Subjective Well-Being: Keeping up with the Joneses. Real or Perceived?

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Abstract

Using data from the U.S. General Social Survey, we study the role of income in self-reported happiness. Unexpected income gains increase happiness and relative income is more important than absolute income, in particular, income relative to individuals' own cohort working in the same occupation in the same region. Perceptions about relative income are more important than actual relative income in explaining individual well-being and perceptions about one's own social class is more important than the actual social class in explaining happiness. Social standing and occupational prestige of the spouse increases individual well-being but father's social standing and occupational prestige during childhood decreases current well-being. The results are robust to instrumenting own income with sector level wages or compensation.

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1 Introduction

"Happiness is not achieved by the conscious pursuit of happiness; it is generally the by-product of other activities." Aldous Leonard Huxley (July 26, 1894 - November 22, 1963) British philosopher

"The pursuit of happiness" is called upon in the American Declaration of Independence and the Kingdom of Bhutan explicitly endeavors to maximize "Gross National Happiness." Nonetheless, the economics profession has been wary of attempts to use measures of happiness in spite of the ubiquitous use of "utility" functions. We follow the convention of reserving the term "utility" for describing individuals choices between economic variables. However, self-reported well-being is related to "utility" in the sense that well-being helps predict individuals economic choices; see the survey by Bruno S. Frey and Alois Stutzer (2002).

In this paper, we study self-reported happiness which we also refer to as "subjective well-being." We employ data from the U.S. General Social Survey (GSS) which is a panel of about 3000 individuals from 1970 to 2002. The Survey provides self-reported measures of well-being, such as responses to questions about how happy and satisfied individual respondents are with their lives.

We show that income fluctuations matter for individual well-being. Because individual income may be endogenous, we verify that unexpected increases in the output, or more precisely sectoral Gross Domestic Product (GDP) of the sector which the individual is working, increases individual happiness. Moreover, we show that relative income is much more important than absolute income in explaining individual well-being. In particular, income relative to individuals' own cohort working in the same occupation group and living in the same region.

We then attack the unexplored issue of whether actual relative income matters for well-being or whether it is the perception of relative income. If individuals envy the cars and houses of "the Joneses" (the relevant comparison group), then actual relative income must the relevant variable because consumption is a function of relative income. On the other hand, if people simply care about their relative income then what must matter is what they *think* the Joneses make. In the GSS, unlike any other survey, individuals are asked their opinion about their income relative

to an average American family. We show that perceptions about relative income are more important than actual relative income in explaining happiness. We also find that perceptions about relative income are more important for females than males and perceptions play a much important role for the middle income group than for the low and the high income group. Also, actual income is not important for the happiness of middle income individuals. Perceptions about one's own social class is also more important than the actual social class in explaining happiness. Social standing and occupational prestige of the spouse increase individual well-being but father's social standing and occupational prestige during childhood decrease current well-being. Secondary findings in the paper suggest that watching TV is associated with lower levels of well-being but reading newspapers is associated with higher levels of well-being.

Section 2 gives an overview of the economic literature on well-being. Section 3 discusses the data and the construction of the variables used in the paper. Section 4 presents the basic framework and estimation strategy while Section 5 presents the empirical findings of the paper. Section 6 concludes. An appendix gives more detailed information about the GSS and the variables used in the paper.

2 Literature Review

Research on the concept and measurement of happiness has made great progress in psychology since the 1950s. While there is virtually no direct connection between psychology and theoretical economics, the high level of rigor typical for experimental psychology have helped make the new idea of measurable happiness palatable to at least some economists. But it took considerable time before an economist actually used happiness data in economics (Easterlin, 1974).

We can classify happiness research into two categories: Research about individual characteristics, mainly income; and research about the impact of macroeconomic variables on happiness. Most economists take it as a matter of course that higher income leads to higher happiness. Why not? A higher income expands individuals and countries opportunity set; that is, more goods and services can be consumed. Psychologists are more subtle in this respect. They are not so confident that higher income always leads to more satisfaction. Tibor Scitovsky (1976), in his book "The Joyless Economy: The Psychology of Human Satisfaction" argues that a high level

of wealth brings continuous comfort and thereby prevents the pleasure that results from incomplete and intermittent satisfaction of desires. More recently, Robert Frank (1999) emphasizes that ever-increasing income and consumption have nothing to do with happiness.

Many scholars have identified a striking and curious relationship. Per capita income in United States has risen very dramatically in recent decades, but the proportion of people considering themselves to be "very happy" has fallen over the same time period. The effects of income on happiness can also be studied by comparing people with different incomes at a particular point in time who live in the same country. At first sight, people with higher income have more opportunities to achieve whatever they desire. They can buy more material goods and services and have a higher status in society. Conversely the poor are unhappy. After all, if someone does not like a high income and believes that poverty makes people happier, he or she is free to dispose of his high income at no cost. Perhaps people are really seeking nonmaterial goals in life such as fulfillment or the meaning of life and are disappointed when material things fail to provide them (Dittmar, 1992). Happiness in this sense can not be achieved by material factors.

Many economists in the past have noted that individuals compare themselves to others with respect to income, consumption, status, or utility. In other words, *relative income* may matter more than actual income; see the survey by Clark, Frijters and Shields 2007. One of the earliest researchers to voice this opinion was Thorstein Veblen (1899). He coined the term conspicuous consumption to describe the desire to impress other people. The relative income hypothesis has been formulated and econometrically tested by James Duesenberry (1949), who posits an asymmetric structure of externalities. People look upward when making comparisons and wealthier people, therefore, impose a negative externality on poorer people but not vice versa. As a result, savings rates depends on the percentile position in the income distribution and not solely on the income level.

A line of research was stated by Bernard van Praag and Arie Kapteyn (1973). They construct an econometrically estimated welfare function with a "preference shift" parameter that captures the tendency of material wants to increase as income increases. They find that increases in income, shift aspirations upward but that individual satisfaction nevertheless increases. The preference shift destroys about 60 to 80 percent of the welfare effect of an increase in income. On the other hand, high income aspirations may also be formed through childhood. Winkelmann,

Boes, and Staub (2007) find that there is a negative well-being externality of parental income on children's current well-being and children compare their actual income with the acquired aspiration level.

Fred Hirsch (1976) emphasizes the role of relative social status by calling attention to "positional goods." For instance, only the rich will be able to afford servants. Robert Frank (1985) argues that production of positional goods in the form of luxuries, such as exceedingly expensive watches or yachts, is a waste of productive resources, as overall happiness is thereby decreased rather than increased. Social comparison theories say that people evaluate features of themselves or their lives by comparing themselves with others. This was used to explain some otherwise puzzling aspects of satisfaction research. However, attempts to confirm social comparison theory in real-life settings have not always confirmed it. Examples of such studies are Diener and Fujita (1997) and Diener and Diener (1995). Wright (1985) found that there was an effect of self-rated health on satisfaction, but this was not affected by the comparison of others. Oswald (1997) finds that what matters for happiness is individuals' own income not relative income.

