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Money and Happiness: Income and Subjective Well-being across Nations

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Throughout the world most people now desire a high level of material wealth. The policies of most governments are focused on increasing material prosperity, and most individuals throughout the world desire homes, appliances, universal education, a varied diet, sophisticated medical treatment, and amenities that are available in the wealthiest nations. Although people have many goals, one is struck by the degree to which material prosperity has become an important aim in most societies. For example, dictatorships and economic systems alike have fallen in the last decades when they failed to provide economic prosperity. It is not surprising then that national governments now focus on economic growth as their first goal. Therefore it is important to ask whether increases in material prosperity will be accompanied by increases in subjective well-being (SWB). Krugman wrote, “in the end, economics is not about wealth, it’s about the pursuit of happiness” (1998, p. 24). Will greater wealth produce greater happiness?

In light of the widespread attention now afforded to material prosperity, it should not be surprising that dramatic increases in wealth characterize many nations. North America, Western Europe, and Australia have traditionally been prosperous, but many countries are joining their ranks. Nations in the Pacific Rim and Latin America are equalling or exceeding the wealth of western nations. The most populous countries, China and India, have recently exhibited high economic growth rates, albeit from a low initial level of wealth. Although most of the nations of sub-Saharan Africa and certain Asian countries such as Afghanistan still lag far behind the rest of the world and exhibit little or no economic growth, a large number of societies show unprecedented prosperity. Thus people’s increasing material desires are matched by heightened productivity in many countries.

Although material prosperity is now a possibility for much of the globe, there are potential problems with a wealthy world. Scholars have expressed a number of

reservations about the accumulation of wealth (e.g., see Droge et al. 1993; Wachtel 1983). One concern about economic development is the potential for ruining the environment. Not only does wealth production require the use of natural resources such as trees, minerals, and oil, it also produces byproducts that can pollute water, air, and land. Another concern with material prosperity as a major goal is that it might redirect attention from more important aims such as love, self-development, and spirituality. Perhaps the pursuit of money will distract us from endeavors that are essential to human well-being. Yet another concern with wealth is that its pursuit might be frustrating and endless because feeling satisfied with one's wealth may be a zero-sum game between the members of a society. In other words, feeling that one's income is adequate may depend on being in the upper distribution of income, leaving some segments of society to always feel dissatisfied, no matter how wealthy they are in absolute terms. On the other hand, it might be that material prosperity will help people meet a number of their inherent needs and therefore will produce heightened well-being. In light of the huge importance now placed on material prosperity, and on the economic development occurring throughout much of the world, we need to inquire as to whether increasing income will produce high levels of subjective well-being.

One standard against which to judge the outcomes of economic prosperity is subjective well-being—how people themselves evaluate their lives. Subjective well-being includes several key components such as life satisfaction, financial satisfaction, pleasant affect, and the absence of unpleasant affect. Each of these components reflects people's evaluations, both affective and cognitive, of their own lives. Subjective well-being is a particularly democratic outcome variable because it allows people to judge their own lives, instead of focusing on quality of life assessments made by "experts." In this chapter we emphasize life satisfaction as the key outcome variable for our analyses because this is the most widely available SWB measure across cultures. However, we will also present evidence on financial satisfaction when it is available, especially because the effects of income might vary for the different types of subjective well-being. The effects of money on other social indicators such as health and crime will not be covered in this paper (see, for example, Diener 1995).

In this chapter we describe the empirical evidence on the relation of income and SWB. One goal of this chapter is to review the existing evidence on money and happiness across cultures. A second goal is to examine several theories about why money relates to happiness.

Models of Income and SWB

There are several conceptual models that purport to explain the relation between income and happiness. Livability theory was proposed by Veenhoven (1991, 1995) and is based on the idea that income increases SWB only insofar as it allows people to meet their inborn needs. In this model, income should have large effects on SWB in poor countries, and at lower levels of income within wealthy nations, because it is here that income influences whether a person can meet needs such as for food, shelter, and clothing. According to Veenhoven's model, however, SWB should not differ between most income groups in affluent countries, or between the most affluent groups in poor nations, because above a certain level of income all individuals will have met the needs for which money can buy fulfillment.

An extension of Veenhoven's model is based on Maslow's (1954) theory of needs. In this approach, meeting needs is also seen as causing increased SWB, but self-actualization needs open up a vast array of rewarding activities at the upper levels of income. For example, wealth might allow participation in foreign travel, challenging hobbies such as sailing or mountaineering, intellectual exploration and artistic creativity, and philanthropy that might be most available at high levels of income. Thus in this approach needs are seen as explaining the income-SWB relation, but this relation is not necessarily limited to increases in income at the lower levels. In this theory increases in income above the basic needs level would only produce increases in SWB to the extent that people used their income for self-actualizing activities. If instead people used their higher incomes to pursue status, or frivolous material goods, no increase in SWB would occur. Thus a more "livable" society might depend on how money is spent, not just how much money people have.

In contrast to theories based on needs, relativistic judgment models suggest that people assess the adequacy of their incomes in relation to variable standards. Easterlin (1974) hypothesized that people use social comparison to decide whether their income is satisfying. For example, if a person of moderate means lived next-door to a wealthy family, he or she would tend to be dissatisfied. In contrast, if this middle-class individual lived next-door to a poor family, he or she would be more satisfied because of the favorable comparison standard provided by the neighbor. Easterlin reasoned that people are likely to compare with other nearby people within their own countries but are unlikely to compare to distant individuals in other nations. Based on this reasoning, he argued that within-nation correlations between income and SWB ought to be substantial, whereas differences in SWB

across nations differing in wealth ought to be minimal. Unfortunately for Easterlin's hypothesis, as we will see, the data are often opposite of that pattern.

Another variable standard on which people might judge their income is their past riches. Parducci (1995) proposed in his range-frequency theory that people's reactions to current events are based on the context provided by past events happening to that person. Because circumstances in the person's past life provide the context against which new events are judged, events that are better than this context will be judged positively. In this general approach, one would be satisfied with one's material standing if it were higher than one's past income. Similarly one would be dissatisfied with one's income, no matter how high in absolute terms, if it were lower than one's past income. For example, a billionaire might be dissatisfied in a year in which she earned "only" two million dollars. In the range-frequency theory, as in the hedonic treadmill theory of Brickman and Campbell (1971), people tend toward hedonic neutrality, at least if their event distribution is normally distributed.

The culture approach provides yet another explanation for national differences in SWB relative to income. Within this general model there are a number of specific explanations for why societies differ overall in SWB. In this tradition, differences in happiness are likely to be partly due to what people value. If people highly value money, they will be more likely to earn more of it. Furthermore SWB would result from an interaction between values and money, with high income producing high happiness only in those societies (or individuals) where money is highly prized. Thus a key in the culture approach to explaining the relation between income and SWB is to understand the value people in different cultures place on material prosperity, since this is likely to moderate the effects of income on SWB.

An approach that combines elements of each of the other approaches is the material desires concept. In this model, people will be happy to the extent that they can obtain the things they desire, or at least make progress toward those aims. For instance, in the material domain, if people want a sailboat, they will be happier if they have one, or at least make progress toward obtaining one. If there is no possibility of ever obtaining something that is highly desired, it is predicted that dissatisfaction will result. However, desires can change, and therefore a person may adjust her goals to cope with a situation in which an aim cannot be reached. If it is apparent that a woman may never be able to afford a sailboat, for instance, she may switch her goal to obtaining a canoe. Similarly a person might raise her aspirations if she has been very successful in an area. In our example, the person might obtain a

sailboat, and yet still grow dissatisfied as she comes to desire an even speedier one. The goal model can accommodate the needs approach because it is recognized that a person's physical needs usually have a strong influence on his or her desires. People usually want good food, appliances, clothes, and protective housing, for example, because of the needs they fulfill and comfort they provide. The goal approach can also subsume the relativistic approach because it is recognized that what others possess sometimes influences what a person desires, and that a person's former possessions often will influence what one currently desires. However, a person may desire to give up some of the goods of the past, and in this case having fewer material possessions might be related to higher SWB. Finally, the material desires approach can subsume the aspects of the culture approach related to people's values and goals for material goods and services. In sum, the material desires approach predicts that the relation between income and happiness will depend on the number of people's material desires that can be met, and this approach predicts that needs, social comparisons, and past income are relevant insofar as they influence current desires.

