Will Money Increase Subjective Well-Being?: *A Literature Review and Guide to Needed Research*

Ed Diener and Robert Biswas-Diener

The happy man will need external prosperity.
Aristotle
It is difficult for a man laden with riches to climb the steep path that leads to bliss.
Islamic saying
People who claim that money can't buy happiness just don't know where to shop.
Anonymous

Abstract Four replicable findings have emerged regarding the relation between income and subjective well-being (SWB): 1. There are large correlations between the wealth of nations and the mean reports of SWB in them, 2. There are mostly small correlations between income and SWB within nations, although these correlations appear to be larger in poor nations, and the risk of unhappiness is much higher for poor people, 3. Economic growth in the last decades in most economically developed societies has been accompanied by little rise in SWB, and increases in individual income lead to variable outcomes, and 4. People who prize material goals more than other values tend to be substantially less happy, unless they are rich. Thus, more money may enhance SWB when it means avoiding poverty and living in a developed nation, but income appears to increase SWB little over the long-term when more of it is gained by well-off individuals whose material desires rise with their incomes. Several major theories are compatible with most existing findings: A. The idea that income enhances SWB only insofar as it helps people meet their basic needs, and B. The idea that the relation between income and SWB depends on the amount of material desires that people's income allows them to fulfill. We argue that the first explanation is a special case of the second one. A third explanation is relatively unresearched, the idea that societal norms for production and consumption are essential to understanding the SWB-income interface. In addition, it appears high SWB might increase people's chances for high income. We review the open issues relating income to SWB, and describe the research methods needed to provide improved data that will better illuminate the psychological processes relating money to SWB.

E. Diener (✉)
Department of Psychology, University of Illinois, Urbana-Champaign, Champaign, IL 61820, USA
e-mail: ediener@s.psych.uiuc.edu

E. Diener (ed.), *The Science of Well-Being: The Collected Works of Ed Diener*, Social Indicators Research Series 37, DOI 10.1007/978-90-481-2350-6_6,

Money is a fundamental aspect of human life throughout the world. People spend a large fraction of their time earning and spending money, and use market goods during all of their waking and sleeping moments. In wealthy and poor societies around the globe, there is now an enormous concern about economic development, and in most nations it is the foremost policy issue. Nation-states recently have crumbled when they have failed to "deliver the goods." The world economy in 1998 reached 24 trillion US dollars, or 4,000 US dollars per person, and continues to grow dramatically.

From 1974 to 1994 productivity in the United States increased so that it required 3 days of work for a wage earner to purchase a color T.V. compared to 3 weeks just 20 years earlier, and substantially less time to buy most other items such as food, leisure, and travel (Templeton, 1999). Economic development is not just occurring in a few wealthy nations, however; it is spreading to the majority of the nations of the world. From 1975 to 1993 the number of cars in the world almost doubled, and automobiles in developing countries increased threefold. Although industrialized societies still use a disproportional share of electricity, the amount consumed in the developing countries tripled between 1980 and 1995. Even in the poorest region of the world, sub-Sahara Africa, the availability of many commodities approximately doubled in the 20 year period from the 1970s to the 1990s: meat and cereal production, electricity use, and automobile purchases, for example (UN Development Programme, 1998). In the developing nations of the Pacific Rim and Southeast Asia, consumption increased 3 to 4 times during this period. Recent growth rates in economically developed and developing nations alike have exceeded the material growth rates that characterized earlier time periods (Easterlin, 1996).

In view of the current economic growth rates of several percentage points throughout the majority of nations in the world, it is natural to ask whether most people on earth will be happier in the decades to come? One flourishing area of study in the social and behavioral sciences is concerned with the effects of income on subjective well-being (SWB), to which this review is devoted. Many people ask whether money will make them happier, and this paper reviews the intricate answer to their question.

Wealth is related to many positive outcomes in life (Furnham & Argyle, 1998). For example, people with higher incomes tend to be given lighter prison sentences for the same crimes (Black, 1976), have better health and mental health (e.g., Langner & Michael, 1963; Mayer, 1997), have greater longevity (Wilkinson, 1996), lower rates of infant mortality (Smith, Brooks-Gunn, & Jackson, 1997), are less frequently the victims of violent crime (Mayer, 1997), and experience fewer stressful life events (Wilson, Ellwood, & Brooks-Gunn, 1995). Financial problems are a strong predictor of DSM depression (Wheaton, 1994). The children of the well-to-do are less likely to drop out of school or become pregnant as teens (Mayer, 1997). In addition, richer people score higher in characteristics such as interpersonal trust (Rosenberg & Pearlin, 1978). It should be noted that the correlates of higher incomes are not confined entirely to the benefits of not being poor; the richest group, for example, has better health than the second highest income category (Pamuk, Makuc, Heck, Reuben, & Lochner, 1998).

Given the multiplicity of positive variables that covary with income, we should not be surprised if wealthier people are substantially happier than others, but there are also reasons to question this prospect. Modern society appears to have mixed feelings about rich people, containing both respect and dislike. For example, although Dittmar (1992) found that rich people were perceived as more inteligent and successful, she also found that wealthy individuals were viewed as more unfriendly and cold. Another reason that income might not strongly predict higher SWB is that most people must earn their money, and wealthier people thus might be required to spend more of their time in work, and have less time available for leisure and social relationships. Also, wealthy people might adapt to their conditions, and have rising expectations and desires that counteract the effects of the desirable circumstances of their lives. Finally, a materialistic mind-set that leads to higher incomes might create lower feelings of well-being (e.g., Kasser & Ryan, 1993). Thus, it is not a foregone conclusion that the more benign life circumstances of people with higher incomes will necessarily translate into greater SWB.

Whether higher income will lead to greater happiness is not merely of academic interest or idle curiosity. Many individuals are personally concerned with this question because of the important implications it has for how they should structure their lives. In addition, governments and other institutions are also very interested in economic policies. Political parties and governments can rise and fall depending on the economic prosperity of the society. The impact of income on SWB is one important way we can judge the benefits of economic progress. Andrew Oswald (1997) argues that "Economic things matter only in so far as they make people happier" (p. 1815).

In the current paper we present a comprehensive picture of the existing research on income and SWB, and then review the theories that seek to explain the findings. The extant data are, however, inadequate to definitely test the theories, primarily because the key mediating psychological variables in the models have rarely been measured. For example, our hypothesis that income relates to SWB to the extent that it allows people to fulfill their current desires cannot be tested in a thorough way with existing survey data. In addition, a number of intriguing psychological questions that we review remain unexplored. Although broad surveys have yielded intriguing findings on income and SWB, we describe the methodologies and measures that are required to make further theoretical progress in this area. In the following section we review the various types of evidence related to money and the experience of well-being.

Analyses at the Individual Level

Cross-Sectional Correlations for Individuals

Frey and Stutzer (2000) report results within Switzerland that are typical for cross-cultural data of this type—significant but relatively small correlations between SWB and income within nations. In Table 1 we present cross-sectional correlations within

Table 1 Correlations within nations and cities between income and subjective well-being

Citation	Place	Correlations	Concept
Diener and Oishi (2000)	19 nations	0.13 (mean r, range −0.02 to 0.38)	Life satisfaction
Schyns (1998a)	W. Germany	0.06–0.15	Life satisfaction
	Russian Federation	0.17–0.27	Life satisfaction
Lachman and Weaver (1998)	United States	0.18 and 0.18	Life satisfaction
Blanchflower, Oswald, and Warr (1993)	US (Log income)	0.15	Men, happiness
		0.14	Women, happiness
Hagerty (2000)	United States	0.18	Happiness
E. Diener, Sandvik, Seidlitz, and M. Diener (1993)	United States	0.13 (Circa, 1973)	Affect balance
		0.12 (Circa, 1983)	Affect balance
Mullis (1992)	United States males	0.17	Happy with life & domains
Keith (1985)	US older divorced and separated	0.23	Women and Men; both "Satisfaction with level of living"
		0.21	
Connor et al. (1985)	Retired professors from Iowa, USA	0.24	Life satisfaction
Brinkerhoff, Fredell, and Frideres (1997)	Village in India	0.22	Happiness
		0.35	Aggregate satisfaction
Biswas-Diener and Diener (2000)	Poor areas of Calcutta	0.45	Life satisfaction

Note. Although some studies present more than one correlation, virtually all of the correlations shown are statistically significant because the low correlations are based on very large samples.

nations between income and SWB for 11 published studies. The World Value Survey II studied by Diener and Oishi (2000) was based on large probability samples of many nations. As can be seen, the correlations are consistent in showing mostly modest correlations between income and various forms of SWB (e.g., happiness, life satisfaction, and positive affect). The table shows that the relation between income and SWB is much stronger among a very poor sample in Calcutta. Other evidence confirms the positive correlation between money and happiness. For example, Diener, Horwitz, and Emmons (1985) found that super-rich individuals (sampled from the Forbes' list of wealthiest Americans), matched to a comparison group living in the same geographical area, were about 1 point higher on a 0–6 life satisfaction scale. Although this difference is not immense, neither is it trivial.

Table 2 gives another view of the differences in SWB between richer and poorer individuals, showing for 19 nations the percent of people in the highest and lowest income categories who scored above or below neutral on several SWB items (World Value Survey Group, 1994). Counting responses that are either above or below

Table 2 Percent above neutral in life satisfaction by nation in the wealthiest and poorest income categories

Nation	SWB variable							
	Life satisfaction		Positive affect balance		Negative affect balance		Financial satisfaction	
Income category	Low	High	Low	Hign	Low	High	Low	High
Austria	76	76	57	80	29	9	74	67
Belgium	78	91	64	82	20	9	66	91
Britain	74	93	49	87	40	6	38	83
Canada	83	95	65	90	16	4	49	95
Chile	73	87	49	81	37	12	27	93
Denmark	80	95	65	91	26	5	54	84
Germany (East)	67	70	58	75	28	16	43	82
Germany (West)	62	91	47	86	39	4	48	92
France	56	85	49	81	28	9	26	82
Ireland	84	96	53	89	25	5	56	88
Japan	49	84	35	46	29	20	41	82
Mexico	79	90	71	80	18	5	57	89
Netherlands	87	93	66	87	19	6	53	100
Nigeria	48	73	44	79	33	15	22	76
Norway	73	94	90	91	5	2	48	83
Portugal	55	88	46	85	38	10	35	90
Russia	42	54	46	58	42	25	13	59
Spain	64	90	37	72	35	13	40	83
Switzerland	88	95	71	81	14	3	74	95
Mean	69	86	56	80	27	9	45	85
Risk ratio for poor people	0.80		0.70		3.0		0.53	

Note. Nations in the World Value Survey II (1994) for which there were a minimum of 20 respondents in both the wealthiest and poorest income groups. Most surveys conducted in 1990–1991.

neutral has the advantage of not relying on differences in the reported intensity of SWB, which might be less reliable across respondents and nations because these reports require that people use scale numbers in an equivalent way. The percentage figures assume only that people can report whether they are primarily happy versus unhappy, or more satisfied than dissatisfied, and that this judgment is more likely to be made similarly across respondents. The poor income category in most nations had a very low upper bound, and thus represented true poverty. In contrast, the highest income category was not so extreme, and thus included upper middle incomes and above, not just truly wealthy people. As can be seen across nations, 17% more of the wealthiest group reported that they were satisfied with their lives. Stated differently, the likelihood that a poor person will be satisfied with her or his life is 0.80 as great as that of a richer person.