Gilbert and Trower (1990) argue that people choose their own targets for comparison. Different inferences can be made from comparisons. The choice of a comparison target is a flexible process and is not determined solely by the proximity of accessibility of relevant others. There may be two exceptions to this. One is academic achievement (Diener and Fujita, 1997). The second is industrial wages. In fact, people often make these comparisons; Ross (1986) found that 89 percent of the people made comparisons with members of their immediate circle for satisfaction at home, 82 percent for satisfaction at work, but only 61 percent did this for satisfaction with life as a whole. Wills (1981) assembled findings which shows people can both increase or decrease their well-being by comparison depending on their reference point. Strack, Schwarz, Hippler, and Deutsch (1985) and Lyubomirsky and Ross (1997) confirm these findings. Winkelmann and Schwarze (2005) argue that parents take into account the situation of their children living in the household while evaluating their own situation. They find that a one standard deviation move in a child's well-being has the same effect as a 45 percent move in household income.

There are a number of reasons why an interpretation based chiefly on "relativity" notions seems plausible. First, a certain amount of empirical support have been developed for the relative income concept in other economic applications, such as savings behavior and more

recently, fertility behavior, and labor force participation (Duesenberry, 1949; Easterlin, 1973, 1969; Freedman, 1963; Wachter, 1971). Second, similar notions such as "relative deprivation" have gained growing theoretical acceptance and empirical support in sociology, political science, and social psychology over the past several decades (Berkowitz, 1971; Davies, 1962; Gurr, 1970; Homans, 1961; Merton, 1968; Pettigrew, 1967; Smelser, 1962; Stouffer 1949).

In a recent interesting article, Alberto Alesina, Rafael Di Tella, and Robert MacCulloch (2001) find a large, negative, and significant effect of inequality on happiness in Europe, but not in the United States. According to authors, there are two potential explanations for this. First, Europeans prefer more equal societies. Second, social mobility is (or is perceived to be) higher in the United States, so being poor is not seen as affecting future incomes. They test these hypotheses by partitioning the sample across income and ideological lines. There is evidence of "inequality generated" unhappiness in the United States only for a sub-group of "rich leftists." In Europe, inequality makes the poor unhappy, as well as the "leftists." This favors the hypothesis that inequality affects European happiness because of their lower social mobility (since no preference for equality exists amongst the rich or the right). Recently, Carol Graham (2004) argues that absolute income levels matter up to a certain point—particularly when basic needs are not met but after that, relative income differences matter more.

Economists mainly have been trying to understand the impact of *macroeconomic variables* such as inflation, unemployment, growth on happiness. Oswald (1997) shows that happiness with life appears to be increasing in the United States. The rise is small—it seems that extra income is not contributing dramatically to the quality of peoples' lives. Since the early 1970s, reported levels of satisfaction with life in European countries have on average risen very slightly and unemployed people are very unhappy.

Economists have been also studying the relationship between *individual characteristics* and happiness. Reported happiness is high among married, high income, women, whites, well-educated, self-employed, retired, and homemakers. In a recent article, Rainer Winkelmann (1998) investigates interdependencies at the family level. He also demonstrates how to model and test for such interdependencies using the framework of an ordered probit model with multiple random effects. There clearly are important interdependencies in reported well-being among members of the same family, some of which may have biological origins. These need to be

reckoned with, if one wants to understand the determinants of subjective well-being.

People of higher *age* may be less happy than young people. This idea may have been strengthened by the "youth cult" projected by the media which suggests that many desirable qualities of life lie with youth. In some regards, the elderly are indeed objectively worse off. They tend to be in poorer health and have lower income, and fewer of them are still married. Somewhat surprisingly, many studies have found that older people are subjectively more happy than are young people, but this effect tends to be very small. There are four potential explanations of the observed positive relationship between age and happiness: First, the elderly have lower expectations and aspirations. Second, the gap between goals and achievement is lower. Third, older individuals have had time to adjust to their conditions. Fourth, they learn how to reduce negative life events and to regulate negative affects. The positive relationship between age and happiness has, however, been challenged and contradictory findings have been reported (Horley and Lavery, 1995). Economists have identified a U-shaped relationship between age and happiness (Oswald 1997, Blanchflower and Oswald, 2000). For several reasons it is difficult to capture the influence of age on well-being. The term happiness may change its meaning with age. The age effect may interfere with a cohort effect. Even causation is not as clear as it seems to be at first sight. Happy people live a little longer than unhappy people, which contribute to a positive correlation between age and happiness. Because of these problems, much care should be taken when claiming that age leads to unhappiness, or that the elderly are happier than the young.

Race. Blacks tend to be less happy than whites in all psychological and sociological studies in the United States. But it also hold for other countries such as South Africa, where whites are the happiest people followed by Indians, coloreds, and blacks (Moller, 1989). The reasons are lower incomes, less education, and less skilled jobs for black people. If one control for these factors, the difference in happiness between races become small. A major reason for the lower subjective well-being of the blacks maybe lower self-esteem, which in turn is likely to be caused by their lower status in society. Economists have found also that American blacks are less happy than whites (Blanchflower and Oswald, 2000)

When people are asked to evaluate the importance of various areas of their lives, good *health* obtains the highest ratings. Happiness and health are highly correlated, but this only holds for

self-reported health ratings. This is partly due to self-reported happiness and self-reported health both being influenced by personality. For example, neurotic persons recalled more symptoms of bad health and they a lower level of happiness than non-neurotics (Larsen, 1992). The effect of objective health on happiness is smaller. People seem to be remarkably effective in coping.

To have an enduring, intimate relationship is a major goal for most people. To have friends, companions, relatives, and to be part of a group, be it co-workers or fellow church members contribute to happiness. The importance of "belonging" is reflected by the experimental findings that even trivial definitions of groups lead to group identification and affect the dividing up of money (Tajfel, 1981). Marriage raises happiness, as has been found in a large number of studies for different countries and periods. Married men and women report similar levels of subjective well-being; that is, marriage does not benefit one gender more than other. These results go well with the observation that marriage brings marked advantages in terms of mortality, morbidity, and mental health (Lee, Seccombe and Shehan, 1991). Couples also positively affect each other's well-being. The positive relationship between marriage and happiness persists, even when the influence of variables such as income, age, and education is controlled for. Does marriage cause happiness or does happiness promote marriage? A selection effect cannot be ruled out. It seems reasonable to say that dissatisfied people find it more difficult to find a partner. It is possibly more fun to be with happy people. Happy and confident people are more likely to marry and to stay married (Veenhoven, 1989). Research has led to the conclusion that this selection effect is not strong and the positive association of marriage and happiness is mainly due to the beneficial effects of marriage (Mastekaasa, 1995). There are two reasons why marriage contributes to happiness: First, marriage provides an additional source of self-esteem. Second, married people have a better chance of benefit from an enduring and supportive intimate relationship and they suffer less from loneliness. Economic research on happiness has also found that marriage and happiness are positively correlated, holding other influences constant. Second, third, and fourth marriages turn out to be less happy than first marriages (Blanchflower and Oswald, 2000).