In analyzing these different models, there are a number of types of evidence that are relevant. First, there are the correlations within nations between income and SWB, and these correlations can also be compared across nations differing in wealth. Similarly there are differences in SWB within nations between the poorest and wealthiest individuals, thus giving the effect size for the extreme income categories. We can compare the wealthiest group to the next-most wealthy group. We can also examine across nations the correlation between the average per capita wealth of countries and the mean levels of SWB in them. We can then assess changes in SWB over time, and this type of analysis can be particularly informative because of the rapid increase in income in the last decades in many societies. Finally, we can examine a small number of experimental or quasi-experimental studies because they might give us a clue about the causal role of income on happiness.

Each type of evidence helps us to evaluate the various models of income and SWB. For example, Parducci's model suggests that growth in income ought to be accompanied by higher SWB, and Easterlin's social comparison model predicts that there will be little difference between nations in SWB. The basic needs model predicts that there should be no difference in SWB between the wealthiest and next-most wealthy individuals in the richer nations. As we will see, the extant data allow us to reject some models.

The Evidence

Methodological Concerns in Measuring SWB across Cultures

One of the problems with past analyses of income and SWB is that they were usually based on small samples, or on a relatively narrow range of nations. For example, past analyses based on the first World Value Survey included over 150,000 respondents, but virtually all of the nations were highly westernized wealthy countries. Thus analyses at the nation level can be misleading due to the restriction of range of important variables such as national income. In this chapter we focus on studies that include a broad sampling of countries as well as relatively large samples within each society. For example, we present data from the World Value Survey II (World Values Study Group 1994) that include large probability samples from many diverse nations. In addition we examine our own international study of college students. Although the number of respondents within nations was smaller in this data set, it includes a more diverse set of countries and therefore is complementary to the World Value Survey II. By focusing on these surveys, we hope to achieve firmer conclusions that are broadly representative and do not suffer from problems in restriction of range on key variables that hampered most earlier analyses.

One can inquire about the validity of the SWB measures, especially when the researcher is making comparisons across cultures. Self-report measures of SWB converge adequately with other measures of SWB in the United States (e.g., Sandvik, Diener, and Seidlitz 1993). However, researchers have not made comparisons across cultures or nations using measures in addition to self-report. We need multimeasure studies in order to achieve greater confidence in our conclusions across societies. Although self-report measures provide interesting conclusions, we would be more comfortable if the findings could be replicated using measures of memory, experience sampling, informant reports, physiology, and facial expression.

Veenhoven (1993; Ouweneel and Veenhoven 1991) discussed the issue of comparing surveys across different languages, one problem being that words denoting SWB might not translate exactly between languages. Therefore different SWB values might be due to variations in the nuances of language rather than to true differences in SWB. Veenhoven approached this question by examining SWB values in multilingual nations such as Belgium and Canada where the SWB surveys have been administered in different regions in different languages. He concluded that translation problems are not a major impediment in comparing different societies in SWB. Shao (1993) arrived at a similar conclusion using a different methodology. Shao

compared the life satisfaction scores of bilingual individuals who responded to a survey in English or in Mandarin Chinese, and then later responded to the same survey in the other language. Shao found very similar mean values for the two formats, and also found that the pattern of correlations of the two administrations of the scales with other variables was quite similar. Thus earlier findings on language differences tend to be reassuring but by no means definitive in indicating that there are no problems in this area.

One way of examining the issue of response validity across cultures is to examine the degree to which surveys using different questions and response formats versus those using the exact same items produce more or less similar results. This approach is interesting because it can suggest whether the self-report scale used for measuring SWB can influence the results. We compared correlations for international surveys that used identical questions versus those in which different questions were used. In both cases we identified surveys that were given in the same year within the same nation, chosen from Veenhoven's (1993) list of surveys, and randomly selected 100 nation-year pairs using the same survey instrument and 100 nation-year pairs in which different measures were used. We compared the values of identical and different surveys after they had been transformed using a sophisticated scaling technique to calibrate scales for equivalence. Veenhoven (1993) relied on expert raters to transform the responses of various scales onto the same metric by having each response option rated for intensity, and then recalculating SWB scores from various surveys based on these scaled response values (see Torgerson 1958).

We used Veenhoven's transformed scores and evaluated the degree to which surveys converged when identical survey versus different survey instruments were used. We found across nations and years that 100 identical survey pairs (conducted in the same nations in the same years with the same measure) correlated 0.95, whereas alternative surveys (different measuring instruments used, but 100 survey pairs within the same nations and same years) correlated 0.60, a significant difference in correlations ($p < 0.001$). This is a strong indication that the method used has some influence on the outcome, although the substantial correlation even when different survey instruments were used does suggest a degree of convergent validity for the measures. The difference between the correlations for identical versus different surveys points to two conclusions. First, we should not make comparisons using different survey instruments, even using sophisticated scaling methods to transform the values. It is for this reason that in this chapter we do not move across survey instruments in analyzing data. For example, we compute time trends for nations

only when data over years using the same instrument are available. The concern we have with comparing different scales across cultures also applies if we examine time trends within one nation, if different measures are used.

Second, and more fundamentally, the differences in correlations across identical and different survey instruments indicates that the method of measurement can influence SWB estimates for nations. Although we do not understand why or how this occurs, we must use caution in interpreting cross-cultural comparisons. We need more work on how people in different cultures respond to different types of scales because there is virtually no work on this question.

Response artifacts across cultures have been studied by Diener, Suh, Smith, and Shao (1995). Although the findings are beyond the scope of this chapter, Diener et al. concluded that the artifacts they assessed could not account completely for the differences between nations they found. They concluded that artifacts such as differences in humility between nations probably had little effect on their cross-nation findings. Despite these encouraging findings, much more research is needed to examine the influence of artifacts across cultures, and how the meaning of the measures varies across cultures. For example, a positivity bias might influence global measures of SWB more than it influences more concrete, specific types of satisfaction.

Cross-sectional Within-nation Data

The simplest type of data we can examine regarding the relation of wealth to SWB is the correlation of income and well-being measures within nations at one point in time. This cross-sectional type of data reveals the degree to which within the same nation richer people are happier than poorer individuals. In table 8.1 we show the relation between reported life satisfaction and family income in 19 nations. The nations we show in the table are those for whom we have results from both a large, representative survey (the World Value Survey II) and from our international college student survey.

