


Science

AAAS

**Would You Be Happier If You Were Richer? A
Focusing Illusion**Daniel Kahneman, *et al.*
Science **312**, 1908 (2006);
DOI: 10.1126/science.1129688

**The following resources related to this article are available online at
www.sciencemag.org (this information is current as of July 2, 2008):**

Updated information and services, including high-resolution figures, can be found in the online version of this article at:

<http://www.sciencemag.org/cgi/content/full/312/5782/1908>

A list of selected additional articles on the Science Web sites **related to this article** can be found at:

<http://www.sciencemag.org/cgi/content/full/312/5782/1908#related-content>

This article **cites 12 articles**, 3 of which can be accessed for free:

<http://www.sciencemag.org/cgi/content/full/312/5782/1908#otherarticles>

This article has been **cited by** 15 article(s) on the ISI Web of Science.

This article has been **cited by** 5 articles hosted by HighWire Press; see:

<http://www.sciencemag.org/cgi/content/full/312/5782/1908#otherarticles>

This article appears in the following **subject collections**:

Psychology

<http://www.sciencemag.org/cgi/collection/psychology>

Information about obtaining **reprints** of this article or about obtaining **permission to reproduce this article** in whole or in part can be found at:

<http://www.sciencemag.org/about/permissions.dtl>

- 31. S. Verba, K. L. Schlozman, N. Burns, in *The Social Logic of Politics*, A. S. Zuckerman, Ed. (Temple Univ. Press, Philadelphia, 2005), pp. 95–114.
- 32. R. D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (Simon & Schuster, New York, 2000).
- 33. C. Tilly, *From Mobilization to Revolution* (Addison-Wesley, Reading, MA, 1978).
- 34. L. Stoker, M. K. Jennings, *Am. Pol. Sci. Rev.* **89**, 421 (1995).
- 35. S. Verba, K. L. Schlozman, H. E. Brady, *Voice and Equality: Civic Voluntarism in American Politics* (Harvard Univ. Press, Cambridge, MA, 1995).
- 36. M. K. Jennings, *Am. J. Pol. Sci.* **23**, 755 (1979).
- 37. D. P. Green, J. A. Cowden, *J. Pol.* **54**, 471 (1992).
- 38. J. Kagan, *Three Seductive Ideas* (Harvard Univ. Press, Cambridge, MA, 1998).
- 39. I thank T. Brader, L. Stoker, and J. Weiss for excellent advice on an earlier version of this essay.

10.1126/science.1127891

PERSPECTIVE

Would You Be Happier If You Were Richer? A Focusing Illusion

Daniel Kahneman,¹ Alan B. Krueger,^{1,2*} David Schkade,³ Norbert Schwarz,⁴ Arthur A. Stone⁵

The belief that high income is associated with good mood is widespread but mostly illusory. People with above-average income are relatively satisfied with their lives but are barely happier than others in moment-to-moment experience, tend to be more tense, and do not spend more time in particularly enjoyable activities. Moreover, the effect of income on life satisfaction seems to be transient. We argue that people exaggerate the contribution of income to happiness because they focus, in part, on conventional achievements when evaluating their life or the lives of others.

Most people believe that they would be happier if they were richer, but survey evidence on subjective well-being is largely inconsistent with that belief. Subjective well-being is most commonly measured by asking people, “All things considered, how satisfied are you with your life as a whole these days?” or “Taken all together, would you say that you are very happy, pretty happy, or not too happy?” Such questions elicit a global evaluation of one’s life. An alternative method asks people to report their feelings in real time, which yields a measure of experienced affect or happiness. Surveys in many countries conducted over decades indicate that, on average, reported global judgments of life satisfaction or happiness have not changed much over the last four decades, in spite of large increases in real income per capita. Although reported life satisfaction and household income are positively correlated in a cross section of people at a given time, increases in income have been found to have mainly a transitory effect on individuals’ reported life satisfaction (1–3). Moreover, the correlation between income and subjective well-being is weaker when a measure of experienced happiness is used instead of a global measure.

When people consider the impact of any single factor on their well-being—not only income—they are prone to exaggerate its importance. We refer to this tendency as the fo-

cusing illusion. Standard survey questions on life satisfaction by which subjective well-being is measured may induce a form of focusing illusion, by drawing people’s attention to their relative standing in the distribution of material well-being and other circumstances. More importantly, the focusing illusion may be a source of error in significant decisions that people make (4).

