Well-Being Over Time in Britain and the USA

David G. Blanchflower
Department of Economics
Dartmouth College and NBER
USA
blanchflower@dartmouth.edu

Andrew J. Oswald
Department of Economics
Warwick University
UK
andrew.oswald@warwick.ac.uk

November 1999

For their helpful ideas, we are grateful to Michael Argyle, Andrew Clark, Ed Diener, Rafael Di Tella, Richard Freeman, Robert MacCulloch, Avner Offer, Jonathan Skinner and Peter Warr (who was a member of an earlier joint research project).

Abstract

The standard of living in the industrialized nations has been steadily increasing over the last few decades. Yet some observers wonder whether we are really getting any happier. This paper addresses that question by examining well-being data on 100,000 randomly sampled Americans and Britons from the early 1970s to the late 1990s. Reported levels of happiness have declined over the period in the United States. Life satisfaction has been approximately flat through time in Britain. Counter to the general US trend, the happiness of blacks in that nation has risen since the early 1970s. The black-white happiness differential has diminished. The happiness of American men has grown. Despite legislation aimed to reduce gender discrimination, the well-being of women has fallen noticeably. Well-being equations have a stable structure: the British equations look almost identical to the US ones. Money does buy happiness. The paper also calculates the dollar values of life events like unemployment and divorce. They are large. A lasting marriage, for example, is calculated to be worth $100,000 a year.

Well-Being Over Time in Britain and the USA

David G. Blanchflower and Andrew J. Oswald

"We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are life, liberty and the pursuit of happiness." U.S. Declaration of Independence, July 4, 1776.

1. Introduction

One thing that unites different kinds of social scientists is a concern to understand the forces that affect people's well-being. What makes individuals happy? What leads to happy societies? These are difficult questions, but they seem important.

This paper studies the numbers that people report when asked questions about how happy they feel and how satisfied with life. There are, transparently, limitations to such statistics, and an inquiry of this sort suffers the disadvantage that controlled experiments are out of reach. But it seems unlikely that human happiness can be understood without, in part, listening to what human beings say.

Sources of information exist that have for many years recorded individuals' survey responses to questions about well-being. These responses have been studied intensively by psychologists[1], examined a little by sociologists and political scientists[2], and largely ignored by economists[3]. Some economists may defend

[1] Earlier work includes Andrews (1991), Argyle (1989), Campbell (1981), Diener (1984), Diener et al (1999), Douthitt et al (1992), Fox and Kahneman (1992), Larsen et al (1984), Mullis (1992), Shin (1980), Veenhoven (1991, 1993) and Warr (1990).

[2] For example, Inglehart (1990) and Gallie et al (1998).

[3] The recent research papers of Andrew Clark, Bruno Frey and Yew Kwang Ng are exceptions (Clark, 1996; Clark and Oswald, 1994; Frey and Stutzer, 1998, 1999; Ng, 1996, 1997). See also Frank (1985, 1997), Blanchflower and Freeman

this neglect. They will emphasise the unreliability of subjective data – perhaps because they are unaware of the large literature by research psychologists that uses such numbers, or perhaps because they believe economists are better judges of human motivation than those researchers. Most economists, however, are probably unaware that data of this sort are available, and have not thought of whether empirical measures approximating the theoretical construct 'utility' might be useful in their discipline.

2. On Happiness and Measurement

One definition of happiness is the degree to which an individual judges the overall quality of his or her life as favorable (e.g., Veenhoven, 1991, 1993). Psychologists draw a distinction between the well-being from life as a whole and the well-being associated with a single area of life: these they term "context-free" and "context-specific". They view it as natural that a concept such as happiness should be studied by asking people how they feel. One issue in the psychology literature has been whether a well-being measure is, in their terminology, reliable and valid. Self-reported measures are recognized to be a reflection of at least four factors. (e.g., Warr 1980): objective circumstances, aspirations, comparisons with others, and a person's so-called baseline happiness, or dispositional outlook (e.g. Chen & Spector, 1991)). Rather than summarize the psychological literature's assessment

(1997), Blanchflower and Oswald (1998, 1999), Blanchflower, Oswald and Warr (1993), MacCulloch (1996) and Di Tella et al (1999). Offer (1998) contains many interesting ideas about the post-war period and the lack of rising well-being.

of well-being data, this paper refers interested readers to the checks on self-reported happiness statistics[4] discussed in Argyle (1989) and Myers (1993), and to psychologists' articles on reliability and validity, such as Fordyce (1985), Larsen, Diener, and Emmons (1984), Pavot and Diener (1993), and Watson and Clark (1991).

The idea used in the paper is that there exists a reported well-being function

$$r = h(u(y, z, t)) + e \qquad (1)$$

where r is some self-reported number or level (perhaps the integer 4 on a satisfaction scale, or "very happy" on an ordinal happiness scale), u(…) is to be thought of as the person's true well-being or utility, h(.) is a continuous non-differentiable function relating actual to reported well-being, y is real income, z is a set of demographic and personal characteristics, t is the time period, and e is an error term. As plotted in Figure 1, the function h(.) rises in steps as u increases. It is assumed, as seems plausible, that u(…) is a function that is observable only to the individual. Its structure cannot be conveyed unambiguously to the interviewer or any other individual. The error term, e, then subsumes among other factors the inability of human beings to communicate accurately their happiness level (your 'two' may be my 'three')[5]. The measurement error in reported well-being data

[4] People who report high happiness numbers have been observed to smile more, for example, and to be rated happier by their acquaintances.

[5] It may be worth remarking that this approach recognises the social scientist's instinctive distrust of a single person's subjective 'utility'. An analogy would be to a time before human beings had accurate ways of measuring

would be less easily handled if well-being were to be used as an independent variable.

This approach may be viewed as an empirical cousin of the experienced-utility idea advocated by Kahneman et al (1997). The structure of equation 1 makes it suitable for estimation as an ordered probit or logit. In this way, 'true' utility is the latent variable, and the subjectivity of responses can be thought of as being swept into the error term.

It is possible to view some of the self-reported well-being questions in the psychology literature as assessments of a person's lifetime or expected stock value of future utilities. Equation 1 would then be rewritten as an integral over the u(…) terms. This paper, however, will use a happiness question that seems more naturally interpreted as a flow rather than a stock.

In what has since emerged as seminal research, Easterlin (1974, and more recently 1995) was one of the first social scientists to study data over time on the reported level of happiness in the United States. One of his aims was to argue that individual well-being is the same across poor countries and rich countries. The author suggests that we should think of people as getting utility from a comparison of themselves with others close to them: happiness is relative. Hirsch (1976), Scitovsky (1976), Layard (1980), Frank (1985, 1999) and Schor (1998) have argued

---

people's height. Self-reported heights would contain information but be subject to large error. They would predominantly be useful as ordinal data, and would be more valuable when averaged across people than used as

similarly; a different tradition, with equivalent implications, begins with Cooper and Garcia-Penalosa (1999) and Keely (1999).