Several interesting conclusions can be drawn from Table 2 regarding life satisfaction. First, it appears that impoverished individuals score relatively better in social democratic nations with liberal welfare benefits, although Norway is an exception

to this pattern. It is noteworthy, for example, that poor people were more satisfied in the former East Germany than in West Germany, whereas wealthier people were more satisfied in the former West Germany. Second, even wealthier respondents are dissatisfied in the unstable conditions of Russia (see Inglehart & Klingemann, 2000, for an explanation). Finally, poor people are substantially less satisfied than wealthier individuals in Portugal, Spain, Japan, West Germany, and France.

Although the correlations in Table 1 between income and life satisfaction may appear small, the data in Table 2 reveal that the relation has significance at a societal level. Projecting the data from Table 2 across the entire population of the world, for example, would equate to millions of more satisfaction individuals if the poor could move to the life satisfaction level of the richest income categories.

When we consider the other dependent variables, the effects of income appear larger. In Table 2 we show affect balance (pleasant affect minus unpleasant affect based on Bradburn's 1969 scale) for both positive and negative values, and financial satisfaction. Positive affect balance in Table 2 is when pleasant emotions exceed unpleasant emotions, and negative affect balance is when unpleasant emotions exceed the pleasant ones. As can be seen, the differences between richer and poorer respondents for these variables is larger than for life satisfaction. For instance, the poor are only 0.53 as likely to be satisfied with their incomes as the rich. They are 0.70 as likely to be satisfied with their incomes as the rich. They are 0.70 as likely to show a positive affect balance (more pleasant than negative affect reported). Finally, the risk ratio for the negative affect balance scores show that based on this index the poor are much more likely to report low SWB. We arrive at the same conclusion if we examine Bradburn's (1969) data drawn from large US cities. The poorest group reported being "not so happy" 36% of the time, but the richest group responded in this way only 5% of the time. Thus, the poor had about a sevenfold greater risk of suffering from unhappiness compared to the wealthiest category in Bradburn's data, and almost a threefold greater likelihood of a negative affect balance score in the World Value Survey II data shown in Table 2. Therefore, the risk ratios for unhappiness among the poor versus wealthier individuals are substantial.

Similar to the Table 2 data, Bradburn's findings revealed that the likelihood of the poorest group being "pretty happy" or "very happy" was 0.67 of the richest group, obviously a much less extreme ratio than the unhappiness data. This divergence in conclusions when examining positive versus negative SWB occurs because a preponderance of people report being happy (E. Diener & C. Diener, 1996), and thus the low base rates in unhappiness make possible larger risk ratios. Thus, it can be said that higher income corresponds to modest differences in happiness, but it substantially reduces the risk of the rarer experience of unhappiness.

Various types of SWB. Andrews and Withey (1976), Diener (1984), and others have argued that life satisfaction, pleasant affect, and lack of unpleasant affect are separable constructs that must be independently examined. In a re-analysis of Bradburn's (1969) data, Lane (1991) reported that NA decreased as one rose through the very lowest income levels, but not thereafter, whereas PA moved up throughout the entire range of income. In our international college sample (Suh,

Diener, Oishi, & Triandis, 1998) income correlated 0.19 with positive affect but only 0.03 with negative affect. However, there were not strong differences across dependent variables in the large World Value Survey Group II (World Value Survey, 1994). Across a large number of individuals and societies, after controlling mean-level nation differences, income correlated 0.13 with life satisfaction, 0.13 with positive affect and −0.10 with negative affect. In many nations positive affect showed a stronger correlation with income than did negative affect, but in some societies this pattern was reversed. Thus, it is likely that income influences positive affect and negative affect differently in distinct contexts, but we are as yet unable to clearly identify the moderating variables involved.

At first glance it might appear that the lack of a reliably higher relation between income and negative affect is at odds with our earlier conclusions about the greater risk ratio of poor people for low SWB. The risk ratios are about groups of individuals compared to one another, however, not about particular dependent variables. Poor people score lower on a variety of SWB measures, not just on measures of unhappiness. The risk ratio for negative affect balance shown in Table 2, for example, is high. If we reverse our analysis of life satisfaction, however, and examine the ratio for life dissatisfaction, we find a ratio of 2.4 (0.31 divided by 0.13; there was no neutral category), indicating that poor people are almost $2^1/_2$ times more likely to be dissatisfied with their lives than well-off people. Thus, the high risk ratios for low SWB experienced by the poor are not necessarily due disproportionately to greater negative affect, but probably reflect the relatively high percentage of poor people in the low SWB range across different types of measures.

Control and moderator variables. In order to determine the causal pathways of income on SWB, we must first examine how the relation survives controlling other variables that might underlie the relation, such as education. For instance, it might be that educated people earn more money, but that it is education rather that income that leads to heightened happiness. Similarly, married men earn more money than unmarried men (Nakosteen & Zimmer, 1997), and therefore one should control for marriage to understand income's effect because married people on average are happier (Diener, Suh, Lucas, & Smith, 1999). The correlation of income and SWB controlling for education has been examined in many studies, and usually it changes little from the zero-order correlation (e.g., Blanchflower & Oswald, 1999). Tomes (1986) found that income had small but significant correlations with reported happiness and satisfaction even after controlling for education (which had very small effects), marriage (which had moderate to large effects), unemployment (which had a large negative impact, especially for men), and other control variables. Similarly, Marks and Fleming (1999) found that income influenced an aggregated measure of happiness with aspects of life even after controlling for marital status, occupation, employment, age, and sex. Biswas-Diener and Diener (2000) found that income and life satisfaction correlated after satisfaction with various domains, such as family and friends, was controlled. These findings suggest a direct relation of income with SWB that is not due to many other variables.

Some variables appear to moderate the effect of income on SWB, for example sex. Adelmann (1987) found that income was significantly related to happiness for

men but not for women. Similarly, a wife's personal earnings did not affect her likelihood of depression, whereas a husband's personal earnings directly decreased the probability of his depression (Ross & Huber, 1985). Keith and Schafer (1982) found that low income was a predictor of depression among single women, but not among married women. Pearlin and Johnson (1977) reported that economic strain predicted depression, but that marriage buffered this effect to some degree. George (1992) reported that the relation of income and SWB was weaker for the elderly. These findings suggest that the effects of money on SWB differ depending on one's life circumstances, roles, and values.

These moderator variables imply that the importance of factors such as desires and feelings of self-worth in the relation between money and SWB. The effect of income on happiness appears not to be an absolute one, but instead is one that depends on an individual's roles and relationships, as well as other factors.

An important moderator of the effects of income on SWB is the wealth of the society. Veenhoven (1991) found that the correlations between income and SWB were stronger in poorer nations, and this effect was largely duplicated among college students by Diener and Oishi (2000). E. Diener and M. Diener (1995b) found that among women financial satisfaction was more strongly related to life satisfaction in poorer versus richer nations, and this trend was of borderline significance for men. Schyns (1998a;1998b) also reproduced the finding that the relation between income and life satisfaction is largest in the poorer nations. Thus, there is evidence that income has a larger correlation with SWB in poor societies, although there remain several possible explanations of this finding—the greater variability in the fulfillment of biological needs in poor nations, the larger amount of social welfare protections in wealthy nations, and the greater income inequality that characterizes many poor nations are all viable explanations of the differences in correlations. The findings of Biswas-Diener and Diener (2000) in the slums of Calcutta that income was strongly related to life satisfaction indicates that where income differences are related to differences in meeting universal basic needs for food and shelter, the effects of income can be relatively strong.

Just as the correlations show a larger effect of income in poor nations, there is also evidence for the declining effects of money at upper income levels within societies. Diener et al. (1993) found a curvilinear effect between income and SWB within the USA, with ever higher income categories being related to smaller increments of SWB. This effect is disguised in many studies because income scales are used in which responses have increasingly larger ranges as one goes up the income ladder; the income categories increase in a nonlinear fashion. When actual income figures are used, the data are often subjected to a log transformation. Thus, when the income scale correlates in a linear fashion with SWB, it often hides a curvilinear effect.

Veenhoven (1995) and Diener and Oishi (2000) both report that income correlates less strongly with SWB for college student samples than for adult samples, which is to be expected considering that the life style of students and their elite status usually protects them to a degree against the most severe effects of poverty. Further, poverty during college is often seen as a temporary state. The college findings are important, however, in again reminding us that the influence of income is contextual, and depends on the life circumstances of the respondents we are studying.

Financial satisfaction as a mediator between income and global SWB. Are the effects of income mediated by financial satisfaction, or are there direct effects that perhaps come from the daily pleasures of greater income, not mediated by a judgment about one's income? First, it should be noted that the correlation of income with financial satisfaction is usually stronger than the correlation of income with global life satisfaction (e.g., Douthitt, MacDonald, & Mullis, 1992; Headey & Wearing, 1992). In Diener and Oishi's (2000) analysis of the World Value Survey II data (World Value Survey Group, 1994), for instance, financial satisfaction and income correlated across countries an average of 0.25, compared to the mean correlation of 0.13 for life satisfaction. This finding makes sense because life satisfaction can be influenced by many important factors that are relatively unrelated to income, whereas financial satisfaction should have income as a major input. This pattern suggests the possibility that financial satisfaction is closer in the causal chain to life satisfaction than is income. To assess this possibility, Schyns (2000) performed a mediational analysis for both West Germany and Russia, examining the direct and indirect paths of income's influence on life satisfaction. In Germany the path was indirect through financial satisfaction, whereas in Russia the direct effect was significant. These findings suggest that the effect of income on life satisfaction can come either from its influence on financial satisfaction, or more directly from the life circumstances of rich versus poorer people. George (1992) reviewed studies showing that financial satisfaction to some degree mediated the relation between income and more global SWB, but that there were direct effects as well.

Several conclusions can be drawn from the cross-sectional correlations within nations. The findings are incompatible with the idea that SWB flows automatically from higher income, because there are a number of moderators of this relation. These moderations indicate that psychological factors such as needs, desires, and role might play a critical role in the relation of money to SWB. It appears that income makes a larger difference to SWB within poorer societies than in rich ones. This finding might point to the importance of the fulfillment of basic needs in the income-SWB relation, because physical needs are more of an issue in poorer groups in most poor countries. Alternately, the findings might mean that in wealthier societies poor people more frequently have their material desires met because of welfare payments or because material desires are more flexible once more people move beyond the level of abject poverty. We now turn to other types of evidence on the income and SWB relation, which can shed greater light on the nature of the effects.

Changes in Individual Income, and the Causal Order of Variables

Income change. Do changes in income lead to changes in SWB? Answering this question will help us determine whether it is shifts in income rather than the absolute level of money that increases SWB, and will aid us in understanding the causal order of variables. In Table 3 we present both longitudinal and experimental studies in which income change was studied at the individual level. In the longitudinal studies the same respondents were followed over time, and both their incomes and their SWB were assessed more than once. Surprisingly, the longitudinal studies provide

Table 3 Income change and subjective well-being, individual level

Type of study and citation	Findings
Longitudinal studies	
Diener et al. (1993)	General well-being in US significantly different across income change groups, the income increase group was *lowest* in SWB
Schyns (2000)	Income change correlated nonsignficantly with life satisfaction in both Russia and W. Germany
Bradburn (1969)	Changes in income over a one-year period were not related to changes in affect balance
Marks and Fleming (1999)	Australian young adults, income change predicted by SWB, and SWB (happy with aspects of life) change predicted by income
Experimental or quasi-experimental studies	
Thoits and Hannan (1979)	Larger payments to welfare recipients led to *greater* stress
Brickman, Coates, and Janoff-Bulman (1978)	Nonsignificantly higher happiness among lottery winners compared to comparison group. Pleasure in mundane pleansant activities significantly *lower*
Smith and Razzell (1975)	Football pool winners reported higher levels of SWB than comparison group; 39% vs. 19% reported being very happy
Gardner and Oswald (2001)	Lottery winners and heirs receiving windfalls reported higher SWB

mixed evidence for the influence of income change on SWB. Diener et al. (1993) found that the group whose income declined were the happiest, and the group whose income increased reported the lowest well-being, a surprising finding that is consistent with the negative income tax study described below. The Schyns (2000) and Bradburn (1969) studies found nonsignificant effects for income change. In a study not shown in the table, Saris (2001) found stronger effects of income, after controlling for previous income, in Russia compared to in Germany, suggesting that the effect of income change might be stronger in poorer nations.

