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Did the Decline in Social Capital

Depress Americans' Happiness?

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Abstract - Most popular explanations cannot fully account for the declining trend of U.S. reported well-being during the last thirty years. We test the hypothesis that the relationship between social capital and happiness at the individual level accounts for what is left unexplained by previous research. We provide three main findings. First, several indicators of social capital are significantly correlated with reported happiness. Second, social capital indicators for the period 1975-2004 show a declining trend. Finally, the trend of happiness can be largely accounted for by the increasing trend of income, the increasing trend of reference income and the declining trend of social capital – in particular by the decline of its relational and non-instrumental components.

Keywords: happiness, social capital, economic growth, relational goods, intrinsic motivations

JEL Classification: I3, O1

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1. Introduction

In the last thirty years the average American experienced a decline in both reported happiness and social capital. In this paper we provide evidence that these two stylized facts may be significantly related.

The slight decline in US happiness is the American version of the so called Easterlin paradox. In a seminal paper, Easterlin (1974) showed that people in industrialized countries are not becoming happier over time despite economic growth while, at any given point in time, people with income higher than others do report higher levels of happiness. If more income makes an individual better off, why does not an increase in the income of all improve everybody's lot?

Economists have tried to answer this question by arguing that the dynamics of income aspirations may have offset the positive effect of rising income. Aspirations can be attached to the income of one's own relevant reference group, according to the tradition emphasizing the importance of social comparisons and social status (Veblen, 1899; Duesenberry, 1949), or to one's own past income through hedonic adaptation (see Frederick and Loewenstein, 1999; and references therein). In both cases, economic growth tends to raise income aspirations which have a negative effect on happiness.

Recent research has confirmed that the trend of happiness is declining in the US, although the general existence of a non-decreasing trend of happiness or life satisfaction for Western countries has been questioned (Stevenson and Wolfers, 2008, 2007). A remarkable attempt to explain the US case is Blanchflower and Oswald (2004), who observe that a negative trend of well-being in this country between 1974 and 1998 persists even if controlled for relative income, alongside the other usual socio-economic controls. They thus conclude that more research on this point is needed (see also Blanchflower and Oswald, 2007). So far the lack of a suitable panel data for the US has prevented studies and tests of the hedonic adaptation hypothesis for this country; Clark, Frijters and Shields (2008) survey of studies using panels for some European countries shows mixed results. Adaptation emerges as significant and relevant, but even when the social

comparison effect is taken into account some positive effect of absolute income on happiness survives.

In this paper we argue that the survival of a negative happiness trend in the US after controlling for relative income may be due to the omission of an important relationship, namely that between social capital and happiness.[1]

Di Tella and MacCulloch (2007) have already adopted an approach based on omitted variables in their analysis of the happiness trend for both US and EU. Their regressors include aggregate variables such as unemployment rate, inflation, average divorce rate, life expectancy, hours worked, pollution, and crime. They conclude that "introducing omitted variables worsens the income-without-happiness paradox". However, they do not consider social capital and we will show that their conclusion may depend on such an omission.

The possible role of social capital in explaining the Easterlin paradox is still an open question. Some pioneering studies explore this question (Helliwell, 2003, 2006), Helliwell and Putnam (2005), with also a special focus on the relational dimension of social capital (Bruni and Stanca, 2008). These studies document a positive impact of social capital on happiness. However, since no analysis of the time trends of social capital variables is pursued in these studies, no conclusion on the relationship between these trends and the happiness trend can be drawn.

Social capital trends in the US during the last 5 decades have been the object of a lively debate raised by Putnam (2000) (for a concise survey see Stolle and Hooghe, 2004). His evidence has been criticized by Ladd (1996), and then carefully scrutinized for the variables used and the period considered by Paxton (1999), Robinson and Jackson (2001), and Costa and Kahn (2003). On balance, social capital has been confirmed as declining in the US, although not so dramatically as Putnam claimed.

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[1] Our approach echoes the criticism brought about by various authors and organizations to the use of GNP as an indicator of welfare. Since Nordhaus and Tobin's *Index of Economic Welfare* several attempts have been made to develop more comprehensive measures able to capture those variables omitted by GNP which affect well-being (for instance the *Human Development Index*, developed by the United Nations). Our paper can be also interpreted as providing some indication on the weights to be used in such kinds of aggregations.

In this paper we test a number of interrelated hypotheses: that various indicators of social capital at the individual level declined during the last three decades; that these indicators are significantly correlated with individuals' self-reported well-being over the same period; that both absolute and relative income are significantly correlated with individuals' self-reported well-being. Moreover, applying the accounting approach already applied by Di Tella and MacCulloch (2007), we show that the decline of social capital may account for a large part of the negative trend of reported well-being in the US.

These aims require a generous micro-dataset. For this purpose we use the US General Social Survey (GSS) as it includes many questions directly linked to social capital at the individual level and questions on absolute income. Moreover, it allows to build plausible reference groups in order to check for relative income effects. Finally it extends over 32 years drawing from very large samples of the US population. The main limit of the GSS is that it is not a panel.

Blanchflower and Oswald (2004) have already estimated a happiness equation with a number of demographic and socio-economic variables using GSS data. With respect to them, we analyze a longer period (up to 2004 instead of 1998) and we include social capital variables. Moreover, we refine the controls for relative income. Most importantly, we calculate the contribution of each of our regressors to the trend of happiness. This allows to identify the relative importance of the role played by the various variables.

The literature on happiness has become a booming industry by now. The abundance of data on self-reported well-being, which proved to contain relevant information on the well-being of individuals, contributes to this fact.[2] Besides the role of income aspirations and social capital, happiness data have been used to investigate the inflation-unemployment trade-off (Di Tella et al, 2001, 2003), the role of political institutions (Frey and Stutzer, 2000), the impact of environmental pollution (Welsh, 2006, 2007; Ferrer-i-Carbonell and Gowdy, 2007), the costs of unemployment

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[2] The happiness data pass a series of "validation exercises" showing that they are well correlated with the assessment of one's person happiness by friends and family members, or physical manifestations of well-being such as smiling or electroencephalogram measures of prefrontal brain activity, hearth and blood pressure measures responses to stress, psychosomatic illnesses.

(Clark and Oswald, 1994), inequality (Alesina, Di Tella and MacCulloch, 2001; Graham and Pettinato, 2002; see also Frey and Stutzer, 2002; Clark, Frijters and Shields (2008); and references therein).

The paper proceeds as follows. In Section 2, we define concepts and variables. In Section 3, we report our estimates of the happiness equation augmented with social capital variables, with respect to Blanchflower' and Oswald's one. In Section 4, we report the trend of social capital variables. In Section 5, we estimate the happiness trend predicted by our figures and we compare it to the observed trend. In Section 6 we summarize our main conclusions and comment on both the problem of interpreting our estimates and their implications. The appendix provides the definition and source of the variables used in this study as well as further econometric material which supports our findings.

2. Theoretical framework: social capital, relations, motivations

Social capital (SC) is a rather vague concept and, often, scholars adopt different meanings and measures for it. Therefore some preliminary discussion of the concept and indicators of SC used in this paper is needed.

By SC we mean the stock of both "non-market relations" and "beliefs concerning institutions" that affect either utility or production functions. More precisely, in what follows we will distinguish between *relational social capital* (RSC), i.e. the non-market relations component of SC, and *non-relational social capital* (non-RSC), i.e. the "beliefs concerning institutions" component of SC.

We further distinguish two parts of the RSC component: intrinsically and extrinsically motivated RSC. The concept of extrinsic motivations refers to the incentives coming from outside an individual. By contrast, intrinsic motives issue from within an individual. According to Deci (1971, pg. 105), "one is said to be intrinsically motivated to perform an activity when one receives no apparent reward except the activity itself". Since Deci's definition concentrates on the non-

instrumental nature of intrinsically motivated activities this idea can be translated in the economic language by assuming that intrinsically motivated activities enter directly the utility functions of individuals.[3]

Note that, according to our distinction, instrumental relations are not exhausted by market relations. In fact, also non-market relations can be extrinsically motivated. Participating to pressure groups aimed at material advantages is an example of this. In conclusion, by *intrinsic relational social capital* (or intrinsic RSC) we mean the stock of RSC that enters people's utility functions. By *extrinsic relational social capital* we mean the stock of RSC that does not directly enter people's utility functions, but it is instrumental to something else that may be considered valuable.

Finally, since in the economic literature the importance of intrinsically motivated relationships has been already emphasized using the term *relational goods*, in the following we will adopt the label "intrinsic RSC" interchangeably with "relational goods".[4]

As measures of RSC we use marital status, social contacts, trust in individuals and membership in various groups and organizations. Since marital status is obviously a relational variable we include it among RSC indicators, although it is not always considered a social capital variable. Moreover, marital status is an important source of information on the family, which, according to Putnam (2000), is considered one of the main sources of social capital. More specifically, we classify marital status and social contacts (with neighbors, friends, relatives, at bars or taverns) as indicators of intrinsic RSC. Their mainly intrinsic nature should be obvious enough. In the following, we illustrate why we also consider trust in individuals and membership in some groups as indicators of intrinsic RSC, while we considered some other groups as indicators of extrinsic RSC.

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[3] The distinction between intrinsic and extrinsic motivations has become familiar in social sciences. Various empirical studies in psychology have found that extrinsic motivations can crowd out intrinsic ones. This has arisen a lively debate in psychology (Sansone and Harackievicz, 2000), but it has also attracted interest among the economists (Frey, 1997; Kreps, 1997; Benabou and Tirole, 2003; for a survey see Frey and Jegen, 2001).

[4] See Uhlaner (1989) and Gui and Sugden (2005). Some studies show their positive impact on reported well-being, as Bruni and Stanca (2008). Helliwell (2006) and Helliwell and Putnam (2004) show similar results although not using the term relational goods. These papers echo a large psychological literature (e.g. Deci and Ryan 1985; Ryan and Deci 2001; Kasser 2003 for a review) which documents that intrinsic motivations positively affect people's well-being, whereas extrinsic motivations display negative effects.

Membership in groups and organizations is widely considered to be a good indicator of relational activities (also referred to as "weak ties" in the social capital literature (Putnam, 2000; Costa and Khan, 2003; Sabatini, 2006). Given the different nature of the various groups and organizations, we distinguish between intrinsically and extrinsically motivated group memberships. For this purpose, we sort groups into two main categories which we call, following Knack (2003), *Putnam's groups* and *Olson's groups*. The distinction between Olson's and Putnam's groups is based on the classic works of Putnam (1993) and Olson (1982). They provide conflicting views on the impact of private associations on economic performance and social conflict. Olson (1982) emphasized the tendency of associations to act as "distributional coalitions" which lobby for policies that protect the interest of special groups at the expenses of the society as a whole. Since these coalitions can impose large costs to the rest of the society they may negatively impact on economic growth. Growth-inhibiting policies such as inefficient tariffs, tax breaks, competition-reducing regulations or subsidies are the undesirable result of the lobbying activity of associations. Instead, according to Putnam (1993) associations are a source of general trust and social ties leading to governmental and economic efficiency. These different views motivated empirical tests aimed at verifying if different horizontal associations, called Olsonian and Putnamian, have a different impact on economic growth (Knack 2003; Glaeser et al. 2000).