As can be seen, the relation between life satisfaction and income is positive in most nations. Although values are shown only for nations where both data sets are available, the means at the bottom of the table are for 40 nations in both surveys. The Netherlands was dropped from the college survey because of the small sample size, and the data for Kuwait arrived after these analyses were completed. Because of concerns about whether the SWB scales have interval scale properties, we also present the Spearman rank-order correlation for income and life satisfaction for the World Value Survey. As can be seen, the values are close to those for the Pearson

Table 8.1
Relation between income and satisfaction across nations

Nation	Financial satisfaction and income correlations		Life satisfaction and income correlations			Effect size
	WVS II	College	WVS	WVS Spearman	College	
Argentina	0.12	0.02	0.11	0.09	0.13	
Austria	0.05	0.05	0.07	0.09	0.05	0.22
Brazil	0.13	0.10	-0.02	-0.05	0.06	
China	0.09	0.21	0.04	0.03	0.18	
Denmark	0.12	0.35	0.21	0.17	-0.04	0.48
Estonia	0.34	0.29	0.08	0.07	0.24	
Finland	0.11	0.39	-0.02	-0.02	0.16	
Hungary	0.22	0.41	0.19	0.18	-0.01	
Italy	0.20	0.34	0.07	0.04	0.04	
India	0.28	0.11	0.17	0.18	0.09	
Japan	0.28	-0.07	0.18	0.19	-0.01	0.94
Nigeria	0.36	0.26	0.21	0.21	0.12	0.53
Norway	0.14	0.07	0.14	0.13	0.13	0.55
Portugal	0.26	0.31	0.08	0.08	0.19	0.63
Slovenia	0.52	-0.05	0.29	0.28	-0.08	
South Africa	0.50	0.44	0.38	0.34	0.29	1.18
Spain	0.28	0.14	0.13	0.11	0.20	0.62
Turkey	0.39	0.23	0.17	0.16	0.22	
United States	0.22	0.19	0.15	0.10	0.10	
Mean	0.25	0.18	0.13	0.12	0.10	0.46

Note: Effect size is for the lowest versus highest income categories in the World Value Survey II.

correlations. What is striking about all of these correlations is that SWB shows a relatively low relation to life satisfaction. As might be expected, because it is closer to income in the causal chain, financial satisfaction is more strongly related to income than is life satisfaction. Nevertheless, even the correlations for financial satisfaction tend to be modest. One might anticipate a very strong correlation between financial satisfaction and income if this relation were highly dependent on an objective assessment of one's wealth. Thus satisfaction with income depends on factors other than objective income. One hypothesis is that financial satisfaction depends more on comparison factors, whereas life satisfaction depends more on needs and desires.

In light of the relatively small correlations between income and financial satisfaction, we used regression with the college student sample to predict financial satisfaction from objective income and from general life satisfaction. Whereas income produced a standardized beta of 0.09 ($p < 0.001$), life satisfaction produced a beta of 0.39 ($p < 0.001$). This finding suggests that financial satisfaction is predicted to some degree by people's objective income, but factors such as personality and other life circumstances appear to more strongly predict financial satisfaction. In other words, people's global feelings about their lives sometimes might be more important predictors of whether they will be satisfied with their income than is their objective income!

Comparing the Lowest and Highest Income Groups Another way that we can examine the relation of income to SWB is to compare the lowest and highest income groups in each nation. By examining the effect size for this comparison, we can gain a sense of the size of influence on SWB of being poor versus well off. In the right-most column of table 8.1 are shown the effect sizes for those nations where there were at least 20 respondents in both the richest and poorest groups in the World Value Survey II. As can be seen, the effect sizes range from small (e.g., Austria) to medium (e.g., Norway) to very large (e.g., South Africa). The mean effect size across all 22 nations for which there were adequate numbers of respondents was 0.46, a figure that would be classified as moderate by Cohen (1977). In terms of scale units, this effect size would amount to 0.98 units on a scale with a range of 9 points. The richest and poorest groups on average differed by about one scale unit on the 1 to 10 life satisfaction scale, or about 11 percent of the total range of the scale. Thus it would be an error to claim that income has no relation to SWB but also a mistake to suppose that the relation is immense.

Comparing the Top Income Groups If meeting basic physical needs is the reason that income has some correlation with SWB, we would expect that the top two income groups would not differ because the second highest group certainly possesses adequate money to meet their biological needs. The comparison of these two income groups was most straightforward in the international college survey because identical income categories were used in all nations, making computations across countries simpler. For life satisfaction, the highest income group's mean of 23.91 was significantly higher ($t(1,855) = 3.48, p < 0.001$) than the penultimate income group's mean of 22.36, in an analysis in which we controlled for satisfaction differences between nations. For financial satisfaction, the means of 4.59 versus 4.29 were also significantly different ($t(1,817) = 4.03, p < 0.001$). In the World Value Survey, different income categories were used in each nation; we therefore compared whatever the top two income categories were across all the nations. The difference in life satisfaction of the top two income groups in the World Value Survey II was very small, 7.69 versus 7.63, but significant, $t(4,109) = 2.25, p < 0.05$, controlling for satisfaction differences between nations. For financial satisfaction in the World Value Survey II, the means were 7.62 and 7.15, $t(3,965) = 7.26, p < 0.001$. These analyses reveal that the effects of income on SWB are not confined to the levels of income where basic needs are at issue.

Differences between Income Effects across Nations Veenhoven (1991) reported that the correlation between income and SWB was stronger in poorer nations, and concluded from this finding that income is important to satisfaction when it helps basic human needs. In our analyses of our international college survey, there was a tendency for the correlation of income and satisfaction to be higher in poorer nations, but this trend was not statistically significant. However, in figure 8.1 we show data for the nine poorest and nine richest nations for both life satisfaction and financial satisfaction. As can be seen in the upper graph, money has more effect on life satisfaction in poor nations—because of the low well-being of poorer students in the more impoverished nations. The life satisfaction of students in the wealthy nations seems to be not much affected by their family income. Surprisingly the lower graph shows that higher-income students are less satisfied with their incomes in wealthy versus poorer nations, suggesting an effect of material desires and perhaps social comparison on their financial satisfaction. Figure 8.1 indicates that types of subjective well-being, for example financial satisfaction versus life satisfaction,

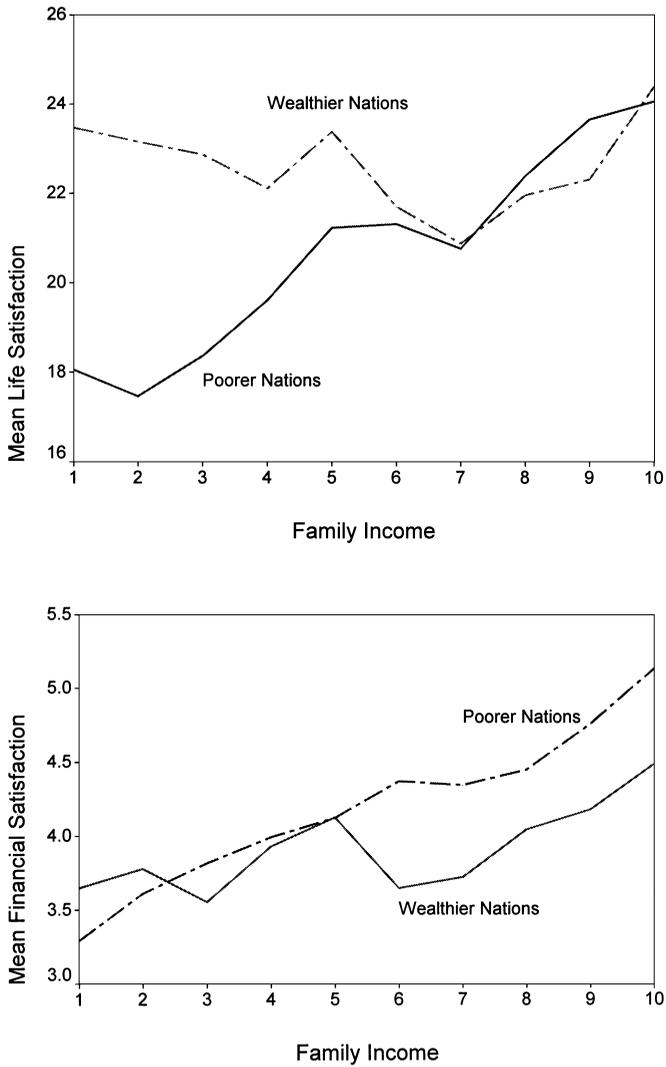


Figure 8.1
Life and financial satisfaction in relation to family income in poor and wealthy societies. Cross-national data from college students in nine countries.

may follow different patterns and be affected by different processes. Further the figure points to a smaller effect of income on SWB in wealthy compared to poor nations. In the World Value Survey II, Oishi, Diener, Lucas, and Suh (1999) report that financial satisfaction is more strongly related to life satisfaction in poor nations than in rich ones.

