

Myths in the Science of Happiness, and Directions for Future Research

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Since I began studying subjective well-being in 1981, the field has grown dramatically. Figure 25.1 presents the number of studies published per 5-year period, from 1961 to 2005, for “life satisfaction” and “happiness.” As can be seen, the number of publications has increased from a handful to about 300 per year for each topic. Furthermore, there is an accelerating trend in the number of articles published on these topics. There are now about 2,000 publications per year on topics generally related to the subject of subjective well-being, and many more when ill-being is included. This trend is gratifying because our understanding of well-being has rapidly grown over these years. Despite the progress, in every field certain popular myths develop, and subjective well-being is no exception. These myths arose in part because nobody can master all of the studies in the field, in part because of our ideological beliefs and our desire to simplify findings for public consumption, and in part because rapid changes in our understanding of certain processes that influence well-being have recently refined earlier conclusions.

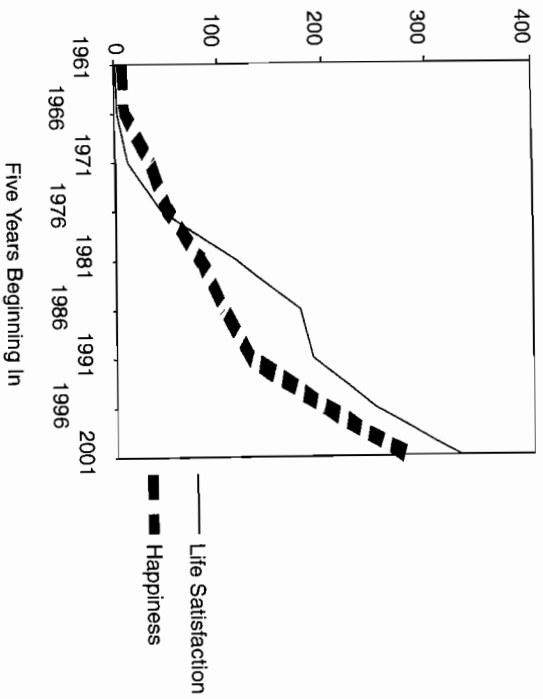


FIGURE 24.1. Growth in research on subjective well-being.

Common Myths

In this chapter I review several myths that I believe are widespread. As the science of well-being has become more popular with journalists, these myths have been promulgated to the public, and they are often readily accepted because they provide a simplified view of reality that is in accord with people's preconceptions and values. In some cases, the misunderstandings are based on early research and only recently has better evidence shown them to be myths. My purpose in reviewing these misunderstandings is not to point fingers or to blame—I have communicated these ideas too. Instead, my purpose is to describe the oversimplifications so that the field continues to develop in sophisticated and accurate directions.

Myth 1: Happiness Has an Unchanging Individual "Setpoint"

In their classic article, Brickman and Campbell (1971) suggested that we live on a hedonic treadmill in which we all strive to be happier but are doomed by adaptation to come back to hedonic neutrality. In a follow-up classic, Brickman, Coates, and Janoff-Bulman (1978) suggested that lottery winners were not happier than others and that individuals with spinal-cord injuries were not unhappier

than others. Since the time of those articles, several groups have updated the original theory. The important work by the Minnesota twins research group (Tellegen et al., 1988) led to a revision in the early theory of adaptation, suggesting that people do not return to hedonic neutrality but instead return to a level of happiness set by their individual temperaments, which are largely determined by genetics (Lykken 1999). This idea, which asserted that people have individual levels of happiness determined by their temperaments and only temporarily move away from these levels after bad and good events, has been labeled the "setpoint" hypothesis, and was advanced by Headey and Wearing (1992) as well as the Minnesota twin study group. Headey and Wearing attributed the stability in people's happiness to the repetitive nature of the events they experienced because of their personalities.

Both the idea of adaptation to life circumstances and the important influence of genetically based predispositions on happiness reflect major milestones of understanding in the field. Adaptation is a force that, over time, can dampen the effects of both good and bad events and circumstances, and genetic differences between people represent some of the strongest influences leading to the individual differences in happiness. However, these findings have sometimes led to a belief in an extreme form of genetic determinism in which all long-term differences in well-being are thought to be caused by inborn temperament. This myth frequently has been reported by journalists and the media. Although people do vary in their predispositions to experience positive and negative emotions and moods, there are a number of problems with a setpoint theory that maintains that genes are all that matter for long-term subjective well-being.

Substantial evidence now indicates that the extreme setpoint theory, in which circumstances do not matter in the long run, is untenable. For example, there are significant differences between nations in happiness ratings (Diener & Suh, 2000), which closely map onto the objective conditions in nations (e.g., Diener, Diener, & Diener, 1995; Economist Intelligence Unit, 2006). Furthermore, many of these differences in subjective well-being have persisted for decades, belying the idea that people invariably adapt to all conditions over time (Inglehart & Klingemann, 2000). We also now know that people with serious health conditions that interfere with the activities of everyday life, such as quadriplegia, on average report lower levels of well-being than others (e.g., Lucas, 2007; Dijkers, 1997). Even in the classic Brickman et al. (1978) study that is cited to support the hedonic treadmill, individuals with spinal-cord injuries were substantially less happy than others. Contrary to a widespread misconception, the spinal-cord-injured sample did report significantly lower current happiness than the lottery winners. Although the Brickman et al. study found that lottery winners were not significantly happier than a comparison group, this finding might be due in part to the fact that the sample size was small. In another larger

study of lottery winners, Smith and Razzell (1975) found that the winners were significantly happier and healthier than the comparison group, which was matched on other demographic factors besides income.

