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

Cahit Guven *
University of Houston

Bent E. Sørensen †
University of Houston and CEPR

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Abstract

Using data from the U.S. General Social Survey, we study the role of income and status 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. Father's social standing and occupational prestige during childhood decrease current well-being. The results are robust to instrumenting own income with sector level wages or compensation.

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*Department of Economics, University of Houston, TX, 77204 e-mail: cguven@mail.uh.edu, tel:713 7433818

†Department of Economics, University of Houston, TX, 77204, e-mail: bent.sorensen@mail.uh.edu, tel: 713 7433841, fax: 713 7433798. The authors thank participants at the International Conference on Policies for Happiness in Siena, the 76^{th} Annual SEA Meetings, the 11^{th} Texas Econometrics Camp, the 7^{th} Annual Missouri Economics Conference, and seminar participants at Sam Houston State University and the University of Houston for their valuable comments and suggestions. Special thanks to Rainer Winkelmann.

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 survey interviewing of about 3000 individuals since 1970. The GSS provides self-reported measures of well-being; i.e., responses to questions about how happy 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 sectoral Gross Domestic Product (GDP) of the sector which the individual is working increases individual happiness. Higher income obviously allow people to purchase more goods which is expected to increase well-being but people may also derive happiness from a high *relative* income and we find that a high relative in-

come is associated with more happiness. We even find that relative income is more important than absolute income in explaining individual well-being. More precisely, we find that the income relative to individuals' own cohort working in the same occupation group and living in the same region matters for happiness.

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 relative 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.

If people care about relative standing in society it may be that social class is more important than income. We find that *perceived* social class is highly correlated with happiness while actual social class is of little importance. Father's social standing and occupational prestige during childhood decrease current well-being. We conjecture that this is due to high social standing during childhood leading to a higher aspiration level later in life.

Secondary findings in the paper are similar to what is found elsewhere: Hap-

piness has a U-shape in age, blacks and unemployed are less happy while married are more happy. Health has a very strong impact on happiness. We also find that watching TV is associated with lower levels of well-being while the impact of TV-watching on happiness is lower for people with high perceived relative income. Our results about the relationship TV watching and well-being confirm the findings in the literature.

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. 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.

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. 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.

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. There clearly are important interdependencies in reported well-being among members of the same family, some of which may have biological origins.

People of higher *age* may be less happy than young people. The "youth cult" projected by the media suggests that many desirable qualities of life lie with youth. Somewhat surprisingly, many studies have found that older people are subjectively more happy than are young people, but this effect tends to be 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 the impact of negative life events. 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 and the age effect may interfere with a cohort effect. The direction of causation is also clear because happy people tend to live longer than unhappy people, which contribute to a positive correlation between age and happiness.

Race. Blacks tend to be less happy than whites in all psychological and soci-

ological 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). 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 friends, companions, relatives, and to be part of a group 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. 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). Does marriage cause happiness or does happiness promote marriage? A selection effect cannot be ruled out because be easier for happy happy individuals are more likely to marry and to stay married (Veenhoven, 1989) although it appears 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. Unemployed people are very unhappy—possibly the loss of relationships at work enhances the negative impact of loss of income.

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 found a negative association between TV viewing and happiness, with individuals reporting 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. Possibly, long TV hours may lead to higher material aspirations.

3 Data

The GSS consists of cross-sectional surveys which have been conducted by the National Opinion Research Center (NORC) in the United States annually 1972-1994, 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. In calculating relative income we compare individual data from this survey with sectoral wage and compensation data from the Bureau of Economic Analysis. Dollar amounts are deflated by the U.S. Consumer Price Index (CPI). Our dependent variable is the response to 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 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. 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 (normalized by the CPI) from the GSS. In the regressions we use actual income as a continuous variable but since perceived relative income is a categorical variable with 5 categories, we also recode actual income into 5 categories in order to make it comparable in the regressions.