Causal Direction Based on the cross-sectional data reviewed above, we cannot be certain whether income causes higher SWB or whether higher SWB causes income. However, evidence is available that suggests that a causal path goes from income to SWB. Smith and Razzell (1975) studied lottery pool winners in England and found that on average they were happier than controls who bought tickets but did not win. Because lotteries are inherently random, this finding of Smith and Razzell suggests that higher income can raise one's SWB. Similarly Brickman, Coates, and Janoff-Bulman (1978) found that lottery winners were somewhat happier than a comparison group (but this effect was not significant owing to the small sample size of winners). A potential problem with the lottery studies, however, is that differential rates of responding and different characteristics of responders in the lottery winner versus comparison groups could lead to the results. Furthermore the measurement might have been reactive because the winners know why they were selected. A large experiment with welfare recipients gave certain randomly selected people a much larger amount of money than the standard welfare payments (Thoits and Hannon 1979). In these "negative income tax" studies, recipients of more money actually reported greater levels of stress. Perhaps money can increase pleasant emotions, but it also increase stress if it requires lifestyle changes or sets a person apart from his or her friends.

We can also examine the opposite causal direction—that happy people are more likely to grow richer over time. In this case we of course do not have experimental data, but we can gain hints about the question of causality with longitudinal studies. In an analysis of the 10-year longitudinal NHANES data set (Cornoni-Huntley et al. 1983), we found that people who were happier at time 1 did not increase more in income over the ensuing decade than people who were less happy at time 1. Indeed, we found that unhappy people in the poorest group tended to become happier over time (affect balance) than happy individuals in the poorest group. In a large longitudinal study of college students, we found a small effect of subjective well-being (pleasant and unpleasant affect) on income 18 years later. Thus, although the

evidence is by no means definitive, it appears that happiness on average does not have a large effect on wealth.

Between-Nation Differences

Ouweneel and Veenhoven (1991) reported that the correlation of mean income in 28 nations and the average SWB in them was 0.62, and Diener, Diener, and Diener (1995) reported this correlation to be 0.59 in another sample. In table 8.2 are presented the mean life satisfaction figures for 42 nations, as well as the wealth of these nations. These figures are based on two types of surveys: the World Value Survey II, and numbers on life satisfaction presented in Veenhoven (1993) which used a similar life satisfaction scale to the World Value Survey life satisfaction item. In order to average the two surveys when both were available for a country, we standardized the scores within them. Across these nations the correlation between mean life satisfaction and mean income was 0.69 ($p < 0.001$). Thus earlier findings that the average SWB in nations correlates with the wealth of nations is strongly supported. When one examines individual nations, there is a clear tendency for wealthier nations such as Norway, Austria, and Switzerland to have high life satisfaction, and poor nations such as Bulgaria, South Africa, and India to have lower life satisfaction. Inglehart and Klingemann (chapter 7 in this volume) also found a very strong relation between the wealth of societies and their level of subjective well-being.

The question sometimes arises as to why the national income and average SWB correlations are high, whereas the correlations of income and SWB within nations are modest. Part of the explanation lies in aggregation, and in what gets averaged out of the “error term” when mean values by nations are considered. For example, personality may have a substantial influence on SWB, but individual differences in temperament are averaged out when only the mean level of SWB is considered for a nation. National values of SWB reflect only mean between-country differences. Thus the error term (which includes deviations from a linear relation due to factors such as culture or the meaning of the SWB scales across nations) for nation-level correlations will be much different than the error term for correlations based on individuals within nations (which includes measurement error as well as all the myriad of personal factors in addition to income that can influence SWB). Therefore the absence of individual differences in the between-nation correlations gives the figures a different interpretation than within-nation correlations. An example of the

Table 8.2
National income and mean life satisfaction by nation

Nation	Income ^a	Life satisfaction ^b	Nation	Income ^a	Life satisfaction ^b
India	\$1,290	-1.88	Greece	\$11,400	-1.05
Nigeria	1,430	-0.42	Portugal	12,400	0.17
China	2,510	0.43	Ireland	13,550	0.94
Estonia	2,820	-1.13	Spain	14,040	-0.23
South Africa	3,010	-0.39	Finland	16,390	0.77
Latvia	3,220	-1.49	Sweden	17,130	1.15
Lithuania	3,240	-1.12	Britain	17,970	0.40
Belarus	4,320	-1.71	Netherlands	18,080	0.87
Bulgaria	4,380	-2.31	Italy	18,610	-0.05
Romania	4,090	-1.28	Australia	19,000	0.94
Turkey	4,610	-0.63	France	19,670	-0.25
Russia	4,610	-0.95	Canada	19,960	0.95
Poland	5,480	-0.36	Austria	20,230	-0.19
Brazil	5,630	0.30	Belgium	20,270	0.70
Hungary	6,310	-1.07	Denmark	20,800	1.28
Mexico	7,040	0.29	Norway	21,120	0.80
Slovenia	7,140	-0.78	Iceland	21,150	0.97
Chile	8,890	0.75	Japan	21,350	-0.90
Czech Republic	8,900	-0.77	Switzerland	25,150	1.38
Argentina	8,920	0.38	United States	25,860	0.78
South Korea	10,540	-0.87	Luxembourg	28,770	0.68

a. Income is purchasing power parity in U.S. dollars where available, and GNP per capita in a few nations where the former number could not be located.

b. Mean of World Value Survey II Life Satisfaction and Veenhoven's (1993) list of nations using a 1–10 life satisfaction scale. When only one survey was conducted, our life satisfaction figure represents that single survey. Life satisfaction values are standard scores.

effects of aggregation can be seen when we aggregate individuals within income categories, and examine the mean levels of SWB for the categories. For our international college student sample, the correlation of the 10 income categories and the mean financial satisfaction for the categories is 0.96, although the correlation of income and financial satisfaction is only 0.18 based on the exact same data at the individual level. This example is based on aggregation of data within income categories instead of within nations, but it makes apparent the dramatic differences that can occur when considering correlations based on different levels of analyses.

For the World Value Survey II, the correlation between the 1 to 10 income categories and mean life satisfaction within those categories is 0.99, although the average correlation within nations between income and life satisfaction is only 0.24 in this sample! The effects of income are of course not any stronger, but instead are being considered in light of deviations from linearity of the mean SWB for each income group. The correlation within nations between income and SWB is based on individual variability, whereas the between-nation correlations represent the departure from linearity for the average income in a nation and the average SWB in a nation, with the effects of other within-nation variables aggregated out.