In this paper, the distinction between the two kinds of groups is used for the first time with reference to the effects on well-being rather than on income. To this end, membership in Putnam's group is interpreted as intrinsic RSC, while membership in Olson's group is interpreted as extrinsic RSC. In other words, membership in Putnam's groups is supposed to be mostly experienced for the pleasure of being a member (e.g. the pleasure derived by acting together with other individuals towards a common aim, the pleasure of interacting with people having similar tastes, etc.). Conversely, membership in Olson's groups is supposed to be experienced only for instrumental reasons (e.g. rent-seeking). Among Putnam's groups we include service groups, church organizations, sports clubs, art and literature clubs, national organizations, hobby clubs, fraternal

groups and youth associations. Among Olson's groups we include fraternity associations, unions, professional organizations and farm organizations. Three groups were left unclassified and we list them under the label of *Other groups*. The reason is that it is not clear whether these groups constitute intrinsic or extrinsic RSC, though they certainly are part of RSC. Among such *Other groups* we include veterans associations, political parties and "other groups" (the latter is the label used in the US GSS for groups that do not fall in any of the types otherwise described).[5]

We also classify variables concerning three indicators of trust in individuals – i.e. reports of general perceived trustworthiness, helpfulness and fairness – as intrinsic RSC. These opinions about the behavior of others stem from the quality of individuals' actual relationships. In other words, we posit that people perceive that others are trustworthy or helpful on the basis of their actual relationships and that these relationships are more likely to be based on trust and mutual help when they are intrinsically motivated.

Finally, as measures of non-RSC – i.e. the component of SC constituted by the "beliefs concerning institutions" – we use indicators of trust towards several institutions. We consider country-level institutions – such as the Supreme Court, the Congress, the executive branch of Government and the military forces – as well as economic institutions – such as banks and financial institutions, major corporations and organized labor – and other social and cultural institutions – such as the education system, organized religion, medicine, scientific community, press and television. This is quite standard (e.g. Paxton 1999; Costa and Kahn 2003).

3. Empirical Strategy, Data and Estimation Results

We begin our analysis following an empirical strategy which is similar to the one applied in Blanchflower and Oswald (2004). Using GSS data for the period 1972-2004, we estimate several

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[5] Knack (2003) does not refer to intrinsic and extrinsic motivations. Moreover, the types of groups recognized in the GSS do not coincide with those recognized in the database used by Knack (2003) so our classifications are partly different. However, this is not the only reasons for the minor differences between ours and Knack's classification. We made some further changes because of a different interpretation: groups whose main objective is to foster collective actions do not necessarily fall in the Olson category. For instance, we listed political parties among Other groups – and not among Olson's group – because we believe that membership in a political party is not necessarily a matter of rent-seeking.

ordered logit equations, each characterized by a different set of regressors.[6] We introduce a time variable in all regressions in order to capture the residual trend in happiness. By comparing the coefficient of the time variable across regressions, we deduce information about the role of each group of regressors which is included in the estimate.

Our estimates are based on the following general specification:

$$h = h(Soc\text{-}Demo, Inc, RelInc, SC, Time)$$

where *Soc-Demo* is a set of controls for socio-demographic characteristics, *Inc* is a set of variables for absolute income, *RelInc* is a set of variables for relative income, *SC* is a set of indicators for social capital and *Time* is the time variable. Function $h(\cdot)$ denotes "perceived happiness" and is not observable. However, subject to standard measurement errors, we do observe reported perceived happiness h^* according to the following rule: $h^* = 1$ if $h < c_1$, $h^* = 2$ if $c_1 < h < c_2$, $h^* = 3$ if $c_2 < h$, for some threshold values c_1 and c_2 (see Blanchflower and Oswald, 2004).

Our first set of regressions contains, beside the time variable, only demographic and economic variables. The purpose is twofold. Firstly, we want to measure how much of the happiness trend remains to be accounted for once we have checked for plausible correlates of happiness that are not likely to be proxy of SC. Secondly, we are interested in checking what is the best control for income aspirations based on other's income . Actually, we found that a reasonable control for income aspirations such as the ratio between household per capita income and regional average income (e.g. Blanchflower and Oswald (2004)) performs rather badly in our case (see regression 2 of table 2 discussed below). Since our aim is to check if the relationship between SC and happiness can account for the time trend residual in our happiness regression, we want to be reasonably sure that such a residual is not the result of a poor control for income aspirations.

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[6] The GSS covers quite a long period of time – more than 30 years – and counts more than 45 thousand observations that are representative of the US census regions. However, the waves have not been carried out on a yearly basis. In particular, after 1974 we have observations only for the years 1975, 1976, 1977, 1978, 1979, 1980, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1993, 1994, 1996, 1998, 2000, 2002 and 2004.

In our estimations, we use some variables as they are provided in the GSS while other variables are recoded or constructed using variables found in the GSS.[7] Several categorical and ordered variables that we use come with more than two categories. In such cases, we either collapse all categories into just two or construct a dummy for each category. Finally, two variables come from two other data sets. Details about definition and source of variables can be found in the appendix. Table 1 reports the summary statistics of all variables used in any of our regressions while Table 2 reports the estimates of our first three regressions.

In regression 1, we control for demographic characteristics such as age, gender and race, and for economic factors such as work status, years of education and absolute income. We also add a dummy for living with both parents at the age of 16 and another dummy for the divorce of one's parents again at age of 16. These are supposed to be controls for relevant past events which may have affected individuals' preferences. Both variables have significant coefficients that show the expected signs. This suggests that life events such as the divorce or death of one's parents do have permanent negative effects on the reported well-being of individuals.

We use household income instead of personal income, because the former is available for most observations while the latter is not. Moreover household income seems to be a better measure of an individual's overall economic condition. Unfortunately the GSS provides no reliable income data for 2004, which forces us to restrict our analysis to 2002. The period covered is hence 1972-2002.

The magnitude and sign of the estimated coefficients are in line with other happiness regressions and, in particular, with Blanchflower and Oswald (2004) (see also Di Tella and MacCulloch, 2007; Di Tella et al, 2003; Bruni and Stanca, 2008; Alesina et at, 2004).[8] In particular,

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[7] For instance, reported happiness is measured in the GSS by the survey question: "Taken all together, how would you say things are these days? Would you say you are very happy, pretty happy or not too happy?", associating the numbers from 1 to 3 to the three answers. We intend a higher number to mean greater happiness so we associate 3 to "very happy", 2 to "pretty happy" and 1 to "not too happy".

[8] The coefficient of household size is positive and significant, while in Blanchflower and Oswald (2004) it is negative and significant. Most probably, this difference is due to the fact that in our estimates household size is a proxy for marriage. In fact, when marital status is added, the coefficient of household size becomes negative and significant (see Table 3).

net of the income loss, unemployment goes with a substantial lower reported happiness, with respect to the impact of income. We will often use unemployment as a term of comparison for evaluating the coefficient of other regressors. The coefficient of the time variable is -.019 and is highly significant. This confirms that reported happiness has a residual negative trend in the period 1972-2002 when just the mentioned controls are included.

In regression 2, we follow Blanchflower and Oswald adding a control for relative income and a control for differentials in life costs across U.S. census regions. The first control is obtained by calculating the ratio between "per capita" household income (household income divided by household size) and average regional per capita income (source: US Dept. of Commerce, Bureau of Economic Analysis). The second control is an index (base is the U.S. average), which measures the difference in house values for single-family detached homes on which at least two mortgages were originated or subsequently purchased or securitized (source: The Office of Federal Housing Enterprise Oversight's, Repeat Sales House Price Index). Our results differ from those provided by Blanchflower and Oswald in two respects. First, the relative income variable has a negative and insignificant coefficient while in Blanchflower and Oswald (2004) it has a positive and significant coefficient. This suggests that, at least in our equation, the ratio between "per capita" household income and regional per capita income is a rather poor control for income aspirations. Second, the control for life cost differentials has a negative and highly significant coefficient while in Blanchflower and Oswald (2004) it is positive and non-significant. This suggests that our control for life cost differentials captures something relevant to reported well-being. We must admit that we have no precise explanation for the differences between our estimates and those of Blanchflower and Oswald (2004), apart from the mentioned differences in the specification of regression 2 (such as the absence of marital status variables). However, in subsequent regressions - where we include additional regressors and a different variable for relative income - these differences disappear.

In regressions 3 we propose a different control for relative income. We reintroduce household income and household size (as in regression 1) and we include a variable for the average

income of one's reference group. We calculated the average income of one's reference group in a way which is similar to that applied in Vendrik and Woltjer (2007). Using GSS data on the region of residence, race and age, we calculated the average regional household income conditioned on both race and 5-years age group. Table 2 shows that the coefficient of this variable is highly significant and has a reasonable size (roughly three-fifths of the coefficient of absolute income). We therefore adopt this variable as our proxy of income aspirations.

Most importantly, comparing the coefficient of the time variable in this regression to those of regression 1 and regression 2 we see that it gets closer to zero (about -.010 instead of -.019 and -.016, respectively) and remains highly significant. This suggests, consistently with Blanchflower and Oswald (2004), that controlling for income aspirations reduces the negative residual of the happiness trend, although a non-negligible part of it remains. This is also consistent with the idea that we may be omitting important variables related to reported well-being.

The next set of regressions, which is reported in table 3, explores the impact of SC variables, namely marital status and children, social contacts, trust in individuals, group membership and trust in institutions. One serious problem with these variables is that they are not observed for all individuals in all available years between 1972 and 2004. Considering each SC variable separately, we have observations for both year 1975 and year 2004. This gives us the possibility to look at their variation over a 30-years time span. However, when we consider all SC variables together, we end up with less than six thousands observations out of more than thirty-two thousands. What is worst, the questions about group membership had not been asked during the period 1996-2002 (included). This, coupled with the lack of reliable observations for household income in 2004, forces to restrict the time frame to the years 1975-1994 if both income related variables and group membership variables are included in the same regression.[9]

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[9] Other two potential problems with our SC variables are that they may be highly correlated and that they may be indicators of a fewer group of underlying variables. Pairwise correlations suggest that this is not the case (see table 7 of the appendix). Moreover, principal component analysis suggests that there is no clear pattern of underlying variables (see table 8 of the appendix). No component accounts for more than 11% of total variation while 18 components account for at least 3% each and 28 components account for at least 2% each (in order to get 80% of variation we need at least 21 components out of 31 while for 90% of variation we need 28 components).

In total, we run six additional regressions. In five of them (from number 4 to number 8), we add a different group of SC variables to the regressors used in regression 3. In regression 9, we add all SC variables. We adopt this strategy because it provides information about the robustness of our estimates under different specifications of SC and for different time spans. In particular, it allows us to extend the time period up to 2002 for most regressions which, in turn, provides information on whether the result obtained for Regression 9 – which is necessarily restricted to the period 1975-1994 – can be reasonably extended to the period 1975-2002.