Relative income is calculated as the difference between 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 is the individuals'cohort, working in the same occupation group (one digit) and living in the same region. In the regressions we use actual relative income as a continuous variable but since perceived relative income is a categorical variable, we also recode actual income into 5 categories in order to make it comparable in the regressions. People know their own current actual income but they may not have information about others' current income. In this case, reference group income is the lagged average reference group income. Relative income is then the difference between current actual income and the reference group income in the last period which we name as lagged-relative income. Perceived relative income is the answer to the question in the GSS, "Compared to an average American family, what is your opinion about your family income." This variable has 5 categories: Far below 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.

Socio-Economic Index scores are originally calculated by Otis Dudley Duncan based on NORC's North-Hatt prestige study. 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 oc-

cupations. Similar procedures have been used to produce socio-economic scores based on later NORC prestige studies and censuses. Perceived social class 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?" For further details and the exact definitions of other variables used, see the Appendix.

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, social status, and perceived social status. 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.

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 $Happy_{it}$:

$$Category\ (1):\ Happy_{it} = 1 \qquad \text{if} \qquad Happy^*_{it} < -\lambda_1 \tag{2}$$

$$Category\ (2):\ Happy_{it} = 2 \qquad \text{if} \quad -\lambda_1 < Happy^*_{it} < -\lambda_2 \tag{3}$$

$$Category\ (3):\ Happy_{it} = 3 \qquad \text{if} \qquad Happy^*_{it} > -\lambda_2\ , \tag{4}$$

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:

$$Category\ (1):\quad Pr(Happy_{it} = 1) = \frac{1}{1 + \exp(\phi X_{it} + \lambda_1)} \tag{5}$$

$$Category\ (2):\quad Pr(Happy_{it} = 2) = \frac{1}{1 + \exp(\phi X_{it} + \lambda_2)} - \frac{1}{1 + \exp(\phi X_{it} + \lambda_1)} \tag{6}$$

$$Category\ (3):\quad Pr(Happy_{it} = 3) = \frac{\exp(\phi X_{it} + \lambda_2)}{1 + \exp(\phi X_{it} + \lambda_2)} \tag{7}$$

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 increase relative to the *mean* of the relevant regressor calculated at the second outcome ("pretty happy"). If θ represents the marginal change in variable k—the independent variable of interest—the marginal probability takes the form:

$$\frac{\exp(\hat{\phi}\bar{X} + \hat{\lambda}_2 + \phi_k\,\theta)}{1 + \exp(\hat{\phi}\bar{X} + \hat{\lambda}_2 + \phi_k\,\theta)} - \frac{\exp(\hat{\phi}\bar{X} + \hat{\lambda}_2)}{1 + \exp(\hat{\phi}\bar{X} + \hat{\lambda}_2)}\ , \tag{8}$$

where $\hat{\phi}$ and $\hat{\lambda_2}$ are the estimated coefficients. We show marginal probabilities for $\theta = 1$ in this paper.

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. Perceived relative income is, not surprisingly, closely related to actual relative income as can be seen from Table 4. Interestingly, a large fraction of the sample perceive themselves to have average income, almost independently of their actual income; for example, 44 percent of individuals with actual income far below average consider themselves to have average income while 49 percent of individuals with income far above average consider themselves to have average income. Table **??** shows that the correlation between actual and perceived relative income is positive but quite low at 0.15. 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. Perceived social status is quite highly correlated with perceived relative income (0.49) but much less so with actual relative income. Perceived social status is positively correlated with actual social status but this correlation is also low at 0.32. The level of income is positively correlated with actual social status with a fairly high correlation of 0.56.

Table 6 reports the coefficients from the estimation of the ordered logit model and, for interpretation, the change in the marginal probability of being "very happy" for a unit increase in the corresponding right-hand side variable. We find that income has a strongly significant effect on happiness with a t-statistic of almost 20.[1] Employment status also significantly affects happiness. 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 2 percentage points lower than that of individuals working full time. Unemployed individuals

[1]We use the "real" values of income in all our regressions. Winkelmann, Boes, and Lipp (2007) show that there is no money illusion with respect to individual satisfaction.

are the least happy with a probability of being very happy that is 3 percentage points lower than for full time employed. The impact of being retired or a student is insignificant while homemakers are significantly less happy.[2] Retirees tend to more happy than non-retired individuals.