Another way to compare the size of effects of income within societies versus between countries is to examine both between and within countries the unstandardized betas in predicting life satisfaction with linear regression. The unstandardized beta indicates the slope of the regression line, either between countries or within them, depending on the analysis. The unstandardized beta between nations was 0.70, almost twice the average unstandardized beta within nations (0.36). Due to the limited number of nations, however, the confidence interval for the between nations weight includes the within-nations beta. Between countries there is an increase of about 0.7 scale units (on the 30-point Satisfaction with Life Scale) or about 7 units from the poorest of nations to the richest of nations, suggesting that income on average can move a nation across about 1/4 of the entire life satisfaction scale. The within-nation mean slope indicates that the richest and poorest people within countries on average differ by about $3\frac{1}{2}$ points on the 30-point SWLS. Note that the sample was college students, and it therefore might underestimate the effects of income because college students are likely to be spared the worst effects of poverty, and may not fully reap the rewards of wealth. Nonetheless, the comparison of the unstandardized betas suggests that between-nation effects may be stronger regardless of the error term being used. It might be, for example, that factors that covary with national income such as human rights may enhance the SWB of richer nations. Furthermore poor people may receive some benefits of national wealth (e.g., parks and better health care) if they live in a wealthy nation, and even rich people may find it difficult to avoid certain problems if they live in a poor society (e.g., poor roads). Thus the effects of national wealth may be stronger than the effects of individual wealth because all people in a wealthy society profit in some ways, and poor people and rich people within a society may be leveled to some degree by shared community resources, or lack thereof. Furthermore wealthy nations have better health, more freedom and human rights, and greater political stability than

poor nations, and these factors may contribute to well-being beyond the fact that the average person has more money in wealthy nations. Note that the nation-resource argument made here is exactly opposite of the social comparison hypothesis advanced by Easterlin (1974), in which he suggested that poor people living in wealthy nations would suffer the most because of the unfavorable social comparisons forced on them. Our analysis suggests that moving to a wealthier nation is more likely to increase happiness than making more money within one's own nation.

If we compare the *standardized* betas between nations with the average occurring within nations (0.51 vs. 0.12), we find a value about four times as large. This influence is much larger than the unstandardized beta difference, and it therefore suggests that the aggregation argument advanced earlier also has some validity because there is relatively more variation due to other sources occurring within nations. Thus it appears that between nation differences in income may be larger than within-nation differences both because of the greater impact of additional factors affecting the SWB of individuals with societies, but also because of the broad effects of national wealth on most individuals in a country.

National Income and Other Variables

It is difficult to conclude with certainty why respondents in wealthier nations report higher levels of SWB on average. The wealth of nations correlates, often strongly, with a variety of desirable characteristics: greater human rights, the fulfillment of basic human needs, and social equality (Diener, Diener, and Diener 1995), for example. In addition the wealth of nations correlates inversely with the amount of sunny days in a country (Diener 1996). Schyns (1998) found that after controlling for income, the correlations of human rights, gender equality, and individualism with SWB fell to virtually zero. Similarly Diener, Diener, and Diener found that human rights and equality had a near zero correlation with SWB when income was controlled. However, because our samples of nations are not large, it is difficult to separate the influence of the various intercorrelated characteristics of nations. The high multicollinearity between predictors exacerbates the difficulty. For example, Diener, Diener, and Diener reported that individualism predicted the SWB of nations even when holding national income constant, but Schyns failed to replicate this finding. This lack of replicability indicates that we cannot accurately tease apart these highly correlated influences with the available data.

Diener, Diener, and Diener found that income predicted the SWB of nations even when basic need fulfillment was controlled. Basic need fulfillment within nations

was assessed by health indices, sanitary drinking water, and food calories available. The fact that income predicted beyond the effects of basic needs suggests that income is not simply related to SWB to the extent that people are able to purchase physiological necessities. Once again, however, we need larger and more diverse samples of nations to reach definitive conclusions.

National Income Growth and SWB

During the past decades a number of nations have sustained dramatic increases in wealth, whereas others have remained relatively stagnant. For example, during the span of the surveys, over a period from 1946 to 1992, real income (after taxes and inflation are controlled) in the United States grew about 22 times. Individuals at the 50th percentile in 1947 would be at the 20th percentile in 1996, close to the poverty line (Krugman 1998). Similarly nations such as Japan, South Korea, China, and Singapore have experienced rapid economic growth. In contrast, nations such as Kuwait and Argentina had much slower economic growth.

Based on an analysis of the U.S. General Social Surveys, Oswald (1997) reports a very slight increase in the United States in happiness from 1972 to 1990. Diener and Suh (1997) show longitudinal data from the United States, Japan, and France that indicates that SWB in these nations has been virtually flat since World War II. In order to extend this longitudinal analysis to other nations, as well as to relate it to growth in income, we examined the compilation of surveys collected by Veenhoven (1993). Table 8.3 presents the slope between income and SWB over years for 14 nations. We elected to analyze the slopes for SWB only for those nations where there was a minimum of at least 4 surveys on which to base our analyses. In addition we desired to analyze the slopes only in nations where the same survey instrument was used repeatedly. Thus the nations all are highly economically developed. As can be seen, the slopes across these societies are on average virtually flat, despite steep economic growth in most of these countries. The economic growth rates in the neighborhood of 2 or 3 percent are more dramatic than they may seem. For instance, a growth rate of 2 percent will in the course of 20 years lead to about 50 percent more real income (after controlling inflation) per person, and a growth rate of 4 percent will lead to more than a 50 percent increase in real incomes in only 10 years. Considered against the backdrop of world history, these economic growth rates are virtually unprecedented. Thus, despite many more goods and services over time, people on average did not report being happier.

Table 8.3
Economic growth and change in life satisfaction over time

Nation	Slope of SWB	Number of years of surveys	Average percent economic growth, 1965–1990
Belgium	−0.04**	19	2.6
Denmark	0.02**	19	2.1
England	−0.04*	11	2.0
France	0.01	19	2.4
West Germany	0.02**	19	2.4
Greece	−0.01	12	2.8
Ireland	−0.03**	19	3.0
Italy	0.04**	19	3.0
Japan	0.01*	22	4.1
Luxembourg	0.03**	19	
Netherlands	0.00	19	1.8
Norway	−0.03	4	3.4
Portugal	0.09**	8	3.0
Spain	0.03	8	2.4
United States	0.00	18	1.7
Mean	0.007	15.7	2.4

Sources: Percent growth is based on the World Bank's (1992) *World Development Report*. The life satisfaction figures used are based on Veenhoven's (1993).

Notes: Nations listed for which at least four surveys were included. The life satisfaction scale used in England and the United States was a three-point scale, whereas the scale used in the other nations was a four-point scale.

Data reported by Hagerty and Veenhoven (1999) suggest that life satisfaction in many nations has been increasing over time. They examined fewer early surveys and more surveys in the 1990s than we covered and arrived at slightly different conclusions. Nevertheless, life satisfaction in some of the industrialized nations they examined went down, leaving us with the question of why SWB might either increase or decrease, despite economic growth. When they analyzed the correlation between growth in GDP per person and growth in life satisfaction, Hagerty and Veenhoven found a positive, but nonsignificant, correlation of 0.21.

One explanation for the lack of a clear rise in SWB in all nations experiencing economic growth is that there was also an increase in negative variables such as

crime in these countries, which tended to offset the increased income. It should be noted, however, that homicide levels across countries do not correlate with SWB (Diener 1994). Furthermore Michalos and Zumbo (1998) reported that victims of crime were not less happy than others. Nonetheless, a breakdown of intimate relationships, or an increase in stress, might be variables that could counterbalance the influence of income gains. However, increases in negative factors over time could be offset by other positive things which have also occurred. For example, longevity has increased during this period. Birth control came into widespread use, as did computers. Cures for childhood leukemia became commonplace, and viagra was invented. The point is that although some negative factors increased during this period, there were other positive trends as well. Thus the idea that the effects of increased income were offset by a general degradation in society must be proved rather than asserted.