Evidence for the focusing illusion comes from diverse lines of research. For example, Strack and colleagues (5) reported an experiment in which students were asked: (i) “How happy are you with your life in general?” and (ii) “How many dates did you have last month?” The correlation between the answers to these

questions was –0.012 (not statistically different from 0) when they were asked in the preceding order, but the correlation rose to 0.66 when the order was reversed with another sample of students. The dating question evidently caused that aspect of life to become salient and its importance to be exaggerated when the respondents encountered the more general question about their happiness. Similar focusing effects were observed when attention was first called to respondents’ marriage (6) or health (7). One conclusion from this research is that people do not know how happy or satisfied they are with their life in the way they know their height or telephone number. The answers to global life satisfaction questions are constructed only when asked (8), and are, therefore, susceptible to the focusing of attention on different aspects of life.

To test the focusing illusion regarding income, we asked a sample of working women to estimate the percentage of time that they had spent in a bad mood in the preceding day. Respondents were also asked to predict the percentage of time that people with pairs of various life circumstances (Table 1), such as high- and low-income, typically spend in a bad mood. Predictions were compared with the actual reports of mood provided by respondents who met the relevant circumstances. The predictions were biased in two respects. First, the prevalence of bad mood was

Table 1. The focusing illusion: Exaggerating the effect of various circumstances on well-being. The question posed was “Now we would like to know overall how you felt and what your mood was like yesterday. Thinking only about yesterday, what percentage of the time were you: in a bad mood___%, a little low or irritable___%, in a mildly pleasant mood___%, in a very good mood___%.” Bad mood reported here is the sum of the first two response categories. A parallel question was then asked about yesterday at work. Bad mood at work was used for the supervision and fringe benefits comparisons. Data are from (14). Reading down the Actual column, sample sizes are 64, 59, 75, 237, 96, 211, 82, 221, respectively; reading down the Predicted column, sample sizes are 83, 83, 84, 84, 83, 85, 85, 87, respectively. Predicted difference was significantly larger than actual difference by a *t* test; see asterisks.

Variable	Group	Percentage of time in a bad mood			
		Actual	Predicted	Actual difference	Predicted difference
Household income	<\$20,000	32.0	57.7	12.2	32.0***
	>\$100,000	19.8	25.7		
Woman over 40 years old	Alone	21.4	41.1	–1.7	13.2***
	Married	23.1	27.9		
Supervision at work	Definitely close	36.5	64.3	17.4	42.1***
	Definitely not close	19.1	22.3		
Fringe benefits	No health insurance	26.6	49.7	4.5	30.5***
	Excellent benefits	22.2	19.2		

****P* < 0.001.

¹Princeton University, Princeton, NJ 08544, USA. ²National Bureau of Economic Research, Cambridge, MA 02138, USA. ³Rady School of Management, University of California, San Diego, San Diego, CA 92093, USA. ⁴Department of Psychology, University of Michigan, Ann Arbor, MI 48106, USA. ⁵Stony Brook University, Stony Brook, NY, 11794, USA.

*To whom correspondence should be addressed. E-mail: akrueger@princeton.edu

generally overestimated. Second, consistent with the focusing illusion, the predicted prevalence of a bad mood for people with undesirable circumstances was grossly exaggerated.

The focusing illusion helps explain why the results of well-being research are often counter-intuitive. The false intuitions likely arise from a failure to recognize that people do not continuously think about their circumstances, whether positive or negative. Schkade and Kahneman (9) noted that, "Nothing in life is quite as important as you think it is while you are thinking about it." Individuals who have recently experienced a significant life change (e.g., becoming disabled, winning a lottery, or getting married) surely think of their new circumstances many times each day, but the allocation of attention eventually changes, so that they spend most of their time attending to and drawing pleasure or displeasure from experiences such as having breakfast or watching television (10). However, they are likely to be reminded of their status when prompted to answer a global judgment question such as, "How satisfied are you with your life these days?"