The experimental or quasi-experimental research includes lottery studies, a governmentally funded negative income tax experiment in which randomly selected welfare recipients were paid higher levels of benefits, and a study of people in a longitudinal study who received financial windfalls through a lottery or inheritance. In the case of the negative income tax studies, participants were randomly assigned to conditions, but only measures of stress were included and no positive well-being constructs were assessed. As can be seen, the negative income tax studies (Thoits & Hannan, 1979) found *higher levels of stress* among those receiving *higher welfare payments*.

In the lottery studies, Brickman and colleagues found that winners were nonsignificantly happier, and were significantly *less pleased* with everyday events; but the number of respondents was very small. In the study of football pool winners in England, Smith and Razzell (1975) found that the lucky individuals did report

higher levels of well-being, and Gardner and Oswald (2001) found an increase in SWB among those whose financial life had brightened due to a lottery winning or to inheritance. These authors found that a windfall of about 75,000 US dollars led to a 0.1–0.3 standard deviation rise in SWB during the following year. In addition, there are data suggesting that increases in income do lead to higher satisfaction with one's job and one's income (Clark, 1999; Schyns, 2000; Schyns, 2001).

Problems faced by the lottery winners in the United Kingdom (Smith & Razzell, 1975) demonstrated that higher income is not invariably an unalloyed good, and can have costs and well as benefits. For example, many of the lottery winners quit their jobs and moved to new neighborhoods, thus losing some of their former friends. The social mobility of the lottery winners had the costs of possibly losing old friends and being despised by new neighbors. In addition, family and friends who wanted part of the earnings were often recipients of what they perceived as an inadequate amount of money, thus leading to interpersonal friction. A related finding is that people whose income rose have been found to be more likely to get divorced (Clydesdale, 1997), thus possibly offsetting the higher SWB that could possibly follow from having more money. These studies suggest the possibility that the effects of income on interpersonal relationships may be an important consideration, but there is little systematic longitudinal research on this topic. Despite the possible downsides of higher income, the large longitudinal study by Gardner and Oswald (2001) indicates that the net effects of income on SWB are often positive. Because winning the lottery and receiving an inheritance are somewhat random, the longitudinal data of Oswald indicates that the SWB-income relation is not entirely due to the fact that happy people make more money.

The theory of adaptation (Brickman et al., 1978) and Michalos's Multiple Discrepancy Theory (1985) predict that changes in income should influence SWB, and will do so more than a person's absolute level of income. However, the data present a mixed picture. Hamermesh (2001) found that changes in income produced short-term changes in job satisfaction especially among those with concrete skills where the income changes were less expected. In some cases increases in income produce *lower* SWB. The changes a person makes in his or her life in reaction to greater income (e.g., changing neighborhoods) might produce decreases in SWB. In addition, increases in income might often be accompanied by an even bigger increase in one's appetite for consumables, thus leading to a greater discrepancy between desires and possessions. Conversely, declines in income might not always be perceived in negative terms. In the Diener et al. (1993) study, many respondents were older and therefore the income-decline group might have been heavily populated by people who retired. When retiring, people usually expect their incomes to decline, and often have investment savings to offset the decline, as well as ownership of greater numbers of durable goods (e.g., a car and house). In addition, some declines in income occur because people voluntarily cut back on their work hours. Thus, some people with declining incomes might have chosen an alternative lifestyle with lower income, and this could produce very different levels of SWB compared to a lower income from being fired. Windfall increases in income can increase feelings of well-being, but also create some new stresses. Thus, the data on income change

do not indicate that there is an automatic rise in SWB following increases in one's income, nor are declines in income always antecedents to lower SWB.

SWB influencing income. Not only might the correlation between income and SWB indicate the influence of money on happiness, but as the discussion above indicates, the causal arrow could point in the other direction: happy people might on average earn more income. In a panel survey of young adults in Australia, Marks and Fleming (1999) found that high SWB (happy feelings about nine aspects of life) at an earlier time period preceded increasing income. For respondents who were two standard deviations higher in SWB there was an 8–12% greater income increase at the next time period compared to the lower group. In addition, current SWB had a strong influence on later unemployment—with less happy respondents being more likely to be unemployed later. Diener, Scollon, Oishi, Dzokoto, & Suh (2000) analyzed cheerfulness reports from a large cohort of students entering college in 1976 (see Bowen & Bok, 1998), and data on the income of these individuals in about 1993. Figure 1 shows that the respondents' parents' income moderated the effects of cheerfulness on later income.

For individuals form economically advantaged backgrounds, a cheerful disposition was likely to be followed by substantially higher income in adulthood. For most respondents, a cheerful disposition in late adolescence was followed by a somewhat higher income in adulthood compared to those with a less cheerful disposition. For respondents who had grown up in poor households, there was no effect of cheerfulness on later income. These studies indicate that SWB can influence later income. Thus, the correlations between individual income and SWB must be interpreted in light of the fact that some of the relation is likely due to the tendency of happier

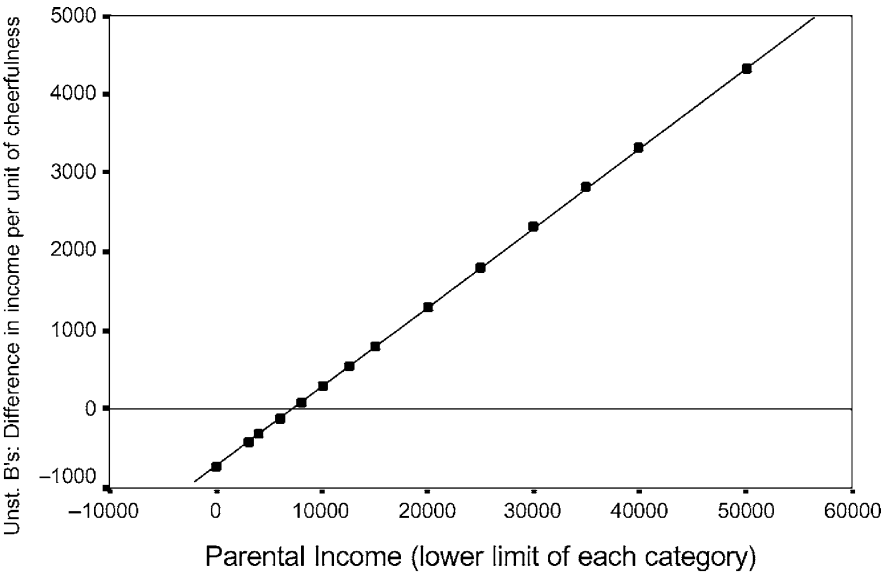

Fig. 1 Cheerfulness and later income, by parents' income

people to earn higher incomes than unhappy people. Thus, we have evidence that the relation between SWB and income is bidirectional.

Analyses at the National Level

Mean Income Per Person

In addition to the individual-level analyses presented above, we can also analyze whether people in wealthier societies are on average happier. Such analyses can reveal whether societal conditions rather than individual circumstances influence SWB. Again, we might assume that wealthier nations are higher in SWB because they are higher on a large number of desirable characteristics (E. Diener & C. Diener, 1995a) such as equality, literacy, longevity, health, human rights, lower crime, and democracy. Nevertheless, one can think of reasons that people in wealthy nations would not be happier, despite their resources—competitiveness, materialism, less time for leisure and socializing, and so forth. In what is the most extensive international study to date, Inglehart and Klingemann (2000) present recent SWB figures for a large number of nations, and a subset of these are presented in Table 4,

Table 4 Percent above neutral and wealth for selected nations

Nation	Percent above neutral on Life Satisfaction	Year of survey	Income
Netherlands	92	1990	13,281
Canada	90	1990	16,362
Switzerland	89	1996	15,887
Ireland	88	1990	9,637
Sweden	87	1990	13,986
USA	85	1995	17,945
New Zealand	84	1998	11,363
Mexico	83	1996	6,253
Portugal	76	1990	7,478
Japan	72	1990	15,105
France	72	1990	13,918
China	72	1995	1,493
Brazil	72	1996	3,882
Nigeria	71	1995	978
India	67	1996	1,282
Bangladesh	63	1997	1,510
Romania	57	1990	2,043
South Africa	56	1996	3,068
Hungary	52	1998	4,645
Bulgaria	33	1998	5,208
Russia	28	1995	7,741

Note. Source for SWB is Inglehart and Klingemann (2000), and for income is Sumners and Heston (1991).

along with per capita income figures for the year each survey was conducted. The relation between the wealth of nations and the SWB there is evident, although there are discrepancies from a perfect relation arising from additional factors such as political stability and cultural norms. Inglehart and Klingemann report that the correlation between per capita income and mean SWB across their entire sample of nations was 0.70.

Table 5 shows the correlations across studies between mean income in nations (usually assessed by gross domestic product per captia, or purchasing power parity) and the mean SWB of those societies. As can be seen, the correlations are consistently large, and much higher than the covariation we reported for individuals within nations. The mean correlation across studies is about 0.60. The first explanation that comes to mind for these large correlations is that the error term for these societal correlations might be much smaller than in the individual-level analyses because differences in temperament and other individual characteristics are likely to be averaged out of the means, resulting in the clearer covariation of income and SWB. Diener and Oishi (2000) examined this possibility by analyzing the unstandardized regression coefficients in a hierarchical linear model across nations. They found that income has a larger effect moving from nation than going from individual to individual, and this difference is not due merely to more variability at the individual level. Similarly, Schyns (1998b) found that national income substantially predicts individual SWB beyond the effects of individual income, again suggesting that additional variables such as human rights and equality might increase positive experience in wealthier nations.

One explanation for the greater correlations of income at the national level is that high income countries have a number of additional positive characteristics besides material goods—human rights, greater equality, and higher literacy, for example (Diener et al., 1995a; E. Diener, & C. Diener, 1995a). Wealthy nations also tend to be more individualistic. Although Diener, Diener and Diener attempted to separate the influence of these variables through partial correlation procedure is doubtful in

Table 5 Correlations across nations of income and mean subjective well-being

Reference	Number of nations	Correlations
Veenhoven (1991)	14	0.51
(Cantril's 1965 sample)		
(Based on Gallup sample)	9	0.59
E. Diener, M. Diener, and C. Diener (1995)	55	0.59
Inkeles and Diamond (1980) (Cantril's 1965 sample, controlled for education)	10	0.55–0.61
Ouweneel and Veenhoven (1991)	28	0.62
E. Diener and C. Diener (1995a)	34	0.64
Schyns (1998a)	40	0.64
Diener and Oishi (2000)	42	0.69
Inglehart and Klingemann (2000)	64	0.70

Note. All of the correlations are significant at $p < 0.05$ (one-tailed) or less.

light of the small number of nations and the high intercorrelations among predictors. However, it seems plausible that the abundance of shared public goods in wealthy nations (e.g., public schools, highways, water and sewage systems, hospitals, and parks) might heighten the SWB of both poorer and richer persons in them.