Although genetically influenced temperament affects happiness in important ways, and while people are likely to adapt to most conditions to some degree, my colleagues and I (Diener, Lucas, & Scollon, 2006) point to another important shortcoming in the setpoint account—people’s long-term levels of happiness *can* and *do* change. Fujita and I (2005) found that over a period of many years, about one-quarter of a large sample changed significantly in baseline levels of life satisfaction. Similarly, Scollon and I (2006) found that there were significant long-term changes in life satisfaction, positive affect, and negative affect for some individuals, both at group and individual levels. Thus, “setpoint” is not destiny.

What might cause long-term changes in subjective well-being? Again, my colleagues and I (Lucas, Clark, Georgellis, & Diener, 2003) found that widowhood can decrease life satisfaction and that this effect can last for many years. Similarly, unemployment (Lucas, Clark, Georgellis, & Diener, 2004) and divorce (Lucas, 2005) can also alter people’s levels of life satisfaction. In a large German sample Lucas, Clark, Georgellis, and Diener (2003) discovered that marriage did not produce a long-term change in life satisfaction. They found, however, that some individuals were more satisfied after marriage and some individuals were less satisfied after marriage, and that these conditions sometimes persisted over time. Thus, average levels of well-being following specific events may conceal individual variability in reaction and adaptation to those events. Finally, my colleagues and I (Diener, Lucas, & Scollon, 2006) reviewed evidence showing that different types of subjective well-being may move in different directions at the same time. For example, positive and negative affects might simultaneously increase or decrease, or life satisfaction might increase while positive affect decreases. These findings indicate that there cannot be a single setpoint because different aspects of people’s subjective well-being move in different directions. Thus, it is clear that there are limits to the setpoint idea. Now we need to describe the factors that can alter people’s long-term baseline levels of various types of well-being versus those circumstances that only temporarily change people’s subjective well-being.

Myth 2: Causes of Well-Being Can Be Understood as a Pie Chart of Influences

In Figure 25.2, I present a pie chart that indicates the percentage of variance in an individual’s happiness that is due to various causal factors. Please do not spend time studying this figure because such percentages are misleading for a number of reasons.

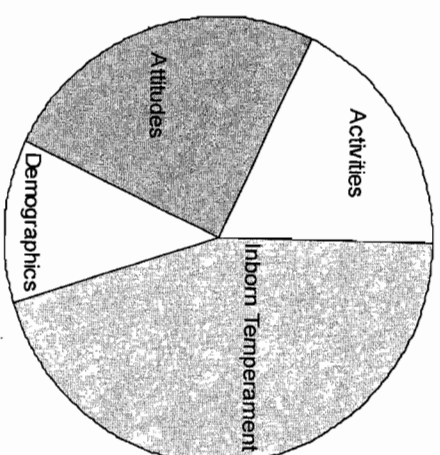


FIGURE 24.2. Misleading pie chart of causes of happiness.

One misunderstanding of percent of variance figures applied to the causes of human happiness is that the numbers are presented as though they apply to individuals. In other words, 45% an individual’s happiness is said to come from inborn temperament, 12% from demographics, and so forth. The percent figures are derived, however, from the amount of variance between individuals that is “explained” or predicted by specific variables. These numbers tell us little about the absolute importance of the variables, because people in a sample may or may not differ to the same degree on each of them, and they do not tell us how individuals would change in well-being if they were to change on these variables. It is inappropriate to interpret the figures as applying to how much an *individual’s* subjective well-being is derived from the various causes because the numbers are derived from *variation between people in specific samples*. The percents might be interpreted to mean that if one were to improve one’s demographics from terrible to great, one’s happiness might increase by 12%, but this is a misunderstanding of what the figures mean. It is important to recognize that the percent of variance between individuals, due to various causes of happiness, depends on the range and variation between people on this factor, and has no necessary connection to what might be important to altering a person’s happiness.

Let me offer analogies to show why the between-subject variance figures do not apply within individuals. If we were to examine income, we might find that people’s salaries predict 70% of the variance in household income, because a few people make significant amounts of money from investments. But this does not mean that 70% of an individual’s income will come from his or her salary. Percentages applied to aggregates of people may have little to do with how any spe-

cific individuals earn money. For many people, virtually all income may come from their salaries, whereas for a few wealthy individuals, virtually none of their income may come from salaries. And if an individual is concerned with how to earn a lot more money, he or she should not think that 70% of income will necessarily come from salary.