As anticipated, table 3 shows the results for regressions 4-9. We do not report the estimates for the controls already present in Regression 3. Regression 4 investigates the impact of marital status and the number of children. Marital status is very important. In particular, being married increases the level of reported happiness as much as being unemployed decreases it. This confirms the well established finding that marital status has a large impact on an individual's happiness (see for instance Clark, Frijters and Shields, 2008; and references therein). Interestingly, people in their second marriage seems not to be as happy as people in their first marriage, even without considering the happiness reduction due to a divorce. Separated and divorced people are less happy than unmarried people. Being divorced seems to be as bad as being widowed. Similarly to other studies, we do not find any impact of children on happiness (for instance Clark and Oswald, 2002). This result holds even if we substitute for the number of children with a dummy for 1 or 2 children. One reason may be that household size already captures the effect of children. However, when we control for marital status, the coefficient of household size becomes negative and significant (as in Blanchflower and Oswald, 2004), suggesting that household size is mostly a control for household expenditures. Finally, introducing marital status variables has a considerable impact on the residual happiness trend. Although the coefficient of the time variable remains negative, it becomes significant at the 10% level while showing a value of about -.004 This suggests that the evolution of marital relationships may have played an important role in the evolution of reported well-being in the US.

Regression 5 explores the role of social contacts. We introduce four dummies which are set equal to one if the respondent declared to spend at least one evening per month with, respectively, his/her relatives, his/her neighbors, his/her friends (outside the neighborhood), and at a bar, tavern or the like. Results are twofold. On the one hand, the coefficients of the four dummies are all large and significant, suggesting that social contacts matter a great deal for reported happiness. In particular, spending evenings with relatives, neighbors or friends goes with a greater reported happiness, while spending evenings at a bar goes with a lower reported happiness. More precisely, spending at least one evening with relatives goes with twice the happiness of spending one evening with friends or neighbors. Spending at least one evening at a bar goes with lower happiness as much as spending evenings with relatives goes with greater happiness. The negative sign of the coefficient associated with spending at least one evening at a bar may be due to the fact that going to bars can be a proxy for poor social relations. This appears to be especially likely for the U.S. since going to a bar in search of company – and not already in company – is a standard practice. Moreover, bars in the US often surround hard drinking which may be a proxy for omitted life events that negatively affect reported well-being. On the other hand, however, the coefficient of the time variable increases only slightly with respect to regression 3 (from about -.010 to about -.008). This suggests that, although social contacts may be extremely important for reported well-being, their evolution is likely have played a small role in the evolution of reported happiness.

In regression 6 we include the SC variables related to trust in individuals. More precisely, with respect to Regression 3 we add three dummies for the respondent considering, respectively, most people to be trustworthy, most people to be helpful and most people to be unfair – i.e. taking advantage of others whenever possible. The coefficients of these three dummies are all highly significant and their signs are consistent with the idea that trust in individuals is significantly and positively correlated with reported well-being (e.g. Helliwell, 2006). In particular, considering people trustworthy or helpful goes with a higher reported happiness, while considering people unfair goes with a lower reported happiness. The magnitude of these coefficients is comparable to

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that of social contact variables, ranging from about one-third to one-sixth of the magnitude of the coefficient associated with being unemployed. Finally, the coefficient of the time variable is about -.066 and significant at the 1% level, suggesting that the evolution of social contacts may constitute a non-negligible part, though small, of the story about the happiness trend.

In regression 7 we add variables related to group memberships. As anticipated, this regression only covers the period between 1975 and 1994. We add two dummies for being a member, respectively, of one or two, and three or more of Putnam's groups. Moreover, we add two dummies for being member of, respectively, one and two or more of Olson's groups. We also add one dummy variable for membership in at least one group which does not fall in any of the two previous group categories. As discussed in the section 2, among Putnam's groups we include service groups, church organizations, sports clubs, art and literature clubs, national organizations, hobby clubs, fraternal groups and youth associations. Among Olson's groups we include fraternity associations, unions, professional organizations and farm organizations. The remaining groups, which we label "Other groups", are veterans associations, political parties and "other groups" - the latter is the residual category in the GSS.

Results for Putnam's and Olson's groups differ sharply, while being member of Other groups seems to have no significant relation with reported happiness. Membership in Putnamian groups goes with higher reported happiness. Coefficients are highly significant and also relatively large: the coefficient associated with being a member of three or more Putnamian groups is about half (in absolute value) of that associated with being unemployed while that associated with being member of one or two Putnamian groups is about one fourth of that associated with being unemployed. On the contrary, being a member of an Olsonian group goes, if anything, with lower reported happiness. In particular, the coefficient associated with being member of two or more Olson's groups is negative and significant and about half in magnitude of that associated with being member of one or two Putnamian groups. Overall, these numbers suggest that group membership goes with higher reported happiness only if it involves relational activities that are intrinsically

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motivated. In contrast, membership in groups that are fundamentally based on extrinsically motivated relations may go with lower reported well-being, especially if one is a member of several groups. Finally, the coefficient of the time variable is quite small (about -.003) and insignificant suggesting that the evolution of group memberships in the US may be linked to the evolution of reported happiness. However, this result can be misleading since the period covered by regression 7 stops in 1994.

Regression 8 explores the role of non-relational SC in the form of confidence towards institutions. We add a dummy for the respondent's expression of strong confidence in each of the following "institutions": banks/financial institutions, major corporations, organized religion, education, the executive branch of government, organized labor, the press, medicine, TV, the Supreme Court, the scientific community, Congress, the military forces. As shown in Table 3, the coefficients for confidence in TV, the Supreme Court and the scientific community are (relatively) small and not significant. The remaining coefficients are all significant and, with the only exception of the press, positive.[10] Moreover, apart from the coefficient of confidence in major corporations, which is about .23, the positive coefficients are all comprised between .05 and .15. Therefore, being strongly confident in institutions is accompanied, on average, by a substantially higher level of reported happiness. Finally, the coefficient of the time variable is about -.007, suggesting that – as for the case of social contacts - the evolution of confidence in institutions may have played a small but non-negligible role in the evolution of reported happiness.

In Regression 9 we include all social capital variables plus the regressors used in Regression 3. Despite the notable reduction in the number of observations and the shortening of the time period under consideration, results are in line with those obtained in regressions 4-8. Marital status variables maintain similar coefficients, although only being married and widowed remain significant. An exception is being divorced, which seems to lose much of its importance. The coefficients of social contact variables are almost unchanged. Among the coefficients of variables

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[10] We do not have an intuitive explanation for the result about confidence in the press. It may be that more confidence in the press goes with some personal trait that is against reporting high happiness, but we do not try to guess what such a trait may be.

related to trust in individuals, only that associated with general trust changes. In particular, it maintains the same sign but becomes smaller and insignificant. The coefficients of variables concerning group memberships are only sightly affected by the inclusion of all SC variables, their substantially maintaining values and significance levels. On average, the coefficients of variables regarding confidence towards institutions decrease, although only slightly. Some of them becomes insignificant. More precisely, the coefficients of the variables related to confidence in organized religion, the press, medicine, Congress and military forces become smaller and insignificant, while the remaining ones maintain their relative size and significance level.

Summing up, Regression 9 confirms the basic findings of Regressions 4-8, suggesting that our estimates are robust to the inclusion of SC variables altogether. The significant correlation with reported happiness of most SC variables is not washed away, even if the time span shrinks from 31 to 20 years and the sample size decreases from more than thirty thousands observations to less than six thousands. This suggests that the happiness equation estimated for the period 1975-1994 is not far off from the one that we would have obtained for the period 1975-2004 if we had the observations required to estimate it. Finally, we emphasize that the coefficient of the time variable is about .010 and insignificant. This result makes sense when compared with the time coefficient obtained in regression 7 (about -.003 and insignificant) which we get for the same time span (see comments to regression 7). Overall, these figures are consistent with the idea that there exists a link between the evolution of social capital at the individual level and the evolution of reported well-being in the US.

Given the qualitative nature of these findings an investigation of their quantitative relevance is necessary. Moreover, we are interested in establishing the relative importance of each group of SC variables in order to understand if different components of social capital – intrinsic RSC, non-intrinsic RSC or non-relational SC – are related in a different way to the evolution of happiness in the US. We try to perform both tasks using the following two-step strategy. First, we calculate the trend of our social capital variables for the period 1975-2004, checking if and to what extent they

actually declined. Second, following the accounting approach already used by Di Tella and MacCulloch (2007), we calculate the predicted change in happiness which is implied by the change occurred to our SC variables during the period 1974-2004. Finally, by comparing these predicted changes to the predicted changes due to demographic and socio-economic variables we quantify the relative importance of each group of variables.

4. The trends of social capital

We investigate the trends of SC variables by regressing them on the time variable. Since the various surveys that compose the GSS have been carried out with different sampling techniques, we also provide a set of regressions with demographic controls. Furthermore, in a third set of regressions we also include dummies for 10-year cohorts. This is intended as a test of Putnam's hypothesis that the decline in social capital is mainly due to the ageing of older generations. We use probit or OLS depending on the nature of the dependent variable, i.e. ordinal or cardinal. On the whole, our analysis suggests that both relational and non-relational SC declined between mid/early 70s and 2004. Moreover, the control for 10-year cohorts suggests that the generational turn-over may have played an important role in the decline of SC, but also that this is unlikely to be the only cause.

Results are reported in Table 4. The first column shows the estimates of the coefficients associated with the time variable in regressions without demographic controls; the second column shows the coefficients for regressions with demographic controls; the third shows the coefficients in regressions with both demographic and 10-year-cohorts controls.

Marriage exhibits a decreasing trend in all regressions, while separation shows an increasing one. Divorce does not exhibit a significant trend. Unfortunately, the GSS does not report data on cohabitation, which is certainly on the rise, and which would presumably have effects on well-being that are similar to those exerted by marriage.[11] However, the GSS does not report data on informal

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[11] The status "living as married" in the happiness equation emerges as not significant in the case of the UK (Blanchflower and Oswald, 2004), although it appears as significant and positively correlated in the case of a heterogeneous cross-section of countries (Helliwell, 2003). The GSS reports data on cohabitation but only for a few observations and a limited number of years which makes them useless for our purposes.

partnership breakdowns either, which may have negative effects that are similar to those exerted by separations.

The fraction of people who report to spend more than one evening per month with neighbors shows a significant declining trend, while the fraction of those reporting to spend more than one evening per month with friends shows a significant increasing trend. The fraction of people reporting to spend more than one evening with relatives is stable, while that of people reporting to spend at least one evening per month at a bar (or similar places) is slightly declining. The latter trend, and just that, disappears when we control for cohorts. These mixed results suggest that contacts have mostly changed in type during the period under consideration. Other empirical studies using different data sets find that the decline of this kind of relational goods is remarkable, thus suggesting that our estimates are optimistic. For instance, Costa and Kahn (2003) find a significant declining trend for three variables: the probability of spending time visiting or at parties (Time Use Studies 1965-1985), the probability of spending time visiting family or friends (NPD Group Time Study 1992-1999), and the probability of entertaining frequently at home among married people and family eating dinner together (DDB Life Style Study 1975-1998). Finally McPherson et al. (2006), attempting to quantify the qualitative content of social networks, find that the number of people reporting that there is no one with whom they discuss important matters nearly tripled from 1985 to 2004 while the average dimension of social networks declined of about one unit. However, McPherson et al. (2006) also find that the frequency of contacts in 2004 is greater than in 1985, which is in line with our findings.