The alternative explanation of the relatively flat slopes for SWB is that desires increased in the richest nations as income increased, leading to no net psychological effect. Another alternative explanation is that only a very sharp increase in income will produce a rise in SWB, and that rise will last only a short period of time before people adapt. Finally, judging from the inconsistencies reported here and by Hagerty and Veenhoven, it may be that we simply have not possessed the statistical power to definitely identify an upward trend that is occurring due to rising incomes, because of the noise introduced by other factors. Although we do not know the reason, we can say that dramatic increases in national productivity were not accompanied on average by invariant increases in SWB. What is sorely lacking in all longitudinal nation studies to date is the inclusion of nations where economic growth is flat or declining. Without the inclusion of such societies, we are in a weak position to make inferences about how economic change increases SWB because we are experiencing only nations where growth is occurring.

Unfortunately, there were no poor nations that met the criterion of having at least four surveys over time using the same scale. However, there were three poorer nations where three surveys were administered, and the slopes in all three are positive: India, 0.09; Mexico, 0.06, and Philippines, 0.01. This is suggestive evidence that growth in the poorest nations can increase SWB, although slope lines based on only 3 points are highly unreliable. Survey data from different years are also available from nations such as Brazil and South Korea, suggesting increases in SWB. But because these data come from different surveys and rely on few time points, they must be accepted with

extreme caution. Therefore it may be that rapid growth in poorer nations leads to heightened SWB, although the evidence on this issue is preliminary.

If we examine the slopes of SWB, we can see that SWB in some nations such as Portugal tended up, and SWB in other nations such as Belgium tended down. In light of these differences, we correlated the SWB slope changes with economic aspects of the countries. The correlation between the slope and inflation was -0.30 , which became a significant -0.47 ($p < 0.05$) when we controlled for GNP. This is suggestive evidence that rapid inflation can lead to reductions in SWB. Because of the small sample size of nations, however, this conclusion needs to be replicated on a larger sample of nations when sufficient data are available. The correlation between the SWB slopes and the economic growth rate was -0.11 , indicating that among this sample of wealthier nations, higher levels of growth were not related to increasing levels of SWB.

We can also examine the effects of growth in static analyses, where single surveys of SWB in nations are correlated with the level of growth that is occurring in those societies. The advantage here is that we can use more nations and a broader range of nations because we are not restricted to countries where surveys have been conducted repeatedly with the same instrument. This approach produces mixed results across surveys. Economic growth of countries and the mean level of SWB in those nations correlated at the following levels: World Value Survey II, $r(31) = 0.49$, $p < 0.01$; our international college sample, $r(36) = -0.16$ n.s.; life satisfaction in Michalos's (1991) college sample, $r(28) = -0.21$; N.S.; Ouweneel and Veenhoven's (1991) sample of nations using a 3-point happiness scale, $r(26) = -0.15$ n.s.; Veenhoven's (1993) sample of nations using a 10- or 11-point life satisfaction measure, $r(23) = -0.24$ n.s. When income (purchasing power parity) was controlled, the correlations tended to become stronger—in both the positive and negative directions. These conflicting findings are not surprising when one realizes that economic growth can be beneficial in some ways but also be accompanied by both rapidly rising expectations and undesirable concomitants such as rapid urbanization. It seems that without larger samples of nations and longitudinal data we will not be able to fully understand the effects of economic growth on SWB.

Equality

It could be that the manner in which income is divided in a nation is more important than the mean level of income there. For instance, it might be that a nation

with nearly equal incomes is happier than a country where some people are very rich and many are very poor. Scandinavian nations approximate the former condition and Latin American societies more nearly approximate the latter. It should be noted, however, that richer countries also tend to be more equal, as indicated by lower Gini coefficients (Diener, Diener, and Diener 1995), and as a result studying the effects of equality separate from income is not straightforward. Ouwenel and Veenhoven (1991) found that income equality correlated 0.40 with the reported happiness in nations, and that this rose to 0.70 when economic prosperity was controlled. However, Diener, Diener, and Diener discovered that the income of nations and equality was correlated 0.84, and that controlling for income lowered the prediction of SWB by equality to 0.04. Schyns (1998) reported that gender equality correlated 0.52 ($p < 0.001$) with the happiness question in the World Value Survey II, but she also found that gender equality correlated 0.74 with the gross domestic product per capita of nations. Thus gender equality correlated a nonsignificant 0.10 with SWB when income was controlled.

In the present study we used the ratio of the income in the highest income group to the lowest income group (World Development Report 1994) to estimate income equality in nations, a high number thus indicating greater inequality. Income *inequality* did not correlate significantly with the World Value Survey II life satisfaction measure ($r = 0.20$), with life satisfaction in our college sample ($r = -0.03$), or in the combined life satisfaction surveys using similar scales ($r = 0.21$). However, higher inequality was *positively* and significantly related to higher SWB in two surveys when income of the nations was controlled! In the World Value Survey II, inequality and life satisfaction correlated 0.52 ($p < 0.05$) across nations, with income controlled, and this figure was 0.54 in the combined life satisfaction survey ($p < 0.01$). This unexpected finding probably occurred because equality is relatively high in Eastern European nations, but SWB is low, and equality is low in the Latin American nations where SWB is higher than would be predicted based on income. For instance, Colombia and Brazil had two of the most unequal income distributions of the nations we examined, and yet their life satisfaction scores were relatively high on the surveys we examined.

We very much doubt that inequality produces higher SWB. Instead, the findings seem to be due to particular historical and cultural characteristics that happen to covary with equality in this relatively small number of nations. Nonetheless, the results do suggest that equality of incomes within nations is not necessarily a prerequisite to high mean SWB. These findings also cast further doubt on Easterlin's

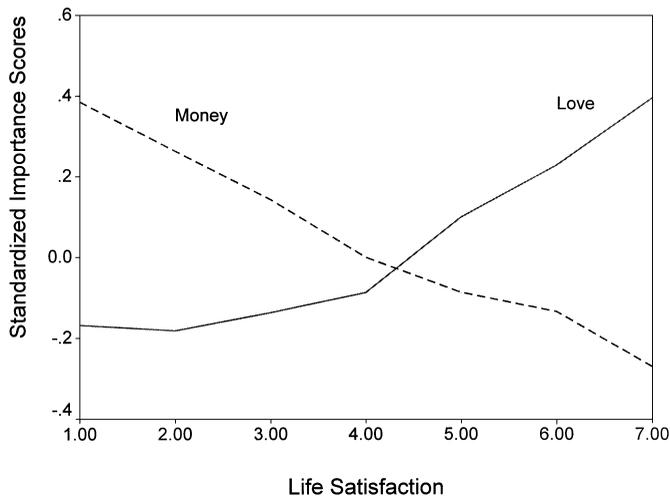


Figure 8.2
Relation of the rated importance of love and money to life satisfaction controlled for societal differences.

version of the social comparison hypothesis because societies with a small wealthy class and many poor people can be as high or higher in SWB than nations with relative income equality between persons. However, Veenhoven (1993) reported that nations with more equality had a greater standard deviation for SWB. When we controlled for income in the World Value Survey II nations, we replicated this finding (partial $r(20) = 0.64$, $p < 0.001$). Thus, although mean levels of life satisfaction can be high in nations with more income inequality, there is also a greater dispersion of SWB in these societies.

Materialism

Related to the question of the effects of money on SWB is the question of materialism: How happy are people who place great importance on money? In figure 8.2 we show the importance students placed on money in relation to their life satisfaction—respondents who rated money as less important were most satisfied. For comparison purposes we also show the importance students placed on love, in which case greater importance is accompanied by greater life satisfaction. The trends shown are controlled for differences between nations, but when we also controlled

for individual income, virtually the same results were evident. This gives cross-national support to the idea of Ryan et al. (1996) and Kasser (2000) that strongly being motivated by money relates to less happiness, although we are uncertain of the psychological process causing this.