On the trend in well-being over time, Easterlin's paper concludes: "... in the one time-series studied, that for the United States since 1946, higher income was not systematically accompanied by greater happiness" (p.118). This result has become well-known. Oswald (1997) makes the point that Richard Easterlin's data may not actually support it; his longest consistent set of happiness levels seems to find that Americans were becoming happier (39% very happy in 1946 to 53% very happy in 1957). But, as Easterlin shows, splicing together surveys with slightly different well-being questions over a longer set of years does suggest a flat trend in well-being in the early post-war period.

This paper begins by examining information from the General Social Surveys of the United States. Although little used by economists, these have for many years been interviewing people about their levels of happiness. GSS data are available in most of the years from 1972 to 1998. The size of sample averages approximately fifteen hundred individuals per annum. Different people are interviewed each year: the GSS is not a panel.

Are Americans getting happier over time? In the early 1970s, 34% of those interviewed in the General Social Survey described themselves as ‘very happy’. By the late 1990s, the figure was 30%. For women, the numbers go from 36% at the

---

individual observations.

start of the period, to 29% a quarter of a century later. The raw patterns are in Table 1. The question asked is:

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? (GSS Question 157)

The same wording has been used for the last twenty six years. It is clear from the table that there is a reasonable amount of stability in the proportion of people giving different well-being scores, and that, not unexpectedly, the bulk of survey respondents place themselves in the middle category ('pretty happy') of those offered.

To answer this question more carefully, it is natural to look at a regression-adjusted time trend. Table 2A estimates regression equations in which the dependent variable is reported happiness. These ordered logit equations control only for exogenous demographic characteristics: age, age squared, gender, and race.

Table 2A contains a number of findings that might have been hard to predict. Column 1 of the table shows that America is apparently becoming systematically less happy (in the eyes of Americans themselves). There is a negative time trend, -0.0027, with a t-statistic sufficiently large to allow the null hypothesis of zero to be rejected. Men report lower happiness scores than women, although the size of the difference between males and females appears to be small. Blacks and other non-

white races are less happy than whites. This effect is large[6] (we return to the issue later in the paper) and well-defined. The black dummy variable has a coefficient in column 1 of Table 2A of –0.7, with a t-statistic that exceeds twenty. There is a concave shape in age. In column 1 of Table 2A, over the relevant range, happiness grows with age. When other controls are introduced, however, it will be seen later in the paper that a minimum emerges around the middle of life. The monotonicity in Table 2A disappears when enough variables are added.

Given the starkness of the conclusion that the USA has, in aggregate, apparently become more miserable over the last quarter of a century, it seems useful to examine sub-samples of the population. Later columns of Table 2A do that. Columns 2 and 3 reveal that it is women rather than men who are experiencing the decline in well-being. This might be viewed as paradoxical: the last few decades are often seen as a period in the US in which discrimination against women has come down. Men report flat levels of well-being over this period (the time trend coefficient in column 2 of Table 2A is positive but insignificantly different from zero). In both columns, reported happiness rises as individuals get older. Moreover, the black coefficient is large and negative in both equations. It is possible to view this as evidence of discrimination against black people.

[6] Although for convenience the paper's prose refers to coefficients, what is meant throughout the paper is 'marginals' in the usual ordered-logit sense.

Columns 4 and 5 of Table 2A separate the data by race. An interesting finding emerges. It can be seen, in column 5, that blacks are the only group to be experiencing an upward time trend in reported happiness. The concave shape in age disappears. The male dummy variable enters differently in columns 4 and 5; black men say they are happier than black women. Whites' happiness is trended strongly down over time -- in the sense that the time trend's coefficient has a small standard error -- in column 4 of Table 2A. Therefore, over the period, the gap between the well-being of American whites and blacks has narrowed.

The last two columns of Table 2A look at age. Older people, in column 7, have a clear downward movement in well-being. In column 8 the young are slightly up, by contrast, although the trend is not well-defined.

Table 2B changes from sub-samples with only exogenous characteristics. It reports regression equations for other sub-groups of the population (looking at categories that are endogenous and thus, to a large degree, chosen by the individuals). In columns 8-10, the downward time trend is greatest for those who are out of the labour force. The consistently large black dummy in columns 8-14 is noteworthy.

Columns 11 and 12 divide the sample into Americans who have small and large amounts of education. Interestingly, the size of the downward time trend is approximately the same in the two sub-groups. Conventional wisdom would not

have predicted this; it appears widely thought to have been a better era for the highly educated.

Columns 13-14 of Table 2B seem important. They split the sample according to marital status – with the married as one category, while the other category combines the never married, those currently widowed or separated, and those divorced. In both columns, the time trend in happiness is positive. It is well-defined. This suggests that the statistical finding of a downward time trend in US happiness could be caused by a failure to distinguish between married and unmarried people. The decline of marriage in America -- from 67% of adults in the mid 70s to 48% by the late 90s -- may be one reason for the secular decline in happiness through the decades. But we show in the next section that this is probably not the full story.

These equations[7] continue to treat each person's reported happiness level as ordinal in much the way that economic theory's use of indifference curves does. Tables 2A and 2B do not assume cardinal utility.

Although they differ in detail, the results for Great Britain are similar. Here it is necessary to use a life-satisfaction question because there is no happiness question over the required period. The Eurobarometer Surveys provide cross-

[7] These are, as explained, ordered logits. The usual approach in the psychology literature has been instead to assign numbers to happiness levels and then to use ordinary OLS regression methods. Strictly speaking, this is illegitimate (it cannot be assumed that "very happy" equals, say, twice "pretty happy"). Nevertheless, as shown in an appendix, we have found that the simple method gives similar results to those from ordered logits.

section information on approximately 60,000 Britons starting from the early 1970s (the annual sample is therefore just over two thousand people). In each year they are asked:

On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead? (Eurobarometer Survey Series).

In a way reminiscent of the US happiness results, Table 1 illustrates that in the early 1970s approximately a third of British people say they are 'very satisfied' with life. The number is unchanged by the late 1990s. Appendix 2 shows something similar for Europe.

