being**

Nationwide patterns such as low divorce rates, high rates of membership in voluntary organizations, and high levels of trust are all substantially related to individual well-being. Political characteristics such as democratic institutions, governmental effectiveness, and stability also predict well-being. The wealth of nations substantially correlates with well-being, although there is little effect once income reaches a moderate level. Finally, religious belief appears to buffer people against stressors such as widowhood, unemployment, and low income. The causal direction between societal variables and national