The level of *education* bears little relationship to happiness. Education may indirectly contribute to happiness by allowing a better adaptation to changing environments but it also tends to raise aspiration levels. It has, for instance, been found that highly educated are more distressed than less educated when hit by unemployment (Clark and Oswald, 1994).

The impact of *media* on individual well-being has not been investigated in the literature in detail yet. Recently, Frey, Stutzer, and Benesch (2007) have shown that heavy TV viewers do not benefit, but instead report lower satisfaction levels when exposed to more TV channels. However, this is counter to the idea that a larger choice set does not make people worse off. Moreover, long TV hours are also linked to higher material aspirations and anxiety.

3 Data

The GSS consists of cross-sectional surveys which have been conducted by the National Opinion Research Center in U.S. annually since 1972, except for the years 1979, 1981, and 1992 (a supplement was added in 1992), and biennially beginning in 1994. The content of each survey changes slightly as some items are added to or deleted from the interview schedule. However, the main areas covered in the GSS include socioeconomic status, social mobility, social control, family, race relations, sexual relations, civil liberties, and morality. The GSS also includes an occupational classification of individuals and a sectoral classification. When the survey is done, every occupational category is assigned a NAICS level sectoral classification by the U.S. Census Bureau. We match individual data from this survey with sectoral GDP data from the Bureau of Economic Analysis. Dollar amounts are deflated by the U.S. Consumer Price Index. Our dependent variable is the question "Taking everything all together, how happy are you with the overall life." The response is recoded as a categorical variable taking the values 1, 2, and 3 which in order refers to the "not too happy," "pretty happy," and "very happy" categories. In some cases we recode the dependent variable as a binary variable where 1 ("more happy") refers to "pretty happy" and "very happy" categories and 0 refers to "not too happy" category.

In the GSS, income is a categorical variable taking values 1–13 where 13 is the highest income level. In order to calculate relative income, we use the midpoint method. Since, we know the lowest and highest income values in a category, we calculate individual income as the midpoint income of their category. We calculate relative income by subtracting own income from the reference point income. The reference point income is the average (within the GSS) income of an individual's cohort who lives in the same region and works in the same occupational group during the relevant year. Perceptions about relative income are taken from the data

as the answer to the question "What is your opinion about your income relative to an average American." This is a categorical variable taking the values 1-5 which in order refers to "far below average," "below average," "average," "above average," and "far above the average." Perceived social class variable is a categorical variable taking values from 1-4 which is the answer to the question "If you were asked to one of four names for your social class, which would you say you belong in? The lower class, the working class, the middle class or the upper class?" We use the occupational prestige scores and socio-economic index created by the National Opinion Research. We use the number of hours in a day for TV watching. Frequency of newspaper reading is a categorical variable taking values from 5 to 1, in order refers to every day, a few times a week, once a week, less than once a week, or never.

4 Empirical Framework

We estimate logistic probability models for self-reported happiness. We allow the probability of being happy to be a function of demographic variables, income, actual relative income, perceived relative income, and lagged happiness (self-reported happiness the previous year). We assume that the level of (perceived) happiness can be modelled as an unobserved (latent) continuous variable

$$Happy^*_{it} = \phi X_{it} + \xi_{it} \ , \tag{1}$$

where X_{it} (column vector) includes individual specific variables and the unobserved component ξ_{it} follows a Type 1 extreme value distribution. ϕ is a row vector of coefficients.
If we denote the observed level of happiness $Happy_{it}$ with the highest level of happiness equal to 1 and the lower level of happiness equal to 0, we have

$$Happy_{it} = 1 \quad \text{if} \quad Happy^*_{it} > -\lambda_1 \tag{2}$$

$$Happy_{it} = 0 \quad \text{if} \quad Happy^*_{it} < -\lambda_1 \, , \tag{3}$$

where the parameter $-\lambda_1$ is the unobserved threshold such that the respondent will report being in the highest category of happiness.

The probabilities will be:

$$Pr(Happy_{it}=1)=\frac{\exp(\phi X_{it}+\lambda)}{1+\exp(\phi X_{it}+\lambda)} \quad \text{and} \quad Pr(Happy_{it}=0)=\frac{1}{1+\exp(\phi X_{it}+\lambda)} \tag{4}$$

Ordered Logit: For the case with 3 outcomes the ordered logit model captures the probability that the happiness of the ith individual will be in one the three categories. We have three categories for the latent variable $Happy^{*}_{it}$ and the observed level of happiness is denoted as $Happy_{it}$:

$$Category\ (1):\ Happy_{it}=1 \qquad \text{if} \qquad Happy^{*}_{it} < -\lambda_1 \tag{5}$$

$$Category\ (2):\ Happy_{it}=2 \qquad \text{if} \quad -\lambda_1 < Happy^{*}_{it} < -\lambda_2 \tag{6}$$

$$Category\ (3):\ Happy_{it}=3 \qquad \text{if} \qquad Happy^{*}_{it} > -\lambda_2\ , \tag{7}$$

where λ_1 and λ_2 are the cut-off levels. Then, it follows that we can write the cumulative probability function of the latent variable as the sum of the probabilities of different categories. We can write the probabilities of different categories as follows:

$$Category\ (1):\quad Pr(Happy_{it}=1) = \frac{1}{1+\exp(\phi X_{it}+\lambda_1)} \tag{8}$$

$$Category\ (2):\quad Pr(Happy_{it}=2) = \frac{1}{1+\exp(\phi X_{it}+\lambda_2)} - \frac{1}{1+\exp(\phi X_{it}+\lambda_1)} \tag{9}$$

$$Category\ (3):\quad Pr(Happy_{it}=3) = \frac{\exp(\phi X_{it}+\lambda_2)}{1+\exp(\phi X_{it}+\lambda_2)} \tag{10}$$

Marginal Probabilities: Since the coefficients from logit models are not easily interpretable, we also report marginal probabilities. In this paper, the marginal probability is defined as the effect on the predicted probability of being very happy of a one unit decline in the *mean* of the relevant regressor calculated at the third outcome ("very happy"). If -θ represents the marginal

change in variable i ($\theta = 1$ in this paper), the marginal probability takes the form:

$$\frac{\exp(\hat{\phi}\bar{X} + \hat{\lambda}_2 - \phi_k\,\theta)}{1 + \exp(\hat{\phi}\bar{X} + \hat{\lambda}_2 - \phi_k\,\theta)} - \frac{\exp(\hat{\phi}\bar{X} + \hat{\lambda}_2)}{1 + \exp(\hat{\phi}\bar{X} + \hat{\lambda}_2)}\ , \tag{11}$$

where $\hat{\phi}_i$ is the estimated coefficient to variable i and k is the independent variable of interest.