Marital status is a very strong predictor of happiness. In Table 6, the omitted category is being married and it appears that singles have a probability of being very happy that is 0.08 percentage points lower than that of married individuals. Widowed, separated, and divorced individuals are even less likely to be very happy. Regarding the number of children in the family, the omitted category is having no children. We do not find a significant effect of children. The probability of being very happy is is non-linear in age—increasing at early ages and then decreasing but, to anticipate the results reported in other tables, this result is not robust. We do not see a significant effect of education. Considering gender, females are about 8 percentage points more likely to be "very happy" than males and this is estimated with a very high level of significance. Blacks and people of other (non-white) skin colors less happy than white. 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 somewhat increasing in health—people with excellent health are more likely to be happy than others although the largest different is to the left-out category of poor health.

Tables 7 and 8 focus on our main question; namely, estimating the contributions of income, relative income, and perceptions to happiness. In order to hedge against spurious conclusions due to potentially erroneous assumptions of linear-

[2]Winkelmann, Luechinger, and Stutzer (2007) show that well-being from working in ones chosen job may be higher rather than from in any random job.

ity, we present the results for two specifications—one where income is measured a "continuous" variable and one where we use dummy variables for income categories. In these tables we, for brevity, only display the marginal probabilities and the t-statistics.

We calculate relative income by comparing income to that of a reference group. 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. By doing a specification search like that we may overestimate the impact of relative income due to "data mining," although we may also underestimate the effect of relative income because we do not really know which groups individuals compare themselves to. If people, as argued by Gilbert and Trower (1990), *choose* whom to compare themselves to, it may be the case that they tend to compare themselves to individuals that are systematically better or worse off than themselves. If such is the case, then perceived relative income may be a "more correct" measure of relative income that our measured relative income in a technical sense. However, we consider the case where individuals choose their comparison group as equivalent to the case where individuals form, maybe imperfect, perceptions about relative income. In either event, those two cases cannot be separated from the survey questions in the GSS. We examine if individuals may only know about other peoples income with a lag by checking if "relative income" defined as current income relative to income of the comparison group one year earlier was more significant than when comparing to current income of the comparison group. We find no evidence of

such an information lag and do not tabulate those results.

We include as regressors actual income, relative income, perceived relative income, and social status together with demographic variables. We suppress the estimated effects of the demographic variables (the results are similar to those of the previous table) in order to highlight the results for the income and status variables. In Table 7 income takes continuous values and the other regressors take integer values and we observe that both actual income and actual relative income are significant. However, the coefficient to perceived relative income is twice that of the coefficient to relative income and this coefficient is estimated with an extremely high level of significance. In the second column, we include occupational prestige but we do not find this variable to be significant. In the third column, we include perceived social class. This variable is also a strongly significant predictor of happiness with a t-statistic of 11.4. The inclusion of this variable lowers the significance of perceived relative income, as one might expect, but this impact is quite small. It appears that perceive relative income and perceived social class are not so collinear as to capture the exact same sentiment but rather have separate strong impacts on happiness.

In Table 8, we enter the income and status variables as dummy variables for, say, far above average perceived income. Such a specification does not impose the restriction that the impact of moving from on group to a higher groups is constant as does the linear specification in the previous table. We find that some, but not all, categories of income are significant in explaining happiness, but the impact is not highly significant. Actual relative income has a positive and significant effect, while perceived relative income has a positive effect with extremely high

significance for the "average" and "above average" categories ("far below average" is the omitted category). In the second column, we include perceived social class. This variable is significant at exceptional high levels of significance, with "far above average" perceived social status (compared to the left-out "far below average") category having a t-value of over 25. The inclusion of this variable lowers the significance level for perceived relative income but this variable retains a very high level of significance. Overall, these results provide strong evidence that people's perceptions of income and status are very strong predictors of happiness.