Or consider an example of longevity and its causes. People might die of cancer, heart attack, stroke, aortic aneurysm, infant mortality, cirrhosis, accident, suicide, murder, animal attack, parasites, or infection—and we can assign numbers to the causes indicating the percentages of people in the world who die from each. Only a small percentage of people dies due to the parasite causing malaria; nevertheless over a million deaths per year are caused by this parasite. A person living in an area where malaria is particularly devastating would be foolish to ignore precautions against contracting malaria just because the worldwide percentage of deaths due to malaria is very small. Even if the percent figures came from malarial areas, they do not necessarily apply directly to a particular individual, or to how controllable this disease is relative to other causes of death. Thus, the percentage figures do not necessarily tell the individual what he or she should worry about the most or what he or she should do in order to live longer. For example, a person with sickle-cell anemia and good mosquito netting might need to worry little about malaria, even if many locals are dying of it. Similarly, influences on happiness may not tell the individual much about what will make him or her happy; it only tells us about the differences between people in what makes them happy.

Notice, too, that deaths due to some causes are not independent of each other, in that outcomes such as heart attack, stroke, and aortic aneurysms have several of the same underlying causes. Furthermore, “demographic variables” and “unhealthy lifestyles” are not listed as sources of death, although both of them can have a profound influence on the likelihood of contracting certain diseases. How do we divide the variance between deaths due to cirrhosis of the liver versus those due to alcoholism? These variables represent a different level of analysis wherein one cause leads to the other cause. In the same way, in presenting the causes of happiness, it does not make sense to present demographics, activities, and attitudes as separate causes of happiness or as independent of each other. They are variables that represent different levels of analysis and influence each other in complex ways. If variables from different levels of analysis are included, the pie-chart numbers should sum to more than 100! Finally, it can be seen that there are causes of death at the aggregate level that simply do not apply to individuals who are considering how to live a long and healthy life—for instance “infant mortality.” In the same way, group statistics about happiness may not apply to an individual.

Happiness is sometimes said to be about one-half heritable, but this statement can easily be misunderstood. It is a descriptive statistic based on particular

samples in particular life circumstances and might not apply to other samples—for example, ones in which life circumstances are more variable across people. That is, the “heritability” of happiness is not constant across samples. This point surprises some people because they do not realize that heritability is not the same as genetic effects.

Pie-chart numbers sometimes lead researchers to view some variables as being more important than other variables, and this is often mistaken. Furthermore, these figures are sometimes offered to the public as a guide to what might be most worthwhile to change in order to achieve greater happiness. However, the causes for change in an individual's happiness might diverge from what causes differences in happiness between individuals. For instance, one person might gain an enormous boost in happiness from becoming religious, even if the amount of individual differences in happiness due to religion in a population is modest. The pie-chart way of thinking is seductive, because it is clear and simple, but it can easily lead us to think about the causes of subjective well-being in misguided ways.

Imagine for a moment that income accounts for 4% of the variance in happiness in the United States. Even if only 4% of subjective well-being could be predicted by income, this prediction would encompass all individuals and all levels of income—which would not tell us how the richest and poorest might differ. If an individual were to apply the figures, erroneously, to him- or herself, he or she might think that his or her happiness would increase by 4% if he or she won a large lottery, but this is not what the findings indicate. If the person is poor, his or her well-being might increase much more than 4%. On the other hand, if the person enjoys a simple life and has few material aspirations, his or her happiness might not increase at all. The percent of variance figures derived from sample statistics do not apply to individuals.

We have adopted pie charts because they simplify things for the public, but the simplification is too great; we should not communicate numbers that can so easily mislead.

Myth 3: Money Does Not Correlate with Happiness

Although it has sometimes been said that happiness researchers have discovered that money is not important to subjective well-being, the connection between money and happiness is more intricate than that statement implies. People in rich nations are, in fact, higher in average subjective well-being than those in very poor nations. In addition, the richest of individuals is, on average, substantially higher in life satisfaction than the poorest individual, even in wealthy nations. Small correlations result from the large variability in happiness between individuals but do not indicate trivial mean-level differences between rich and poor. Another oversimplified belief is that there is little or no effect of income beyond

a certain point, such as \$10,000 per year (the most often-quoted figure). In fact, the place that the well-being line starts to rise less steeply depends on the sample used and on the particular dependent variable that is examined, so that the inflection point of the slope varies across studies.

In Figure 25.3 I show the life satisfaction levels of adults around age 37 who entered college in 1976 (see Diener, Nickerson, Lucas, & Sandvik, 2002). The lines show the percent of individuals by income who are dissatisfied (*very dissatisfied* and *somewhat dissatisfied* combined) and those respondents who reported being *very satisfied*. As can be seen, the relation between income and life satisfaction is not trivial. Further, as is often the case, the relation between income and life satisfaction is stronger as one rises out of poverty than at high levels of income. However, one obtains a somewhat different picture in examining dissatisfaction versus high satisfaction. For dissatisfaction, there is a sharp decline and then a relatively flat line. Levels of dissatisfaction are much higher in the lowest income group compared to the highest income groups. The line for high life satisfaction continues upward across the income groups, thus suggesting the possibility that different subjective well-being variables would show different patterns with income. As shown in the figure, high life satisfaction occurs twice as frequently in the high-income group compared to the low-income group. Thus,