5 Empirical Results

Table 1 displays summary statistics, cross-tabulating indicators of work status with self-reported happiness. We observe that retired individuals and home makers report the largest fraction of very happy individuals although these groups also have somewhat higher numbers of less happy individuals compared to full time employed. Unemployed people are the least happy in the survey. Table 1 also shows the relationship between education and happiness. The education categories are less than high school, high school, junior college, bachelor and graduate. When we compare the education categories, we see that graduates are the happiest and as the degree of education decreases happiness also decreases and less than high school is the category displaying the least happiness. Marital and health status are also cross-tabulated with happiness in Table 1. Married people are happier than others and widowed and single people are pretty happy, while separated and divorced people represent the lowest category of happiness. Health is strongly correlated with happiness. People who are healthiest are also happiest and there is overall a strong correlation between happiness and health status.

Table 2 cross-tabulates perceived income rankings and happiness and we see a positive relationship between perceptions of relative income and happiness. Table 3 cross-tabulates perceived social class rankings and happiness and we see a positive relationship between perception about own's social class compared to others and happiness. Table **??** cross-tabulates newspaper readership rankings and happiness and we see a positive relationship between reading newspaper and happiness. Perceived relative income is, not surprisingly, closely related to actual relative income. Table 4 shows that perceived income rankings and actual income rankings of individuals are positively correlated but the correlation coefficient is far from unity. The lack of perfect correlation allows us to estimate the impact of perceived as well as actual income ranking simultaneously and evaluate if both matters for happiness and which one is more important.

Table 5 reports the coefficients from the estimation of the ordered logit model and, for interpretation, the increase in the marginal probability of being "very happy" for a unit decrease in the corresponding right-hand side variable. We find that "high income" but not "middle income" has a significant effect on happiness. Consider employment status. The omitted category is the full time working category and we see that individuals working part time have a probability of being in the "very happy" category that is 1 percentage lower than that of individuals working full time. Unemployed individuals are the least happy with a probability of being very happy that is 4.3 percentage points lower than that of full time employed. The impact of being temporarily unemployed, student, or homemaker is insignificant.

Marital status is a very strong predictor of happiness. For marital status the omitted category is being married. Separated have a probability of being very happy that is 0.03 percentage points lower than that of married individuals. Widowed, single, and divorced are even less likely to be very happy. Regarding the number of children in the family, the omitted category is having zero or one child. The regression results show that people who have more than 2 children are more likely to be very happy than individuals with 2 children, who are more likely to be very happy than individuals with only one child. The probability of being very happy is U-shaped in age with a minimum around 30 years of age.

We have five categories for education and the omitted category is the "less than high school" category. We see that having a graduate degree significantly improves the probability of being very happy. Considering gender, females are more likely to be "very happy" than males. Blacks and other races are less happy than whites and blacks are the least happy category. Health status is the single most important determinant of happiness. There are four categories of health with "poor health" the left-out category. Happiness is strongly increasing in health and people with excellent health are much more likely to be happy than other people.

Last, Table 5 reports the impact of income on happiness and we recode the income variables in to 3 categories. We find that people who earn more than the 25th percentile are significantly happier than others. However, the direction of causality for these results are not necessarily unidirectional from happiness to income. Although we find that income and happiness are correlated, the direction of causality may go in both directions. We, therefore, use sector specific income shocks as an exogenous determinant of individual-level income, see Table 6. We find

that, using ordered logit regression, income shocks increase happiness when these are measured as exogenous sector level shocks. These results suggest that following an unexpected increase in the output of a sector, people working in this sector become happier [1]

Tables 7 and 8 present the coefficients and marginal probabilities, respectively, for the impact of relative income on happiness. We performed a series of regressions in order to identify the reference group which had the strongest effect on happiness. We do not report the details but our results indicate that individuals compare themselves to other individuals from their own cohort who work in the same occupation and live in the same region. We report the results of regressions using income relative to the reference group. We use the perceived relative income as a regressor and examine if perceived income matters when actual relative income is also included. We use the "real" values of absolute and relative income in all of the regressions. Winkelmann, Boes, and Lipp (2007) show that there is no money illusion with respect to individual satisfaction, that is satisfaction depends on real rather than nominal income. This suggests that the perceived income is "real" not "nominal".

We find in Table 7, using ordered logit, which uses continuous variables as regressors that both actual income and actual relative income are significant. However, perceived relative income is the most significant regressor. Table 8 shows that own actual income is insignificant in explaining happiness, actual relative income is positive and significant. However, perceived relative income has a strong impact on happiness.

Next, in Table 9, we investigate the importance of perceptions for males and females. We find that, for males, income is clearly insignificant while actual relative income is marginally significant at the 10 percent level. Perceived relative income is clearly significant. However, this effect is larger and even more significant for females for whom we also find a significant effect of own income. It appears that female well-being is more depending on income and, in particular, perceived income status. Marital status has a bigger impact on happiness for females and unemployment has a higher impact on happiness for women. Having two children relative to fewer children makes males happier but does not effect females—maybe because they shoulder a higher burden of child care. Table 10 shows the impact of relative income and perceived

[1] Winkelmann, Luechinger, and Stutzer (2007) show that people have potential gains in well-being from working in their job rather than in some alternative

relative income for different income categories. We find that own income and lagged relative income are significant only for high income category and relative income is significant only for the low income category. Perceived relative income is significant for both low and middle income categories which implies that perceptions about relative income does not play a role for the very rich.

Table 11 reports the results of instrumental variable probit regressions. We again recode happiness as a binary variable. The low happiness category takes the value 0 while the middle and high happiness categories take the value 1. We instrument own income with average sector-level wages and, alternatively, average sector-level compensation.[2] Log own income instrumented by sector level wage or compensation is insignificant and the IV-regressions confirm the result that perceived relative income is more important than actual relative income.

In Tables 12, 13, and 14, we use perceptions about social class, occupational prestige, own income or socio-economic index as dependent variables. All of the correlations among these dependent variables are less than 0.3. This lack of perfect correlation allows us to estimate the impact of perceived as well as actual social class ranking simultaneously and evaluate if both matters for happiness and which one is more important.

In Table 12, we investigate the role of perceptions about own's own social class in explaining current well-being. In the first column, we show that controlling own socio-economic situation, perceptions about social class increases well-being. In the third column, we investigate the impact of spouse's socio-economic situation and the father's socio-economic situation when the individual was 16 years old. We find that spouse's socio-economic situation increases well-being. Probably this is because he or she adds to the household income and individual's are proud of his or her situation. On the other hand, as Winkelmann, Boes, and Staub (2007) suggest, individuals may form higher aspirations during childhood because of their parent's socio-economic situation which leads to lower satisfaction.

Table 12 again shows the importance of perceived social class in explaining individual well-being. However, we control for own income and occupational prestige in the first column. Again, we find that perceptions play a very high role for happiness. The results in the second column,

[2]We do not report that first-stage regressions in tables, but for sector level wage in the first stage, the estimated coefficient is 1.26 with a t-stat of 60.11 and an R-square of 0.55. The coefficient for compensation in the first stage is 1.43 with a t-statistic 70.04 and an R-square of 0.57.

also confirms the findings in Table 12. Spouse's occupational prestige increases happiness but father's occupational prestige is correlated lower levels of well-being suggesting the idea of leading to higher aspirations.