The correlation between household income and reported general life satisfaction on a numeric scale (i.e., global happiness as distinct from experienced happiness over time) in U.S. samples typically ranges from 0.15 to 0.30 (11). The relation between global happiness and income for 2004 with data from the General Social

Survey (GSS) is illustrated in Table 2. Those with incomes over \$90,000 were nearly twice as likely to report being "very happy" as those with incomes below \$20,000, although there is hardly any difference between the highest income group and those in the \$50,000 to \$89,999 bracket.

There are reasons to believe that the correlation between income and judgments of life satisfaction overstates the effect of income on subjective well-being. First, increases in income have mostly a transitory effect on individuals' reported life satisfaction (2, 12). Second, large increases in income for a given country over time are not associated with increases in average subjective well-being. Easterlin (1), for example, found that the fivefold increase in real income in Japan between 1958 and 1987 did not coincide with an increase in the average self-reported happiness level there. Third, although average life satisfaction in countries tends to rise with gross domestic product (GDP) per capita at low levels of income, there is little or no further increase in life satisfaction once GDP per capita exceeds \$12,000 (3).

Fourth, when subjective well-being is measured from moment to moment—either by querying people in real time with the Ecological Momentary Assessment (EMA) technique (13) or by asking them to recall their feelings for each episode of the previous day with the Day Reconstruction Method (DRM) (14)—

income is more weakly correlated with experienced feelings such as momentary happiness averaged over the course of the day (henceforth called duration-weighted or experienced happiness) than it is with a global judgment of life satisfaction or overall happiness, or with a global report of yesterday's mood (Table 3) (15, 16). This pattern is probably not a result of greater noise in the duration-weighted happiness measure than in life satisfaction (17). Other life circumstances, such as marital status, also exhibit a weaker correlation with duration-weighted happiness than with global life satisfaction.

An analysis of EMA data also points to a weak and sometimes perverse relation between experienced affect and income. Specifically, we examined EMA data from the Cornell Work-Site Blood Pressure Study of 374 workers at 10 work sites, who were queried about their intensity of various feelings on a 0 to 3 scale every 25 min or so during an entire workday (18). The correlation between personal income and the average happiness rating during the day was just 0.01 ($P = 0.84$), whereas family income was significantly positively correlated with ratings of angry/hostile ($r = 0.14$), anxious/tense ($r = 0.14$), and excited ($r = 0.18$). Thus, higher income was associated with more intense negative experienced emotions and greater arousal, but not greater experienced happiness.

Why does income have such a weak effect on subjective well-being? There are several explanations, all of which may contribute to varying degrees. First, Duesenberry (19), Easterlin (2), Frank (20), and others have argued that relative income rather than the level of income affects well-being—earning more or less than others looms larger than how much one earns. Indeed, much evidence indicates that rank within the income distribution influences life satisfaction (21–23). As society grows richer, average rank does not change, so the relative income hypothesis could explain the stability of average subjective well-being despite national income growth. The importance placed on relative income may also account for the stronger correlation between income and global life satisfaction than between income and experienced affect, as life satisfaction questions probably evoke a reflection on relative status that is not present in moment-to-moment ratings of affect. The relative income hypothesis cannot by itself explain why a permanent increase in an individual's income has a transitory effect on her well-being, as relative standing would increase. However, the increase in relative standing can be offset by changes in the reference group: After a promotion, the new peers increasingly serve as a reference point, making the improvement relative to one's previous peers less influential (24).

Second, Easterlin (1, 2) argues that individuals adapt to material goods, and Scitovsky (25) argues that material goods yield little joy for

Table 2. Distribution of self-reported global happiness by family income, 2004. The GSS question posed was "Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?" Sample size was 1173 individuals.

Response	Percentage indicating global happiness at family income of			
	Under \$20,000	\$20,000–\$49,999	\$50,000–\$89,999	\$90,000 and over
Not too happy	17.2	13.0	7.7	5.3
Pretty happy	60.5	56.8	50.3	51.8
Very happy	22.2	30.2	41.9	42.9

Table 3. Correlations between selected life circumstances and subjective well-being measures. The question posed was "We would like to know how you feel and what mood you are in when you are at home. When you are at home, what percentage of the time are you in a bad mood____%, a little low or irritable____%, in a mildly pleasant mood____%, in a very good mood____%." The last two response categories were added together to obtain the percentage of time in a good mood. Duration-weighted "happy" is the average of each person's duration-weighted average rating of the feeling happy over episodes of the day, where 0 refers to "not at all" and 6 refers to "very much," and each individual's responses were weighted by the duration of the episode. Sample consists of 740 women from Columbus, Ohio, who completed the DRM in May 2005 (16).