In considering the effects of income across nations, a natural question arises about the comparability of measures across countries. For example, one could suppose that respondents in individualistic nations might be more likely to report happiness to an interviewer than collectivists, who might want to appear humble and not stand out from the group. Diener, Scollon, Oishi, Dzokoto, and Suh (2000) found that a general positivity disposition varies across nations and is correlated with reports of SWB, and predicts SWB beyond national income. This finding suggests that although national income increases mean SWB, the positivity of the people in a society does so as well. Thus, the effects of national income on SWB will not be definitive until additional measures of well-being based on experience sampling, memory, and physiological reactions (e.g., cortisol levels) are also available. Yet another type of evidence regarding money and happiness is based on SWB and income *change* at the national level.

National Changes in Income

The increase in income was dramatic in the United States from World War II to 1995. For example, in 1988 the lowest fifth of the American population had per capita expenditures, adjusted for cost of living, higher than the median income in 1955! The amount of work time required to buy almost all goods has fallen substantially (Templeton, 1999) in recent decades. Today's poor were yesterday's middle-class in terms of income and consumption. Yet little or no change in SWB occurred during this period (Blanchflower and Oswald, 1999; Diener & Oishi, 2000).

Although the increase in income in the United States was dramatic in the decades following World War II, the rise in income in Japan was spectacular—one of the greatest economic growth periods in human history. Figure 2 shows the increase in income for Japan during the period from 1958 to 1987, along with the slope for SWB. It is important to note that the income figures are corrected for inflation. Japan in 1958 had an average per capita income of about 3,000 US dollars (in current dollars), an amount that is well below the present poverty level in the US. Thus, Japan started the period in a state of poverty and ended it one of the wealthiest nations in the world; yet, there is little discernible change in SWB.

Like the United States and Japan, many nations experienced rapid economic growth during the last several decades, and longitudinal SWB data are available for a number of the wealthier countries. As can be seen in Table 6, which presents SWB slope lines for countries experiencing economic growth, there is very little overall change.

Although not readily perceptible in Fig. 2, life satisfaction did increase 3% in Japan during the period shown. Based on small increases such as this, Hagerty and Veenhoven (1999) argue that SWB is increasing in economically developed nations

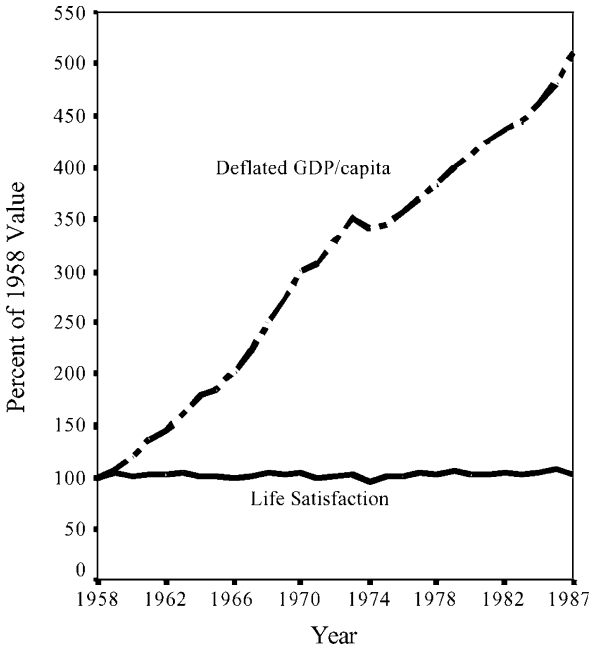

Fig. 2 Economic growth and SWB in Japan

as wealth makes them more livable. They found that increases in national income lead to increases in happiness especially in the short-term, when poor nations are included in the analyses. If the small upward slope is due to economic development, and not due to chance or some third variable influence, it implies that enormous increases in wealth in developed nations are required to produce tiny increments in happiness. Furthermore, the reasons for the small increases are unknown, and do not occur in all developed nations with growing economies. Diener and Oishi (2000) reported, however, that for poorer nations with high growth there was a clear increase in SWB, although the number of surveys was too small to reliably estimate the slopes for SWB. Thus, it is possible that poor nations undergoing economic growth are experiencing a greater increase in SWB.

Table 6 Time trends in SWB for nations

Source	Place	Slope
Blanchflower et al. (1993)	United States	−0.00004 Women 0.004 Men
Blanchflower and Oswald (1999)	United States Britain	−0.0027 0.0003
Diener and Oishi (2000)	15 nations	0.007 (Mean, range −0.04 to 0.09; Time trends about 1965–1990)

In addition to analyzing longitudinal changes in SWB in nations, we can also examine the cross-sectional studies in which past economic growth and current SWB are correlated. These correlations, reported by Diener and Oishi (2000), are quite inconsistent—the World Value Survey, $r = +0.49$; their international college sample, $r = -0.16$; the Michalos college sample, $r = -0.21$; Ouweneel and Veenhoven, $r = -0.15$; the Veenhoven (1993) data, $r = -0.24$. Similarly, Diener et al. (1995a) reported that across four surveys income growth correlated a nonsignificant -0.08 with SWB, and varied from -0.44 to $+0.40$ in individual surveys. These findings confirm the conclusions drawn from Tables 3 and 6—long-term trends in income do not have a necessary connection to changes in SWB. It seems likely that people's desires can change as fast or faster than their incomes, and thereby negate the salutary influence of increased money. The national longitudinal data, as well as the income growth data, strongly converge with the conclusions drawn from income change at the individual level—there is no necessary long-term relation between increases in income and higher SWB. Although increases in income might product short-term increases in SWB, it appears that over time people adapt as their material desires increase.

The data presented above on income changes in nations were based almost entirely on nations undergoing economic growth. Interestingly, decreases in income at the national level, due to recessions for instance, might with greater certainty cause declines in SWB. Inglehart and Rabier (1986) found that a declining income in Belgium after 1979 was followed by declining SWB. There are also data to indicate that people suffer more marital and mental health problems during recessions, although this effect is greater for people who already have lower SWB (Liker & Elder, 1983; Aldwin & Revenson, 1986). Thus, the national-level economic change data tentatively support Prospect Theory (Kahneman & Tversky, 1984) in which it is predicted that losses loom larger than gains. At least in the short-term, economic downturns might decrease SWB; possibly people do not reduce their material desires as quickly as they increase them.

Materialism

There is now convincing evidence at least within the United States that materialistic goals and values are inimical to high SWB (Ahuvia & Wong, 2001; Ahuvia & Wong, 2002; Kasser & Ryan, 1993; Richins & Dawson, 1992; Sirgy, 1997). This relation is shown in Fig. 3 for our international college student study, which covered over 7,000 respondents in 41 countries (Diener & Oishi, 2000). As can be seen, placing a high importance on money has an inverse relation with life satisfaction. In contrast, those who place a high value on love are more satisfied with their lives. At the nation level, we found that the mean value placed on money in countries correlated -0.53 with the average life satisfaction in those societies, with income controlled. A number of reasons can be hypothesized for why materialism correlates inversely with SWB. According to Kasser and Ryan (1993) it is because striving for material goods does

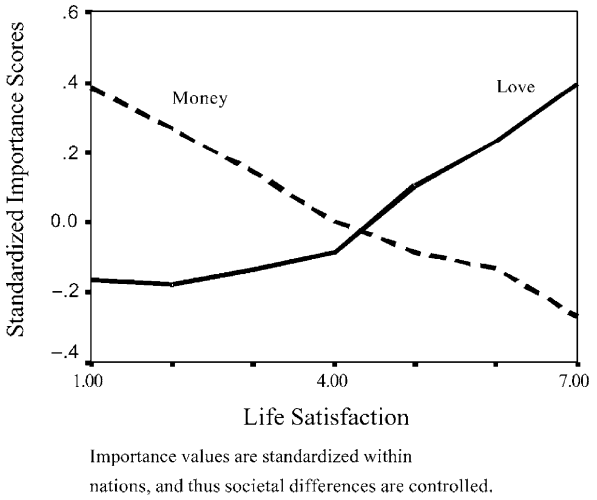

Fig. 3 The importance of love and money, and SWB

not fulfill intrinsic human desires. Another plausible reason is that people who are unhappy or low on other desirable resources such as close friends might seek solace in material goods; a phenomenon likened to "shopping therapy." One possible explanation can probably be rejected—that people are materialistic because they are poor, and therefore unhappy. When income is controlled, the inverse relation between materialism and SWB persists. For example, in our international college study the negative relation barely changed when family income was controlled.

Another plausible hypothesis explaining the toxic effects of materialism is that placing too much importance on material goods is detrimental owing to the fact that it is a goal that can never be fulfilled because there are always additional goods and services that one does not have, and probably that one cannot afford even if one were affluent. Partial support for the idea that the lack of fulfillment of material desires is one of the causes of discontent among materialistic people comes from Crawford, Diener, Oishi, and Wirtz (2000). In Fig. 4 we present the relation they report between income and life satisfaction for participants with less and more materialistic goals. Each of the adult respondents listed their five most important goals. Next they rated how relevant money was to achieving each of these goals, and their materialism score was the sum of these five ratings. As can be seen, materialistic people were much less satisfied with their lives if they were poor. Materialists were closer in happiness to nonmaterialists, however, if they were well-off. Langner and Michael (1963) found similar results; those who said that money is the most important thing in life were at greater risk for mental health problems, except in the wealthiest group. Similarly, Nickerson, Schwartz, Kahneman, and Diener (2001) found that those granting high importance to income were less happy except at very high levels of wealth. Interestingly, Nickerson et al. found that materialists were less satisfied with their social relationships. Thus, materialism may be most

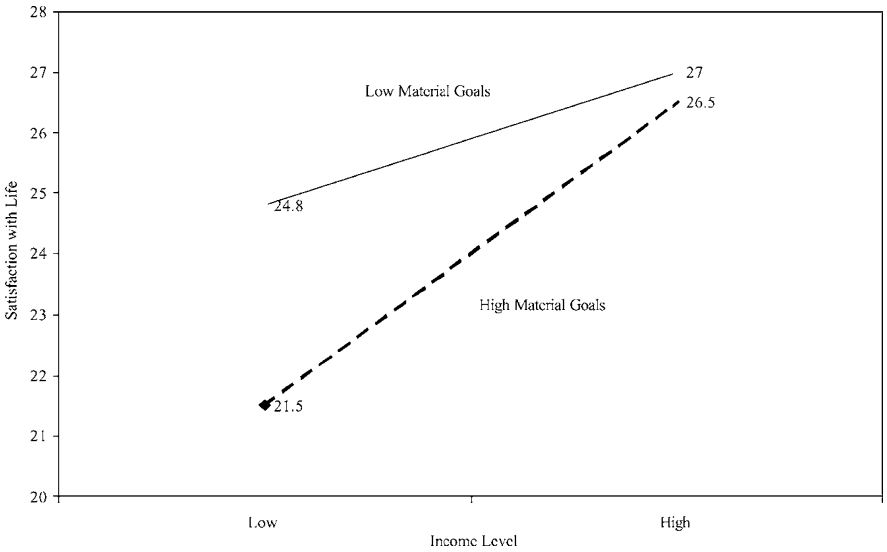

Fig. 4 Income, materialism, and life satisfaction

detrimental for the poor, but appears to have some negative effects even for the financially well-off.

One explanation for why materialistic people are less happy reverses the direction of causality discussed above; in this explanation feelings of inadequacy (and other motives that are incompatible with high SWB) lead to materialism. Crawford, in an unpublished study, found that after people had listed their inadequacies, they rated money as more important—as though being rich might compensate in part for feelings of low self-esteem. Similarly, Srivastava Locke, and Bartol (2001) found that the motives of seeking power and status, as well as overcoming self-doubt, mediated the inverse relation between materialism and SWB.