Discussion

In the data we analyzed, several conclusions are clear. First, income within nations correlated with SWB, and this trend was true even for comparisons between the wealthiest income categories. Further we found a large correlation between the wealth of nations and the level of SWB reported in them. Despite these positive findings, we also found that the average industrialized nation has not experienced large increases in SWB over the years since WW II, even as wealth has increased dramatically. However, there was suggestive evidence that SWB in poorer nations has increased as their economies have prospered. Despite this finding, the effects of rapid income growth are not uniform, suggesting that perhaps desires can outstrip even rapid economic development. We found that financial satisfaction is due to more than objective income; general life satisfaction predicts it as well. This finding indicates that people's global feelings of well-being make them more satisfied with their incomes, controlling for actual income. Income inequality in nations did not inevitably produce negative effects. For example, the poorest groups in some relatively poor nations were quite satisfied with their lives.

Evaluating the Theories

The extant findings on income and SWB are consistent with the desires/goals approach, but other models such as that based on Maslow's theory can also explain the findings. If we examine additional evidence, greater credence can be placed on the desires/goals theory. For example, Diener, Crawford, Oishi, and Wirtz (1998) manipulated the desirability of goods available to wealthy people in a hypothetical future society. It was found that subjects were less satisfied with a mid-level income in that society if wealthy people were said to possess goods that were extremely desirable as opposed to goods that were moderately desirable. In another experiment, Diener et al. manipulated beliefs about how much income would be required to purchase certain goods. They found that subjects' satisfaction with their predicted future income depended on the experimental manipulation of how many desired

goods could be purchased with that income. In yet a third study Diener et al. found that people's personal goals influenced whether they were satisfied with particular levels of income. Thus other evidence corroborates the idea that whether people are satisfied with their income depends on whether people can meet their material desires and goals.

The existing evidence does not support an interpretation of the income-SWB link that is based on one's past income. If a person's income has gone up, this model suggests that people are more likely to be happy. The data on income growth suggest that this model cannot fully account for the link between income and SWB, and Diener, Sandvik, Seidlitz, and Diener (1993) also present evidence that is inconsistent with this model. Similarly the data cast doubt on social comparison as a primary way to understand the SWB-income connection. There are large mean differences across nations in SWB that are not consistent with Easterlin's (1974) social comparison model, and again, Diener, Sandvik, Seidlitz, and Diener also report evidence that is inconsistent with this approach. One reason that social comparison is not a simple process influencing SWB is that people use much discretion in the comparison targets they choose, and base their social comparison perceptions on their own feelings about themselves instead of on actual comparison calculations (e.g., Diener and Fujita 1997). Thus social comparison and comparison to one's past do not appear to be the major girders shoring up the SWB-income relation.

The idea that culture can influence one's satisfaction with income does receive some support in the data we analyzed. Certain nations are happier than one might expect based on their incomes, and the Latin American nations fall uniformly in this group. It is particularly noteworthy that poor individuals in the Latin American nations do not report very low levels of SWB, as they often do elsewhere. Culture may influence the importance placed on material wealth and thereby dampen the ill effects of poverty in some societies, although this moderating influence on the SWB-income relation has not been explored in depth.

Veenhoven (1995) reviewed evidence and concluded that livability theory, the idea that objective conditions that serve human nature produce happiness, fits the data best. He suggests that characteristics of societies are related to the degree to which they meet universal human needs, and in turn achieve high SWB. The reason that SWB has not increased appreciably in wealthier societies, according to this approach, is that increased material wealth beyond a certain point has not helped these societies better meet human needs. Veenhoven reviews evidence on cultural

approaches and relativistic approaches and concludes that these models are incorrect. Veenhoven's approach is consistent with humanistic theories such as that of Maslow (1954), and the emphasis of the "Rochester school" (e.g., Ryan et al. 1996) on intrinsic values.

Veenhoven's model based solely on basic physiological needs does not seem tenable based on the evidence we review. Our finding that the highest income group is more satisfied than the second-highest income group is inconsistent with the basic needs model because both groups can fully meet their physical needs. Nevertheless, Veenhoven's livability model remains tenable if one accepts the notion that even large amounts of income might be used to meet self-actualization needs. At this point it appears that both the material desires model and the Maslowian extension of Veenhoven's needs model can explain the existing data. One difference between these two models is the prediction of the Maslow model that income at higher levels will increase SWB only if it is used in ways to promote self-growth, whereas the material desires model predicts that the lack of fulfillment of a wide range of desires, no matter how frivolous they may appear, can harm SWB if the goods and services are strongly wanted by the individual. A major task for future research is to obtain data that can test these two models in a comparative fashion.

Subjective Influences on Satisfaction

Ravaillon and Lokshin (1998) are economists studying Russian's utility function for money. They asked respondents to rate their income on a nine-step ladder on which the lowest step represents the poorest people and the top step represents rich people, and label this "welfare." In other words, people are asked to subjectively evaluate their income on a poor-rich continuum. Although objective income significantly predicts this measure, it explains only a small part of the variance in it. Healthier, married, and better-educated people rate their economic welfare higher, and unemployed people rate it lower, than their objective incomes would predict. People in richer geographic areas had lower perceived welfare, controlling for income and other variables. Growth rates in real income predict only a small part of changes over time in subjective welfare. Taken together, these findings suggest that much subjective is going on when people evaluate their incomes; that "utility" is not a linear function of objective income. However, Diener et al. (1993) report evidence showing that relative standards such as social comparison and people's past income do not invariably influence the relation between income and SWB. Perhaps increases

in income do not map neatly onto increases in perceived welfare because people's material desires also change at varying rates. The fact that educated, employed, married, healthy people in the Ravallion and Lokshin study report higher monetary welfare supports our earlier conclusion that global feelings of well-being can affect people's financial satisfaction. In addition the finding that people in poorer areas were happier given a similar level of income is perhaps due to the fact that people there desire less expensive lifestyles. In both cases, however, the explanations are post-hoc, and we need direct measures of desires and comparison-others to directly determine what is occurring.

The conclusion that can be drawn from the existing data is that a more prosperous material world will not inevitably increase life satisfaction. If people's desires outstrip reality, it is likely that people would be more dissatisfied even in a very affluent world. People in wealthy nations may exhibit greater levels of SWB than people in poor nations because they have more of the desired goods. But the small increases in SWB in Japan, Belgium, the United States, and other nations experiencing high levels of economic growth are cautionary. An increase in income will not inevitably lead to greater SWB. The average person in the United States in 1946 would be considered poor today, but probably he or she did not feel poor. Thus it may be people's desires that determine whether they are psychologically rich or poor. Nevertheless, people's desires can be influenced by certain innate needs, and therefore income may have some effects on SWB that are not simply a reflection of transient desires.

One can achieve psychological wealth as much by constraining one's desires as by increasing one's income. The voluntary simplicity movement advocates that people purposefully limit their desires so as to use fewer resources. Whether this movement can gain widespread appeal is yet to be seen. It may be that people will move to other goals once they have achieved a certain level of material wealth, entering a post-materialistic (Inglehart 1990) phase in which intimacy and growth goals become paramount. However, it is also possible that competition and advertising will move people's desires ever higher, creating a cycle of economic growth that does not enhance SWB.