Characteristic	Life satisfaction	Amount of day in good mood (%)	Duration-weighted "happy"
Household income	0.32***	0.20***	0.06
Married	0.21***	0.15***	0.03
Years of education	0.16***	0.13***	0.03
Employed	0.14***	0.12**	0.01
Body mass index	-0.13***	-0.08*	-0.06

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

Table 4. How is time spent and do the activities bring happiness? Time allocation is weighted-average percentage of the nonsleep day for each sampled observation from the American Time-Use Survey (30). Weighted average of weekday (5 out of 7) and weekend (2 out of 7) is presented.

Family income/Gender	Active leisure	Eating	Passive leisure	Compulsory	Work and commute	Other
<i>Time allocation (%)</i>						
Men						
<\$20,000	6.6	6.6	34.7	20.8	29.1	2.1
\$20,000–\$99,999	8.1	7.2	26.4	21.8	35.4	1.1
\$100,000+	10.2	8.6	19.9	23.6	36.9	0.8
Women						
<\$20,000	5.3	5.7	33.5	35.6	18.5	1.4
\$20,000–\$99,999	7.5	6.7	23.8	34.3	26.7	1.0
\$100,000+	9.1	7.0	19.6	35.9	27.3	1.1
<i>Feelings (0-6 scale)</i>						
Women						
Happy	4.67	4.45	4.21	4.04	3.94	4.25
Tense/Stressed	0.92	1.17	1.30	1.80	2.00	1.61

most individuals. Thus, increases in income, which are expected to raise well-being by raising consumption opportunities, may in fact have little lasting effect because of hedonic adaptation or because the consumption of material goods has little effect on well-being above a certain level of consumption (26). Moreover, people's aspirations adapt to their possibilities and the income that people say they need to get along rises with income, both in a cross section and over time (27).

Finally, we would propose another explanation: As income rises, people's time use does not appear to shift toward activities that are associated with improved affect. Subjective well-being is connected to how people spend their time. In a representative, nationwide sample, people with greater income tend to devote relatively more of their time to work, compulsory nonwork activities (such as shopping and childcare), and active leisure (such as exercise) and less of their time to passive leisure activities (such as watching TV) (Table 4). The activities that higher-income individuals spend relatively more of their time engaged in are associated with no greater happiness, on average, but with slightly higher tension and stress. The latter finding might help explain why income is more highly correlated with general life satisfaction than with experienced happiness, as tension and stress may accompany goal attainment, which in turn contributes to judgments of life satisfaction more than it does to experienced happiness.

The results in Table 4 also highlight the possible role of the focusing illusion. When someone reflects on how additional income would change subjective well-being, they are probably tempted to think about spending more time in leisurely pursuits such as watching a large-screen plasma TV or playing golf, but in reality they should think of spending a lot more time working and commuting and a lot less time engaged in passive leisure (and perhaps a bit more golf). By itself, this shift in time use is unlikely to lead to much increase in experienced

happiness, although it could increase tension and one's sense of accomplishment and satisfaction.

Despite the weak relation between income and global life satisfaction or experienced happiness, many people are highly motivated to increase their income. In some cases, this focusing illusion may lead to a misallocation of time, from accepting lengthy commutes (which are among the worst moments of the day) to sacrificing time spent socializing (which are among the best moments of the day) (28, 29). An emphasis on the role of attention helps to explain both why many people seek high income—because their predictions exaggerate the increase in happiness due to the focusing illusion—and why the long-term effect of income gains become relatively small, because attention eventually shifts to less novel aspects of daily life.