Theoretical Models of the Data

Several psychological conclusions can be garnered from the existing data on income and SWB. It is evident that there is not a simple input-output relation between money and happiness; the data are too complex for that. The relation of income to SWB is moderated by psychological variables such as level of desires and social comparisons. At the same time, the objective life conditions afforded by higher income do on average enhance SWB. The lower average levels of SWB among poor individuals and in poor nations indicates that poverty can and does lower SWB. It also appears that once people have high incomes (by current world standards), additional increases in wealth have a very small influence on SWB, suggesting that added income beyond modest affluence no longer helps answer important desires

and needs. Finally, it appears that intensely desiring more money correlates inversely with SWB.

Several theoretical models have been advanced to explain the data on income and SWB: the Human Nature or Needs hypothesis, the Relative Standards model, and the Culture approach.

Human Nature

One explanation of the data is that there are certain universal human characteristics, such as basic biological needs, and that income will facilitate SWB to the extent that it allows people to meet these needs. For example, people have homeostatic needs for food, water, and thermoregulation, and therefore they will be happy to the extent that their incomes allow them to fulfill these needs with satisfactory nourishment, clothing, and housing. The human needs can be expanded beyond homeostatic ones to include self-respect, excitement seeking, status, self-actualization, and so forth. Accordingly, income might enhance SWB if it helps people, in addition to food and shelter, to also obtain security, status, and the development of their abilities. A modern version of this approach is the "Self-Determination Theory" of Deci and Ryan (1980), with an emphasis on well-being devolving from the expression of intrinsic and autonomous strivings. In his writings on happiness, Veenhoven (e.g., 1995) has called the human needs approach "livability theory" because some societies are considered to be more livable than others, fulfilling inherent human requirements. The Human Nature approach suggests that there will be an invariant relation between income and happiness to the degree that income can be used to purchase things that are truly pleasurable because they fulfill innate requirements.

The model appears to fit some of the existing data well. For example, the effects of income, at both the individual and societal levels, seem strongest at the lower levels of income. This finding is consistent with livability theory because needs are likely to be one of the first desires met with income. Similarly, the finding that students' income correlates at lower levels with their SWB is consonant with livability theory because university students are an elite group in which variations in income are probably not strongly related to the fulfillment of basic needs. The finding that there has been little gain in SWB in the economically developed nations over the last several decades is explained in livability theory by hypothesizing that basic human needs were met in these societies even in the early years after WW II when the first surveys were conducted.

On the negative side, the Human Nature theories have a number of limitations. They do not readily explain why the highest income group surpasses the second highest group in terms of SWB. For instance, Diener and Oishi (2000) found that even the top two income groups in the World Value Survey (1994) differed significantly in life satisfaction. Similarly, Easterlin (1999) found that eight percent more of the richest group said they were "very happy" compared to the second-richest group. If the highest group is still obtaining additional needs that cannot be met by the penultimate group, however, the needs account of why wealthy nations are not

increasing in SWB does not seem plausible. Similarly, if one examines the Japanese data from the 1950s to the present, it appears that the Human Nature explanation may not be complete. With an income of $3,000 US a year in 1958, it appears that many Japanese would have been at a level insufficient to meet all of their needs, and yet there has been virtually no increase in SWB since that time, despite huge economic growth.

The Japanese case points to a major problem with the livability approach—the difficulty in defining when human needs have been met, and the lack of measures to assess this. One might argue that human needs were met in Japan in 1958, even with a low income equivalent to 3,000 US current dollars, because of the structure of the society at that time. We do not, however, know whether this is true or not. The lack of a clear definition and measurement of human needs leaves this approach open to post-hoc explanations in which each case can be fit to the model after the fact. Thus, a much more rigorous set of definitions of need fulfillment, and measures of it, are needed if this approach is to be tested in a definitive way.

Relative Standards

Relative standards or judgment models are based on the idea that people use various standards to evaluate their well-being (Campbell, Converse, & Rodgers, 1976; Michalos, 1985; Parducci, 1995)—standards such as how they did in the past, how others are doing, and their goals. Standards can vary from time to time and person to person, depending on what happens to be salient for that individual. Thus, a person might be happy or unhappy with a particular level of standing in an area, depending on the level of others in this domain, or depending on how he or she stood in the past in this domain.

In evaluation theory Diener and Lucas (2000) hypothesized that the fulfillment of desires, especially those desires that are adopted as active goals for which the person is working, will be chronically salient standards for most people, and therefore are the most ubiquitous standard influencing SWB. There are both experimental and survey data indicating that the fulfillment or nonfulfillment of material desires is related to people's level of satisfaction. In two experimental studies and several survey studies, Crawford et al. (2000) demonstrated that people's ability to meet their material goals influenced both their life satisfaction and financial satisfaction. Further, they found that the influence of past income on SWB was mediated by its influence on material desires. The effects of social comparison were mediated partly by their influence on desires, although social comparison also had a direct effect on satisfaction. Finally, Crawford et al. found that people's satisfaction with hypothetical incomes could be experimentally manipulated, suggesting that meeting basic needs does not completely explain income satisfaction.

In terms of the data on income and SWB reviewed earlier, the lack of increase in SWB over time in economically developed societies can be explained by the rise in desires there, which seems to offset the benefits of more goods and services. Brant et al. (1999) found that the majority of US college students now believe they will be

able to retire before age 50, and 77% believe that they will be millionaires. The UN Development Report (1998) shows that the income needed to fulfill consumption aspirations doubled in the USA between 1986 and 1994!

Van Praag (1993) has extensively studied what he calls the "welfare function," in which people describe the level of income that they would call "excellent," "adequate," "very bad," and so forth. Across many studies he finds that wealthier respondents have higher welfare functions; they require greater levels of money to call an income "sufficient." Van Praag and his colleagues calculate that up to 80% of the benefit of increasing income disappears because of the rising welfare function as income increases (Kapteyn, Praag, & van Herwaarden, 1976).

Easterlin (1999) found that the number of material aspirations increases as people age. People acquired more goods as they aged, but middle and older age groups grew further from their aspirations over time because their desires increased more rapidly than did their possessions! Furthermore, Douthitt et al. (1992) found in a daily diary study that those who spent more money relative to their incomes showed lower global satisfaction.

Schor (1998) reviews survey evidence on what Americans believe is included in the "good life." Between 1975 and 1991, the percent checking "vacation home" increased 84%. During the period from 1987 to 1994 the income needed to "fulfill all your dreams" increased from $50,000 US dollars to $102,000, much more than the rate of inflation. Of those earning more than $100,000 a year in 1995, 27% responded that they cannot afford to buy everything they "really need," and 19% reported that they spend nearly all of their money on "basic necessities."

There is little doubt that those in industrial nations want more than they possess. Sixty-one percent of respondents said they *always* have something in mind that they are looking forward to buying, and 27% said they very often dream about things they do not own (Schor, 1998). The average respondent had 6.3 items on his or her wish list; for example 47% wanted a bigger or better house. The amount of money reported in surveys needed to live in "reasonable comfort" has remained several thousand dollars above the median income level, even as the latter figure doubled over two decades. Thus, the chronic salience of desires combined with increasing material aspirations, explains why increases in income at both the individual and national levels have not enhanced SWB. It may be that well-off people around the world serve as models of consumption for others, even people in poorer nations. Thus, although wealth does bring rising desires, it might be that the want-possession gap is greatest for poor individuals in less developed societies. Although there are findings that indirectly support the Fulfillment of Desires explanation of the income-SWB relation, as with the Human Needs theory, there are few studies that directly test the theory. For example, almost never is there an assessment of what people desire and what they possess, in conjunction with measures of income and SWB.

The relative standards model based on desires suggests that wealthier nations and individuals are happier because they possess more of the goods that everyone throughout the world wants. However, this explanation has not been tested in a definitive way; we do not have proof, for instance, that people in wealthier nations possess a greater percentage of the goods that they desire. Furthermore, the

reason that increases in income do not produce enhanced SWB—because desires also increase—has not been directly tested in longitudinal studies in which possessions, desires, and SWB are simultaneously measured. In other words, although the goal approach to well-being has promise, many aspects of it have not been directly tested.

Culture

The major idea behind the cultural approach is that people are socialized in a culture to have certain values, goals, and behaviors. Carrying out the behaviors that are valued within the culture is likely to lead to feelings of well-being because the person has adopted the cultural goals and experiences emotions socialized to the cultural norms. Thus, people in industrial nations are socialized to work at a paid job and to feel worthwhile for doing so. People see the acquisition of goods and money as a desirable activity that reflects how well they are carrying out the cultural imperative, and respond with pleasant emotions when they are successful at this imperative.

In this approach, people engaged in work and consumption are seen as likely to experience SWB because they are behaving in ways that the society values. Even people with very different incomes or status can see themselves as participating in valued and respected activities. A person who earns more, however, might be seen as more successful at carrying out the cultural dictates, and therefore on average might be likely to have somewhat higher SWB than someone who is poorer. Similarly, people in wealthy nations might feel more successful on average at being efficient producers and consumers of goods, and therefore report higher SWB. In this approach, it is not just having copious amounts of money that counts, it is being involved in a responsible way in the daily production and consumption activities of the culture. A person can gain pleasure from the activities of the culture. A person can gain pleasure from the activities of work, and also might obtain pleasure from the purchasing, consuming, and gift-giving that are part of market economies.

The cultural approach allows for additional differences between societies. For instance, some cultures stress competition, others focus on efficiency, and yet others emphasize the ability to save. In each of these cases, success is defined somewhat differently, and therefore there are likely to be differences in how money is related to SWB. Furthermore, in some cultures there is an emphasis on avoiding failure and in others there is an emphasis on seeking rewards (Diener et al., 1999), and these differences could lead to variation in how income is connected to SWB. In a culture oriented to avoiding failures, being poor might be especially difficult, whereas in a culture oriented to approach behavior, greater recognition may be given to wealthy individuals. Alesina, DiTella, & MacCulloch (2001) found that inequality of incomes had an effect on reports of happiness in Europe but not in the USA. They discovered that both poverty and political ideology moderated the effects of inequality, suggesting that social mobility and ideological beliefs could influence the way in which social comparisons of income influence SWB.

The culture approach explains why even most relatively poor individuals report high SWB—because most of them are involved in productive activities that are respected in their cultures. However, most studies show that unemployed people are substantially less happy than others (e.g., Clark, Diener, and Georgellis, 2000; Clark & Oswald, 1994; Frey & Stutzer, 2000), and this effect is apparent even when income is controlled. It appears that unemployed people on average would be dissatisfied even if they had a relatively high income—presumably because they are not doing a task that is respected in the culture. Similarly, very poor people have a difficult time participating in the consumption culture and therefore are more likely to experience low SWB. In contrast, elderly retired people are told that it is acceptable to not be working at this point in their lives, and therefore retirement does not on average harm SWB.

There are very few studies testing the Culture Model. For example, we do not have measures of how cultural norms influence the effects of work and money on SWB. There is evidence, however, that higher incomes may result from one's socialization. McClelland and Franz (1992) found that an emphasis on achievement during early socialization led to higher need for achievement, as well as higher later income. This finding points to the fact that making money can signify achievement in western society, and is not invariably driven by the desire for consumption.

People may feel good about work, with income being secondary. Juster (1985) and Dow and Juster (1985) found that working activities were preferred to eating out, shopping, watching movies and T.V., playing sports, household chores, and reading books. Csikszentmihalyi (1997) presents evidence that people prefer working to not working, and can obtain pleasure out of even mundane jobs. Thus, the enjoyment of material culture might actually be as much about the pleasures of production as it is about consumption. Certainly, work cannot just be counted as a cost to be endured for the sake of consumption. Virtually no studies have considered the pleasure derived from work when evaluating the income-SWB relation.