While there is no doubt that perceptions matter for happiness on average it may be that perceptions matter more for less affluent individuals. For the less affluent, social status may open doors that the affluent have access to through wealth, or one may directly derive happiness from a perception of belonging to a more prestigious social class. Table 9 shows the impact of income, relative income, and perceptions for different income categories. We find that perceived relative income is strongly significant for low and middle-income individuals but not for individuals in the highest income category, mainly because the coefficient to perceived relative income is estimated less precisely in this group. The point estimates for perceived social class are highly significant for low and middle-income respondents while the coefficient is lower for high income individuals and not significant. Income has a larger impact for the high income individuals with a large t-statistic of 18.7. (Note that this estimate is based only on income differences within the group of high income individuals.) Relative income is significant for the low and high income categories, with a high level of significance for low income individuals. Overall, it appears that actual income matters more for the happiness of high income in-

dividuals while people with low income seem to care more about relative status as they perceive it. Our regressions do not rule out that high income individuals have chosen jobs with high income because this increases their happiness but we are not able to examine this issue in more detail here.

Next, in Table 10, we investigate if males and females have different determinants of happiness and, in particular, whether the role of perceptions are similar for males and females. Even a quick look at Table 10 reveals large differences in the results for males and females. We find that, for males, income and relative income are significant in explaining happiness with t-statistics of 6.1 and 8.7, respectively. Perceived relative income is even more significant with a huge t-statistic of 15.8—perceived social status is almost as significant. For females, we find a strongly significant impact of income but no significant impact of relative income. Perceptions of relative income and social status are clearly significant for women but the marginal probabilities and the t-statistics are clearly lower that those found for perceptions for male. Overall, there is strong evidence that males care more about perceptions than females. This is a fascinating result but we refrain from speculating why this might be because we have little knowledge on which to base such speculation on. Regarding other variables, unemployment has a similar impact on both sexes but the effect is statistically stronger for women. Most categories of marital status have similar impacts but single males are much less happy than single females. Health status affects happiness much more in the case of women and the difference in happiness is large, in particular, when comparing poor health (the left-out category) with other categories while males seems to care more if they are in good or excellent health.

Being raised in privileged environment may be a boon in many ways. Likely, growing up in a high-status home is associated with many advantages such a better education, direct support from parents, maybe better health. However, an advantaged childhood may have a dark side, if it increases aspirations with, possibly, a detrimental impact on happiness in adulthood. We will examine if childhood status decrease happiness keeping everything else constant. Our indicator for childhood conditions is the value of father's occupational prestige when the individual was 16 years old. We report the results in Table 11. In the first column we add respondents occupational prestige and find no significant effect. In the second column, we add the socioeconomic index for the father and find that a high status of the father at age 16 decreases current well-being. The sample for this table is smaller because we can only include the individuals who answered the relevant questions, but we still find very high levels of significance for perceptions.

Table 12 investigates the role of TV watching on well-being. The results show that number of hours of TV watching is correlated with lower happiness although this may be because less happy individuals watch more TV. We display this table in order to provide some suggestive evidence that TV watching may affect perceptions. We explore this by including an interaction term of perceived relative income and TV-watching. The coefficient of the interaction variable is negative and significant suggesting that TV watching might increase the role of perceptions in explaining happiness. These can be due to the fact people generally see beautiful, handsome, rich and happy people on TV making perceived poverty more painful. Our data set is not ideal for exploring this question in further debt but the results of Table 12 suggest that more focussed research on how the media af-

fect perceptions or how perceptions may impact more or less strongly on happiness may be fruitful area for further research.