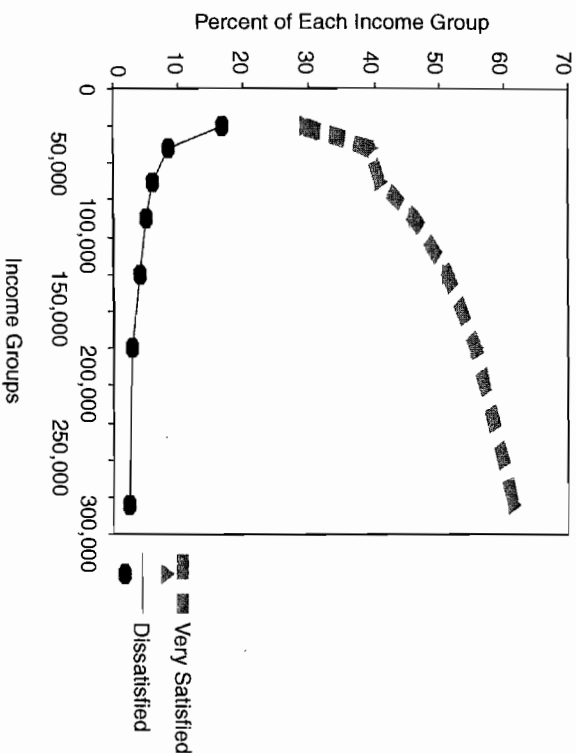


FIGURE 24.3. Income and life satisfaction.

although mean differences might not always seem large, income and well-being can show a substantial relation when examined in certain ways.

The percent of dissatisfied individuals in the poorest group is about 17, whereas only about 2% of the richest individuals are dissatisfied—an eightfold decrease. In contrast, whereas 29% of the poorest individuals say they are *very satisfied*, 62% of the richest individuals do so—over twice the proportion. The correlation between income and life satisfaction in this sample is .16. Thus, the percentage figures for rich versus poor may give a different impression of the strength of the relation of income and subjective well-being than does the correlation. The findings described above are similar to those reported by myself and a colleague (Diener & Biswas-Diener, 2002), who found that several times as many poor people as affluent people had a negative affect balance score, being higher on negative affect than on positive affect. Although the correlation between income and subjective well-being in wealthy nations is often in the .15–.20 range, the ratio of unhappiness among the poor versus the rich was 3 in one sample and 8 in the other. If poor people were three times or eight times more likely to die of cancer or heart disease, a national scandal would ensue, suggesting that the differences in subjective well-being are not trivial.

Another instance in which well-being variables can be influenced differently by income is the gap between life satisfaction and daily reporting of moods (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2006). Kahneman et al. found that respondents with higher income were significantly more satisfied with their lives. However, when computing happiness by multiplying individuals' ratings of happiness in various activities by the amount of time spent in those activities, they did not find individuals with higher incomes to be happier. Richer individuals spent more time working, and because lower happiness scores were reported in work compared to leisure, the respondents with higher income did not experience higher time-adjusted happiness scores for the day. We currently have little understanding of why income might influence one form of subjective well-being but not another, although Kahneman et al. suggest that it is how people direct their attention differently when various types of measures are administered.

Money is related to subjective well-being in complex ways. As incomes in societies rise over time, the effects usually have been small or even nonexistent. In contrast, the differences between wealthy and impoverished nations, as well as between rich and poor individuals, are in some cases substantial, at least when analyzed by percentages rather than by correlations. Correlations are often low because there is a lot of variability within many income groups, but an examination of aggregated mean differences often reveals substantial differences between extreme income groups.

It is likely that income is related to happiness in part because people with high subjective well-being are more likely to earn high levels of income. Thus, much of the data do not indicate the causal influence of money on well-being.

Much more research is needed on this topic. The point I am emphasizing, however, is that the relation between money and happiness is not as small as is sometimes claimed; it is intricate and may be considerable.

People with little money may be able to experience high well-being in a culture such as the traditional Maasai (Biswas-Diener, Vitterso, & Diener, 2005), but they are likely to do less well in the mainstream of a wealthy society—for example, homeless individuals in California (Biswas-Diener & Diener, 2006). Thus, the effects of income on happiness must be taken within the context of a person's life. Money may not be the royal road to happiness, in part because of rising aspirations due to the rising incomes of one's reference group (Clark, Frjters, & Shields, 2006), and in part because money cannot fulfill certain human needs. However, we cannot assume that money matters little or not at all for happiness, and we need to be keenly aware that, in some instances, the differences between rich and poor are substantial.

A brief comment on the deleterious effects of materialism is also in order. Although early research showed that materialistic people were less happy than others, the correlation was virtually assured by the items in the early materialism measures. These measures, for example, included items that were saturated with neuroticism, such as worrying about one's material goods. In later research materialism was sometimes defined as valuing material goods and money more than other things, such as love or social relationships. The difficulty with this assessment of materialism is that it confounds the importance placed on money with the importance placed on other factors and therefore is not a pure measure of materialism per se. A "materialist" might be unhappy as a result of not valuing relationships rather than because of overvaluing money. When materialism is assessed simply as the importance placed on money, our findings are more complex regarding the detrimental effects of this state. We found that at particular levels of income, materialists are less satisfied with their lives than nonmaterialists—except at the very wealthiest level of our respondents, an income of \$280,000 or more per year (Nickerson, Schwarz, Diener, & Kahneman, 2003). However, this cross-sectional finding ignores the fact that people who were materialistic were likely to gain more money in life, and this effect offset the effects of materialism. Other recent researchers such as Roberts and Robins (2000) have not found an inverse relation between material aspirations and well-being. Thus, our understanding of the relations between materialism and well-being is incomplete and depends, in part, on how materialism is assessed.