Table 3A reports the same kinds of logit regression equations as for the US. Here life satisfaction is the dependent variable. It is not possible to include a dummy variable for race; but age, age squared, gender, and a time trend, are again used as regressors. Column 1 of Table 3A finds that well-being has not risen systematically in Great Britain from 1973 to 1998. Although the coefficient on Time is positive, it is small and poorly defined (the t-statistic is 0.25). British males are less content than females. Age enters in a convex way: well-being is U-shaped in years. Columns 2-5 of Table 3A break the data into different sub-samples (males, females, young, old). None of these groups has a statistically significant time-trend in well-being. Although poorly defined, the trends on males and females go in the opposite way from the United States. There is a well-defined U-shape in age in

each of the five sub-samples separately. Regardless of age group, columns 4 and 5 of Table 3A show that men report lower well-being scores.

Table 3B examines further sub-samples for Great Britain. For those in work, column 6 reveals that there is a statistically significant upward time trend in life satisfaction. Its coefficient is 0.0033. The age and gender variables continue to enter as before. Columns 9 and 10 are for people with different levels of education (ALS is 'age left school'); both have time trends that are down, and on the border of significance at the five per cent level.

The most interesting finding in Table 3B is in columns 11-12. As was found for the United States, married people in Britain report secularly rising well-being over this quarter of a century. The coefficient is 0.007 with a t-statistic exceeding four. Unmarried people, by contrast, have a flat time trend. The proportion of the sample who are married changes from 72% in the early 1970s to 55% by the late 1990s.

3. Happiness Equations with a Full Set of Controls

The next step is to explore the patterns in well-being data by allowing for a larger set of controls, and especially for the effects of income and other economic variables. Table 4 begins this. Using again the pooled US data from the beginning of the 1970s, it estimates ordered logit happiness equations in which are included a time trend, age and age squared, dummies for demographic and work

characteristics, years of education, and dummies for marital status (including whether the individual's parents were divorced). Sample size is approximately 36,000.

The first column of Table 4 continues to find a downward trend in American happiness. However, the coefficient is smaller than in Table 2, with a t-statistic of approximately 1.3. This suggests that it is changes in factors such as marital status and working life that explain part of the downward movement in reported levels of contentment. The null hypothesis of no change over time cannot be rejected in column 1 of Table 4.

Looking across the columns, however, in this fuller specification it can be seen how different groups within the US economy have fared differently. Men's happiness has trended upwards, in Table 4, column 2. Yet American women's well-being has fallen through the years. Blacks have trended up, with a large coefficient of 0.009. Whites' well-being has been down. Income is at this juncture deliberately omitted from this table – to allow changing real incomes to be absorbed into the time variable.

One of the interesting conclusions, from the economist's point of view, is how influential non-financial variables appear to be in human welfare. The new variables, in the lower half of Table 4, enter powerfully. Work and marital status variables have large and well-defined effects. The single greatest depressant of

reported happiness is the variable ‘separated’; this is closely followed by ‘widowed’. Being unemployed is apparently almost as bad, and also has a small standard error. According to the estimates, the joblessness effect is close in size to the unhappiness associated with divorce.

Marital break-up features in two other ways in Table 4. Second and subsequent marriages appear from these estimates to be less happy than first marriages. Moreover, a person whose parents were divorced (when the respondent was aged 16) has himself or herself a lower level of well-being in adulthood. It is not clear, of course, how much of this kind of effect is causal. Genes rather than life events could be the ultimate explanation for such patterns in the data.

Years of education enter positively in a happiness equation. An economist might have guessed that this would occur -- because schooling would act as a proxy for earnings. A later table, however, reveals that it cannot be an earnings effect of this sort; education is playing a role independently of income. The exact effect of age upon reported happiness is of interest. It is now U-shaped, in Table 4, with a minimum in the late 30s.

When confronted with well-being data, it is natural for an economist to ask whether richer people report greater levels of well-being. The idea that income buys happiness is one of the assumptions -- made without evidence but rather on

deductive grounds -- in microeconomics textbooks[8]. To test this, the trend is dropped, and replaced with year dummies (to pick up, among other things, the nominal price level). Table 5 is the result. Income per capita in the household enters positively with a t-statistic exceeding twelve. Interestingly, and perhaps surprisingly from an economist's point of view, the coefficients on the other variables in Table 5's well-being equations hardly alter. The amount of happiness bought by extra income is not as large as some would expect. To put this differently, the non-economic variables in happiness equations enter with large coefficients, relative to that on income.

Table 6 can be used to do a form of happiness calculus. The relative size of any two coefficients provides information about how one variable would have to change to maintain constant well-being in the face of an alteration in the other variable. To 'compensate' for a major life event such as being widowed or a marital separation, it would be necessary -- clearly this calculation is speculative but it illustrates the size of the coefficients -- to provide an individual with approximately $100,000 extra per annum[9].

A different interpretation of this type of correlation is as demonstrating that happy people are more likely to stay married. It is clear that that rival hypothesis cannot easily be dismissed if only cross-section data are available. However, panel

[8] An indirect utility function is increasing in income. Consumer theory can, of course, be done using revealed

data on well-being suggest that similarly large effects are found when looking longitudinally at changes (thus differencing out person-specific fixed effects). See, for example, Clark (1999).

If high income goes with more happiness, and characteristics such as unemployment and being black go with less happiness, it is reasonable to wonder whether a monetary value could be put on some of the other things that are associated with disutility. Further calculation suggests that to 'compensate' men exactly for unemployment would take a rise in income of approximately $60,000 per annum, and to 'compensate' for being black would take $30,000 extra per annum. These seem enormous sums, and in a sense reflect the low happiness value of extra income.

British results are strikingly comparable. They are contained in Table 6. Here it is not possible to control as efficiently for income. However, the later columns of Table 6 incorporate an indicator of in which total family income quartile the individual falls.

Table 6 assumes that, apart from their income, a person's satisfaction with life depends upon a time trend, age and its square, gender, whether retired or keeping house or a student, work status, and marital status. A set of age-left-school dummies are also included to capture the individual's educational attainment. The

---

preference alone.

9 In 1990s dollars.

time trend enters positively, with a coefficient of 0.0036 and t-statistic of 2.67. One interpretation of this is that well-being is rising in Great Britain – contrary to the United States. However, that is somewhat misleading. It needs to be compared to the zero coefficient on Time in Table 3A. The net effect of the variables listed in Table 6 is to remove the forces making for declining life satisfaction. In answering the question 'has Britain become more content?' it is necessary to bear in mind the large rise in unemployment and fall in marriage.

The time trend for men in column 2 of Table 6 is much larger than for women in column 3. Men appear to enjoy keeping house less than do women, and they dislike being a student more. Unemployment hits a male harder than it does a female. Women living as married are happier than those who are single, but markedly less than those who are legally married.

In Table 6, columns 4-6, it can be seen that the introduction of an independent variable for the person's income quartile does not affect other coefficients greatly. It continues to be true that joblessness hurts men more than women. The costs of unemployment are large relative to the costs from taking a cut in income. British men continue to be less contented than British women.