Trusts in individuals have a negative trend. More precisely, general trust and the perception of average people's helpfulness have a significant negative trend, while the perception of people's average unfairness has a positive significant trend. The inclusion of cohort controls makes the trend of perceived helpfulness insignificant while leaving the trend of the other two variables almost unaffected. This suggests that the decline in perceived helpfulness may be a generational phenomenon, while the decline of general trust and the increase in perceived unfairness may not.

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These results confirm the evidence from other studies using the same data set but different estimation techniques (Brehm and Rahn, 1997; Putnam, 2000; Smith, 1997; Paxton,1999; Robinson and Jackson, 2001).

Participation in Putnamian groups is significantly declining, at least when participation is in 1 or 2 groups. The participation in Olsonian and Other groups is also declining, although only when membership to one group is considered. The total number of memberships in groups of any of the three types shows a negative trend. However, with the exception of the negative trend of membership in 1 or 2 Putnamian groups, once we control for 10-year cohort all these trends disappear. This suggests, as for the case of perceived helpfulness, that the general decline in memberships may be a generational phenomenon, in line with Putnam's thesis. However, it also suggests that non-intensive participation to Putnam's groups (not more than 1 or 2) may be declining for other reasons. Other studies have investigated this issue, but this is the first one using GSS data up to 2004. Costa and Kahn (2003) show a significant declining trend also for variables drawn from other data sets, i.e. the probability of spending time in organizational activity (Time Use Studies 1965-1985), the proportion of 25 to 54-year olds volunteering in the past year (Current Population Survey 1974-1989), the volunteer rate (DDB 1975-1998). However, as far as the GSS is concerned Costa and Kahn (2003) use data only up to 1994 finding that a negative trend is mostly due to the decline in membership to church-related groups.

Turning to the estimates about trust towards institutions, we see that they have a significant negative trend in the period considered, with the unique and quite interesting exception of confidence in the military forces (whose trend is significantly positive). The inclusion of cohort controls makes the estimates insignificant in three cases: confidence in major corporations, confidence in the executive branch of government and confidence in science. Confidence in the Supreme Court does not show a significant trend. These findings are in line with Paxton (1999), though she considers a shorter period.

In conclusion, results seem to confirm Putnam's thesis that SC has declined in the US over the last 30 years. However, this decline is not equally distributed among SC indicators: marriage, group membership, trust in individuals and trust in institutions seem to be the most negatively affected. Furthermore, our findings suggest that the decline of SC is partly linked to the disappearance of older generations but also that the latter fact cannot fully account for such a decline. For instance, trust in individuals and in institutions seem to be declining also (and mostly) for reasons different than a generational turn-over; very interestingly, the decline of marriage and the growing number of separations do not seem to be a generational matter.[12]

5. How much of the decline of happiness may be accounted for by the decline of social capital?

In Section 3, we have shown that SC at the individual level is significantly correlated with reported happiness. More precisely, our results suggest that non-relational SC and intrinsic RSC are positively correlated with reported happiness, while extrinsic RSC is negatively correlated with reported happiness. In Section 4, we have shown that SC has declined during the period 1975-2004. In this section, we estimate how much of the decline of happiness may be accounted for by the decline of social capital.

Our empirical strategy is a rather simple one and, basically, follows that applied in Di Tella and MacCulloch (2007). First, we run a new regression with the same regressors included in Regression 9 but with a linear specification (applying OLS) and with a dummy for each year instead of the time variable.[13] The linear specification is applied because, with respect to an ordered logit, it allows a simpler calculation and an easier interpretation of changes in predicted happiness due to changes in the regressor values.[14] The year dummies are included because, in contrast with

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[12] Some sociological literature has argued that social capital has not declined in the US, at least for what concerns membership to voluntary organizations and political participation. However, this contrary evidence produced by, for instance, Baumgartner and Walker (1988) and Ladd (1996), has been either contested on methodological grounds (Smith, 1990) or it emerges as fragmentary pieces of evidence, as in Ladd (1996).

[13] In our calculations we only employ the time variation of those regressors whose coefficients are significant at least at the 10% level. Note also that the coefficients that we use are estimated using only a small subsample of the observations used to calculate the actual variation in average happiness (less than 6 thousands observations out of more than 40 thousands) and for a shorter period (1975-1994 instead of 1975-2004).

[14] This does not pose any particular problem since very strong evidence has been provided that happiness equations using OLS are equivalent, for all practical purposes, to ordered logit and ordered probit (Ferrer-i-Carbonell

what done in section 3, here we are not interested in the residual time trend of reported happiness. Second, we calculate the average variation of each regressor for the period 1975-2004. Third, we use the figures obtained in the first two steps to predict the implied variation of happiness, but using only those regressors whose coefficient is significant at least at the 10% level. More precisely, we calculate for each regressor the predicted variation in happiness, i.e. $\Delta h = \alpha(X_{2004} - X_{1975})$, where α is the coefficient of the considered regressor which is obtained in a OLS version of regression 9, and X_{2004} and X_{1975} are the average values of the considered regressor in, respectively, the year 2004 and the year 1975. Finally, we compare the predicted variation in reported happiness to its actual variation.

The details about the predicted happiness variation imputed to each regressor are reported in Table 5. In Table 6 we report the aggregate predicted happiness variation imputed to different groups of significant regressors (demographics, absolute income, reference income, other socio-economic indicators, marital status & children, social contacts, trust in individuals, Putnam's groups, Olson's groups, trust towards institutions) as well as the total predicted happiness variation.

The actual variation in average reported happiness between 1975 and 2004 is about -.0192. Our predicted variation is -.0145, a remarkably similar number. What would this figure have been if social capital had remained at its 1975 level? Our estimates suggest that reported happiness could have been greater of approximately .035, which is a positive and relatively large increase (obtained by subtracting the predicted change due to the decline in SC from the total predicted variation in happiness in the period 1975-2004). Thus, our happiness equation predicts that the average American would have experienced a sizeble increase in happiness in the presence of a stable endowment of SC.

Turning our attention to the various SC components we see that, if intrinsic RSC remained at its 1975 level, then the predicted variation in happiness would have been about .028. Almost three-fourths of the total happiness variation imputed to RSC is imputable to marital status (-.0309).

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and Frijters, 2004). However, as a robustness check, we also repeat our accounting exercise using ordered logit estimates and marginal effects. Results are similar, though less readable, and we report them in the appendix (Tables 7-12).

Among the other forms of intrinsic RSC, trusts in individuals seem to have had an important role (.0091), while social contacts seem to have had an almost negligible role (.0003). The role of memberships in Putnam's groups seems to be small but not negligible (.0025). The decline of extrinsic RSC, in the form of memberships in one Olson's group, seems to have had no significant role. Besides, the slight (and statistically insignificant) rise of memberships in two or more Olson's groups seems to have had an almost negligible role (-.0006). Finally, the predicted change imputed to trust in institutions is about -.0061. Thus, the relationship between this type of SC and reported happiness seems to be a relevant part of the story about the US happiness trend.

Our figures also confirm that income matters a great deal. Absolute income appears as the main positive contributor to the happiness trend, with a total imputation of about .0910. Relative concerns, however, seems to have offset a large part of this positive contribution, being imputed of about -.0620. In other words, approximately two-thirds of the benefits of income growth may have been lost because of rising income aspirations. Nevertheless, one-third is far from being a negligible amount suggesting that rising reference income is not sufficient to make income growth non-beneficial. Moreover, note that these figures are probably slightly underestimated because we lack observations on income for the year 2004 (we have used the 2002 data on income in place of those for 2004, which presumably would have provided greater income values). This result is in line with the work of Luttmer (2005) on the impact of neighbors' income on one's own reported happiness. Other socio-economic factors can be imputed of a substantial positive effect. Among these, the main contributor seems to be the reduction of household size. A further small positive change in predicted happiness seems to be due to a slight reduction in unemployment. Finally, demographics had a non-negligible negative impact, which appears to be mostly due to the dynamics of average age, with some role for the increase in the fraction of Afro-American population.

We emphasize that our estimates have a high predictive power about the average variation in happiness between 1975 and 2004. Our predictions can be evaluated in comparison with Di Tella and McCulloch's (2007) ones. The comparison is meaningful because both their paper and ours

adopt the omitted variables approach and a similar technique of imputation of the impact of regressors on the happiness trend. However, they find that the predicted variation of average happiness is sharply different from the observed one. Happiness in Europe slightly declined between 1975 and 1997, while their predicted variation is positive and fairly large. Thus, although they find that people care about other variables besides income, they conclude that "the unexplained trend in happiness is even bigger than would be predicted if income was the only argument of the utility function". Overall their results demonstrate that there is no guarantee that this technique provides estimates which are close to the observed happiness figures. Therefore, our paper can be read as an indication that social capital is a better candidate as an 'omitted variable' than the macro-variables used by Di Tella and McCulloch (2007).

6. Conclusion, Problems of Interpretation, and Future Research

Summing up, we can conclude that:

1. including social capital indicators in the empirical model developed by Blanchflower and Oswald (2004) sensibly reduces the unexplained residual of the US trend in reported well-being;

2. at the individual level, the intrinsically motivated part of relational social capital is positively correlated with reported happiness;

3. the extrinsically motivated part of relational social capital is negatively correlated with reported happiness;

4. non-relational social capital - in the form of trust in institutions - is positively correlated with reported happiness;

5. with the only exception of confidence in the military forces and evenings spent with friends, all social capital indicators considered in this study seem to have declined between 1975 and 2004;

6. the decline of social capital seems to be linked to the aging of older generations (Putnam, 2000), but this does not exhaust the issue; in particular, while group membership seems to have declined mostly for this reason, the decline of marriage and trust in individuals seems to have other causes;

7. if social capital had remained at its 1975 level, our estimates suggest that happiness might have increased, and not decreased, as it actually did;

8. absolute income seems to be the main positive contributor to happiness;

9. the rise of income aspirations seems to have had a major role in the US happiness trend: the growth of others' income (where "others" are a race-region-age reference group) seems to be the main negative contributor to the happiness trend;

10. economic growth seems to be positive for reported well-being: the negative effect imputed to the growth of others' income is about two-thirds of the benefits imputed to own income growth, thus leaving a positive non-negligible net effect;

11. intrinsic relational social capital seems to be an important negative contributor to the happiness trend (amounting to roughly two-thirds of the negative contribution imputed to the growth of others' income); in particular, the negative contribution to the happiness trend due to the decline of marriage is about half of the overall negative contribution that can be imputed to intrinsic relational social capital; one-sixth of the latter can be imputed to the decline of trust in individuals which seems to be the second largest negative contributor among intrinsic RSC variables;

12. the decline of non-relational social capital in the form of trust in institutions seems to be a non-negligible negative contributor to the happiness trend; in particular, we can impute to it about one-eighth of the total negative contribution of SC;

13. the negative contribution to the happiness trend which is imputable to the decline of social capital as a whole amounts, in absolute value, to about five-sixths of the negative contribution which is imputable to the growth of others' income and to more than half of the

positive contribution which is imputable to the growth of absolute income. Together, the contributions imputed to the trends of social capital and others' income more than offset the contribution imputed to growth in absolute income;

14. our results improve upon previous attempts to use the omitted variables approach to predict the happiness trend (Di Tella and McCulloch, 2007).