6 Conclusion

We have demonstrated that while high income may increase happiness, high relative income may increase happiness even more. However, even if income is low in both absolute and relative terms, happiness is within reach as long a perceived social status and perceived relative income is high. Do people subconsciously choose who compare themselves to or how are perceptions formed? Our study is silent on this issue but we consider this an important issue for further research. We also studied the effect of labor market status, health, age, skin color, and sex. A notable finding was that the happiness of sexes seems to be affected to quite different degrees by income versus perceptions of income and status with the happiness of males being much more related to status. We would like to explore why in future work.

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Data Appendix

Main areas covered in the GSS include socioeconomic status, social mobility, social control, family, race, 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, mental health (1996), family mobility and multi-culturalism (1994), cultural issues (1993), work organizations (1991), intergroup relations (1990), occupational prestige (1989), religious socialization, behaviors and beliefs (1988), sociopolitical participation (1987), feminization of poverty (1986), social networks (1985), and the role of the military (1982 and 1984). The GSS also added a cross-national 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 GSS. 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.

VARIABLES USED IN THE PAPER:

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 an independent variable and also use the highest education attained 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, that a family ever had, as an independent variable and also recode as a categorical variable: as having no children, having 1 child and having children 2 or more. In the regressions, having no children

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, wage and salary accruals or wage and salary disbursements are the appropriate measures 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 (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 in a nine-step ladder, printed on cardboard and presented to the respondent.

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

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

happiness:	low	middle	high	total
labor force status:				
working full-time	10	58	32	21429
working part-time	11	58	31	4364
temporary not working	16	55	29	923
unemployed	29	53	18	1286
retired	13	52	35	5436
student	13	57	30	1297
keeping house	13	52	35	7867
total	5239	24197	13880	43316
marital status:				
married	8	51	41	24249
widowed	20	56	24	4396
divorced	18	62	20	4900
separated	28	56	16	1517
never married	15	63	22	8249
total	5239	24193	13879	43311
education:				
less than high school	18	53	30	10613
high school	11	58	31	22396
junior college	9	58	33	1984
bachelor	8	55	37	5611
graduate	7	54	39	2569
total	5220	24116	13837	43173
health status:				
excellent	7	47	46	10471
good	10	61	29	14860
fair	21	58	21	6180
poor	35	48	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 percentages. 58 indicates that 58 percent of people who work full-time (corresponds to 21429 individuals in the sample) are in the middle happiness category.

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

happiness:	low	middle	high	total
perceived relative income:				
far below average	32	49	19	2222
below average	19	58	23	10090
average	10	57	33	21821
above average	6	52	42	7920
far above average	11	46	43	834

Notes: This table shows the happiness of individuals by perceptions about relative income. Perceived relative income is a categorical variable taking values 1-5.

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

happiness:	low	middle	high	total
perceived social class:				
lower class	33	51	16	2205
working class	13	60	27	19067
middle class	9	54	37	18923
upper class	10	43	47	1344

Notes: This table shows the happiness of individuals by perceptions about social class. Perceived social class is a categorical variable taking values 1-4.

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

perceived relative income:	far below average	below average	average	above average	far above average
income:					
far below average	9	41	44	4	2
below average	4	27	59	10	0
average	3	5	52	38	2
above average	1	4	40	48	7
far above average	2	19	49	28	2

Notes: The numbers are the row percentages. Income is recoded into five categories from the original dataset which was originally 13. Perceived relative income is 5 categories: Far below average, below average, average, above average, and far above average.

Table 5: **Correlation Matrix: Income, Relative Income, Perceived Relative Income, Occupational Prestige, and Perceived Social Class**

	income	relative income	perceived relative income	socio economic index	perceived social class
income	1.00				
relative income	0.37	1.00			
perceived relative income	0.41	0.17	1.00		
occupational prestige	0.39	0.18	0.26	1.00	
perceived social class	0.38	0.17	0.44	0.28	1.00

Notes: Perceived relative income is 5 categories: Far below average, below average, average, above average, and far above average. Perceived social class is 4 categories: Lower class, working class, middle class, and upper class. Occupational Prestige takes values 0-100.