Table 7 sets out the British equivalent to the United States of Table 4. The structure of the two is intriguingly similar – despite the fact that the dependent variable is life satisfaction rather than happiness. Here 21 year-dummies control for

all macroeconomic changes in the British economy. The variables for income quartiles enter in a monotonic way: richer people are more satisfied with their lives. Unemployment enters with a large negative coefficient. Men keeping house are again less satisfied.

The U shape in age is again present in Tables 6 and 7. A notable feature is that the minimum is reached around the same age range for British men and women separately (43 in column 3 of Table 7 for men, and age 40 for women). Something systematic is at work here. One tentative possibility is that this decline and then rise in well-being through the years indicates a process of adapting to circumstances; by the middle of life people may relinquish some of their aspirations and thereby come to enjoy life more.

4. Arguments and Counter-Arguments

Equation 1 treats the subjectivity of responses as a component of the error term, but there still exist objections to the analysis.

First, it is not possible to control here for person-specific fixed effects, or, in other words, for people's dispositions. Nevertheless, the data are random cross-sections, and therefore suitable for the estimation of time trends. What small amount of regression work has been done on panels, moreover, finds similar microeconomic patterns to those documented here.

Second, individuals are not randomly assigned to events like divorce, so the calculation of, for example, the value of marriage describes an association in the data rather than clear cause-and-effect. This is an important problem. In the generic sense it is of course common throughout applied economics. The pragmatic response, here and elsewhere, is that at this point in the history of economic research it is necessary to document patterns and to be circumspect about causality. Marriage is believed by psychologists to provide a protective effect to mental well-being (Argyle, 1989), but unambiguous proof would require a sharper statistical test than is possible with these data.

Third, people in the early 1970s may have used words differently from those in 1998 (so 'happy' no longer means exactly the same, perhaps). This is not immediately plausible; it would be much more so over a century. Nevertheless, so far as it holds, the paper's approach would be open to doubt, although the cross-section regression patterns would continue to be immune as long as year-dummies accurately captured the effect as an intercept shift.

Fourth, 'satisfaction' scores, as here for the British data set, may be inherently untrended – perhaps because people unknowingly anchor their language on an observed aspiration level and adjust accordingly through the years. If true, this would create difficulties for some of the time-trend conclusions for Britain. But

the cross-section findings would hold, and the US happiness results would go through.

The paper is not an attempt to define 'utility' in an exact empirical way. Nevertheless, the philosophy underlying the paper is that subjective well-being data may turn out to be useful to economists (as such statistics have to psychologists).

5. Conclusions

Reported levels of happiness are dropping through time in the United States. Life satisfaction is approximately flat in Great Britain. In a period of increasing material prosperity – our data cover the period from the early 1970s to the late '90s – these results may surprise some observers.

Richard Easterlin (1974) argued that economic growth does not bring happiness to a society. Our data begin around the time of that article's publication, and our work provides some support, a quarter of a century later, for his views. Nevertheless, the picture is not a simple one. Some groups in society – such as American men and blacks – have become happier through the decades. Moreover, once the British equations control for enough personal characteristics (including whether unemployed or divorced), there is evidence of a statistically significant upward movement in well-being since the 1970s. This effect may be due to higher real income.

Other results emerge. In so far as conclusions can be drawn from random cross-section samples of people, they are the following.

1. Whatever the consequences of anti female-discrimination policy elsewhere in society, it has apparently not been successful in either country in creating rising well-being among women.

2. Black people in the US are much less happy, ceteris paribus, than whites. One interpretation of this is that our methods provide a new way to document the existence of discrimination.

3. The difference in the well-being of racial groups in the United States has narrowed over the last few decades. Blacks have made up some ground, in other words.

4. Our calculations suggest that to 'compensate' men for unemployment would take a rise in income at the mean of approximately $60,000 per annum, and to 'compensate' for being black would take $30,000 extra per annum. A lasting marriage is worth $100,000 per annum when compared to being widowed or separated. Because there is no precedent for such calculations in the published social science literature, they should be treated cautiously.

5. Higher income is associated with higher happiness.

6. Reported well-being is greatest among women, married people, the highly educated, and those whose parents did not divorce. It is low among the unemployed. Second marriages are less happy.

7. Happiness and life satisfaction are U-shaped in age. In both Britain and the US, well-being reaches a minimum, other things held constant, around the age of 40. This regularity is not known to most social scientists.

Table 1. Happiness and Life Satisfaction: Averages for Different Periods

a) The proportions of people giving different happiness answers in the United States 1972-98

	1972-1976	1977-1982	1983-1987	1988-1993	1994-1998
All – not too happy	14%	12	12	10	12
All – pretty happy	52	54	56	58	58
All – very happy	34	34	32	33	30
Male – not too happy	14	12	13	9	11
Male – pretty happy	54	56	57	58	58
Male – very happy	32	32	30	34	31
Female – not too happy	13	12	12	11	13
Female – pretty happy	51	53	56	57	59
Female – very happy	36	35	33	32	29
White – not too happy	12	11	11	9	11
White – pretty happy	52	54	56	57	59
White – very happy	36	35	33	34	31
Black – not too happy	26	23	21	18	21
Black – pretty happy	54	54	58	60	58
Black – very happy	20	23	21	22	20

b) *The proportions of people giving different life-satisfaction answers in Great Britain 1973-98*

	1972-1976	1977-1982	1983-1987	1988-1993	1994-1998
All – not at all	4%	4	4	4	3
All – not very	11	10	10	10	10
All – fairly	54	54	55	55	57
All – very	31	32	31	31	31
Male – not at all	4	4	4	4	4
Male – not very	11	10	10	10	10
Male – fairly	55	55	57	57	58
Male – very	30	31	29	29	29
Female – not at all	4	4	3	3	3
Female – not very	12	10	10	11	9
Female – fairly	53	53	54	54	55
Female – very	32	34	32	32	32

Source: General Social Surveys – USA: Eurobarometers – Great Britain

Table 2A. Happiness Equations for the United States, 1972-1998 (Ordered Logits).