Comparing and Combining the Three Approaches

In terms of describing the preconditions for SWB, the three approaches differ dramatically. In the Human Nature approach having one's biological needs met, engagement in interesting activities, and the presence of social support are seen as necessary and sufficient for high SWB. Thus, the conditions seen as prerequisites for high SWB are universal, relatively few in number, highly specifiable, and fulfillable with modest resources. In contrast, the culture approach predicts that the prerequisites for SWB are variable, depending on learning histories that lead to very different values and goals. In addition, there is a stress on how individuals with different roles in a society may find different activities to be fulfilling. Finally, the relative standards approach allows for even greater variability, with the relevant standards varying across time and situations. In the culture and relative standards approaches, how resources and goals are judged is complex, and therefore the relation of money to happiness seems more difficult to predict than in the Human Nature approach.

The three models can be integrated to explain the relation between income and SWB. People in industrial society are socialized to work, and to enjoy participating in the consumption of the culture. Individuals who are successful at this cultural imperative are somewhat happier, but all people can to some degree take pleasure in the activity. Desires arise both from innate needs (the Human Nature approach) and from cultural goals; those who can make greater progress toward their desires will tend to be happier because goals are frequently a salient judgment standard. However, having higher income is not an infallible indicator of the number of desires that can be met because some individuals with high incomes can develop lofty material aspirations. In addition, the effects of income must be considered within the framework of other human needs—such as for close social relationships and interesting activities—and within the cultural context. For example, the pleasures that can be purchased with a high income can be offset if materialism leads to instability in people's lives, to loneliness and poor social relationships, or to long hours of work at a boring job. Conversely, low income might not detract from SWB in a stable society such as the Amish where material desires are restricted. As of yet, there are so many unknowns in the available data that this integrated conceptual account is speculative. The report of existing findings in the first half of this paper reveals that in past studies too few variables were measured to fully test the integrated conceptual model.

Reverse Order of Causation

One other explanation of the income-SWB relation mentioned earlier is that happy people and societies are more likely to earn higher incomes. Lyubomirsky et al. (2001) review the extensive evidence that happiness leads to success in various domains, including the financial area. For example, the longitudinal data reported by Diener et al. (2000) indicates that people who are high in life satisfaction later earn more income. These data are difficult to interpret in terms of income causing satisfaction because the life satisfaction measures were collected many years before, prior to the respondents entering the working world. However, the data on wind-fall income (Gardner & Oswald, 2001) also indicates that greater wealth can produce higher SWB, at least in the short-run. In addition, the deterioration of SWB in the former communist nations is also difficult to interpret as an effect of a happy disposition on income (Inglehart & Klingemann, 2000). In sum, the causal arrow between income and SWB appears to go in both directions, but the interactions between personality dispositions and income are poorly understood.

A Guide to Needed Research

Although there are intriguing findings about the relation of money to happiness, the extant research leaves many important questions unanswered. The needed research involves repeating existing studies with better measures of SWB and income, adding

measures of possible mediating variables such as desires and beliefs, and discovering more about how income affects people's actual everyday lives. Existing research findings are often compatible with all of the theoretical accounts described above, and for this reason more probing research is needed. In the following section we discuss several of the methodological innovations needed to further our theoretical understanding of the area, as well as describe additional questions that need to be explored.

Methods

Measuring income better. Might it be that the low individual correlations reported earlier are due to weak measures of income? Current measures of income suffer from serious limitations as valid indicators of individuals' material well-being, whereas indicators of income at the societal level are likely to be somewhat more accurate. Thus, the aggregated measures at the national level, although not perfect, might result in strong correlations, whereas the more faulty measures at the individual level might be so fraught with error of measurement that the individual level correlations are necessarily low.

There is misreporting of income, both deliberate and unintentional, as well as varying definitions of income across studies. Errors of memory also occur. For example, Herriott (1977) found that people report more income when it is broken into finer categories than they do when only a global report is requested, suggesting that certain income is not recalled when global income measures are employed. Furthermore, income measures are likely to be only modestly correlated with material well-being. Besides income, the material goods and services available to people also depend on their taxes, their savings, the availability of subsidized goods, the goods they already own (including housing), prices in their locale, their spending efficiency, the number of individuals in the household, gifts from relatives, and so forth. Mayer (1997) reported that annual consumption is more evenly distributed than annual income, in part because some people are only temporarily poor and because many have unreported income. It is noteworthy that Mullis (1992) found that current earnings correlated only 0.32 with a composite financial indicator (including long-term income and net worth), and that net worth and long-term income each made an independent contribution to the prediction of happiness beyond earned income.

The societal trend toward more women working at paid jobs reveals the problem of using earned income as the only measure of material welfare. Women on average in recent decades are working much more at paid jobs, and this work enters the national accounting system and increases the national GDP per person, as well as reports of household income. If families then eat out more, hire a house cleaner, send their children to daycare, and so forth, the payments for these services enter into the national accounts. Had the woman stayed home and worked full time as a homemaker, as was much more frequent in former days, however, none of her home services would have been counted toward national income, although her

home production was likely to have been substantial. The woman's home production might have even surpassed the services now purchased in the marketplace. Thus, the increased family income (which will be taxed) due to a second wage earner in the family is likely to substantially overstate the rise in material standards of the family (Mayer, 1997). Similarly, retired people may have lower reported income than formerly, and yet retain much the same standard of living (George, 1992) because they own their home and car, have fewer debts, have no children to educate, have greater savings on which to rely, and pay fewer taxes on their retirement pensions. Thus, older adults can often experience the same material quality of life with less reportable income.

Because of the numerous limitations in the material well-being measures employed in SWB surveys, a necessary course for future study is determining how various types of measures improve the prediction of SWB. We need measures of the ownership, use, and consumption of goods and services, not just income. We need measures of the ownership, use, and consumption of goods and services that people produce for themselves or obtain through trade. Certainly, we need income measures that are calibrated for factors such as family size, regional cost of living, governmental services, and expenditures for the basic necessities such as health and food. In effect, we need measures of material quality of life, not just income per se.

Another important issue is how people spend their incomes. Some people buy luxury goods, whereas others give substantial amounts to charity; certainly it is plausible that income used in different ways might differentially influence SWB, and we need measures reflecting different patterns of saving and consumption. Finally, we must understand whether the means by which money is obtained (e.g., through luck, inheritance, investments, or wages) influences the effects it has on SWB. Thus, simple measures of a respondent's wages or household income, even when calibrated for household size, must be augmented with more detailed questions about his or her standard of living if we are to fully understand the relation of material welfare and SWB.

Measuring subjective well-being better. Just as the income measures have limitations, the SWB measures can also be improved. The large survey studies in which much SWB research is usually embedded have given us large and broadly representative samples, but are based on somewhat superficial measures. When a respondent indicates whether she is "very happy," "pretty happy," or "not so happy," much about her subjective experience of well-being is missed. Initial research work indicates that the global measures do have a degree of validity, correlating at moderate levels with other indicants of SWB such as informant reports, experience sampling measures, and interviewer ratings (Sandvik, Diener, & Seidlitz, 1993). With the current measures, however, we have little idea *when* rich and poor people feel happy and unhappy, satisfied and dissatisfied, and *why*. Furthermore, the global measures have clear shortcomings. Schwarz, Strack and their colleagues (e.g., 1999) showed in a series of important studies that chance situational factors can influence global reports of life satisfaction. Not only do the Strack and Schwarz studies reveal that there can be substantial random error in the global survey measures used in this field, but they also indicate that variables such as a person's circumstances in the past can

have either positive *or* negative effects on reports of SWB, depending on how the question is framed. Because many of the situational factors affecting global reports of well-being may vary somewhat haphazardly across surveys (e.g., the weather and current events at the time of the survey), random error might be reducing relation between income and SWB. Thus, additional measurement methods are required in addition to cross-sectional surveys.

A promising approach is to use experience sampling to measure SWB across income groups. In the experience sampling method, researchers obtain mood and satisfaction reports from respondents at random times in everyday life, often for a period of one or two weeks. In this way, we hope to obtain a more accurate representation of people's feelings, which is not influenced by memory biases and scaling artifacts. In addition, we can obtain reports of how people spend their time, and how various activities contribute to SWB.

There is evidence that the experience sampling method will not produce the exact same conclusions as the global survey method that has dominated the field. Existing research has demonstrated discrepancies in the findings of the two methods. For example, Oishi and Diener (2000) showed in a series of studies that Asian-Americans have similar emotional experiences "on-line" (recorded at the moment) to European-American respondents, but that European Americans recall being happier and more satisfied in retrospective global measures. Mitchell, Thompson, Peterson, and Cronk (1997) found that people recalled their vacations as being better than was reported during the vacation, presumably because people have a belief that vacations are fun and this belief distorted their recall. Wirtz, Scollon, Kruger, and Diener (2001) found that the moods of spring break were misremembered by college student participants, but that the misrecalled moods were a better prediction of choosing to repeat the vacation than were actual online moods. There is also evidence indicating that global measures of well-being compared to more specific measures can be influenced by temperament (e.g., happy people weight good circumstances more, and weight bad factors less in global reports, Diener, Lucas, Oishi, & Suh, 2002) and by people's norms about whether they believe it is good to be satisfied (Diener et al., 2000). Diener et al. found that global reports show systematic discrepancies from more specific satisfaction reports and these discrepancies appear to stem from a global positivity disposition. Thus, poor and wealthy people's memories of their happiness may or may not accord well with their actual on-line hedonic experiences. It could be that global reports of satisfaction are influenced by people's expectations of how happy they think they should be, and do not faithfully reproduce on-line feelings of pleasure versus displeasure (Kahneman, 1999).

The one study in which on-line recordings of mood were related to socioeconomic status did *not* find a large positive influence of income on SWB. Csikszentmihalyi and Schneider (2000) report SWB data based on experience sampling of 849 adolescents several times a day for a week in each of three consecutive years (over 33 responses on average per respondent). They found a small but significantly *decreasing* trend in happiness across respondents in higher SES communities: poor, 5.4; lower middle-class, 5.4; middle-class, 5.3; upper middle-class,

4.8; and upper-class, 5.2 (on a 1–7 scale). Although this declining trend is not large, it indicates that even with sophisticated experience sampling data we might not find large positive effects of money on happiness. Indeed, these data suggest that there may be high expectations for achievement, or relationship difficulties, that can make wealthier youth less happy than other adolescents.

Despite the fact that the initial experience sampling study in which socioeconomic status was related to SWB did not show a positive effect of money, this does not indicate that different conclusions might be reached when experience sampling measures are used with working adults. Not only might the experience sampling measures lead to different conclusions compared to the global survey scales, but they should reveal more intricate patterns of how income influences behavior and affect. In addition, we should supplement the experience sampling method with biological indicators of well-being (e.g., measures of cortisol and eye-blink response). One of the hopes, albeit untested, is that the biological and experience-sampling measures might reveal whether the differences between rich and poor are larger at the level of momentary experience than they are in global reports, because people adjust their scale responses to the global reports to fit their situation (Kahneman, 1999). By finding out when wealthy and impoverished people are feeling pleasant versus unpleasant emotions, we should gain a firmer understanding of the effects of income. In addition to experience sampling, the global surveys should be supplemented with biological measures (e.g., cortisol), memory recall for good and bad life events, qualitative measures, and reports by informants.

Longitudinal research. One of the advantages of experience sampling is that the researcher gains measures over time, and therefore can examine the time-sequencing of variables. When more global measures are employed, it would be very helpful if they were also used much more often in panel designs that longitudinally span a period of time. The cross-sectional survey studies that rule the field leave open questions of causal direction and mediating processes. The few published longitudinal studies provide stronger conclusions than the cross-sectional studies, and thus the addition of sampling over time is a research imperative for the future.