6 Conclusion

To come

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Data Appendix

The General Social Surveys have been conducted by the National Opinion Research Center annually since 1972, except for the years 1979, 1981, and 1992 (a supplement was added in 1992), and biennially beginning in 1994. For each round of surveys, the Roper Center for Public Opinion Research prepares a cumulative dataset that merges previous years of the General Social Survey into a single file, with each year or survey constituting a subfile. The content of each survey changes slightly as some items are added to or deleted from the interview schedule. Main areas covered in the General Social Survey include socioeconomic status, social mobility, social control, the family, race relations, sex relations, civil liberties, and morality. Topical modules designed to investigate new issues or to expand the coverage of an existing subject have been part of the GSS since 1977, when the first module on race, abortion, and feminism appeared. The topical modules for 1998 focused on the themes of medical care, medical ethics, religion, religion and health, culture, job experiences, and interracial friendships. Other topics covered have included gender, emotions, market exchange, giving and volunteering, and mental health (1996), family mobility and multiculturalism (1994), cultural issues (1993), work organizations (1991), intergroup relations (1990), occupational prestige (1989), religious socialization, behaviors, and beliefs (1988), sociopolitical participation (1987), the feminization of poverty (1986), social networks (1985), and the role of the military (1982 and 1984). The GSS also added a crossnational component in 1985, through participation in a multinational collaborative group called the International Social Survey Program (ISSP). Topics addressed have included the role of government (1985, 1990, 1996, and 1998), social support (1986), social inequality (1987), family and gender issues (1988 and 1994), work orientation (1989 and 1998), the impact of religious background, behavior, and beliefs on social and political preferences (1991 and 1998), environmental issues (1993), and national identity (1996 and 1998). In 1994, two major innovations were introduced to the General Social Survey. First, the traditional core set of questions was substantially reduced to allow for the creation of mini-modules (small- to medium-sized supplements). The mini-modules permit greater flexibility to incorporate innovations and to include important items proposed by the social science community. Second, a new biennial, split-sample design was instituted, consisting of two parallel subsamples of approximately 1,500 cases each. The two subsamples contain identical cores and different topical ISSP modules. Regions are as

follows. New England: Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island. Middle Atlantic: New York, New Jersey, Pennsylvania. East North Central: Wisconsin, Illinois, Indiana, Michigan, Ohio. West North Central: Minnesota, Iowa, Missouri, North Dakota, South: Dakota, Nebraska, Kansas. South Atlantic: Delaware, Maryland, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, District of Columbia. East South Central: Kentucky, Tennessee, Alabama, Mississippi. West South Central: Arkansas, Oklahoma, Louisiana, Texas. Mountain: Montana, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico. Pacific: Washington, Oregon, California, Alaska, Hawaii.

VARIABLES USED IN THE PAPER:

Happiness: Happiness is the answer to the questions in U.S. General Social Survey "Taken all together, how would you say things are these days-would you say you are very happy, pretty happy or not too happy?" Happiness is a categorical variable where 1, 2, 3 in order refers to the answers not too happy, pretty happy, and happy. In the ordered logit regressions happiness takes three values. However, because of the properties of fixed effects ordered logit regression (explained in detail above), happiness is recoded as a binary variable.

Actual income: This is the actual family income first coded as intervals in the dataset and then computed with the midpoint method. Every individual is assigned to the average of the lowest and highest income level of the interval they reported. We use the real family income from the GSS which is corrected for CPI inflation. In the regressions we use actual income as a continuous variable but since perceived relative income is a categorical variable, we also recode the actual income in to 5 categories in order to make it comparable in the regressions.

Actual relative income: Relative income is calculated as the difference of the actual income and the average income of the reference point. We try different combinations of reference groups with age, region, sector, occupation (one digit and three digit sectors and occupations). The reference group we use in these paper is the individuals'cohort, working in the same occupation group (one digit)and living in the same region (as explained above). In the regressions we use actual relative income as a continuous variable but since perceived relative income is a categorical variable, we also recode the actual income in to 5 categories in order to make it comparable in the regressions.

Perceived Relative income: Perceived relative income is the answer to the question in the U.S. General Social Survey, "Compared to an average American family, what is your opinion about your family income." This variable has 5 categories: Far below than average, below average, average, above average, far above average. In the regressions we use perceived relative income as a categorical variable but since actual relative income is a continuous variable, we also use perceived relative income as a continuous variable taking values from 1 through 5 to make it comparable in the regressions.

Lagged Relative Income: People know their own actual income this year but they may not have information about others'income this year. They will just use the last period's income about others for their comparison. Lagged relative income is then the difference of current actual income from the reference group income in the last period.

Health status: Excellent, good, fair and poor are the categories for health. Poor is the omitted category in the regressions.

Marital Status: Married, widowed, divorced, separated and never married are the categories for marital status. Married is the omitted category in the regressions.

Work Status: Working full-time, working part-time, temporarily not working, unemployed, retired, school, keeping house and others are the categories for work status. Working full-time is the omitted category.

Sex: Male and Female are the categories. Male is the omitted category in the regressions.

Race: White, black, and others are the categories for race. White is the omitted category in the regressions.

Education: We use number of years of schooling as a dependent variable and also use the highest education as a categorical variable which has the values: less than high school, high school, junior college, bachelor and graduate. Less than high school is the omitted category in the regressions.

Children: We use the number of children as a dependent variable and also recode as a categorical variables as having children less than 1, having 2 children and having children more than 2. In the regressions, children less than 1 is the omitted category in the regressions.

Sectoral Wage: The variable is taken from Bureau of Economic Analysis. The monetary remuneration of employees, including the compensation of corporate officers, commissions, tips,

and bonuses, voluntary employee contributions to certain deferred compensation plans, such as 401(k) plans, and receipts in kind that represent income. Accruals and disbursements differ in the treatment of retroactive payments. In the national income and product accounts (NIPAs), wage and salary accruals is the appropriate measure for gross domestic income (GDI) and wage and salary disbursements is the appropriate measure for personal income.

Sectoral Compensation: The variable is taken from Bureau of Economic Analysis. Income accruing to employees as remuneration for their work for domestic production. It is the sum of wage and salary accruals and of supplements to wages and salaries. It includes compensation paid to the rest of the world and excludes compensation received from the rest of the world.

Occupational Prestige Score: The prestige scores assigned to occupations were taken from rating systems developed at National Opinion Research Center (NORC) in in a project on occupation prestige directed by Robert W. Hodge, Paul S. Siegel, and Peter H. Rossi. This concept of prestige is defined as the respondents' estimation of the social standing of occupations. The prestige scores in the Hodge-Siegel-Rossi and GSS studies were generated by asking respondents to estimate the social standing of occupations via a nine-step ladder, printed on cardboard and presented to the respondent.