	(1) All	(2) Men	(3) Women	(4) Whites	(5) Blacks	(6) Age<30	(7) Age>=30
Time	-.0027	.0021	-.0062	-.0044	.0090	.0021	-.0041
	(2.18)	(1.14)	(3.67)	(3.22)	(2.58)	(0.75)	(2.90)
Age	.0161	.0167	.0121	.0163	.0040	.0115	.0093
	(4.90)	(3.32)	(2.79)	(4.54)	(0.44)	(0.10)	(1.67)
Age^2	-.0001	-.0001	-.0001	-.0001	.0001	.0004	-.0001
	(3.73)	(1.38)	(2.86)	(3.82)	(0.84)	(0.16)	(1.21)
Male	-.0499	n/a	n/a	-.0917	.1375	-.2625	.0112
	(2.46)			(4.14)	(2.44)	(6.10)	(0.49)
Black	-.7334	-.6058	-.8215	n/a	n/a	-.9380	-.6747
	(24.14)	(12.51)	(21.03)			(15.04)	(19.36)
Other races	-.1384	.0818	-.3228	n/a	n/a	-.1971	-.1236
	(2.24)	(0.89)	(3.86)			(1.76)	(1.66)
cut1	-1.7326	-1.4886	-1.9569	-1.8230	-.8000	-1.7498	-1.8488
cut2	1.0372	1.3328	.7827	.9823	1.8538	1.2148	.8678
N	37711	16548	21163	31561	5078	8644	29067
Chi^2	679.0	287.9	486.7	61.54	61.59	280.8	411.3
Pseudo R^2	.0095	.0093	.0121	.0010	.0062	.0175	.0074
LR	-35354.5	-15395.5	-19905.9	-29355.6	-4921.3	-7865.9	-27446.1

Source: General Social Survey, ORC
t-statistics are in parentheses

Table 2B. Happiness Equations for the United States, 1972-1998 (Ordered Logits).

	(8) Working	(9) Unemployed	(10) OLF	(11) <=12 yrs education	(12) >12yrs education	(13) Married	(14) Not married
Time	-.0024	-.0004	-.0047	-.0059	-.0044	.0043	.0067
	(1.45)	(0.05)	(2.23)	(3.60)	(2.17)	(2.62)	(3.27)
Age	.0024	-.0225	.0123	.0234	-.0042	-.0048	-.0430
	(0.39)	(0.83)	(2.43)	(5.79)	(0.72)	(0.90)	(9.32)
Age^2	.0001	.0003	-.0001	-.0002	.0001	.0001	.0004
	(0.95)	(0.80)	(2.15)	(4.41)	(1.48)	(2.40)	(9.50)
Male	-.0294	-.2247	.0069	-.0044	-.1526	-.1489	-.1249
	(1.10)	(1.76)	(0.18)	(0.17)	(4.76)	(5.58)	(3.78)
Black	-.6705	-.5051	-.7592	-.6482	-.8337	-.6561	-.5041
	(16.18)	(3.53)	(15.63)	(17.51)	(15.58)	(13.85)	(12.39)
Other	-.0669	.1835	-.2312	-.0375	-.2466	.0100	-.2660
	(0.86)	(0.65)	(2.02)	(0.44)	(2.71)	(0.12)	(2.92)
cut1	-2.1454	-1.5086	-1.7074	-1.3413	-2.5905	-2.4807	-2.4809
cut2	.8513	.9384	.8142	1.3020	.4323	.4140	.3794
N	22203	1114	13593	22323	15388	21649	16059
Chi^2	335.3	16.5	272.9	426.1	4301.0	315.1	278.9
Pseudo R^2	.0083	.0074	.0102	.0098	.0108	.0080	.0092
LR	-20037.2	-1105.6	-13199.6	-21436.8	-13766.4	-19469.6	-14986.5

Source: General Social Survey, ORC.
t-statistics are in parentheses

Table 3A. Life Satisfaction Equations for Great Britain, 1973-1998 (Ordered Logits).

	(1) All	(2) Men	(3) Women	(4) Age<30	(5) Age >=30
Time	.0003	-.0008	.0012	-.0041	.0016
	(0.25)	(0.46)	(0.73)	(1.85)	(1.17)
Age	-.0199	-.0296	-.0133	-.2364	-.0207
	(8.47)	(8.56)	(4.14)	(5.59)	(4.18)
Age^2	.0003	.0004	.0002	.0048	.0003
	(10.17)	(10.66)	(4.50)	(5.06)	(5.59)
Male	-.1159	n/a	n/a	-.1878	-.0909
	(7.13)			(5.95)	(4.79)
cut1	-3.6440	-3.6528	-3.5787	-6.3655	-3.6004
cut2	-2.1886	-2.2365	-2.0790	-4.8372	-2.1558
cut3	.4471	.4569	.5081	-2.0475	.4129
N	56863	27082	29781	15546	41317
Chi^2	222.9	218.6	23.3	99.3	3165.7
Pseudo R^2	.0019	.0039	.0004	.0032	.0019
LR	-59263.6	-28121.3	-31098.1	-15635.0	-43567.9

Source: Eurobarometer Survey series

t-statistics are in parentheses

Table 3B. Life Satisfaction Equations for Great Britain, 1973-1998 (Ordered Logits).

	(6) Working	(7) Unemp-loyed	(8) OLF	(9) ALS <=16	(10) ALS >16	(11) Married	(12) Not married
Time	.0033	-.0006	.0026	-.0027	-.0042	.0072	.0016
	(2.17)	(0.14)	(1.31)	(1.97)	(1.97)	(4.58)	(0.78)
Age	-.0139	-.0688	-.0226	-.0148	-.0196	-.0318	-.0770
	(3.79)	(6.43)	(6.02)	(4.89)	(4.84)	(7.45)	(21.45)
Age^2	.0002	.0009	.0003	.0002	.0003	.0004	.0008
	(4.51)	(6.95)	(6.43)	(6.94)	(6.29)	(9.17)	(21.37)
Male	-.0963	-.4451	.0576	-.0729	-.2044	-.2039	-.0487
	(4.44)	(6.84)	(1.87)	(3.64)	(7.33)	(9.57)	(1.78)
cut1	-3.7875	-3.4179	-3.6512	-3.3471	-4.1571	-4.0102	-4.4017
cut2	-2.2457	-2.0461	-2.1814	-1.9333	-2.5594	-2.5426	-2.9461
cut3	.5959	.2595	.3346	.6402	.2494	.1702	-.3055
N	33410	3726	19513	37168	19695	33866	21080
Chi^2	61.4	108.5	62.9	178.4	140.0	272.6	473.5
Pseudo R^2	.0009	.0117	.0015	.0022	.0036	.0040	.0104
LR	-33195.2	-4565.2	-20506.2	-39649.2	-19408.3	-34164.6	-22524.7

Source: Eurobarometers survey series.
t-statistics are in parentheses

Table 4. Happiness Equations for the United States, 1972-1998 (Ordered Logits).