Although recent research shows that the overall relation between income and life satisfaction can be quite small in wealthy nations (Diener & Biswas-Diener, 2002), this is not the whole story. Measures of wealth and consumption can add to the prediction of subjective well-being beyond the effects of income (Headley, Muffels, & Wooden, 2004), and financial resources can buffer people's

life satisfaction when problems occur (Johnson & Krueger, 2006). Furthermore, recent research with lottery winners (Gardner & Oswald, 2007) replicates the Smith and Razzell (1975) finding that lotteries can increase well-being. Thus, it is true that rising aspirations can cancel the effects of rising incomes in wealthy societies, but it is a vast oversimplification to assume that rich people do not have higher subjective well-being than poor people!

Myth 4: Correlations Show Causation If There Are Enough of Them

We all learned in our first psychology course that correlation does not equal causation, but we quickly forget this rule when we examine data on subjective well-being. We know that correlation does not prove causation, but we are seduced when we see correlations involving subjective well-being, because it is easy to assume that factors such as marriage or income have a causal influence on well-being. However, we now know that well-being can predate and influence these factors. For example, my colleagues and I (Diener et al., 2002), as well as Cacioppo et al. (Chapter 10, this volume) found that happiness can lead to later higher income. In addition, there is the selection of some individuals and not others into certain roles, such as marriage, which might lead to married people being happier but marriage itself not causing happiness (Lucas et al., 2003). Thus, we must keep reminding ourselves that the correlations between happiness and other variables can often be due to the causation going from well-being to that variable, from the influence of some third factor on both happiness and that variable, or from the self-selection of people into various levels of the independent variable we are examining.

An instructive example of correlated variables and the possible effects of a third variable regards the finding that people who report having more sex also report being happier (Blanchflower & Oswald, 2004). The authors report how much more income it would take to produce as big of an effect on subjective well-being as sex produces—and it is a lot of money. This is all good fun and their happiness; but it may lead many readers to assume that having more sex will increase their happiness; this conclusion is intuitive and might even be correct. But the conclusion is not indicated by the correlational data. Having sex may result from having a steady partner or having a good relationship with one's partner, and this social support could be the cause of both happiness and sex. *Having sex* may be a proxy for good social partnering, lack of psychopathology, or a cheerful, outgoing disposition. Happy people might be more desirable sex partners than those who are unhappy, and thus the causal direction might again be reversed. Therefore, let us tattoo this on the back of our hand: *Hundreds of correlations, even when analyzed with meta-analyses, do not prove causation.*

Myth 5: Context Can Be Ignored

Many factors that influence subjective well-being are likely to have their effects in the broader context of people's lives. For instance, a college student's income is likely to have its influence in the context of parental income. A college student who has zero income but wealthy parents is likely to be well-off materially. In contrast, a college student from a very poor home who earns \$16,000 a year while in college might be materially poor. Furthermore, money might matter more in some contexts (living in Manhattan) than in other contexts (an Amish person living in Lancaster County, PA).

We presented our longitudinal findings that married people, on average, are happier than the never-married, divorced, widowed, and separated because of selection and because of the boost in life satisfaction around the time of marriage. We were attacked for saying that marriage does not make people happier. It is important to note that we were reporting *averages*. We found that some individuals were more satisfied after marriage, even after a period of years. Furthermore, we analyzed only one sample, albeit a large one. Thus, the effects we found for marriage might not generalize to other groups. However, ours was one of the very few longitudinal studies conducted in this area, out of hundreds, and therefore the influence of selection into marriage in the cross-sectional correlational studies cannot be discounted as a cause of the correlation between marriage and subjective well-being.

What is perhaps most important to note is that the effects of marriage are likely to depend on a person's life context. For people in college, an active social and romantic life is easy without being married; in some older communities, this is likely to be much less true. Thus, the effects of marriage on a person's social life and happiness are likely to vary depending on context and culture. In our longitudinal study we found that less satisfied people were most likely to be helped in the long run by marriage—perhaps their social lives were less good before marriage, and therefore they had more to gain. In a similar vein, it was found in another study that divorce had a stronger negative correlation with well-being in some cultures than in others, although the relation was generally consistent across cultures (Diener, Gohm, Suh, & Oishi, 2000).

When we examine factors such as income, marriage, education, and age, the context of life is likely to be of extreme importance in how these factors are related to subjective well-being. But what are the contextual factors? There are myriad influences—such as values, social structure, cultural patterns, and role expectations—that can influence how these variables play out in people's lives. Returning to the example of the influence of income on happiness, people's goals, values, and expectations are likely to influence how much money they need to be happy. However, the area where they live, the cost of living in that area, and the amount needed to buy goods and services can also vary greatly

across cultures and regions. We are now at the point where another correlation between income and subjective well-being is not likely to be hugely helpful to our understanding. What we need now is to understand *under what circumstances money is more and less important, and how much money is needed for quality of life in various circumstances*.