Socio-Economic Index: Scores were originally calculated by Otis Dudley Duncan based on NORC's North-Hatt prestige study and the U.S. Census. Duncan regressed prestige scores for 45 occupational titles on education and income to produce weights that would predict prestige. This algorithm was then used to calculate socio-economic index scores for all occupational categories employed in the Census classification of occupations. Similar procedures have been used to produce socio-economic scores based on later NORC prestige studies and censuses.

Perceived Social Class: Answer to the question "If you were asked to one of four names for your social class, which would you say you belong in? The lower class, the working class, the middle class or the upper class?"

TV Hours: Number of hours a person on average in a day personally watches television.

Newspaper: Categorical answer to the question "How often do you read the newspaper? Every day, a few times a week, once a week, less than once a week, or never?"

Table 1: **Descriptive Statistics: Individual Characteristics and Happiness**

happiness:	low	middle	high	total
labor force status:				
working fulltime	0.10	0.58	0.32	21429
working parttime	0.11	0.58	0.31	4364
temp not working	0.16	0.55	0.29	923
unemployed	0.29	0.53	0.17	1286
retired	0.13	0.52	0.36	5436
student	0.13	0.57	0.30	1297
keeping house	0.14	0.52	0.35	7867
other	0.29	0.49	0.22	714
total	5239	24197	13880	43316
highest degree:				
less than high school	0.18	0.53	0.30	10613
high school	0.11	0.58	0.31	22396
junior college	0.09	0.58	0.33	1984
bachelor	0.08	0.56	0.37	5611
graduate	0.07	0.54	0.39	2569
total	5220	24116	13837	43173
marital status:				
married	0.08	0.52	0.42	24249
widowed	0.19	0.56	0.24	4396
divorced	0.18	0.62	0.19	4900
separated	0.28	0.56	0.16	1517
never married	0.15	0.63	0.22	8249
total	5239	24193	13879	43311
health status:				
excellent	0.07	0.47	0.46	10471
good	0.10	0.61	0.29	14860
fair	0.21	0.58	0.21	6180
poor	0.35	0.48	0.17	1887
total	4179	18506	10713	33398

Notes: This table shows summary statistics of happiness categories (low, middle, and high) by work status, highest degree earned, marital status and health status. The numbers are the row frequencies shown as ratios.

Table 2: **Descriptive Statistics: Perceptions about Relative Income and Happiness**

happiness:	low	middle	high	total
perceived relative income:				
far below average	31.41	49.55	19.04	2222
below average	18.83	58.49	22.68	10090
average	9.17	56.96	33.86	21821
above average	6.22	52.39	41.39	7920
far above average	10.79	46.16	43.05	834

Notes: This table shows the happiness of individuals by perception category. The numbers show the row percentages. 22.68 means that 22.68 percent of people with "below average" (corresponds to 10090 individuals in the sample) perceived relative income are in the "not too happy" category.

Table 3: **Descriptive Statistics: Perceptions about Social Class and Happiness**

happiness:	low	middle	high	total
perceived social class:				
lower class	32.70	50.61	16.69	2205
working class	12.91	59.66	27.43	19067
middle class	8.80	53.90	37.29	18923
upper class	9.67	43.01	47.32	1344

Notes: This table shows the happiness of individuals by social class perception category. The numbers show the row percentages. 32.70 means that 32.70 percent of people with "lower class" (corresponds to 2.205 individuals in the sample) perceived social class are in the "not too happy" category.

Table 4: **Descriptive Statistics: Relation between Own Income and Perceptions about Relative Income**

perceived relative income:	far below	below	average	above	far above	total
own income:						
low	17.32	42.99	34.15	3.88	1.67	17787
middle	7.75	36.27	49.40	5.62	0.97	20868
high	2.03	15.27	53.31	26.85	2.53	7855

Notes: The numbers are the row percentages. Own income is recoded in to three categories from the original dataset which was originally 13. Perceived Relative Income is 5 categories: Far below average, below average, average, above average, far above average.

Table 5: **Happiness and Individual Characteristics**

Dependent Variable: Self-reported Happiness

	Ordered Logit		
	Coef.	t-stat.	Marginal Prob.
middle income	0.02	0.3	−0.01
high income	0.18	4.2	−0.02
part-time worker	−0.11	2.5	0.01
temporary unemployed	−0.10	1.3	0.01
unemployed	−0.73	9.9	0.04
retired	0.12	2.2	−0.01
student	0.14	1.9	−0.02
homemaker	0.02	0.5	−0.01
other work	−0.04	0.4	0.01
widowed	−1.08	21.3	0.04
divorced	−0.95	24.1	0.05
separated	−1.16	17.2	0.03
single	−0.72	19.2	0.06
2 children	0.08	2.2	−0.01
more than 2 children	0.13	3.8	−0.02
age	−0.02	4.2	0.01
age-square	0.01	6.9	−0.01
high school	0.01	0.2	−0.01
junior college	0.08	1.3	−0.01
bachelor	0.07	1.6	−0.01
graduate	0.17	2.9	−0.02
female	0.19	6.9	−0.02
black	−0.38	10.2	0.04
other race	−0.08	1.2	0.01
health fair	0.62	10.1	−0.09
health good	1.24	20.6	−0.15
health excellent	1.92	30.7	−0.28
R-squared	0.07		
No. of obs.	28712		

Notes: "Marginal Prob." is the effect on the predicted probability of being very happy of a one unit decline in the *mean* of the relevant regressor calculated at the third outcome ("very happy"). t-statistics are in absolute values.

Table 6: **Happiness and Income Shocks**

Dependent Variable: Self-reported Happiness

Ordered Logit		
	Marginal Prob.	t-stat.
individual income	−21.02	7.7
income shock to sector	−0.02	2.1
part-time worker	0.01	2.5
temporary unemployed	0.01	1.4
unemployed	0.05	27.9
retired	−0.02	2.7
student	−0.03	1.8
homemaker	−0.01	0.8
other work	−0.01	0.2
divorced	0.05	15.6
widowed	0.06	27.1
separated	0.04	7.1
single	0.06	24.6
2 children	−0.01	2.5
more than 2 children	−0.02	3.7
education	−0.01	2.6
age	0.01	4.8
age-square	−0.01	7.4
female	−0.02	6.9
black	0.04	11.5
other race	0.01	0.6
health fair	−0.09	8.1
health good	−0.15	18.9
health excellent	−0.28	27.4
R-squared	0.08	
No. of obs.	27399	

Notes: The regression is estimated with ordered logit. "Marginal Prob." is the effect on the predicted probability of being very happy of a one unit decline in the relevant regressor calculated at the second outcome (pretty happy). Region and industry dummies are included. Sectors: Agriculture, Construction, Mining, Manufacturing, Transportation, Retail Trade, Wholesale, Finance, Entertainment, Public Administration. Regions: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, Pacific, Foreign. t-statistics are in absolute values. Income shock is defined as the unexpected part of the sector-level GDP at time t. Every individual is assigned to a 1-digit sector in he or she works. Income is in thousands of dollars.