Table 6: **Happiness and Individual Characteristics**

Dependent Variable: Self-reported Happiness

	Ordered Logit		
	Coef.	t-stat.	Marginal Prob.
income	0.78	19.6	0.08
part-time worker	−0.21	4.6	−0.02
temporary unemployed	−0.23	3.2	−0.02
unemployed	−0.28	3.4	−0.03
retired	0.05	0.9	0.01
student	0.14	0.8	0.01
homemaker	−0.21	4.7	−0.02
widowed	−1.83	33.1	−0.19
divorced	−1.42	29.1	−0.15
separated	−1.40	22.1	−0.15
single	−0.76	16.7	−0.08
children	0.31	0.3	0.03
age	0.49	9.5	0.05
age square	−0.49	9.2	−0.05
education	−1.82	0.3	−0.19
female	0.70	20.7	0.08
household size	−0.16	13.9	−0.02
black	−0.81	19.6	−0.09
not white or black	−0.66	6.4	−0.08
fair health	1.46	20.1	0.16
good health	1.88	26.7	0.20
excellent health	2.17	29.9	0.23
R-squared	0.15		
No. of obs.	28532		

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 increase in the relevant regressor calculated at the second outcome (pretty happy). Income is the total household income and in thousands of dollars. Education is the number of years of schooling. Region and sector 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 which he or she works. The coefficients and the marginal probabilities of income, children, and age are multiplied by 100. The coefficients and the marginal probabilites of age square and education are multiplied by 1000.

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

Dependent Variable: Self-reported Happiness

	Ordered Logit					
	Marginal Prob.	t-stat.	Marginal Prob.	t-stat.	Marginal Prob.	t-stat.
income	0.06	12.7	0.06	12.7	0.05	11.3
relative income	0.02	5.1	0.02	5.1	0.02	4.6
perceived relative income	0.04	21.3	0.04	21.3	0.03	16.5
occupational prestige			0.02	0.7	0.19	1.4
perceived social class					0.03	11.4
R-squared	0.16		0.16		0.17	
No. of obs.	27764		27764		27764	

Notes: Coefficients are estimated with ordered logit. We show the main variables of interest here. Income is the total household income and in thousands of dollars. "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 as the individual. "Perceived social class" 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?". "Marginal Prob." is the effect on the predicted probability of being very happy of a one unit increase in the relevant regressor calculated at the second outcome (pretty happy). Perceived relative income takes the values 1-5 and perceived social class takes the values 1-4. Occupational prestige takes values 0-100. t-statistics are in absolute values. All regressions include region and sector dummies. Marginal probability of income is multiplied by 100 and the marginal probability of occupational prestige is multiplied by 100.

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

Dependent Variable: Self-reported Happiness

		Ordered Logit			
		Marginal Prob.	t-stat.	Marginal Prob.	t-stat.
income:	below average	0.11	2.8	0.14	3.0
	average	0.04	0.9	0.01	0.4
	above average	0.34	3.1	0.32	2.3
	far above average	0.06	0.9	0.04	0.6
relative income:	below average	0.06	1.9	0.02	1.6
	average	0.96	5.3	0.99	4.3
	above average	0.91	4.2	0.50	1.8
	far above average	0.57	2.9	0.65	7.5
perceived relative income:	below average	0.16	2.2	0.19	2.5
	average	0.91	11.7	0.53	6.5
	above average	1.28	15.4	0.75	7.2
	far above average	0.52	4.2	0.45	5.2
perceived social class:	average			1.25	13.4
	above average			1.42	15.4
	far above average			2.70	25.8
R-squared		0.16		0.17	
No. of obs.		27776		27776	

Notes: We show the main variables of interest here. Income and relative income are recoded into 5 categories to make them comparable to perceived relative income. In all categories "far below average" is the omitted category. Perceived relative income is 5 categories in the GSS. People report their perceived 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 as the individual. "Perceived social class" 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?". Income is calculated by the midpoint method. "Marginal Prob." is the effect on the predicted probability of being very happy of a one unit increase in the relevant regressor calculated at the second outcome (pretty happy). t-statistics are in absolute values. All marginal probabilities are multiplied by 10.