The main contribution of our findings lies in having shown that there is a relationship between the trends of happiness and social capital. These results provide a piece of evidence in favour of a positive answer to the title question. A definite "yes", however, would require an analysis of causation, which we do not provide. In principle, the problem of endogeneity could affect most of our regressors, including for instance absolute and relative income and, of course, social capital variables. However, in order to carry out a meaningful IV estimation we would require a large number of instruments that, in turn, would require a long list of additional assumptions about their relationships with both regressors and happiness. We are skeptical about the feasibility of such an IV estimation with our dataset. Thus, our analysis is limited to correlations and imputations and cannot support any claim about causality. In other terms, we adopt Blanchflower and Oswald's pragmatic approach: "at this point in the history of economic research it is necessary to document patterns and to be circumspect about causality" (Blanchflower and Oswald (2004), pag. 1380).

To conclude, we briefly comment on what would be the answer to the question posed in the famous title of Easterlin's paper "Does economic growth improve the human lot?" (Easterlin (1974)), in the case where the causal link going from our regressors and reported well-being is seriously considered. The answer would be a *conditional yes*. Indeed, our figures suggest that absolute income buys happiness and that it does this beyond rising reference income. Therefore, in principle, nothing seems to prevent economic growth from being beneficial to well-being. Income growth, however, is desirable as far as it is not associated with a deterioration of SC. In particular, the positive effects of income growth may be lost (or even more than offset) if growth is

accompanied by the impoverishment of SC. Thus, in order to answer Easterlin's question we have to take into account its relationship with SC.

A short numerical exercise may clarify the relevance of this point. According to GSS data the annual average rate of growth of US household income between 1975 and 2002 has been 4.55% (household income grew at a much quicker pace than per-capita income, due to the reduction in the average household size). Under the assumption that reference income grows uniformly with household income, our figures suggest that to compensate for the happiness loss due to the decline in SC household income should have grown at an average rate of about 10.1%. Not even thirty years of growth at a rate which is comparable to the one experienced by China in the last decade would have been enough to compensate the average American citizen for the loss of happiness due to the observed decline in SC.

Finally, our account of the US trend in happiness may shed a new light on the questioning recently made about the existence of the Easterlin paradox itself (Stevenson and Wolfers, 2008). As far as the trends of reported well-being are concerned, such a questioning basically relies on the difference between the trend in the US - confirmed as declining - and trends in EU countries and Japan, which instead seem to be increasing. These doubts about the general existence of the Easterlin paradox may be justified. According to our results a disappointing trend of reported well-being could be due to a declining trend of omitted variables and not by the fact that money does not buy happiness. One possibility is that international differences in social capital trends may contribute to explain the international differences in the trends of reported well-being. We believe that further research on this issue is worth doing.

Table 1. Variables: Summary statistics

Variable	Obs	Mean	Standard Dev.	Min Value	Max Value
Happiness	43317	2.199483	.6337112	1	3
Female	46510	.5606106	.4963181	0	1
Age	46344	45.26474	17.48464	18	89
Black	46510	.1375833	.3444658	0	1
Other non-white	46510	.0350677	.183953	0	1
Years of education	46369	12.60765	3.166813	0	20
Retired	46506	.1271879	.3331869	0	1
Unemployed	46506	.0301466	.1709926	0	1
Keeping house	46506	.1767299	.381444	0	1
Student	46506	.0299101	.1703412	0	1
Other	46506	.0171591	.1298653	0	1
Parents divorced or separated	46485	.1177799	.3223508	0	1
Living with own parents at 16	46485	.7249866	.4465259	0	1
Ln household income/1000	39540	3.636754	1.069562	0	6.084
Ln household per capita inc./1000	39538	2.883528	.9968255	0	6.086
Household size	46504	2.730346	1.539986	1	16
Number of Children	46351	1.964316	1.812595	0	8
% Diff. Regional price index	40372	.0116351	.1855122	-.409	.830
Personal/regional	39538	1.646384	1.625489	.005	21.698
Married	46502	.555417	.4969248	0	1
2nd+ Marriage	46502	.1054148	.3070905	0	1
Separated	46502	.1161025	.3203513	0	1
Divorced	46502	.0349447	.1836418	0	1
Widowed	46502	.1003398	.3004557	0	1
Monthly with relatives	26923	.5389815	.4984874	0	1
Monthly with neighbors	26892	.364086	.4811819	0	1
Monthly with friends	26905	.4239361	.4941896	0	1
Monthly at bar	26869	.1673304	.3732775	0	1
Others can be trusted	29496	.393172	.4884627	0	1
Others are helpful	29782	.4960043	.4999924	0	1
Others are unfair	29684	.3667969	.4819386	0	1
Member of 1 or 2 Putnam's Group	20444	.4275582	.4947365	0	1
Member of 3+ Putnam's Groups	20444	.1576991	.3644675	0	1
Member of 1 Olson's Group	20536	.2539443	.4352767	0	1
Member of 2+ Olson's Groups	20536	.0519088	.2218484	0	1
Member of 1+ other Groups	19985	.1909432	.3930542	0	1
Very conf. in banks	29053	.2704712	.4442109	0	1
Very conf. in companies	31264	.2564611	.4366863	0	1
Very conf. in organized religion	31492	.2966785	.4568008	0	1
Very conf. in education	32201	.3117916	.4632324	0	1
Very conf. in executive	31711	.1728422	.3781168	0	1
Very conf. in organized labor	30766	.1227004	.3280983	0	1
Very conf. in press	31961	.1734614	.3786516	0	1
Very conf. in medicine	32290	.4822236	.4996916	0	1
Very conf. in television	32162	.1416268	.3486723	0	1
Very conf. in supreme court	31231	.3290321	.4698692	0	1
Very conf. in scientific	30010	.4317894	.4953337	0	1
Very conf. in congress	31696	.1373044	.3441738	0	1

Table 2. Happiness and Relative Income

	1. 1972-2002	2. 1975-2002	3. 1975-2002
Female	.0747***	.0113	.0535**
	(3.36)	(0.48)	(2.24)
Age	-.0189***	-.0066*	-.0092**
	(5.06)	(1.67)	(2.02)
Age square	.0002***	.0001*	.0002***
	(6.57)	(2.19)	(3.16)
Black	-.4801***	-.496***	-.5628***
	(14.53)	(13.92)	(14.45)
Other non-white	-.1253**	-.0979	-.1862***
	(2.01)	(1.50)	(2.80)
% Diff. Regional price index		-.271***	-.2665***
		(4.38)	(4.26)
Ln household income/1000	.3479***		.3768***
	(25.28)		(23.81)
Ln household per capita inc./1000		.2199***	
		(10.15)	
Personal/regional		-.0134	
		(1.19)	
Ln Regional-Race-Age Income/1000			-.2093***
			(6.22)
Household Size	.0477***		.0599***
	(6.20)		(7.11)
Years of education	.0226***	.0355***	.0288***
	(5.63)	(8.08)	(6.56)
Retired	.1275***	.0893*	.1175**
	(2.77)	(1.79)	(2.35)
Unemployed	-.7765***	-.8833***	-.8044***
	(11.33)	(11.98)	(10.82)
Keeping house	.1203***	.1391***	.1049***
	(3.72)	(3.88)	(2.92)
Student	.1342**	.0815	.1451**
	(2.03)	(1.15)	(2.00)
Other	-.4658***	-.6227***	-.4659***
	(4.74)	(5.96)	(4.54)
Parents divorced or separated	-.1091***	-.1231***	-.113***
	(2.68)	(2.83)	(2.58)
Living with own parents at 16	.0943***	.1167***	.0906***
	(3.13)	(3.55)	(2.75)
Time	-.0191***	-.0162***	-.0096***
	(13.81)	(8.93)	(4.54)
Cut 1	-.8991	.1279	-1.2369
Cut 2	1.997	3.0246	1.7031
Obs	37910	32349	32349
loglikelihood	-34598.372	-29613.504	-29311.995
Wald Chi2	1905.57	1204.49	1703.19
Prob > Chi2	0.0000	0.0000	0.0000

Orderd logit regressions with robust standard errors (absolute values of *z* statistics in parenthesis: * means significant at 10%, ** means significant at 5%, *** means significant at 1%). The omitted category is white male employee.

Table 3. Ordered Logit Regression, Happiness and Social Capital

	4. 1975-2002	5. 1975-2002	6. 1976-2002	7. 1975-1994	8. 1975-2002	9. 1975-1994
Married	.6657*** (18.07)					.696*** (7.30)
2nd+ Marriage	-.0835** (2.18)					.0818 (0.89)
Separated	-.2023*** (4.58)					-.2025 (1.64)
Divorced	-.422*** (5.88)					-.0607 (0.32)
Widowed	-.3391*** (5.87)					-.3965*** (2.37)
Number of Children	.0071 (0.83)					.0202 (0.89)
Monthly with relatives		.2341*** (8.30)				.1447** (2.56)
Monthly with neighbors		.1271*** (4.31)				.1416** (2.40)
Monthly with friends		.1142*** (4.34)				.1523*** (2.61)
Monthly at bar		-.223*** (5.89)				-.2001*** (2.65)
Others can be trusted			.1650*** (5.35)			.0415 (0.67)
Others are helpful			.2889*** (9.44)			.2141*** (3.29)
Others are unfair			-.288*** (8.67)			-.1838*** (2.58)
Member of 1 or 2 P-Group				.2206*** (5.90)		.1269** (1.96)
Member of 3+ P-Groups				.39*** (7.54)		.3374*** (4.11)
Member of 1 O-Group				-.0028 (0.07)		.0356 (0.53)
Member of 2+ O-Groups				-.1275* (1.70)		-.2301** (2.02)
Member of other Groups				.0042 (0.10)		-.0622 (0.90)
Very conf. in banks					.1287*** (3.69)	.2592*** (3.56)
Very conf. in companies					.2305*** (6.72)	.304*** (4.31)
Very conf. in organized relig.					.126*** (3.74)	.0665 (0.98)
Very conf. in education					.1417*** (4.20)	.2408*** (3.63)
Very conf. in executive					.153*** (3.63)	.1953** (2.31)
Very conf. in organized labor					.0861* (1.75)	.1822* (1.75)

Very conf. in press					-.141***	-.0483
					(3.46)	(0.63)
Very conf. in medicine					.1107***	.0082
					(3.62)	(0.13)
Very conf. in television					.0416	.0745
					(0.90)	(0.85)
Very conf. in supreme court					.0533	-.0032
					(1.61)	(0.05)
Very conf. in scientific					-.0299	-.0149
					(0.96)	(0.24)
Very conf. in congress					.1128**	.0271
					(2.32)	(0.29)
Very conf. in military forces					.0552*	.0443
					(1.70)	(0.68)
Time	-.0036*	-.0076***	-.0066**	-.0033	-.0076***	.0105
	(1.69)	(2.91)	(2.48)	(0.81)	(-2.82)	(1.59)
Cut 1	-1.7475	-1.0646	-1.7171	-1.7638	-1.0091	-2.4136
Cut 2	1.2637	1.9644	1.2366	1.198	1.9714	.83053
Obs	32276	20957	21265	14479	20855	5532
Loglikelihood	-28773.429	-18702.452	-19153.883	-12988.802	-18673.854	-4690.2051
Wald Chi2	2638.56	1174.75	1453.84	1125.24	1417.26	653.81
Prob > Chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Orderd logit regressions with robust standard errors (absolute values of *z* statistics in parenthesis: * means significant at 10%, ** means significant at 5%, *** means significant at 1%). Other included variables which are not reported in the table are Female, Age, Age square, Black, Other non-white, % Diff. Regional price index, Ln household income/1000, Ln Regional-Race-Age Income/1000, Household Size, Years of education, Retired, Unemployed, Keeping house, Student, Other, Parents divorced or separated, Living with own parents at 16.