Table 7: **Happiness, Relative Income, and Perceptions about Relative Income**

Dependent Variable: Self-reported Happiness

Ordered Logit		
	Coef.	t-stat.
actual income	0.09	2.5
perceived relative income	0.61	8.7
actual relative income	0.15	2.6
R-squared	0.09	
No. of obs.	12677	

Notes: Coefficients are estimated with ordered logit. We show the main variables of interest here. Income variables are in logs and thousands. "Relative income" is calculated as the income of an individual relative to a reference group defined as the people who are at the same age, work in the same occupation group and live in the same region with the individual. Lagged relative income is the income of an individual relative to the reference group lived in the previous period. All variables are continuous variables where perceived relative income takes the values 1-5. t-statistics are in absolute values.

Table 8: **Happiness, Relative Income, and Perceptions about Relative Income**

Dependent Variable: Self-reported Happiness

Ordered Logit			
		Marginal Prob.	t-stat.
actual income:	below average	0.04	0.8
	average	0.02	0.3
	above average	0.23	1.5
	far above average	−0.04	0.6
actual relative income:	below average	0.76	1.9
	average	0.78	1.9
	above average	0.86	2.1
	far above average	1.16	2.1
perceived relative income:	below average	0.34	3.7
	average	0.77	8.5
	above average	0.95	9.8
	far above average	0.83	5.6
R-squared	0.09		
No. of obs.	15904		

Notes: We show the main variables of interest here. Actual income, actual relative income and lagged actual relative income is recoded in to 5 categories to make them comparable to the perceived relative income. In all categories "far below average" is the omitted category. Perceived relative income is 5 categories in the General Social Survey. People tell what they think about their relative income: "far below average," "below average," "average," "above average," or "far above the average." "Relative income" is calculated as the income of an individual relative to a reference group defined as the people who are at the same age, work in the same occupation group and live in the same region with the individual. Own actual income is absolute income which is calculated by the midpoint method and lagged relative income is the income of an individual relative to the reference group lived in the previous period. "Marginal Prob." is the effect on the predicted probability of being very happy of a one unit decline in the relevant regressor calculated at the second outcome (pretty happy). t-statistics are in absolute values.

Table 9: **Happiness, Relative Income, and Perceptions by Gender**

Dependent Variable: Self-reported Happiness

Ordered Logit				
	Males		Females	
	Marginal Prob.	t-stat.	Marginal Prob.	t-stat.
own actual income	−11.1	0.3	−85.01	1.9
actual relative income	−24.6	1.7	−23.09	0.9
perceived relative inc. (below av)	−0.03	1.6	−0.03	1.8
perceived relative inc. (average)	−0.07	3.9	−0.09	5.2
perceived relative inc. (above av)	−0.09	3.5	−0.15	4.8
perceived relative inc. (far above av)	−0.09	2.2	−0.16	2.2
part-time worker	0.02	1.3	−0.01	0.5
temporary unemployed	−0.02	0.6	0.03	2.1
unemployed	0.05	13.1	0.05	13.4
retired	−0.04	2.1	−0.02	0.9
student	−0.01	0.4	−0.04	1.5
homemaker	−0.01	0.1	−0.03	1.1
other work	−0.12	2.4	0.01	0.3
2 children	−0.03	2.1	0.01	0.06
more than 2 children	−0.02	2.3	−0.01	0.4
widowed	0.03	1.9	0.07	16.8
divorced	0.05	10.2	0.06	14.4
separated	0.04	3.7	0.05	5.7
single	0.06	10.4	0.06	10.6
health good	−0.12	4.8	−0.16	10.1
health fair	−0.17	9.4	−0.09	4.7
health excellent	−0.28	13.3	−0.31	15.5
R-squared	0.08		0.09	
No. of obs.	6072		7385	

Notes: The regression is estimated with ordered logit. "Marginal Prob." is the effect on the predicted probability of being very happy of a one unit decline in the relevant regressor calculated at the second outcome (pretty happy). The first column shows the results for ordered logit regression and second column shows the results for fixed effects regression. Income is in thousands dollars. There are 5 categories for perceived relative income and "far below average" is the omitted category. "Relative income" is calculated as the income of an individual relative to a reference group defined as the people who are at the same age, work in the same occupation group and live in the same region with the individual. Lagged relative income is the income of an individual relative to the reference group lived in the previous period. t-statistics are in absolute values. Income is in thousands of dollars.

Table 10: **Importance of Perceptions for different Income groups**

Dependent Variable: Self-reported Happiness

Ordered Logit			
individual income	low	middle	high
	Coef.	Coef.	Coef.
own actual income	−77.1	52.3	15.23**
actual relative income	188.83*	162.11	17.23
perceived relative inc. (below av)	0.36**	0.23	−0.19
perceived relative inc. (average)	0.71***	0.60***	0.15
perceived relative inc. (above av)	0.79**	0.66**	0.30
perceived relative inc. (far above av)	0.15	0.23	0.37
part-time worker	0.16	0.01	−0.11
temporary unemployed	−0.07	0.21	−0.19
unemployed	−0.73***	−0.42*	−0.84***
retired	0.16	0.46***	−0.02
student	0.53*	0.13	−0.01
homemaker	−0.12	0.18	0.04
other work	0.11	1.35***	0.06
widowed	−1.01***	−1.13***	−1.18***
divorced	−0.99***	−0.92***	−0.74***
separated	−1.14***	−0.92***	−1.41***
single	−0.68***	−0.78***	−0.64***
2 children	−0.14	0.11	0.16*
more than 2 children	0.01	0.21*	0.14
age	0.01	−0.02	−0.03**
age-square	0.001	0.001*	0.001***
education	−0.02	0.03*	−0.03**
female	0.39***	0.31***	0.24***
black	−0.39***	−0.31**	−0.59***
other race	−0.17	0.47	0.016
health fair	0.59***	0.88***	0.45*
health good	1.18***	1.40***	1.01***
health excellent	1.85***	2.07***	1.71***
home population	−0.01	−0.03	−0.05*
R-squared	0.08	0.06	0.07
No. of obs.	2216	4069	7171

Notes: Region and sector dummies are added as controls. "Relative income" is calculated as the income of an individual relative to a reference group defined as the people who are at the same age, work in the same occupation group and live in the same region with the individual. Lagged relative income is the income of an individual relative to the reference group lived in the previous period. There are 5 categories for perceived relative income and "far below average" is the omitted category. Income is recoded from 13 categories in to 3 categories. Income is in thousands of dollars. ***, **, * denotes 1%, 5%, and 10% significance, respectively.