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

Dependent Variable: Self-reported Happiness

	Ordered Logit					
	Low Income		Middle Income		High Income	
	Marginal Prob.	t-stat.	Marginal Prob.	t-stat.	Marginal Prob.	t-stat.
income	0.05	0.8	0.04	1.3	0.04	18.7
relative income	0.06	3.1	0.98	8.9	0.61	2.3
perceived relative income	0.03	3.1	0.79	12.9	0.26	2.6
perceived social class	0.05	3.1	0.64	9.9	0.15	1.4
R-squared	0.16		0.22		0.29	
No. of obs.	9459		9161		9157	

Notes: Coefficients are estimated with ordered logit. We show the main variables of interest here. Income is the total household income and in thousands of dollars. "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 as the individual. "Perceived social class" 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?". "Marginal Prob." is the effect on the predicted probability of being very happy of a one unit increase in the relevant regressor calculated at the second outcome (pretty happy). All variables are continuous variables where perceived relative income takes the values 1-5 and perceived social class takes the values 1-4. *t*-statistics are in absolute values. All regressions include region and sector dummies. The Marg. Prob. of income is multiplied by 100. The Marg. Prob. of relative income, Marg. Prob. of perceived relative income, and the Marg. Prob. of perceived social class are multiplied by 10.

Table 10: **Happiness, Relative Income, and Perceptions by Gender**

Dependent Variable: Self-reported Happiness

	Ordered Logit			
	Males		Females	
	Marginal Prob.	t-stat.	Marginal Prob.	t-stat.
income	0.04	6.1	0.07	10.4
relative income	0.49	8.7	0.03	0.4
perceived relative income	0.61	15.8	0.13	4.3
perceived social class	0.46	11.3	0.21	5.3
part-time worker	0.02	3.1	0.03	3.4
temporary unemployed	−0.06	3.6	−0.07	18.2
unemployed	−0.07	4.1	−0.04	15.6
retired	0.05	3.9	0.03	7.9
student	0.01	0.4	0.01	0.7
homemaker	0.01	1.1	−0.02	4.4
children	0.25	0.1	0.21	0.3
widowed	−0.25	3.6	−0.02	2.1
divorced	−0.13	6.7	−0.04	6.6
separated	−0.14	1.1	−0.01	1.4
single	−0.12	19.8	−0.03	6.6
age	0.06	7.2	0.04	4.9
age square	−0.07	7.7	−0.03	3.5
education	−0.06	5.5	0.01	0.6
household size	−0.02	6.5	−0.02	11.5
black	−0.05	13.2	−0.05	18.1
not white or black	0.10	2.5	−0.03	5.9
fair health	0.07	3.2	0.24	19.1
good health	0.17	12.2	0.24	21.6
excellent health	0.16	10.3	0.30	26.1
R-squared	0.19		0.19	
No. of obs.	13206		14571	

Notes: The regressions are estimated with ordered logit. "Marginal Prob." is the effect on the predicted probability of being very happy of a one unit increase in the relevant regressor calculated at the second outcome (pretty happy). There are 5 categories for perceived relative income and "far below average" is the omitted category. Education is the number of years of schooling. Income is the total household income and in thousands of dollars. "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 as the individual. t-statistics are in absolute values. The coefficient of income is multiplied by 100. The marginal probabilities of age square and children are multiplied by 1000. The the marginal probabilities of relative income, perceived relative income, perceived social class, age, and education are multiplied by 10.