Table 4. Trends of Social Capital Variables

Probit(OLS)	I. Trends		II. Controls		III. Controls + cohorts			
Variable	**Time Coefficient**	**|z| (|t|)**	**Time Coefficient**	**|z| (|t|)**	**Time Coefficient**	**|z| (|t|)**	**Period**	**Obs**
Married	-.03***	30.74	-.0352***	33.50	-.0361***	9.92	'72-'04	46502
Separated	.0378***	25.59	.3301***	10.83	.0153***	3.44	'72-'04	46502
Divorced	.003	1.17	-.0006	0.22	-.0118	1.27	'72-'04	46502
At least monthly with relatives	-.0014	1.05	-.0012	0.88	.0004	0.10	'74-'04	26923
At least monthly with neighbors	-.0148***	10.21	-.0137***	9.27	-.015***	3.19	'74-'04	26892
At least monthly with friends	.006***	4.31	.0093***	6.31	.01**	2.11	'74-'04	26905
At least monthly at bar	-.0088***	4.73	-.0053***	2.67	-.0047	0.74	'74-'04	26869
General trust	-.0149***	11.76	-.0142***	10.84	-.0092**	2.06	'74-'04	29496
People unfair	.01***	7.64	.01***	7.29	.0094**	2.05	'74-'04	29684
People helpful	-.0056***	4.54	-.0052***	4.07	-.0023	0.54	'74-'04	29782
Member of 1 or 2 P-Group	-.0095***	5.24	-.0102***	5.58	-.0126**	2.38	'74-'04	20444
Member of 3+ P- Groups	.002	0.78	.003	1.23	.0021	0.29	'74-'04	20444
#Putnam's Groups (OLS)	-.0027**	2.09	-.0022*	1.71	-.003	0.81	'74-'04	20444
Member of 1 O-Group	-.0074***	3.62	-.0069***	3.28	.002	0.32	'74-'04	20444
Member of 2+ O-Groups	.0043	1.13	.0062	1.59	.0011	0.10	'74-'04	20444
#Olson's Groups(OLS)	-.001**	1.97	-.0006	1.20	.0009	0.38	'74-'04	20444
Member of other Groups	-.004**	1.85	-.0035	1.55	.0048	0.71	'74-'04	20444
#other Groups (OLS)	-.001**	2.32	-.0009**	2.20	.0005	0.45	'74-'04	20444
Very conf. in banks	-.0244***	14.67	-.0251***	14.75	-.0257***	5.14	'75-'04	29053
Very conf. in companies	-.006***	4.22	-.0059***	4.05	-.0062	1.30	'75-'04	31264
Very conf. in organized religion	-.0228***	16.27	-.0238***	16.64	-.0242***	5.24	'75-'04	31492
Very conf. in education	-.0237***	17.42	-.0257***	18.42	-.028***	6.14	'75-'04	32201
Very conf. in executive	-.0069***	4.10	-.0078***	4.56	.0035	0.63	'75-'04	31711
Very conf. in organized labor	-.0092***	4.58	-.0098***	4.72	-.008	1.25	'75-'04	30766
Very conf. in press	-.0447***	25.88	-.0457***	25.99	-.0478***	8.68	'75-'04	31961
Very conf. in medicine	-.02***	16.11	-.0192***	15.33	-.0138***	3.35	'75-'04	32290
Very conf. in television	-.03***	16.26	-.0317***	16.68	-.0316***	5.34	'75-'04	32162
Very conf. in supreme court	.0002	0.17	.0006	0.47	-.0014	0.32	'75-'04	31231
Very conf. in in science	-.0034***	2.61	-.0022*	1.68	-.0016	0.38	'75-'04	30010
Very conf. in congress	-.0195***	10.42	-.0209***	10.92	-.0193***	3.18	'75-'04	31696
Very conf. in military forces	.016***	12.31	.01552***	11.78	.0206***	4.79	'75-'04	31671

Ordered logit (OLS) estimations with robust standard errors. The first column shows the coefficients of regressions with no controls. The second column shows the coefficients of regressions with controls for gender, age, age squared, black race, other non-white race. The third column shows the coefficients of regressions with additional controls for birth cohorts (10-years age cohort dummies). Absolute values of z (t) statistics are reported besides estimated coefficients: * means significant at 10%, ** means significant at 5%, *** means significant at 1%.

Table 5. Predicted Impacts on Reported Happiness (OLS with Year Dummies)

	Coefficient	t-stat	Mean '75	Stnd err	Mean '04	Stnd err	Var '75-'04	HappinessVariation
Female	0.0107	0.57	0.550	0.013	0.545	0.009	-0.0055	-0.0001
Age	-0.0121***	-3.13	44.308	0.459	45.965	0.317	1.6569	-0.0200
Age square	0.0001***	3.13	2275.156	44.477	2395.012	31.971	119.8560	0.0152
Black	-0.1103***	-3.71	0.109	0.008	0.134	0.006	0.0247	-0.0027
Other non-white	-0.0044	-0.06	0.003	0.001	0.071	0.005	0.0688	-0.0003
% Diff, Regional price index	-0.0546	-1.24	0.017	0.003	-0.002	0.005	-0.0195	0.0011
Ln household income/1000	0.0709***	6.01	2.955	0.024	4.238#	0.022	1.2831#	0.0910
Ln Reg-Age-Race Income/1000	-0.0436*	-1.77	3.178	0.012	4.600#	0.010	1.4215#	-0.0620
Household size	-0.0173**	-2.50	3.169	0.044	2.453	0.026	-0.7161	0.0124
Years of education	0.0011	0.31	11.683	0.081	13.698	0.055	2.0156	0.0022
Retired	0.0229	0.63	0.111	0.008	0.143	0.007	0.0326	0.0007
Unemployed	-0.1908***	-3.90	0.041	0.005	0.035	0.003	-0.0057	0.0011
Keeping house	0.0294	1.18	0.270	0.012	0.095	0.006	-0.1752	-0.0052
Student	0.0655	1.28	0.033	0.005	0.041	0.004	0.0080	0.0005
Other	-0.1071	-1.42	0.013	0.003	0.022	0.003	0.0086	-0.0009
Parents divorced or separated	-0.0163	-0.51	0.092	0.007	0.168	0.007	0.0763	-0.0012
Living with own parents at 16	-0.0011	-0.05	0.765	0.011	0.700	0.009	-0.0653	0.0001
Married	0.1870***	6.93	0.672	0.012	0.526	0.009	-0.1465	-0.0274
2nd+ Marriage	0.0274	1.05	0.105	0.008	0.126	0.006	0.0205	0.0006
Separated	-0.0675**	-1.93	0.056	0.006	0.148	0.007	0.0912	-0.0062
Divorced	-0.0298	-0.55	0.033	0.005	0.034	0.003	0.0009	0.0000
Widowed	-0.1106***	-2.67	0.097	0.008	0.073	0.005	-0.0241	0.0027
Number of Children	0.0053	0.86	2.112	0.051	1.823	0.031	-0.2898	-0.0015
Monthly with relatives	0.0440***	2.73	0.558	0.013	0.581	0.016	0.0234	0.0010
Monthly with neighbors	0.0392**	2.34	0.417	0.013	0.338	0.016	-0.0783	-0.0031
Monthly with friends	0.0421**	2.53	0.388	0.013	0.412	0.016	0.0236	0.0010
Monthly at bar	-0.0551***	-2.54	0.159	0.010	0.146	0.012	-0.0127	0.0007
Others can be trusted	0.0137	0.77	0.395	0.013	0.359	0.016	-0.0363	-0.0005
Others are helpful	0.0671***	3.62	0.565	0.013	0.502	0.017	-0.0631	-0.0042
Others are unfair	-0.0536***	-2.65	0.308	0.012	0.398	0.017	0.0908	-0.0049
Member of 1 or 2 P-Groups	0.0393**	2.12	0.449	0.013	0.369	0.013	-0.0802	-0.0031
Member of 3+ P-Groups	0.1011***	4.29	0.154	0.009	0.161	0.010	0.0069	0.0007
Member of 1 O-Group	0.0133	0.70	0.267	0.012	0.211	0.011	-0.0561	-0.0007
Member of 2+ O-Groups	-0.0485*	-1.69	0.040	0.005	0.052	0.006	0.0118	-0.0006
Member of other Groups	-0.0114	-0.58	0.184	0.010	0.152	0.009	-0.0319	0.0004
Very conf. in banks	0.0777***	3.74	0.329	0.012	0.282	0.015	-0.0472	-0.0037
Very conf. in companies	0.0937**	4.68	0.204	0.011	0.170	0.013	-0.0340	-0.0032
Very conf. in organized relig,	0.0158	0.82	0.260	0.012	0.241	0.015	-0.0198	-0.0003
Very conf. in education	0.0758***	4.01	0.315	0.012	0.275	0.015	-0.0400	-0.0030
Very conf. in executive	0.0529**	2.19	0.137	0.009	0.208	0.014	0.0711	0.0038
Very conf. in org. labor	0.0439	1.49	0.108	0.008	0.124	0.011	0.0164	0.0007
Very conf. in press	-0.0120	-0.55	0.245	0.011	0.092	0.010	-0.1539	0.0018
Very conf. in medicine	0.0039	0.22	0.513	0.013	0.365	0.016	-0.1472	-0.0006
Very conf. in television	0.0058	0.23	0.183	0.010	0.103	0.010	-0.0795	-0.0005
Very conf. in supreme court	0.0048	0.26	0.322	0.012	0.310	0.016	-0.0116	-0.0001
Very conf. in scientific	-0.0055	-0.31	0.422	0.014	0.425	0.017	0.0032	0.0000

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Very conf. in congress	0.0088	0.33	0.137	0.009	0.133	0.012	-0.0039	0.0000
Very conf. in military forces	0.0116	0.62	0.370	0.013	0.568	0.017	0.1988	0.0023

OLS regression with robust standard errors. Year dummies included. First column shows the coefficients of regressions while second column shows the t-statistics (* means significant at 10%, ** means significant at 5%, *** means significant at 1%.). Third and fourth columns report, respectively, mean values of regressors in 1975 and their standard errors. Fifth and sixth columns report, respectively, mean values of regressors in 2004 and their standard errors (# means that average refers to 2002 and not to 2004). Seventh column reports the difference between average values of regressors in 2004 and average values in 1975 (# means that the difference is between 2002 and 1975). Last column reports the change in predicted happiness imputed to each regressor (which is the product of the values in column seven and the coefficient reported in column 1). Shaded numbers are relative to coefficients which are significant at least at the 10% level.