	(1) All	(2) Men	(3) Women	(4) Blacks	(5) Whites
Time	-.0018	.0045	-.0069	.0092	-.0037
	(1.29)	(2.13)	(3.58)	(2.27)	(2.44)
Age	-.0220	-.0218	-.0223	-.0188	-.0252
	(5.53)	(3.42)	(4.35)	(1.70)	(5.78)
Age^2	.0003	.0003	.0003	.0004	.0003
	(7.63)	(4.72)	(5.97)	(3.20)	(7.48)
Male	-.1595	n/a	n/a	.0662	-.2142
	(6.78)			(1.03)	(8.29)
Black	-.4494	-.3336	-.5135	n/a	n/a
	(13.88)	(6.43)	(12.33)		
Other	-.0680	.1602	-.2440	n/a	n/a
	(1.08)	(1.70)	(2.90)		
Unemployed	-.8321	-.9713	-.6124	-.7923	-.8748
	(12.94)	(12.40)	(5.30)	(5.67)	(11.68)
Retired	-.0410	-.0362	-.0537	-.2742	-.0070
	(0.93)	(0.54)	(0.87)	(2.16)	(0.15)
Student	.1245	.0893	.1654	-.2170	.2015
	(1.92)	(0.91)	(1.90)	(1.38)	(2.73)
Keeping home	-.1045	-.5165	-.0803	-.2059	-.0905
	(3.26)	(3.14)	(2.31)	(2.52)	(2.55)
Other	-.6236	-.7287	-.5594	-.7283	-.6023
	(6.98)	(5.74)	(4.42)	(4.04)	(5.74)
>=2nd marriage	-.1063	-.0752	-.1348	-.1594	-.0916
	(2.86)	(1.41)	(2.60)	(1.35)	(2.31)
Widowed	-1.1109	-1.3076	-1.0305	-.7139	-1.1887
	(25.59)	(14.59)	(19.73)	(6.42)	(24.71)
Divorced	-.9874	-.9927	-.9757	-.8076	-1.0027
	(27.17)	(16.82)	(21.04)	(8.37)	(24.98)
Separated	-1.2523	-1.2089	-1.2513	-.8870	-1.4194
	(20.69)	(11.86)	(16.60)	(8.48)	(18.25)
Never married	-.7384	-.7366	-.7381	-.5478	-.7466
	(22.40)	(15.44)	(15.93)	(6.38)	(20.30)
Parents divorced	-.1957	-.1250	-.2400	-.0554	-.2267
	(5.79)	(2.38)	(5.43)	(0.77)	(5.81)
Education	.0482	.0332	.0646	.0251	.0570
	(13.03)	(6.44)	(12.11)	(2.45)	(13.91)
cut1	-2.4241	-2.3900	-2.2719	-1.5238	-2.5045
cut2	.5112	.6154	.6196	1.2283	.4862
N	36012	15710	20302	4795	30153
Chi^2	2960.7	1288.65	1748.9	276.0	2166.5
Pseudo R^2	.0435	.0439	.0453	.0295	.0387

LR	-32515.0	-14043.8	-18426.9	-4540.2	-2690.6

Source: General Social Survey. t-statistics are in parentheses. Education is years of schooling

Table 5. Happiness Equations for the United States, 1972-1998 (Ordered Logits). (year dummies included).

	(1) All	(2) Men	(3) Women	(4) Blacks	(5) Whites
Age	-.0339	-.0325	-.0348	-.0211	-.0389
	(7.83)	(4.80)	(6.17)	(1.75)	(8.24)
Age^2	.0004	.0004	.0004	.0004	.0005
	(9.30)	(5.67)	(7.30)	(2.96)	(9.37)
Male	-.1800	n/a	n/a	.0238	-.2311
	(7.28)			(0.34)	(8.53)
Black	-.4227	-.3168	-.4926	n/a	n/a
	(12.14)	(5.74)	(10.92)		
Other	-.0383	.1890	-.2257	n/a	n/a
	(0.57)	(1.92)	(2.49)		
Unemployed	-.8029	-.9143	-.6097	-.7718	-.8334
	(11.83)	(11.13)	(4.92)	(4.98)	(10.67)
Retired	.0075	.0175	-.0023	-.2023	.0378
	(0.16)	(0.25)	(0.03)	(1.46)	(0.74)
Student	.1759	.1550	.1988	-.3113	.2915
	(2.53)	(1.50)	(2.12)	(1.83)	(3.71)
Keeping home	-.0705	-.3840	-.0402	-.1484	-.0647
	(2.08)	(2.23)	(1.09)	(1.68)	(1.73)
Other	-.5496	-.6036	-.5269	-.7223	-.5249
	(5.67)	(4.44)	(3.77)	(3.58)	(4.66)
>=2nd marriage	-.1194	-.0954	-.1467	-.2078	-.1043
	(3.08)	(1.73)	(2.68)	(1.68)	(2.52)
Widowed	-1.1465	-1.3459	-1.0536	-.7088	-1.2412
	(24.50)	(14.14)	(18.59)	(5.93)	(23.90)
Divorced	-1.0141	-1.0984	-.9514	-.8110	-1.0401
	(26.76)	(17.60)	(19.64)	(7.90)	(24.91)
Separated	-1.2697	-1.3478	-1.1948	-.8828	-1.4504
	(20.05)	(12.61)	(15.08)	(7.96)	(17.96)
Never married	-.7830	-.8192	-.5269	-.5805	-.8028
	(22.58)	(16.33)	(3.77)	(6.39)	(20.77)
Parents divorced	-.1932	-.1368	-.2300	-.0682	-.2255
	(5.49)	(2.52)	(4.97)	(0.90)	(5.57)
Education	.0346	.0203	.0505	.0142	.0418
	(8.41)	(3.60)	(8.38)	(1.22)	(9.22)
Family income	.0137	.0140	.0135	.0126	.0418
(per capita)*10^3	(12.22)	(8.85)	(8.20)	(3.40)	(9.22)
cut1	-2.8198	-2.8034	-2.6304	-1.3746	-3.0106
cut2	.1494	.2235	.3048	1.4085	.0188

N	32825	14608	18217	4271	27603
Chi^2	2902.0	1304.4	1681.0	291.1	2188.0
Pseudo R^2	.0470	.0478	.0487	.0350	.0428
LR	-29450.8	-12996.2	-16409.6	-4016.6	-24452.2

Source: General Social Survey, ORC.
t-statistics are in parentheses.
All equations include 19 year dummies

Table 6. Life Satisfaction Equations for Great Britain, 1973-1998 (Ordered Logits).