Measures of mediating processes. A difficulty with making theoretical conclusions in this field is that the data are so sparse in terms of measures of psychological processes and behavior. Thus, we have correlations of income and SWB, but are left guessing as to the mediating psychological processes. For instance, we can make conjectures about rising aspirations, but measures of desires must be included in the studies, and their effects ascertained, in order to test these ideas. Similarly, we can make conjectures about the social relationships, fulfillment of needs, time pressures, stressors, social comparisons, and daily behaviors of the rich and poor, to explain the existing patterns of data, but we very much need measures of these putative intervening variables. If these possible mediating variables are measured over time, we will be in a much stronger position to create meaningful theoretical models.

In the above section we outline the research methods needed to make progress in developing adequate psychological theories in this area. In the following section we outline several important questions that need to be answered.

Why are People in Richer Nations Happier?

A question that is central to policy considerations is why individuals in wealthy nations report higher SWB than people in poorer nations. This question bears directly on the issue of the extent to which governments should continue to aggressively pursue policies to stimulate economic growth. Equality, education, literacy, longevity, human rights, and subjective well-being are higher in wealthier nations (E. Diener, & C. Diener, 1995a), but which direction does the causal arrow point between income and these variables? Does wealth cause these other valuable characteristics or is it a result of democracy and SWB? Policy makers can, to varying degrees, temper economic aims with other values (e.g., environmental or equality goals), and therefore the question of why wealthy nations are happier is a central one relevant to creating economic policies.

One possibility for explaining the higher SWB of wealthier nations is that they set the standard for material fulfillment. Thus, wealthy nations exhibit a lifestyle that is desired in poorer nations, but that is only achieved in wealthier ones. If so, it might be that people in wealthier countries are happier because they are closer to the standard to which people throughout the world aspire. It is also possible, however, that affluence has little or nothing to do with the high SWB in wealthy nations. It might be that the wealthier nations had more stability, greater democracy, freedoms, human rights, equality, and a culture emphasizing approach behavior, and these variables led to both greater happiness and higher incomes. Political stability and security in particular may have caused more productive economies and higher SWB, without any direct influence of money on happiness. If it were the case that political stability and so forth produced both happiness and higher incomes in the wealthy nations, economic development would not be so clearly necessary in terms of producing higher levels of SWB. Research on economically developing nations, especially those with political stability and so forth, but less economic growth, will shed light on this issue.

Why Do People Want More Money?

An increase in income among well-off people in wealthier nations appears not to substantially enhance happiness, at least as assessed with existing measures. Within most economically developed nations richer people are only slightly happier than most others. Why do people desire a higher income if it will not make them much happier? One possible reason is that people do not realize that money will not raise their SWB. Because money is such a central topic of concern in modern society, scripts and beliefs attaching it to happiness may be firmly entrenched in our belief network, regardless of our actual experiences. This reason is to some extent, however, cast in doubt by the fact that most people claim that money is not that important in their hierarchy of values (e.g., Diener & Oishi, 2000), thus suggesting that they know money is not crucial to their happiness. Nonetheless, it could be that people believe more money will make them happier, but do not readily admit this in

surveys. A related hypothesis is that people feel good working for the goal of higher income, regardless of whether attaining a high income is ever reached.

Another reason that people may seek money is that it produces short-term spurts in positive affect even if it does not enhance people's long-term levels of well-being. In other words, people may be reinforced for earning and spending money by positive emotional feelings, regardless of whether these feelings continue for long periods. Yet another factor may be that people may feel a need to acquire money, goods, and services because of societal pressure. That is, individuals may feel that they must buy cars and so forth to gain status and good standing in the community, and to not be perceived as failures.

Conclusions

In the title of this review we raise the question of whether money will make us happy. What can we conclude? It appears that a higher income might help if we are very poor. Living in a wealthy society appears to be beneficial. On the other hand, strongly desiring large amounts of money appears likely to hinder our chances for high SWB. Gaining more income if we are middle-class or upper-class and are living in a wealthy nation is unlikely to substantially bolster our SWB on a long-term basis. Thus: our advice is to avoid poverty, live in a rich country, and focus on goals other than material wealth. What of individuals then, who reside in poor nations or who live in rich nations but remain poor despite their efforts? To these individuals we owe public policies, as well as private initiatives, to enhance their incomes in a time when the material wealth of the world is growing at a rapid pace.

A fundamental finding of the present review is that for middle-and upper-income people in economically developed nations, acquiring more income is not likely to strongly enhance SWB. Indeed, some studies find that rising wages predict less well-being. For example it has been found that rising income led to higher divorce rates (Clydesdale, 1997), greater stress (Thoits & Hannan, 1979), lower global well-being (Diener et al., 1993), and less enjoyment of small activities (Brickman et al., 1978). It thus appears that some reorientation is needed in material goals, from acquiring money to enjoying the process of work and contributing to society. People should understand that placing great emphasis on the acquisition of wealth can be counterproductive to happiness, and that gaining increased income has dangers as well as pleasures. As the world enters a new era of material abundance, a new paradigm is needed in which greater emphasis is placed on fulfilling vocations that benefit society, and on preventing the involuntary poverty that is associated with a higher risk of unhappiness.

References

Adelmann, P. K. (1987). Occupational complexity, control, and personal income: Their relation to psychological well-being in men and women. *Journal of Applied Psychology, 72*, 529–537.

Ahuvia, A. C., & Wong, N. Y. (2002). Personality and values based materialism: Their relationship and origins. *Journal of Consumer Psychology, 12,* 389–402.

Ahuvia, A. C., & Wong, N. (2001). *Cognitive and affective antecedents of materialism: Implications for the development of materialism as a political orientation*. Unpublished Manuscript.

Aldwin, C. M., & Revenson, T. A. (1986). Vulnerability to economic stress. *American Journal of Community Psychology, 14*, 161–175.

Alesina, A., DiTella, R. & MacCulloch, R. (2001). *Inequality and happiness: Are Europeans and Americans different?* Manuscript submitted for publication, Harvard University.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: America's perception of life quality*. New York: Plenum Press.

Aristotle. (1969). *The Nichomachean Ethics*. (R. Williams, Trans.). Green, London: Longmans.

Biswas-Diener, R., & Diener, E. (2001). Making the best of a bad situation: Satisfaction in the slums of Calcutta. *Social Indicators Research, 55*, 329–352.

Black, D. (1976). The behavior of law New York: Academic Press.

Blanchflower, D. G., and Oswald, A. J. (1999). *Well-being over Time in Britain and the USA*. (NBER Working Papers 7487). National Bureau of Economic Research, INC.

Blanchflower, D. G., Oswald, A. J., & Warr, P. B. (1993). *Well-being over time in Britain and the USA*. Paper presented at the CEP Conference on the Economics and Psychology of Happiness and Fairness.

Bowen, W. G., & Bok, D. C. (1998). *The shape of the river: Long-term consequences of considering race in college and university admissions*. Princeton, NJ: Princeton University Press.

Bradburn, N. M. (1969). *The structure of psychological well-being*. Chicago: Aldine.

Brant, M., Stone, B., Joseph, N., Gegax, T. T., Underwood, A., Arora, A., & Davis, A. (1999, July 5). They're rich and you're not. *Newsweek, 134*, 36–43.

Brinkerhoff, M. B., Fredell, K. A., & Frideres, J. S. (1997). Basic minimum needs, quality of life and selected correlates: Exploration in villages in northern India. *Social Indicators Research, 42*, 245–281.

Brickman, P., Coates, D., & Janoff-Bulman, R. (1978). Lottery winners and accident victims: Is happiness relative? *Journal of Personality and Social Psychology, 36*, 917–927.

Campbell, A. (1981). *The sense of well-being in America*. New York: McGraw-Hill.

Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life*. New York: Russell Sage.

Clark, A. (1999). Are wages habit forming? Evidence from micro data. *Journal of Economic Behavior and Organization, 39*, 179–200.

Clark, A., Diener, E., & Georgellis, Y. (2000, July). *Lags and leads in life satisfaction: A test of the baseline hypothesis*. Paper presented at the German Socio-Economic Panel Conference 2000, Berlin.

Clark, A. E., & Oswald, A. J. (1994). Unhappiness and unemployment. *Economic Journal, 104*, 648–659.

Clark, A. E., & Oswald, A. J. (1996). Satisfaction and comparison income. *Journal of Public Economics, 61*, 359–381.

Clydesdale, T. T. (1997). Family behaviors among early U.S. baby boomers: Exploring the effects of religion and income change, 1965–1982. *Social Forces, 76*, 605–635.

Connor, K., Dorfman, L., & Tompkins, J. (1985). Life satisfaction of retired professors: the contribution of work, health, income, and length of retirement. *Educational Gerontology, 11*, 337–347.

Crawford, E., Diener, E., Oishi, S., & Wirtz, S. (2000). *Desires as a standard explaining income satisfaction*. Manuscript submitted for publication, University of Illinois.

Csikszentmihalyi, M. (1997). *Finding flow*. New York: Basic Books.

Csikszentmihalyi, M., & Schneider, B. (2000). *Becoming adults: How Teenagers prepare for work*. New York: Basic Books.

Deci, E. L., & Ryan, R. M. (1980). Self-determination theory: When mind mediates behavior. *Journal of Mind and Behavior, 1*, 33–43.

Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*, 542–575.
Diener, E., & Biswas-Diener, R. (2000). New directions in subjective well-being research: The cutting edge. *Indian Journal of Clinical Psychology, 27,* 21–33.
Diener, E., & Diener, C. (1995a). The wealth of nations revisited: Income and quality of life. *Social Indicators Research, 36*, 275–286.
Diener, E., & Diener, C. (1996). Most people are happy. *Psychological Science, 7*, 181–185.
Diener, E., & Diener, M. (1995b). Cross cultural correlates of life satisfaction and self-esteem. *Journal of Personality and Social Psychology, 68*, 653–663.
Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of Personality and Social Psychology, 69*, 851–864.
Diener, E., Horwitz, J., & Emmons, R. A. (1985). Happiness of the very wealthy. *Social Indicators Research, 16*, 263–274.
Diener, E., & Lucas, R. E. (2000). Explaining differences in societal levels of happiness: Relative standards, need fulfillment, culture, and evaluation theory. *Journal of Happiness Studies, 1*, 41–78.
Diener, E., Nickerson, C., Lucas, R. E., & Sandvik, E. (2000). *Do happy people earn more money? The causal relation of income and subjective well-being*. Manuscript submitted for publication, University of Illinois.
Diener, E., & Oishi, S. (2000). Money and happiness: Income and subjective well-being across nations. In E. Diener & E. M. Suh (Eds.), *Subjective well-being across cultures*. Cambridge, MA: MIT Press.
Diener, E., Lucas, R. E., Oishi, S., & Suh, E. M. (2002). Looking up and looking down: Weighting good and bad information in life satisfaction judgments. *Personality and Social Psychology Bulletin, 28,* 437–445.
Diener, E., Sandvik, E., Seidlitz, L., & Diener, M. (1993). The relationship between income and subjective well-being: Relative or absolute? *Social Indicators Research, 28*, 195–223.
Diener, E., Scollon, C., Oishi, S., Dzokoto, V., & Suh, E. M. (2000). Positivity and the construction of life satisfaction judgments: Global happiness is not the sum of its parts. *Journal of Happiness Studies, 1*, 159–176.
Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*, 276–302.
Dittmar, H. (1992). Perceived material wealth and first impressions. *British Journal of Social Psychology, 31*, 379–391.
Douthitt, R. A., MacDonald, M., & Mullis, R. (1992). The relationship between measures of subjective and economic well-being: A new look. *Social Indicators Research, 26*, 407–422.
Dow, G. K., & Juster, F. T. (1985). Goods, time, and well-being: The joint dependence problem. In F. T. Juster & F. P. Stafford (Eds.), *Time, goods, and well-being*. Ann Arbor, MI: Institute for Social Research.
Easterlin, R. A. (1996). *Growth triumphant: The twenty-first century in historical perspective*. Ann Arbor: University of Michigan Press.
Easterlin, R. A. (1999). *Life cycle welfare: Evidence and conjecture*. Unpublished paper, University of Southern California.
Frey, B. S., & Stutzer, A. (2000). Happiness, economy and institutions. *The Economic Journal, 110*, 918–938.
Furnham, A., & Argyle, M., (1998). *The psychology of money*. London: Routledge.
Gardner, J., & Oswald, A. (2001). *Does money buy happiness? A longitudinal study using data on windfalls*. Manuscript submitted for publication.
George, L. K. (1992). Economic status and subjective well-being: A review of the literature and an agenda for future research. In N. E. Cutler, D. W. Gregg, & M. P. Lawton (Eds.), *Aging, money, and life satisfaction: Aspects of financial gerontology*. New York: Springer.
Hagerty, M. R. (2000). Social comparisons of income in one's community: Evidence from national surveys of income and happiness. *Journal of Personality and Social Psychology, 78*, 764–771.