Table 6. Actual and Predicted Changes in Reported Happiness, by Group of Variables

Observed GSS happiness		Stnd Err
Mean 1975	2.1980	0.017
Mean 2004	2.1788	0.018
Variation	-0.0192	

Predicted Changes in Happiness by Group of Variables

Group of Variables	Predicted Change	Aggregate Predicted Changes by Sum of Groups	
Demographics	-0.0075	-0.0075	
Absolute Income	0.0910		
Reference Income	-0.0620	0.0290	**Net Incombe**
Other Socio-economics	0.0135	0.0350	**All non-SC**
Marital Status & Children	-0.0309		
Social Contacts	-0.0003		
Trust in Individuals	-0.0091		
Putnam's Group	-0.0025	-0.0428	**Intrinsic RSC**
Olson's Group	-0.0006	-0.0434	**RSC**
Confidence in institutions	-0.0061	-0.0495	**SC**
		-0.0145	**Total predicted variation**

Actual and Predicted changes in reported happiness over the period 1975-2004. Demographics aggregates the predicted changes due to "age", "age square" and "black". Income and reference income are relative to, respectively, changes in "Ln household income/1000" and changes in "Ln Reg-Age-Race Income/1000". Other socio-economics aggregates predicted changes due to "household size" and "unemployed". Marital status & children aggregates predicted changes due to "married", "separated" and "widowed". Social contacts aggregates predicted changes due to "monthly with relatives", "monthly with neighbors", "monthly with friends" and "monthly at bar". Trust in individuals aggregates predicted changes due to "others are helpful" and "others are unfair". Putnam's group aggregates predicted changes due to "membership of 1 or 2 P-groups" and "3+ P-groups". Olson's group is the predicted change due to "member of 2+ O-groups". Confidence in institutions aggregates predicted changes due to "very conf. in banks", "very conf. in companies", "very conf. in education" and "very conf. in executive".

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Appendix

Table 7. Correlation matrix of Social Capital variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	1																														
2	.29	1																													
3	-.42	-.12	1																												
4	-.23	-.07	-.06	1																											
5	-.37	-.11	-.10	-.05	1																										
6	.22	.11	.04	.07	.12	1																									
7	.01	-.03	-.02	.01	.02	.02	1																								
8	-.15	-.06	.01	.01	.04	-.08	.09	1																							
9	-.19	-.08	.07	.02	-.03	-.19	.09	.13	1																						
10	-.20	-.04	.07	.05	-.08	-.14	-.01	.13	.21	1																					
11	.09	-.02	-.04	-.05	-.01	-.01	-.05	-.02	.02	.01	1																				
12	.07	-.03	-.03	-.06	.04	.04	.00	-.01	.00	-.04	.34	1																			
13	-.09	.05	.03	.07	-.02	-.02	.02	.03	.00	.03	-.36	-.43	1																		
14	.04	-.02	-.02	.00	.00	.01	.02	.00	.01	.00	.03	.04	-.05	1																	
15	.05	.00	-.03	-.04	-.03	.02	.01	.07	.06	-.01	.12	.09	-.09	-.43	1																
16	.04	-.02	.00	-.05	-.08	-.04	-.01	.00	.03	.06	.09	.05	-.05	.05	.11	1															
17	.00	-.01	.01	-.01	-.03	-.07	-.02	.01	.04	.02	.08	.06	-.07	-.03	.21	-.15	1														
18	.02	.01	.00	-.01	.03	.01	-.02	.05	.02	.02	.08	.05	-.07	.03	.14	.04	.09	1													
19	-.02	-.03	-.03	-.03	.06	-.01	.02	.02	.00	-.01	.04	.04	-.05	.00	.01	-.01	-.01	.00	1												
20	.03	-.01	-.01	-.04	-.03	-.01	-.02	-.01	.00	.01	.11	.09	-.09	.01	.05	.05	.02	.02	.24	1											
21	.01	-.02	-.03	-.01	.05	.03	.06	.01	.00	-.05	.03	.04	-.04	.04	.06	-.01	.00	.00	.20	.19	1										
22	-.03	-.02	-.01	.01	.02	.01	.05	.03	.01	.01	-.01	.02	-.01	-.02	.04	.00	-.01	-.02	.22	.14	.25	1									
23	-.01	-.02	-.03	-.02	-.01	-.03	.00	.02	.01	-.01	.07	.06	-.07	.01	.05	.03	.01	.01	.19	.22	.15	.21	1								
24	-.02	-.01	-.01	.01	-.02	.01	.02	.04	.01	.02	-.01	-.01	.03	.01	-.04	.03	-.03	-.02	.14	.13	.12	.15	.18	1							
25	-.03	-.02	.00	.00	-.01	-.03	.01	.05	.00	.02	.02	.01	.02	-.03	-.03	.00	-.02	-.02	.17	.11	.11	.15	.14	.20	1						
26	-.02	-.01	.00	-.03	-.05	-.07	.02	.04	.03	.06	.06	.06	-.05	-.01	.04	.04	.00	-.03	.21	.19	.18	.25	.17	.11	.17	1					
27	-.04	.00	-.01	.01	.01	-.03	.06	.04	.01	.03	-.04	-.03	.06	-.03	-.06	-.03	-.04	-.01	.20	.14	.13	.20	.15	.19	.31	.19	1				
28	-.03	-.01	-.02	-.01	-.03	-.07	-.02	.02	.03	.04	.12	.08	-.08	-.01	.04	.04	.04	.02	.21	.23	.14	.20	.29	.15	.21	.21	.17	1			
29	.00	-.01	.00	-.03	-.06	-.07	-.04	.01	.05	.05	.14	.08	-.10	.01	.04	.07	.05	.01	.16	.26	.12	.14	.18	.10	.17	.29	.08	.32	1		
30	-.04	-.01	.00	.01	.00	-.01	.02	.05	.02	.00	.01	.01	-.01	.00	.01	.00	.00	.00	.25	.18	.18	.23	.39	.23	.20	.19	.23	.31	.20	1	
31	.03	.03	-.02	.00	.02	.03	.03	.02	-.02	-.02	-.04	.00	.04	.01	-.01	-.02	-.04	-.01	.24	.17	.18	.24	.26	.16	.15	.23	.19	.21	.15	.29	1

1 = Married	11 = Others can be trusted	21 = Very confident in organized relig.	31 = Very conf. in military forces
2 = 2nd+ Marriage	12 = Others are helpful	22 = Very confident in education	
3 = Separated	13 = Others are unfair	23 = Very confident in executive	*Light grey shaded:*
4 = Divorced	14 = Member of 1 or 2 P-Groups	24 = Very confident in org. labor	Correlation between .3 and .4
5 = Widowed	15 = Member of 3+ P-Groups	25 = Very conf. in press	
6 = Number of Children	16 = Member of 1 O-Group	26 = Very conf. in medicine	*Heavy grey shaded:*
7 = Monthly with relatives	17 = Member of 2+ O-Groups	27 = Very conf. in television	Correlation between .4 and .5
8 = Monthly with neighbors	18 = Member of other Groups	28 = Very conf. in supreme court	
9 = Monthly with friends	21 = Very confident in banks	29 = Very conf. in scientific	
10 = Monthly at bar	22 = Very confident in companies	30 = Very conf. in congress	

Table 8. Principal Component Analysis of Social Capital Variables

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	3.4	1.31	0.11	0.11
Comp2	2.09	0.22	0.07	0.18
Comp3	1.87	0.38	0.06	0.24
Comp4	1.48	0.07	0.05	0.29
Comp5	1.41	0.22	0.05	0.33
Comp6	1.19	0.05	0.04	0.37
Comp7	1.14	0.07	0.04	0.41
Comp8	1.07	0.01	0.03	0.44
Comp9	1.06	0.02	0.03	0.47
Comp10	1.04	0.02	0.03	0.51
Comp11	1.02	0.04	0.03	0.54
Comp12	0.98	0.05	0.03	0.57
Comp13	0.93	0.04	0.03	0.6
Comp14	0.89	0.02	0.03	0.63
Comp15	0.87	0.02	0.03	0.66
Comp16	0.86	0.02	0.03	0.69
Comp17	0.83	0.05	0.03	0.71
Comp18	0.78	0.02	0.03	0.74
Comp19	0.76	0.02	0.02	0.76
Comp20	0.74	0	0.02	0.79
Comp21	0.74	0.01	0.02	0.81
Comp22	0.73	0.02	0.02	0.84
Comp23	0.71	0.03	0.02	0.86
Comp24	0.68	0.03	0.02	0.88
Comp25	0.66	0.01	0.02	0.9
Comp26	0.65	0.03	0.02	0.92
Comp27	0.61	0.03	0.02	0.94
Comp28	0.58	0.02	0.02	0.96
Comp29	0.56	0.12	0.02	0.98
Comp30	0.44	0.21	0.01	0.99
Comp31	0.23		0.01	1

Principal component analysis of social capital indicators. There is no clear pattern of underlying variables. No component accounts for more than 11% of total variation (actually only the first one goes beyond 10%); 18 components account for at least 3% each and 28 components account for at least 2% each. In order to get a cumulative 80% of variation we need at least 21 components out of 31 while for 90% of variation we need 28 components (see last column).

Table 9. Marginal Effects: Probability of Reporting to Be "Vary Happy"