Effects of Poverty

Another conclusion drawn from the evidence is that it is not desirable to live in a poor nation. Not only is SWB low in these countries, but objective quality of life indicators such as longevity, literacy, gender equality, and crime (Diener and

C. Diener 1995a) also tend to indicate undesirable conditions in them. Furthermore it may in many ways be easier to be poor in a wealthy country than in a poor one. Even though poor people in rich countries do not receive a level of health care that they deserve, their health care in most cases is superior to that received by the poor in a poor society. Poor people in a wealthy society do not live as long as the wealthy, but they live longer than the average person in the poorest societies. Furthermore poor people in a wealthy society can benefit from the roads, parks, mass transit, schools, and other amenities that are more readily available in rich nations. We do not mean to justify poverty in rich societies. We only mean to suggest that being poor is not worse in wealthy societies than in poor ones.

In order to pursue the issue of poverty in more depth, we examined the SWB scores of the poorest people across nations. In the World Value Survey II, different income categories were used in different nations. Nonetheless, when we examined the lowest income group in the wealthiest nations, SWB on a 1 to 10 scale tended to be well above the neutral point of 5.5 (e.g., United States, 7.16; Netherlands, 7.44; Britain, 7.04; and Norway, 7.09), although usually not as high as for the richest group. In contrast, in the poorest nations, the poor group tended to score low on life satisfaction (e.g., India, 5.98; Poland, 4.81; South Africa, 4.88; and Hungary, 4.90), although this was not true of the poor in Latin nations. The poor in Latin countries such as Mexico, Brazil, and Chile showed relatively high SWB scores despite the large amount of inequality in these nations (means of 7.36, 7.45, and 7.38, respectively). This finding points to culture and expectations as important influences on SWB. Overall, however, our results suggest that it is worse to be poor in a poor country than in a rich one.

Future Research

The present chapter focused on the existing data on the relation between income and life satisfaction and financial satisfaction. However, there are additional interesting questions for future research. We should examine the relation between income and SWB using measures of pleasant and unpleasant affect because these are also major components of SWB. Although the World Value Survey II included Bradburn and Caplovitz's (1965) measure of these constructs, we found that this measure is somewhat weak (Larsen, Diener, and Emmons 1985) and therefore chose not to report on it in the present study. The measure does not broadly sample pleasant and unpleasant emotional feelings. In our international college student sample we did use

a measure of emotional intensity and frequency regarding a number of specific emotion terms (e.g., joy, fear, sadness, and affection). We found correlations between income and affect even smaller than the values for satisfaction shown in table 8.1. However, we need better measures of pleasant and unpleasant affect in broadly representative samples of respondents before firm conclusions can be drawn. Ahuvia and Friedman (1998) suggest that certain aspects of income and consumption will predict life satisfaction, whereas other aspects will predict affective well-being. As of now, we restrict our conclusions to how income relates to life satisfaction and financial satisfaction. In the future we need to more carefully distinguish different components of subjective well-being such as life satisfaction, financial satisfaction, positive affect, and feeling poor.

We need greater use of experience sampling studies to explore momentary SWB, as well as to accurately assess desires and spending patterns. If we extrapolate Kahneman's (1999) extension of adaptation theory, we might surmise that richer people are happier in momentary experience than poorer individuals but require more happy moments to label themselves as having high global SWB. If so, experience sampling studies might, in unison with peer reports and memory measures, be able to uncover this pattern. The hypothesis is that momentary reports of mood will show larger differences between rich and poor people than global measures because expectations for happiness adapt, and this adaptation is reflected more strongly in the global measures.

In terms of methods, more sophistication is needed in future research in this area. For example, we need to more carefully differentiate types of income (e.g., earned individual income, household total income, or barter income), and also consider household size. There has been little research examining different types of income (e.g., earned income vs. inherited or investment income), or research on how people spend and invest the income they have. Although we have been blessed with large samples of individuals in this area of study, we now also need samples that include a large and diverse set of nations. In addition longitudinal panel designs will be very helpful.

We also need to gather measures of desires so that we do not have to infer them indirectly from other information. One problem in testing Maslow's model against the material desires model is that there are currently no large survey data in which material desires are specifically measured, and in which specific uses of money to meet various types of needs are also assessed. This forces us into the position of having to make inferences about need fulfillment and desires in our explanations of

SWB because the survey research does not include specific measures of these concepts that would help provide a more rigorous test of the models. One unanswered question in the material desires model is whether the desires must be conscious goals in order to influence SWB, or whether they can be implicit cognitive templates of the desirable life. Another issue in developing the materials desire model is to determine how one's past income and social comparisons might influence people's material desires. For the model based on Maslow's needs, researchers must be able to specify the needs and their fulfillment in enough detail so that they are directly measurable and the theory becomes falsifiable.

A fascinating question for future research is how the desire for new products relates to SWB. Many new products are created each year, and some, such as medical aids, undoubtedly enhance the quality of life. Some products are inherently desirable and other products require advertising to become desirable. Ryan et al. (1996) suggest that some goods are inherently more satisfying than others, and we suggest that this may extend to goods and services as well. A task for future research is to examine how both desires and consumption of various types of goods and services influence SWB. A plausible hypothesis is that economic growth cannot substantially enhance SWB in wealthy countries unless new products are created that are intrinsically very desirable.

A related question concerns how materialism interfaces with other values and goals. The belief that goods and services are more important than other values such as relationships appears to be detrimental to SWB (Kasser 2000). Reviews of the materialism literature can be found in Ahuvia and Wong (1997) and Sirgy (1998). As of yet, there is little research on how materialism interacts with income to predict SWB across cultures.

Conclusion

There may be something in our results to please everyone. For liberals, there is the finding that poor people are less happy on average. For conservatives, there is the finding that wealthy nations are happier, and that the degree of inequality in nations does not seem to adversely affect SWB. For those who believe that materialism is not the road to happiness, there is the finding that wealthy societies have not grown in SWB as they achieved even higher levels of wealth, and also the finding that believing money is very important is related to less life satisfaction. For the psychologist

there is the finding that global feelings of well-being influence financial satisfaction in a top-down fashion beyond the bottom-up influence of objective income. And for the cross-cultural scientist there is the finding that culture and expectations seem to play a large role in people's SWB.

Subjective well-being is only one of our values, and it is only one of the outcomes we might examine in evaluating the effects of income on quality of life. Increased wealth can help reduce infant mortality, foster scientific pursuits, allow spending on parks and public facilities, and create more leisure time (Diener and Suh 1997). Thus we are not recommending that nations abandon the pursuit of wealth and economic growth but that they do need to question how increases in wealth will be used.

If wealthy societies are reaching the postmaterialistic point where added goods and services enhance SWB very little, we may be at a critical crossroads in terms of public policy and individual choices. People in wealthy nations feel an increasing time shortage, and yet many are working even longer hours than before. People seek a level of material wealth undreamed of by earlier generations, and they make sacrifices in time and personal relationships to attain it. However, despite the picture of a "good life" presented in the media and in advertising, people may want to reassess their priorities. To the extent that individuals or societies must sacrifice other values to obtain more wealth, the pursuit of income is not likely to be worth the costs. After World War II people had no computers or televisions, indoor plumbing was not taken for granted, and many people had ice boxes rather than refrigerators. Yet people report being about as happy as they are now. Thus we must question then whether we need a trip to Antarctica, a larger home with more bathrooms, and a high-status automobile to be truly happy. Certainly if these items require us to make sacrifices in self-growth, leisure time, and intimate relationships, they may interfere with happiness rather than enhance it. As long as people want more goods and services, they will tend to be somewhat dissatisfied if they do not get them. Thus the educational challenge is to convince people that other pursuits may sometimes lead to greater fulfillment than does the pursuit of more money.

Note

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