	(1) All	(2) Men	(3) Women	(4) All	(5) Men	(6) Women
Time	.0036	.0063	.0013	.0062	.0100	.0025
	(2.67)	(3.27)	(0.71)	(3.84)	(4.36)	(1.12)
Age	-.0420	-.0491	-.0355	-.0419	-.0436	-.0393
	(13.21)	(10.29)	(8.26)	(10.82)	(7.54)	(7.50)
Age^2	.0005	.0006	.0005	.0005	.0006	.0005
	(15.37)	(11.78)	(9.86)	(12.78)	(8.83)	(9.05)
Male	-.1442	n/a	n/a	-.1374	n/a	n/a
	(7.73)			(6.01)		
Retired	.0212	.0360	-.0202	.0499	.0453	.0166
	(0.68)	(0.81)	(0.45)	(1.33)	(0.84)	(0.31)
Keeping house	-.0923	-.2627	-.0839	-.0930	-.5635	-.0724
	(3.53)	(2.08)	(3.00)	(2.95)	(2.98)	(2.16)
Student	-.0837	-.2056	-.0207	-.0546	-.2569	.0674
	(1.34)	(2.00)	(0.23)	(0.56)	(1.79)	(0.48)
Unemployed	-1.1424	-1.3978	-.7313	-1.1990	-1.4880	-.7622
	(31.39)	(30.53)	(11.99)	(26.60)	(26.20)	(10.00)
Married	.3807	.3140	.4520	.3816	.2965	.4756
	(13.81)	(8.24)	(11.05)	(11.48)	(6.61)	(9.34)
Living as married	.0691	-.0092	.1658	.0986	-.0137	.2325
	(1.32)	(0.13)	(2.19)	(1.59)	(0.16)	(2.54)
Divorced	-.6202	-.3659	-.7356	-.5780	-.3565	-.6459
	(12.48)	(4.66)	(11.25)	(9.92)	(3.91)	(8.32)
Separated	-.6594	-.7010	-.6262	-.5835	-.7493	-.4633
	(8.84)	(5.98)	(6.43)	(6.75)	(5.50)	(4.11)
Widowed	-.3057	-.3348	-.2226	-.2843	-.3023	-.1799
	(7.23)	(4.61)	(4.08)	(5.62)	(3.58)	(2.70)
Age left school dummies	9	9	9	9	9	9
Income quartiles	-	-	-	3	3	3
cut1	-3.7642	-3.7986	-3.5893	-3.5596	-3.6127	-3.3683
cut2	-2.2765	-2.3291	-2.0770	-2.05647	-2.1203	-1.8477
cut3	.4795	.5021	.6216	.6986	.7291	.8324
N	53673	25558	28115	37115	18237	18878
Chi^2	2906.9	1714.1	1285.7	2302.3	1359.7	1050.6
Pseudo R^2	.0260	.0322	.0219	.0296	.0358	.0264
LR	-54524.9	-25779.6	-28667.9	-3773.8	-18306.0	-19359.6

Source: Eurobarometer Survey series
t-statistics are in parentheses

Table 7. Life Satisfaction Equations for Great Britain, 1973-1998 (Ordered Logits). (year dummies included).

	(1) All	(2) Men	(3) Women
Age	-.0417	-.0428	-.0396
	(10.73)	(7.39)	(7.53)
Age^2	.0005	.0005	.0005
	(12.74)	(8.71)	(9.10)
Male	-.1397	n/a	n/a
	(6.10)		
Retired	.0345	.0381	-.0096
	(0.90)	(0.70)	(0.17)
Keeping house	-.1080	-.5633	-.0918
	(3.38)	(2.97)	(2.67)
Student	-.0851	-.2703	.0151
	(0.87)	(1.88)	(0.11)
Unemployed	-1.2159	-1.5308	-.7945
	(26.86)	(26.35)	(10.34)
Married	.3821	.2950	.4780
	(11.48)	(6.56)	(9.37)
Living as married	.0948	-.0185	.2308
	(1.52)	(0.22)	(2.52)
Divorced	-.5836	-.3690	-.6480
	(10.01)	(4.04)	(8.34)
Separated	-.5887	-.7472	-.4752
	(6.81)	(5.48)	(4.21)
Widowed	-.2840	-.3109	-.1751
	(5.61)	(3.68)	(2.62)
2^{nd} Income quartile	.1050	.0644	.1138
	(3.40)	(1.43)	(2.67)
3^{rd} Income quartile	.1747	.0862	.2241
	(5.57)	(1.88)	(5.13)
4^{th} Income quartile	.3436	.3225	.3419
	(11.19)	(7.15)	(8.05)
Age left school dummies	9	9	9
Year dummies	21	21	21
cut1	-3.7554	-3.9361	-3.2603
cut2	-2.2502	-2.4419	-1.7372
cut3	.5111	.4149	.9497
N	37115	18237	18878
Chi^2	2406.4	1418.6	1109.7
R^2	.0309	.0374	.0279
LR	-37683.7	-18276.5	-19330.1

Source: Eurobarometer Survey series.

t-statistics are in parentheses.

Appendix 1

If a simple OLS happiness regression is estimated, using the General Social Survey, it produces the following equation. The means are as stated. The dependent variable is constructed by assigning 3 to very happy, 2 to pretty happy, and 1 to not too happy. There is then an implicit assumption of cardinality.

The coefficients on the independent variables include

Age	-.011
Age squared	.0001
Male	-.056
Time	-.003
Black	-.129
Other	- .015
Second marriage	.040
Widowed	-.306
Divorced	-.271
Separated	-.344
Never married	-.198
Per capita income	.00000405
Unemployed	-.249

The omitted base case is married, white, female, employed.

Total number of observations =	32825
Mean of the dependent happiness variable =	2.2
Mean of the income variable in dollars =	11236
Income in 1973 =	4261
Income in 1983=	10457
Income in 1998=	20457

Appendix 2

The overall level of life satisfaction in Europe as a whole also appears to have been roughly constant over time. According to the Eurobarometer surveys the (weighted by their relative sizes) means to the life satisfaction question referred to in the paper for the first 12 members of the EU (France, Belgium, Netherlands, West Germany, Italy, Luxembourg, Denmark, Ireland, UK, Greece, Spain, Portugal) was as follows

	1973	1983	1997
Not at all satisfied	4%	6	5
Not very satisfied	16	16	17
Fairly satisfied	58	59	59
Very satisfied	22	19	19

Source: Eurobarometers cumulative file (ICPSR # 9361) for 1973 and 1983 and Eurobarometer #47.1 (ICPSR #2089) for April 1997.

References

Andrews, F.M. (1991). "Stability and Change in Levels and Structure of Subjective Well-Being: USA 1972 and 1988", Social Indicators Research, 25, 1-30.

Argyle, M. (1989). The Psychology of Happiness, Routledge, London.

Blanchflower, D.G., Oswald, A.J. and Warr, P.B. (1993). "Well-Being Over Time in Britain and the USA", conference paper, LSE.