References and Notes

- R. Easterlin, *J. Econ. Behav. Organ.* **27**, 35 (1995).
- R. Easterlin, "Building a better theory of well-being," Discussion Paper No. 742, IZA, Bonn, Germany, 2003.
- R. Layard, *Happiness: Lessons from a New Science* (Penguin Press, London, 2005).
- D. Gilbert, *Stumbling on Happiness* (Knopf, New York, 2006).
- F. Strack, L. Martin, N. Schwarz, *Eur. J. Soc. Psychol.* **18**, 429 (1988).
- N. Schwarz, F. Strack, H. Mai, *Public Opin. Q.* **55**, 3 (1991).
- D. Smith, N. Schwarz, T. Roberts, P. Ubel, *Qual. Res.* **15**, 621 (2006).
- N. Schwarz, F. Strack, in *Well-Being: The Foundations of Hedonic Psychology*, D. Kahneman, E. Diener, N. Schwarz, Eds. (Russell Sage Foundation, New York, 1999), pp. 61–84.
- D. Schkade, D. Kahneman, *Psychol. Sci.* **9**, 340 (1998).
- D. Kahneman, R. H. Thaler, *J. Econ. Perspect.* **20** (1), 221 (2006).
- E. Diener, R. Biswas-Diener, *Soc. Indic. Res.* **57**, 119 (2002).
- B. Frey, A. Stutzer, *Happiness and Economics: How the Economy and Institutions Affect Well-Being* (Princeton Univ. Press, Princeton, NJ), 2002).
- A. Stone, S. Shiffman, *Ann. Behav. Med.* **16**, 199 (1994).
- D. Kahneman, A. Krueger, D. Schkade, N. Schwarz, A. Stone, *Science* **306**, 1776 (2004).
- In general, we find that the retrospective report of mood on the previous day, which is a global evaluation, shares variance both with the global measures of life

satisfaction and with disaggregated measures of emotional experience at particular times.

- D. Kahneman, D. Schkade, C. Fischler, A. Krueger, A. Krilla, "A study of well-being in two cities," Discussion Paper No. 53, Center for Health and Wellbeing, Princeton, NJ, 2006.
- We conducted a reliability study of the DRM that asked the same questions of 229 women two weeks apart, and found about the same two-week serial correlation in duration-weighted happiness as in life satisfaction for the respondents.
- P. Schnall, J. Schwartz, P. Landsbergis, K. Warren, T. Pickering, *Psychosom. Med.* **60**, 697 (1998).
- J. Duesenberry, *Income, Saving, and the Theory of Consumer Behavior* (Harvard Univ. Press, Cambridge, MA, 1949).
- R. Frank, *Luxury Fever* (Princeton Univ. Press, Princeton, NJ, 1999).
- A. Clark, A. Oswald, *J. Public Econ.* **61**, 359 (1996).
- A. Ferrer-i-Carbonell, *J. Public Econ.* **89**, 997 (2005).
- E. Luttmer, *Q. J. Econ.* **120**, 963 (2005).
- W. Runciman, *Relative Deprivation and Social Justice* (Univ. of California Press, Berkeley, CA, 1966).
- T. Scitovsky, *The Joyless Economy* (Oxford Univ. Press, Oxford, 1976).
- S. Frederick, G. Loewenstein, in *Well-Being: The Foundations of Hedonic Psychology*, D. Kahneman, E. Diener, N. Schwarz, Eds. (Russell Sage Foundation, New York, 1999), pp. 302–329.
- B. Van Praag, P. Frijter, in *Well-Being: The Foundations of Hedonic Psychology*, D. Kahneman, E. Diener, N. Schwarz, Eds. (Russell Sage Foundation, New York, 1999), pp. 413–433.
- See (31) for evidence on the misallocation of commuting time and (14) on the hedonic experience of commuting and socializing.
- It goes without saying that happiness is not the only measure of human welfare. Moreover, although income gains may not contribute very much to experienced happiness or life satisfaction, wealthier societies may well enjoy better health care, safer and cleaner environments, cultural benefits and other amenities that improve the quality of life.
- "Time-use survey—First results announced by Bureau of Labor Statistics," U.S. Department of Labor, USDL 04-1797 (<http://www.bls.gov/>).
- A. Stutzer, B. Frey, "Stress that doesn't pay: The commuting paradox," Discussion Paper No. 127, IZA, Bonn, Germany, 2004.
- The authors thank M. Connolly, M. Fifer, and A. Krilla for research assistance, and the Hewlett Foundation, the National Institute on Aging, and Princeton University's Woodrow Wilson School and Center for Economic Policy Studies for financial support.

10.1126/science.1129688