We can extend the question of context to most of the factors that researchers have related to well-being. For example, age is likely to mean different things in different cultures and in different life circumstances. Economists have found that factors such as income equality in a society have an influence on well-being that is moderated by the ideologies people hold about the importance of equality (Alesina, DiTella, & MacCulloch, 2004). It appears that what people believe about the desirability of equality influences the impact that inequality has on their well-being. This finding suggests that we must move beyond a simple input—output model of happiness, in which certain external life circumstances always produce invariant effects on well-being, to a model in which people's beliefs, values, and goals are pivotal.

Myth 6: Uncovering the Happiest Nation Is a Worthwhile Goal

Lists of the best hotels, soaps, cities, and universities have become ubiquitous. It is not surprising, then, that lists of the happiest nations and places have begun to spring up—in one list it is Nigeria (surprisingly), and in other lists it is Sweden, Switzerland, or Ireland. With the shifting top-dogs, who can keep up? The happiness ratings seem to attract sports-like competition. For instance, when I delivered talks in Switzerland and Canada, I was told that each of these populaces is, on average, happier than Americans—suggesting a kind of national “Who is happiest?” competition. Again, this is all good fun and games as long as it is not taken too seriously. When taken as fact, these country rankings can mislead us about the true differences in well-being between nations. Rankings can magnify differences in ratings that are actually quite small. For instance, when ranking cardiac surgeons based on an objective criterion such as the percent of patients who survive for 1 year after surgery, the top cardiac surgeon in a nation could differ from the 100th best surgeon by only a fraction of a percentage point. The rankings of 1 and 100 might suggest a large difference when only a trivial difference, due to chance, actually exists. Error bars of some sort around rankings might help.

Rankings also imply objective differences when, in fact, the differences could be due to spurious factors. For example, small changes over time due to national events, such as an election or a national sports event, could change the rankings of nations that are clustered tightly together at the top. Switzerland might “win” one time, and Sweden the next time, merely due to factors such as how well they are doing in the World Cup competition, because their scores are otherwise so close. Furthermore, there could be small differences in response sets,

such as number-use artifacts and the reporting of moods, which can change the rankings when countries are very close in the ratings.

Another serious objection to the use of rankings is that they suggest that “happiness,” or subjective well-being, is unidimensional, when in fact we know that there are separable components to it. Because rankings can change depending on which component is analyzed, the question of what nation is “happiest” is oversimplified: “Happiness” can be more than one thing. It is like asking which animal is “longest,” when in fact that concept might refer to mass (a blue whale), weight in its natural environment (an elephant), height (a giraffe), or length (a giant squid). An examination of the nation-level data is instructive in this regard (Kuppens, Ceulemans, Timmerman, Diener, & Kim-Prieto, 2006). Kuppens et al. found clear negative and positive emotion factors across nations. If one wanted to know the “happiest” nation, it might be Mexico (the most positive emotions) or Canada (the fewest negative emotions). The unhappiest nation might be Kuwait (the most negative affect), China (the least positive affect), or Iran (the worst affect balance). I examined nation means in the first wave of the World Value Survey because it contained measures of positive and negative affect, as well as life satisfaction. Norway scored at the top on Positive Affect but 10th (out of 43) on Life Satisfaction and very low on Negative Affect. Switzerland scored first on Life Satisfaction and very low on Negative Affect; however, Switzerland also scored 3rd from the bottom on Positive Affect. Because the Swiss reported little of either positive or negative emotions, their life satisfaction and positive affect score rankings diverged dramatically. Also, although Norway tended toward the top on all three measures, rankings put it at only 10th and 13th on two of them. Thus, the rankings are likely to produce an oversimplified view of the well-being of societies.

I do not mean to imply that some nations are not generally happier than others, even across a number of components of subjective well-being. However, it is important to understand the societal factors that reliably predict national differences in well-being. When the life satisfaction in a broad sample of countries correlates strongly with the average income in those nations, for example, this is a meaningful and potentially important finding. However, the parlor game of trying to pinpoint the happiest nation should be left to the popular media.

Myth 7: Most People Need to Be Happier Than They Already Are

As the field of subjective well-being has gained in popularity, a number of attempts have been made to increase happiness. For individuals who are low in subjective well-being, these interventions might be very desirable. Furthermore, the goal of increasing the long-term components of subjective well-being, such as life satisfaction, are probably worthwhile—who would argue that helping peo-

ple to like their lives more is not desirable? However, it is open to question whether people should experience greater levels of positive emotions than they already feel. This issue was brought home to me when some people in Scotland said that they were happy enough and did not want American psychologists trying to make them more cheerful.