Blanchflower, D.G. and Freeman, R.B. (1997). "The Legacy of Communist Labor Relations", Industrial and Labor Relations Review, 50, 438-459.

Blanchflower, D.G. and Oswald, A.J. (1998). "What Makes an Entrepreneur?", Journal of Labor Economics, 16, 26-60.

Blanchflower, D.G. and Oswald, A.J. (1999). "The Rising Well-Being of the Young", forthcoming in Youth Employment and Joblessness in Advanced Countries, edited by D.G. Blanchflower and R.B. Freeman, University of Chicago Press and NBER.

Campbell, A. (1981). The Sense of Well-Being in America, McGraw Hill, New York.

Chen, P.Y. and Spector, P.E. (1991). "Negative Affectivity as the Underlying Cause of Correlations Between Stressors and Strains", Journal of Applied Psychology, 7, 398-407.

Clark, A.E. (1996). "Job Satisfaction in Britain", British Journal of Industrial Relations, 34, 189-217.

Clark, A.E. (1999). "Well-Being in Panels", mimeo, University of Orleans.

Clark, A.E. and Oswald, A.J. (1994). "Unhappiness and Unemployment", Economic Journal, 104, 648-659.

Cooper, B. and Garcia-Penalosa, C. (1999). "Status Effects and Negative Utility Growth", mimeo, Nuffield College, Oxford.

Diener, E. (1984). "Subjective Well-Being", Psychological Bulletin, 95, 542-575.

Diener, E., Suh, E.M., Lucas, R.E., Smith, H.L. (1999). "Subjective Well-Being: Three Decades of Progress", Psychological Bulletin, 125, 276-303.

Di Tella, R., MacCulloch, R. and Oswald, A.J. (1998), "The Macroeconomics of Happiness", mimeo, Harvard Business School.

Douthitt, R.A., MacDonald, M. and Mullis, R. (1992). "The Relationship Between Measures of Subjective and Economic Well-Being: A New Look", Social Indicators Research, 26, 407-422.

Easterlin, R.A. (1974). "Does Economic Growth Improve the Human Lot? Some Empirical Evidence", in Nations and Households in Economic Growth: Essays in Honour of Moses Abramowitz, edited by P.A. David and M.W.Reder, Academic Press, New York and London.

Easterlin, R.A. (1995). "Will Raising the Incomes of All Increase the Happiness of All?", Journal of Economic Behavior and Organization, 27, 35-47.

Fordyce, M.W. (1985). "The Psychap Inventory: A Multi-Scale Test to Measure Happiness and its Concomitants", Social Indicators Research, 18, 1-33.

Fox, C.R. and Kahneman, D. (1992). "Correlations, Causes and Heuristics in Surveys of Life Satisfaction", Social Indicators Research, 27, 221-234.

Frank, R. H. (1985). Choosing the Right Pond, Oxford University Press, New York.

Frank, R.H. (1997). "The Frame of Reference as a Public Good", Economic Journal, 107, 1832-1847.

Frank, R.H. (1999). Luxury Fever, Oxford University Press, Oxford.

Frey, B.S. and Stutzer, A. (1998). "Measuring Preferences by Subjective Well-Being", mimeo, University of Zurich.

Frey, B.S. and Stutzer, A. (1999). "Happiness and Economics", mimeo, University of Zurich.

Frisch, M.B, Cornell, J., Villanueva, M., and Retzlaff, P.J. (1992). "Clinical Validation of the Quality of Life Inventory: A Measure of Life Satisfaction for Use in Treatment Planning and Outcome Assessment", Pyschological Assessment, 4, 92-101.

Gallie, D., White, M., Cheng, Y. and Tomlinson, M. (1998). Restructuring the Employment Relationship, Oxford University Press, Oxford.

Hirsch, F. (1976). The Social Limits to Growth, Harvard University Press, Cambridge, Mass.

Inglehart, R. (1990). Culture Shift in Advanced Industrial Society, Princeton University Press, Princeton.

Kahneman, Daniel, Wakker, Peter P. and Sarin, Rakesh (1997). "Back to Bentham? Explorations of Experienced Utility", Quarterly Journal of Economics, 112, 375-406.

Keely, L.C. (1999). "Why Isn't Growth Making Us Happier?", mimeo, New College, Oxford.

Larsen, R.J., Diener, E., and Emmons, R.A. (1984). "An Evaluation of Subjective Well-Being Measures", Social Indicators Research, 17,1-18.

Layard, R. (1980). "Human Satisfactions and Public Policy", Economic Journal, 90, 737-750.

MacCulloch, R. (1996). "The Structure of the Welfare State", doctoral thesis, Oxford University.

Mullis, R.J. (1992). "Measures of Economic Well-Being as Predictors of Psychological Well-Being", Social Indicators Research, 26, 119-135.

Myers, D.G. (1993). The Pursuit of Happiness, Aquarian, London.

Ng, Y.K. (1996). "Happiness Surveys: Some Comparability Issues and an Exploratory Survey Based on Just Perceivable Increments", Social Indicators Research, 38, 1-27.

Ng, Y.K. (1997). "A Case for Happiness, Cardinalism, and Interpersonal Comparability", Economic Journal, 107, 1848-1858.

Offer, A. (1998). "Epidemics of Abundance: Overeating and Slimming in the USA and Britain since the 1950s", University of Oxford Discussion Papers in Economic and Social History, 25.

Oswald, A.J. (1997). "Happiness and Economic Performance", Economic Journal, 107, 1815-1831.

Pavot, W. and Diener, E. (1993). "Review of the Satisfaction with Life Scales", Psychological Assessment, 5, 164-172.

Schor, J. (1998). The Overspent American, Basic Books, New York.

Scitovsky, T. (1976). The Joyless Economy, Oxford University Press, Oxford.

Shin, D.C. (1980). "Does Rapid Economic Growth Improve the Human Lot? Some Empirical Evidence", Social Indicators Research, 8, 199-221.

Veenhoven, R. (1991). "Is Happiness Relative?", Social Indicators Research, 24,1-34.

Veenhoven, R. (1993). Happiness in Nations: Subjective Appreciation of Life in 56 Nations, 1946-1992, Erasmus University Press, Rotterdam.

Warr, P.B. (1980). "The Springs of Action" in A.J. Chapman and D.M. Jones (Eds.), Models of Man (pp.161-181). Leicester: British Psychological Society.

Warr, P.B. (1990). "The Measurement of Well-Being and Other Aspects of Mental Health", Journal of Occupational Psychology, 63, 193-210.

Watson, D. and Clark, L.A. (1991). "Self Versus Peer Ratings of Specific Emotional Traits: Evidence of Convergent and Discriminant Validity", Journal of Personality and Social Psychology, 60, 927-940.