Hagerty, M. R., and Veenhoven, R. (1999). *Wealth and happiness revisited: Growing wealth of nations does go with greater happiness*. Unpublished manuscript, University of California, Davis.

Hamermesh, D. S. (2001). The changing distribution of job satisfaction. *The Journal of Human Resources, 36*, 1–30.

Headey, B., & Wearing, A. (1992). *Understanding happiness: A theory of subjective well-being.* Melbourne, VIC: Longman Cheshire.

Herriott, R. A. (1977). Collecting income data on sample surveys: Evidence from split-panel studies. *Journal of Marketing Research, 14*, 322–329.

Inglehart, R., and Klingemann, H. D. (2000). Genes, culture, and happiness. In E. Diener & E. M. Suh (Eds.), *Subjective well-being across cultures*. Cambridge, MA: MIT Press.

Inglehart, R., & Rabier, J. R. (1986). Aspirations adapt to situations – But why are the Belgians so much happier than the French? A cross-cultural analysis of the subjective quality of life. In F. M. Andrews (Ed.), *Research on quality of life*. Ann Arbor, MI: Survey Research Center.

Inkeles, A., & Diamond, L. (1980). Personal development and national development: A cross-national perspective. In A. Szalai & F. M. Andrews (Eds.), *The quality of life: Comparative studies*. Beverly Hills, CA: Sage.

Juster, F. T. (1985). Preferences for work and leisure. In F. T. Juster & F. P. *Stafford (Eds.), Time, goods, and well-being*. Ann Arbor, MI: Institute for Social Research.

Kahneman, D. (1999). Objective happiness. In D. Kahneman, E. Diener & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology*. (pp. 3–25). New York: Russell Sage Foundation.

Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American Psychologist, 39*, 341–350.

Kapteyn, A., Praag, B. M. S., & van Herwaarden, F. G. (1976). Individual welfare functions and social reference spaces. *Economic Letters, 1*, 173–178.

Kasser, T., & Ryan, R. M. (1993). A dark side of the American Dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology, 65*, 410–422.

Keith, P. M. (1985). Financial well-being of older divorced/separated men and women: Findings from a panel study. *Journal of Divorce, 9*, 61–72.

Keith, P. M., & Schafer, R. B. (1982). A comparison of depression among employed single-parent and married women. *Journal of Psychology, 110*, 239–247.

Lachman, M. E., & Weaver, S. L. (1998). The sense of control as a moderator of social class differences in health and well-being. *Journal of Personality and Social Psychology, 74*, 763–773.

Lane, R. E. (1991). *The market experience*. Cambridge, UK: Cambridge University Press.

Langner, T. S., & Michael, S. T. (1963). *Life stress and mental health*. New York: Free Press.

Liker, J. K., & Elder, G. H. (1983). Economic hardship and marital relations in the 1930's. *American Sociological Review, 48*, 343–359.

Lyubomirsky, S., Tucker, K.L., & Kasri, F. (2001). Responses to hedonically conflicting social comparisons: Comparing happy and unhappy people. *European Journal of Social Psychology, 31,* 511–535.

Marks, G. N., & Fleming, N. (1999). Influences and consequences of well-being among Australian young people: 1980–1995. *Social Indicators Research, 46*, 301–323.

Mayer, S. E. (1997). Indicators of children's economic well-being and parental employment. In R. M. Hauser, B. V. Brown, & W. R. Prosser (Eds.), *Indicators of children's well-being*. New York: Russell Sage Foundation.

Mayer, S. E. (1997). *What money can't buy: Family income and children's life chances*. Cambridge, MA: Harvard University Press.

McClelland, D. C., & Franz, C. E. (1992). Motivational and other sources of work accomplishments in mid-life: A longitudinal study. *Journal of Personality, 60*, 679–707.

Michalos, A. C. (1985). Multiple discrepancies theory (MDT). *Social Indicators Research, 16*, 347–413.

Mitchell, T. R., Thompson, L., Peterson E., & Cronk, R. (1997). Temporal adjustments in the evaluations of events: The "rosy view". *Journal of Experimental Social Psychology, 33*, 421–448.

Mullis, R. J. (1992). Measures of economic well-being as predictors of psychological well-being. *Social Indicators Research, 26*, 119–135.

Nakosteen, R. A., & Zimmer, M. A. (1997). Men, money, and marriage: Are high earners more prone than low earners to marry? *Social Service Quarterly, 78*, 66–82.

Nickerson, C., Schwartz, N., Kahneman, D., & Diener, E. (2001). *The American dream: The dark side is in the wish, not the realization*. Manuscript submitted for publication.

Oishi, S., & Diener, E. (2000). *Remembering versus experiencing well-being: The case of Asian-Americans and European-Americans*. Manuscript in preparation, University of Illinois.

Oswald, A. J. (1997). Happiness and economic performance. *The Economic Journal, 107*, 1815–1831.

Ouweneel, P., & Veenhoven, R. (1991). Cross-national differences in happiness: Cultural bias or societal quality. In N. Bleichrodt & P. J. Drenth (Eds.), *Contemporary issues in cross-cultural psychology*. Amsterdam: Swets & Zeitlinger.

Pamuk, E., Makuc, D., Heck, K., Reuben, C., & Lochner, K. (1998). *Socioeconomic status and health chartbook: Health, United States*, 1998. Hyattsville, MD: National Center for Health Statistics.

Parducci, A. (1995). *Happiness, pleasure, and judgment: The contextual theory and its applications*. Mahwah, NJ: Erlbaum.

Pearlin, L. I., & Johnson, J. S. (1977). Marital status, life strains and depressions. *American Sociological Review, 42*, 704–715.

Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research, 19*, 303–316.

Rosenberg, M., & Pearlin, L. E. (1978). Social class and self-esteem among children and adults. *American Journal of Sociology, 84*, 54–58.

Ross, C. E., & Huber, J. (1985). Hardship and depression. *Journal of Health and Social Behavior, 26*, 312–327.

Sandvik, E., Diener, E., & Seidlitz, L. (1993). Subjective well-being: The convergence and stability of self-report and non-self report measures. *Journal of Personality, 64*, 319–341.

Saris, W. E. (2001). The relationship between income and satisfaction: The effect of measurement error and suppressor variables. *Social Indicators Research, 53*, 117–136.

Schor, J. B. (1998). *The overspent American*. New York: Basic Books.

Schwartz, B. (1994). *The costs of living: How market freedom erodes the best things in life*. New York: W.W. Norton.

Schwarz, N., & Strack, F. (1999). Reports of subjective well-being: Judgmental processes and their methodological implications. In D. Kahneman, E. Diener & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 61–84). New York: Russell Sage Foundation.

Schyns, P. (1998a, December 3–6). *Nation wealth, individual income and life-satisfaction in 42 countries: A multilevel approach*. Paper presented at the Second Annual ISQOLS conference, Williamsburg, VA.

Schyns, P. (1998b, July 26–August 1). *The relationship between wealth of countries, individual income and life-satisfaction: A multilevel approach*. Paper presented at ISAXIV World Congress of Sociology, Montreal, Canada.

Schyns, P. (2000). The relationship between income, changes in income and life satisfaction in West Germany and the Russian Fedration: Relative, absolute, or a combination of both? In E. Diener & D. R. Rahtz (Eds.), *Advances in quality of life theory and research* (Vol 1, pp. 83–109). Dordrecht, Netherlands: Kluwer.

Schyns, P. (2001). Income and satisfaction in Russia. *Journal of Happiness Studies, 2,* 173–204.

Sirgy, M. J. (1997). Materialism and quality of life. *Social Indicators Research, 43*, 227–260.

Smith, J. R., Brooks-Gunn, J., & Jackson, A. (1997). Parental employment and children. In R. M. Hauser, B. V. Brown, & W. R. Prosser (Eds.), *Indicators of children's well-being*. New York: Russell Sage Foundation.

Srivastave, A., Locke, E. A., & Bartol, K. M. (2001). Money and subjective well-being: It's not the money, it's the motives. *Journal of Personality and Social Psychology, 80*, 959–971.

Smith, S., & Razzell, P. (1975). *The pools' winners*. London: Calibon Books.
Suh, E. M., Diener, E., Oishi, S., & Triandis, H. (1998). The shifting basis of life satisfaction judgments across cultures: Emotions versus norms. *Journal of Personality and Social Psychology, 74*, 482–493.
Summers, R., & Heston, A. (1991). Penn World Table (Mark 5): An expanded set of international comparisons, 1950–1988. *Quarterly Journal of Economics, 106*, 327–368.
Tepleton, J. M. (1999). A worldwide rise in living standards. *The Futurist 33*, 17–22.
Thoits, P., & Hannan, M. (1979). Income and psychological distress: The impact of an income-maintenance experiment. *Journal of Health and Social Behavior 20*, 120–138.
Tomes, N. (1986). Income distribution, happiness, and satisfaction: A direct test of the interdependent preferences model. *Journal of Economic Psychology 7*, 425–446.
Van Praag, B. M. S. (1993). The relativity of the welfare concept. In M. Nussbaum & A. Sen (Eds.), *The quality of life*. Oxford: Clarendon.
Veenhoven, R. (1991). Is happiness relative? *Social Indicators Research, 24*, 1–34.
Veenhoven, R. (1993). *Happiness in nations: Subjective appreciation of life in 55 nations* 1996–1990. Rotterdam: RISBO.
Veenhoven, R. (1995). The cross-national pattern of happiness: Test of predictions implied in three theories of happiness. *Social Indicators Research, 34*, 33–68.
United Nations Development Programme. (1998). *Human development report* – 1998. New York: Oxford University Press.
Wheaton, B. (1994). Sampling the stress universe. In W. R. Avison & I. H. Gotlib (Eds.), *Stress and mental health* (pp. 77–114). New York: Plenum Press.
Wilkinson, R. G. (1996). *Unhealthy societies: The afflictions of inequality*. London: Routledge.
Wilson, J. B., Ellwood, D. T., & Brooks-Gunn, J. (1995). Welfare-to-work through the eyes of children. In P. L. Chase-Lansdale & J. Brooks-Gunn (Eds.), *Escape from poverty*. New York: Cambridge University Press.
Wirtz, D., Scollon, C., Kruger, J. & Diener, E. (2001). *Selecting a spring break: Online versus recalled mood of the last one*. Manuscript submitted for publication, University of Illinois.
World Value Survey Group. (1994). *World values survey*, 1981–1984 and 1990–1993. Ann Arbor, MI: Institute for Social Research, ICPSR.