According to evolutionary theory, emotions evolved for adaptive purposes. Thus, both positive and negative emotions served a useful purpose in the past, and we need to examine whether they serve a purpose now. Most people in industrialized nations claim to be happy—above neutral most of the time in their moods and emotions (Diener & Diener, 1996). Furthermore, emotion theorists maintain that feelings of anger, fear, and sadness can all serve an adaptive function under some circumstances. Thus, it is not self-evident that all people should necessarily be happier than they are. Perhaps most people feel a functional combination of positive and negative emotions and do not need more positive emotions to function well. Certainly, some individuals may already be at an optimal level for optimal functioning. Although it seems likely that there are large numbers of individuals who might profit from more positive emotions and fewer negative emotions, we have virtually no research on this question. Thus, attempts to increase happiness are proceeding in the dark to some degree, without knowledge of how many people might want to be happier or how many people might function better if they were happier. Although happy people are, on average, more successful in a number of life domains (Lyubomirsky, King, & Diener, 2005), we do not know whether being happier still will make them more successful or less so.

In a recent paper my colleagues and I (Oishi, Diener, & Lucas, 2006) explored what we called the “optimal” level of happiness—the question of whether people with different levels of subjective well-being were successful in different realms of life. We discovered that extremely happy people are very sociable and seem to be quite successful in the social realm. However, we found that moderately happy people were most successful in certain achievement domains, such as income. Our exploration is preliminary, and much more empirical work is needed on the question of optimal levels of subjective well-being. Such work is imperative in light of the increasing attempts to increase levels of happiness.

Future Directions

In the preceding sections, I suggest that researchers in the field of well-being have sometimes seized on certain answers to questions because the answers are simple and easy to understand, when, in fact, accurate answers are much more complex and context-dependent. My intent is not to criticize but to prevent a

rush to premature judgment. If our future studies on well-being are designed with an understanding of the myths I described above, they should provide more sophisticated questions and answers.

Where is the field of subjective well-being research headed in the future? After two decades of rapid progress, can we maintain the pace? I believe we can, but researchers need to be ambitious and take risks. Settling into the ways already trodden and essentially replicating past research with minor extensions will doom the field to atrophy. Thinking that integrates findings from other fields, such as sociology, experimental psychology, and neurobiology, is needed. In addition, more ambitious methods are now needed, such as larger and more in-depth studies than were usually conducted in the past.

Several future directions derive directly from understanding the myths I described above. For example, exposing the myth that the setpoint is unchanging leads to the conclusion that we need theories of within-person change as well as longitudinal findings on which to base those theories. We need much more data on context and how it moderates the influence of factors such as marriage or income. There are so many promising directions for research that I hesitate to focus on only a few. Nonetheless, here are three directions that I believe are important.

More Sophisticated Methods Are a Must

Because the field of subjective well-being grew primarily out of the sociological survey research tradition, one-time surveys based on brief self-reports of well-being are the most frequent method used. As the editor of *Journal of Happiness Studies*, I was inundated with submissions relying on one-time self-report surveys, and rarely received papers using more sophisticated methodologies. These methods have served us well but have clear limitations. Similarly, the input variables to well-being that have been emphasized so far are demographic variables and income and marriage. We now need more studies that include a broader set of input and contextual variables, as well as more diverse measures of subjective well-being, including biological, experience sampling, nonverbal, behavioral, and informant report assessments. Some argue that only self-report measures can assess subjective well-being because it is a subjective phenomenon. What they do not understand is that verbal self-reports are no more inherently tied to subjective feelings than are the other types of measures. What people say or write about their experience is not a direct measure of that experience; it is only a communication about that experience. Therefore, biological or nonverbal measures can also be used to index subjective experiences. Like self-reports, they are indirect indicators of subjective experience. Nonetheless, they complement self-report measures in terms of how they capture experience and in the measurement artifacts that are likely to influence them. The convergence and divergence between

the various measurement methods can reveal much about the nature of subjective well-being. Thus, although self-reports are likely to remain a primary tool of subjective well-being researchers, they need to be supplemented by other methods.

One of the major discoveries in this field that could benefit from studies with other measures is Norman Bradburn's (1969) findings that positive and negative affect are not opposites of each other, and that different variables correlate with each. We have found that life satisfaction is also separable from the two global types of affect, even though all three forms of well-being correlate across individuals. What we need now is a more thorough analysis of when the various types of well-being converge and diverge. For example, my colleague and I (Diener & Fujita, 2006) examined whether people high in daily positive mood but low in life satisfaction, or people low in daily positive affect but high in life satisfaction, thrive more. Of course, individuals who were high in both forms of well-being were doing best. We found, however, that individuals high only in life satisfaction had more energy, self-confidence, and better health compared to individuals low in life satisfaction but high in daily positive affect. This study points toward a type of research we need much more of: examining what factors differentially predict the various forms of well-being, and how the outcomes of well-being vary depending on which type is examined. There are researchers who advocate the importance of one type of subjective well-being or another. However, what is missing from this discussion are data that shed light on the differential causes and consequences of various types of subjective well-being. There is still an unfortunate tendency in many studies to include only one type of subjective well-being, such as life satisfaction, and this shortcoming should be rectified by including a full range of measures, such as positive affect, negative affect, life satisfaction, and domain satisfactions. In addition, the assessment of both online and recalled affect should prove beneficial. In many instances, one type of well-being may correlate with a factor that other types of well-being do not. Such patterns are illuminating but can only be discovered when the various forms of well-being are assessed.