Table 11: **Happiness, Income, and Income Perceptions: IV for Own Income**

Dependent Variable: Self-reported Happiness

IV Probit				
instrument (sectoral):	wage		compensation	
	Coef.	t-stat.	Coef.	t-stat.
perceived relative income	0.14	7.5	0.14	7.7
actual relative income	0.10	2.5	0.10	2.6
No. of obs.	20104		20104	

Notes: Instrumental variable probit regression. We instrument for own income by sector level wage and sector level compensation. We show the main variables of interest here. Income variables are in logs and thousands. "Relative income" is calculated as the income of an individual relative to a reference group defined as the people who are at the same age, work in the same occupation group and live in the same region with the individual. All variables are continuous variables where perceived relative income takes the values 1-5. t-statistics are in absolute values.

Table 12: **Happiness, Social Class Perceptions, and Socio-economic Index**

Dependent Variable: Self-reported Happiness

	Ordered Logit			
	Coef.	t-stat.	Coef.	t-stat.
own socioeconomic index	0.00	1.5	−0.00	0.4
perceived social class	0.29	10.1	0.24	2.9
father's socioeconomic index16			−0.01	2.6
spouse's socioeconomic index			0.01	2.2
part-time worker	−0.16	2.8	−0.21	1.4
temporary unemployed	−0.23	2.1	0.37	1.3
unemployed	−0.61	5.8	−1.18	2.9
retired	0.08	1.1	0.46	1.9
student	0.23	1.9	−0.05	0.1
homemaker	−0.03	0.5	0.23	1.5
other work	−0.33	2.4	−0.58	1.5
widowed	−1.08	15.1	−1.23	0.6
divorced	−0.95	18.0		
separated	−1.27	13.3		
education	−0.76	14.0		
children	0.01	0.8	0.04	1.0
education	0.00	0.1	0.01	0.4
age-square	0.00	4.4	0.00	1.0
health fair	0.55	6.0	0.57	1.6
health good	1.15	12.9	1.04	3.1
health excellent	1.85	19.8	1.92	5.6
female	0.10	2.6	0.02	0.2
members	−0.00	0.1	−0.02	0.5
black	−0.31	5.7	−0.40	2.4
other race	−0.01	0.1	−0.16	0.7
R-squared	0.08		0.06	
No. of obs.	15094		2227	

Notes: The regression is estimated with ordered logit. Region and industry dummies are included. Sectors: Agriculture, Construction, Mining, Manufacturing, Transportation, Retail Trade, Wholesale, Finance, Entertainment, Public Administration. Regions: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, Pacific, Foreign. t-statistics are in absolute values. Every individual is assigned to a 1-digit sector in he or she works. Income is in thousands of dollars. Perceived social class is used as a continuous variable.

Table 13: **Happiness, Social Class Perceptions, and Occupational Prestige**

Dependent Variable: Self-reported Happiness

	Ordered Logit			
	Coef.	t-stat.	Coef.	t-stat.
own income	0.10	6.4	0.07	2.8
own prestige	−0.00	0.6	0.00	0.5
perceived social class	0.31	14.2	0.33	9.4
spouse prestige			0.00	2.3
father prestige16			−0.00	1.9
part-time worker	−0.08	1.8	−0.06	0.9
temporary unemployed	−0.11	1.3	−0.06	0.5
unemployed	−0.74	9.8	−0.78	5.3
retired	0.17	3.1	0.29	3.4
student	0.23	2.4	−0.03	0.2
homemaker	0.04	0.9	0.11	1.9
other work	−0.01	0.1	0.34	1.7
widowed	−1.07	19.9		
divorced	−0.93	21.8		
separated	−1.08	15.1		
single	−0.69	17.1		
children	0.01	0.6	0.02	1.3
age	−0.02	4.3	−0.02	2.1
education	−0.01	1.7	−0.03	3.2
age-square	0.00	6.2	0.00	2.8
health fair	0.57	8.7	0.55	5.0
health good	1.17	18.4	1.05	9.9
health excellent	1.83	27.5	1.81	16.6
female	0.18	6.0	0.15	3.3
home population	−0.03	2.5	−0.05	2.6
black	−0.40	10.1	−0.54	7.6
other race	0.02	0.2	0.07	0.6
R-squared	0.08		0.06	
No. of obs.	26714		12375	

Notes: The regression is estimated with ordered logit. Region and industry dummies are included. Sectors: Agriculture, Construction, Mining, Manufacturing, Transportation, Retail Trade, Wholesale, Finance, Entertainment, Public Administration. Regions: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, Pacific, Foreign. t-statistics are in absolute values. Every individual is assigned to a 1-digit sector in he or she works. Income is in thousands of dollars. Perceived social class is used as a continuous variable.

Table 14: **Happiness, Perceptions about Relative Income, and Media**

Dependent Variable: Self-reported Happiness

	Ordered Logit			
	Coef.	t-stat.	Coef.	t-stat.
perceived relative income	0.17	4.2	0.15	3.1
own income	0.06	2.3	0.06	2.6
relative income	0.05	0.9	0.08	1.6
TV hours	−0.14	3.8		
TV*perceived relative income	0.03	2.6		
newspaper			0.13	2.1
newspaper*perceived relative income			−0.05	2.2
part-time worker	−0.00	0.1	−0.03	0.5
temporary unemployed	−0.09	0.8	−0.09	0.7
unemployed	−0.52	4.5	−0.64	5.4
retired	0.34	2.1	0.28	1.7
student	0.60	3.5	0.54	3.1
homemaker	0.15	1.3	0.14	1.2
other work	0.51	1.5	0.53	1.5
widowed	−1.08	9.3	−1.11	9.4
divorced	−0.84	12.8	−0.86	12.9
separated	−1.10	9.7	−1.04	9.3
single	−0.69	11.1	−0.71	11.2
children	0.00	0.2	0.00	0.3
age	−0.04	3.9	−0.04	4.0
education	0.00	0.5	0.01	0.7
age-square	0.00	4.8	0.00	5.0
health fair	0.66	4.5	0.64	4.3
health good	1.28	9.1	1.25	8.6
health excellent	2.00	14.0	2.00	13.5
female	0.17	3.7	0.17	3.7
home population	−0.02	0.9	−0.02	1.1
black	−0.32	4.9	−0.37	6.1
other race	−0.05	0.5	0.00	0.0
R-squared	0.09		0.09	
No. of obs.	10560		10281	

Notes: The regression is estimated with ordered logit. Region and industry dummies are included. Sectors: Agriculture, Construction, Mining, Manufacturing, Transportation, Retail Trade, Wholesale, Finance, Entertainment, Public Administration. Regions: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, Pacific, Foreign. t-statistics are in absolute values. Every individual is assigned to a 1-digit sector in he or she works. Income is in thousands of dollars. Perceived relative income and frequency of newspaper reading are used as continuous variables.

Jones was a wealthy real-estate magnate in late 19th century New York. The Jones family, along with many of their rich friends, built increasingly lavish homes in the Hudson valley and it has been suggested that the race to impress the neighbours was the source of 'keeping up with the Joneses'. That explanation is plausible but, as we see so often, plausibility isn't enough when it comes to etymology. The fact that the expression 'keeping up with the Joneses' isn't found until Momand began his comic strip and is found numerous times thereafter deals a death blow t