Table 11: **Happiness, Social Class Perceptions, and Father's Occupational Prestige**

Dependent Variable: Self-reported Happiness

	Ordered Logit			
	Coef.	t-stat.	Coef.	t-stat.
income	0.01	1.9	0.02	2.8
relative income	0.52	10.1	0.51	9.9
perceived relative income	0.38	13.8	0.40	14.3
perceived social class	0.25	6.0	0.20	4.9
occupational prestige	0.21	1.3	0.27	1.6
father's occupational prestige at 16			−0.07	8.6
part-time worker	−0.24	−3.7	−0.20	3.1
temporary unemployed	−0.13	1.4	-0.08	0.8
unemployed	0.53	4.4	0.62	5.2
retired	−1.05	6.6	−1.07	6.7
student	0.14	0.9	0.36	2.3
homemaker	−1.19	11.3	−1.10	10.4
widowed	−2.00	18.6	−1.99	18.5
divorced	−1.72	24.9	−1.74	25.1
separated	−2.09	23.0	−2.11	23.1
single	−1.50	21.9	−1.49	21.8
children	0.51	0.3	0.08	0.1
age	−0.04	3.9	−0.03	3.0
age square	0.59	4.7	0.51	4.0
education	1.49	1.6	−0.45	0.5
female	0.99	19.9	1.02	20.2
household size	−0.16	8.8	−0.16	8.9
black	−0.40	6.0	0.30	−4.4
not white or black	−0.49	3.3	−0.36	2.4
fair health	1.51	8.0	1.59	8.3
good health	2.11	11.3	2.16	11.5
excellent health	2.36	12.5	2.40	12.7
R-squared	0.22		0.22	
No. of obs.	16426		16426	

Notes: The regressions are estimated with ordered logit. Father's occupational prestige at 16 is the occupational prestige of the respondent's father when the respondent was 16 years old. Education is the number of years of schooling. Income is the total household income and in thousands of dollars. Region and sector 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. The coefficient of income is multiplied by 100 and the coefficient of age square is multiplied by 1000. The coefficients of education, children, occupational prestige, and father's occupational prestige at 16 are multiplied by 100.

Table 12: **Happiness, Perceptions about Relative Income, and Watching TV**

Dependent Variable: Self-reported Happiness

	Ordered Logit			
	Coef.	t-stat.	Coef.	t-stat.
income	0.08	12.8	0.08	12.4
relative income	0.19	3.1	0.20	3.3
perceived relative income	0.16	5.2	0.06	1.4
perceived social class	0.28	6.9	0.29	7.1
TV hours	−0.09	9.7	−0.19	5.9
TV hours*perceived relative income			0.04	3.1
part-time worker	0.34	4.2	0.35	4.3
temporary unemployed	0.40	3.0	0.41	3.1
unemployed	−0.44	2.9	−0.43	2.9
retired	0.13	1.4	0.14	1.4
student	0.30	1.4	0.31	1.5
homemaker	0.07	1.0	0.10	1.4
widowed	−2.30	23.8	−2.33	24.0
divorced	−1.46	18.9	−1.45	18.7
separated	−1.23	10.2	−1.23	10.2
single	−0.90	11.3	−0.90	11.3
children	−0.14	8.2	−0.14	8.2
age	0.09	10.9	0.09	11.1
age square	−0.83	9.9	−0.81	10.1
education	−0.02	2.1	−0.02	2.0
female	0.73	13.1	0.70	12.6
household size	−0.05	-2.7	−0.05	2.8
black	−0.33	4.6	−0.32	4.5
not white or black	−1.17	7.8	−1.15	7.7
fair health	1.05	8.8	1.05	8.8
good health	1.48	12.9	1.49	13.0
excellent health	1.80	15.4	1.83	15.6
R-squared	0.24		0.24	
No. of obs.	13413		13413	

Notes: The regressions are estimated with ordered logit. Education is the number of years of schooling. Income is the total household income and in thousands of dollars. Region and sector 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. The coefficient of income is multiplied by 100. The coefficient of age square is multiplied by 1000. For the interaction term, we use (TV hours-mean(TV hours))*(perceived relative income-mean(perceived relative income)).