Some of the most rapid advances in psychology in the next decades are likely to come through neuroscience, immunology, genetics, and other biological approaches. Therefore, it is imperative that subjective well-being researchers learn to include biological methods in their studies. However, we also need conceptual models that recognize that different measures assess different aspects of subjective well-being (e.g., Dolan & White, 2006; Kim-Prieto, Diener, Tamir, Scollon, & Diener, 2005).

Researchers in the field also need to use many more experimental and longitudinal studies. These other methods are needed because we have already plumbed the depths of simple correlations in cross-sectional surveys. We need experimental and longitudinal studies to more deeply explore causal pathways

and processes. An important first step is for researchers to understand that the methods of the past will not produce the biggest advances in the future. Studies that assess the causes of well-being need to assess, more frequently, the psychological processes that are thought to lead from the inputs to well-being.

Outcomes of Subjective Well-Being and Optimal Levels

For decades, researchers have been concerned with the causes of subjective well-being, and only recently has interest been shown in the outcomes of well-being. Although there is a robust laboratory tradition on the outcomes of induced moods and emotions, very little research has been conducted on the outcomes of long-term well-being. In 2005, my colleagues and I (Lyubomirsky et al.) reviewed the extant research in this area. Similarly, Pressman and Cohen (2005) examined the outcomes of positive affect on health, and Judge, Thoresen, Bono, and Patton (2001) examined the effects of worker satisfaction on job outcomes. Nonetheless, we have barely scratched the surface of how various types of well-being influence behavior and success in life.

Understanding Adaptation and What Can Change People's "Setpoint"

In former times, we asked what might make people happier. The realization that many things might make people happier in the short run but that adaptation is likely to occur over time led to a new question: Are there variables that can lead to a change in setpoint, to long-term changes in subjective well-being? If there are such factors, what are the processes that make them long-lasting?

The flip side of questions regarding changing the setpoint of "happiness" are issues regarding what causes adaptation or habituation. How much is active coping involved and to what extent is adaptation dependent on automatic habituation processes that occur regardless of a person's intentions and choices? Recent work on attitude change, the expression of gratitude, meditation, and so forth, suggest that specific efforts to increase feelings of subjective well-being can be effective, but we need much more research on this issue. When do such efforts produce long-term change, and when are the effects temporary? In terms of society, what improvements and progress are likely to produce increases in subjective well-being, and to which are people likely to habituate?

Studying More Than Life Satisfaction or Global Happiness

In the past, we hoped that various measures of well-being would converge. To some degree, there is convergence among different measures (e.g., Sandvik, Diener, & Seidlitz, 1993), but we know that various types of measures also

diverge to some extent (Kahneman et al., 2006; Kim-Prieto et al., 2005; Oishi & Sullivan, 2006; Thomas & Diener, 1990; Wirtz, Kruger, Scollon, & Diener, 2003). Rather than being a matter of concern, this divergence can be a source of information that gives us greater insight into the nuanced nature of subjective well-being. For example, at times, global subjective well-being predicts future behavior better than momentary online well-being. Thus, future research needs to use a broader array of measures with a more complete set of variables—including life satisfaction—but also momentary positive and negative moods, and satisfaction with various life domains. Furthermore, we need to focus on more than the topic of which people are happiest—we also need to study other ways of analyzing feelings of well-being, such as the activities in which people feel most positive. For example, my colleagues and I (Pavot, Diener, & Fujita, 1990) found that both extraverts and introverts experience more positive affect in social compared to nonsocial situations, and Kahneman et al. (2006) analyzed moods within specific activities. Because people's moods and satisfaction vary across domains and activities, it is not sufficient to focus only on which individuals are, on average, happiest.

Conclusions

A number of oversimplifications and misunderstandings have crept into our beliefs about subjective well-being, and some of these myths are probably driven by our values. We want friends to matter more than money, and we do not want to defend materialism. We also desire to simplify our findings for the public. The danger is that our oversimplifications will become accepted by researchers because they are repeated so frequently. As researchers we must be critical, and this includes a skeptical stance toward our own conclusions. We want to improve society by making our findings widely known, but we must take care not to be hasty in rushing to conclusions to meet the demand for media coverage.

The chapters in this volume help point the directions for future research on well-being. They present studies based on sophisticated designs and review the past research in the field of subjective well-being. The authors of this book do much to dispel the myths I describe. I am proud to be a colleague of the outstanding set of authors represented in this volume, and I am grateful for the creativity and sophistication they bring to the field. Eid and Larsen have brought together an outstanding group of authors, and I am honored to write the concluding chapter.

The field of subjective well-being research has grown at a rapid pace, and for this I am grateful. However, the field has reached a point of saturation for certain types of descriptive cross-sectional studies. We now need to use more sophisticated methods in the study of well-being, such as multimethod measure-

ment, longitudinal designs, and measures of context and psychological processes. I have worked in this field for 25 years and have seen such rapid progress that it substantially boosts my life satisfaction. I hope for even more progress in the next 25 years!

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