	dy/dx	Standard Error	z	P>z	[95%	C.I.]
Female	0.010	0.014	0.710	0.476	-0.017	0.037
Age	-0.009***	0.003	-3.100	0.002	-0.015	-0.003
Age square	0.001***	0.0001	3.130	0.002	0.000	0.000
Black	-0.080***	0.019	-4.120	0.000	-0.117	-0.042
Other non-white	0.002	0.055	0.040	0.965	-0.105	0.110
% Diff, Regional price index	-0.043	0.033	-1.330	0.184	-0.107	0.021
Ln household income/1000	0.053***	0.009	6.000	0.000	0.036	0.071
Ln Regional-Age-Race Income/1000	-0.035**	0.019	-1.860	0.063	-0.071	0.002
Household size	-0.013**	0.005	-2.530	0.011	-0.023	-0.003
Years of education	0.001	0.003	0.340	0.732	-0.004	0.006
Retired	0.019	0.028	0.680	0.497	-0.036	0.074
Unemployed	-0.127***	0.027	-4.660	0.000	-0.180	-0.073
Keeping house	0.022	0.019	1.170	0.241	-0.015	0.060
Student	0.057	0.041	1.380	0.167	-0.024	0.138
Other	-0.070	0.050	-1.400	0.160	-0.168	0.028
Parents divorced or separated	-0.011	0.023	-0.480	0.633	-0.057	0.035
Living with own parents at 16	0.001	0.017	0.030	0.973	-0.034	0.035
Married	0.138***	0.019	7.370	0.000	0.101	0.175
2nd+ Marriage	0.019	0.020	0.930	0.354	-0.021	0.058
Separated	-0.048**	0.024	-1.970	0.049	-0.096	0.000
Divorced	-0.023	0.039	-0.580	0.565	-0.100	0.055
Widowed	-0.079***	0.027	-2.930	0.003	-0.132	-0.026
Number of Children	0.004	0.005	0.790	0.431	-0.006	0.013
Monthly with relatives	0.031***	0.012	2.610	0.009	0.008	0.055
Monthly with neighbors	0.029**	0.013	2.270	0.023	0.004	0.054
Monthly with friends	0.034***	0.013	2.680	0.007	0.009	0.058
Monthly at bar	-0.040***	0.015	-2.590	0.009	-0.070	-0.010
Others can be trusted	0.010	0.013	0.750	0.451	-0.016	0.036
Others are helpful	0.048***	0.014	3.540	0.000	0.021	0.075
Others are unfair	-0.039***	0.015	-2.660	0.008	-0.068	-0.010
Member of 1 or 2 P-Groups	0.027**	0.014	1.970	0.048	0.000	0.055
Member of 3+ P-Groups	0.075***	0.019	4.000	0.000	0.038	0.112
Member of 1 O-Group	0.010	0.014	0.720	0.471	-0.018	0.038
Member of 2+ O-Groups	-0.041*	0.022	-1.820	0.069	-0.085	0.003
Member of other Groups	-0.011	0.014	-0.740	0.458	-0.039	0.018
Very confident in banks	0.061***	0.016	3.730	0.000	0.029	0.093
Very confident in companies	0.069***	0.016	4.370	0.000	0.038	0.100
Very confident in organized relig,	0.013	0.015	0.920	0.358	-0.015	0.042
Very confident in education	0.054***	0.015	3.710	0.000	0.026	0.083
Very confident in executive	0.044**	0.019	2.320	0.021	0.007	0.081
Very confident in org. labor	0.037	0.023	1.590	0.113	-0.009	0.083
Very confident in press	-0.009	0.016	-0.580	0.565	-0.041	0.022
Very confident in medicine	0.003	0.013	0.240	0.812	-0.023	0.029
Very confident in television	0.008	0.019	0.440	0.660	-0.028	0.045
Very confident in supreme court	0.001	0.014	0.040	0.971	-0.027	0.028
Very confident in scientific	-0.002	0.013	-0.180	0.857	-0.028	0.024

Very confident in congress	0.006	0.020	0.290	0.771	-0.034	0.046
Very confident in military forces	0.008	0.014	0.590	0.557	-0.019	0.036
Year Dummies	YES					

Ordered logit regression with robust standard errors. Year dummies included. First column shows the marginal effects for the highest category of reported happiness calculated at average values of other regressors (* means significant at 10%, ** means significant at 5%, *** means significant at 1%.). The last two columns reports the confidence interval at 95% level.

Table 10. Predicted Variation in Probability of Reporting to Be "Very Happy" by Variables

Very Happy (hap=3)	dy/dx	Mean 1975	Stnd err	Mean 2004	Stnd err	Var 1975-2004	Variation of prob(hap=3)
Female	0.010	0.5503	0.0129	0.545	0.009	-0.0055	-0.0001
Age	-0.009***	44.3077	0.4585	45.965	0.317	1.6569	-0.0149
Age square	0.001***	2275.1560	44.4773	2395.012	31.971	119.8560	0.0115
Black	-0.080***	0.1094	0.0081	0.134	0.006	0.0247	-0.0020
Other non-white	0.002	0.0027	0.0013	0.071	0.005	0.0688	0.0002
% Diff, Regional price index	-0.043	0.0170	0.0031	-0.002	0.005	-0.0195	0.0008
Ln household income/1000	0.053***	2.9548	0.0239	4.238#	0.022	1.2831#	0.0685
Ln Regional-Age-Race Income/1000	-0.035**	3.1783	0.0125	4.600#	0.010	1.4215#	-0.0492
Household size	-0.013**	3.1691	0.0442	2.453	0.026	-0.7161	0.0094
Years of education	0.001	11.6826	0.0809	13.698	0.055	2.0156	0.0018
Retired	0.019	0.1107	0.0081	0.143	0.007	0.0326	0.0006
Unemployed	-0.127***	0.0409	0.0051	0.035	0.003	-0.0057	0.0007
Keeping house	0.022	0.2698	0.0115	0.095	0.006	-0.1752	-0.0039
Student	0.057	0.0329	0.0046	0.041	0.004	0.0080	0.0005
Other	-0.070	0.0134	0.0030	0.022	0.003	0.0086	-0.0006
Parents divorced or separated	-0.011	0.0919	0.0075	0.168	0.007	0.0763	-0.0009
Living with own parents at 16	0.001	0.7651	0.0110	0.700	0.009	-0.0653	0.0000
Married	0.138	0.6725	0.0122	0.526	0.009	-0.1465	-0.0203
2nd+ Marriage	0.019	0.1054	0.0080	0.126	0.006	0.0205	0.0004
Separated	-0.048	0.0564	0.0060	0.148	0.007	0.0912	-0.0044
Divorced	-0.023	0.0329	0.0046	0.034	0.003	0.0009	0.0000
Widowed	-0.079	0.0966	0.0077	0.073	0.005	-0.0241	0.0019
Number of Children	0.004	2.1125	0.0507	1.823	0.031	-0.2898	-0.0011
Monthly with relatives	0.031***	0.5578	0.0129	0.581	0.016	0.0234	0.0007
Monthly with neighbors	0.029**	0.4168	0.0128	0.338	0.016	-0.0783	-0.0023
Monthly with friends	0.034***	0.3879	0.0126	0.412	0.016	0.0236	0.0008
Monthly at bar	-0.040***	0.1585	0.0095	0.146	0.012	-0.0127	0.0005
Others can be trusted	0.010	0.3951	0.0127	0.359	0.016	-0.0363	-0.0004
Others are helpful	0.048***	0.5649	0.0129	0.502	0.017	-0.0631	-0.0030
Others are unfair	-0.039***	0.3076	0.0120	0.398	0.017	0.0908	-0.0035
Member of 1 or 2 P-Groups	0.027**	0.4494	0.0131	0.369	0.013	-0.0802	-0.0022
Member of 3+ P-Groups	0.075***	0.1537	0.0095	0.161	0.010	0.0069	0.0005
Member of 1 O-Group	0.010	0.2667	0.0116	0.211	0.011	-0.0561	-0.0006
Member of 2+ O-Groups	-0.041*	0.0400	0.0051	0.052	0.006	0.0118	-0.0005
Member of other Groups	-0.011	0.1840	0.0102	0.152	0.009	-0.0319	0.0003
Very confident in banks	0.061***	0.3289	0.0124	0.282	0.015	-0.0472	-0.0029
Very confident in companies	0.069***	0.2041	0.0108	0.170	0.013	-0.0340	-0.0024
Very confident in organized relig,	0.013	0.2604	0.0118	0.241	0.015	-0.0198	-0.0003
Very confident in education	0.054***	0.3146	0.0121	0.275	0.015	-0.0400	-0.0022
Very confident in executive	0.044**	0.1366	0.0090	0.208	0.014	0.0711	0.0031
Very confident in org. labor	0.037	0.1077	0.0083	0.124	0.011	0.0164	0.0006
Very confident in press	-0.009	0.2455	0.0113	0.092	0.010	-0.1539	0.0014

Very confident in medicine	0.003	0.5126	0.0131	0.365	0.016	-0.1472	-0.0005
Very confident in television	0.008	0.1826	0.0101	0.103	0.010	-0.0795	-0.0007
Very confident in supreme court	0.001	0.3216	0.0124	0.310	0.016	-0.0116	0.0000
Very confident in scientific	-0.002	0.4217	0.0136	0.425	0.017	0.0032	0.0000
Very confident in congress	0.006	0.1371	0.0091	0.133	0.012	-0.0039	0.0000
Very confident in military forces	0.008	0.3695	0.0128	0.568	0.017	0.1988	0.0016

Predicted changes in the probability of reporting the highest category of happiness. First column shows the marginal effects (* means significant at 10%, ** means significant at 5%, *** means significant at 1%.). Second and third columns report, respectively, mean values of regressors in 1975 and their standard errors. Fourth and fifth columns report, respectively, mean values of regressors in 2004 and their standard errors (# means that average is relative to 2002 instead of 2004). Sixth column reports the difference between average values of regressors in 2004 and average values in 1975 (# means that the difference is between 2002 and 1975). Last column reports the change in predicted probability of reporting to be "very happy" which is imputed to each regressor (which is the product of the values in column seven and the marginal effect reported in column one). Shaded numbers are relative to marginal effects which are significant at least at the 10% level.

Table 11. Actual and Predicted Variation in Probability of Reporting to Be "Very Happy"

Observed Frequencies of Reporting to be "Very Happy"

Frequency in 1975	32.86%
Frequency in 2004	31.34%
Variation	-1.48%

Predicted Changes in Probability of Reporting to Be "Very Happy" by Group of Variables

Group of Variables	Predicted Change	Aggregate Predicted Changes by Sum of Groups	
Demographics	-0.54%	-0.54%	
Absolute Income	6.85%		
Reference Income	-4.92%	1.93%	**Net Income**
Other Socio-economics	1.02%	2.41%	**All non-SC**
Marital Status & Children	-2.27%		
Social Contacts	-0.02%		
Trust in Individuals	-0.66%		
Putnam's Group	-0.17%	-3.12%	**Intrinsic RSC**
Olson's Group	-0.05%	-3.17%	**RSC**
Confidence in institutions	-0.43%	-3.60%	**SC**
		-1.19%	**Total predicted variation**

Actual and Predicted changes in probability of reporting to be "very happy" over the period 1975-2004. Demographics aggregates the predicted changes due to "age", "age square" and "black". Income and reference income are relative to, respectively, changes in "Ln household income/1000" and changes in "Ln Reg-Age-Race Income/1000". Other socio-economics aggregates predicted changes due to "household size" and "unemployed". Marital status & children aggregates predicted changes due to "married", "separated" and "widowed". Social contacts aggregates predicted changes due to "monthly with relatives", "monthly with neighbors", "monthly with friends" and "monthly at bar". Trust in individuals aggregates predicted changes due to "others are helpful" and "others are unfair". Putnam's group aggregates predicted changes due to "membership of 1 or 2 P-groups" and "3+ P-groups". Olson's group is the predicted change due to "member of 2+ O-groups". Confidence in institutions aggregates predicted changes due to "very conf. in banks", "very conf. in companies", "very conf. in education" and "very conf. in executive".

Table 12. Marginal Effects: Probability of Reporting to Be "Not So Happy"

	Dy/dx	Standard Error	z	P>z	[95%	C.I.]
Female	-0.004	0.005	-0.710	0.477	-0.013	0.006
Age	0.003***	0.001	3.080	0.002	0.001	0.005
Age square	0.000***	0.000	-3.110	0.002	0.000	0.000
Black	0.034***	0.010	3.380	0.001	0.014	0.054
Other non-white	-0.001	0.019	-0.040	0.965	-0.039	0.037
% Diff, Regional price index	0.015	0.012	1.330	0.185	-0.007	0.038
Ln household income/1000	-0.019***	0.003	-5.910	0.000	-0.025	-0.013
Ln Regional-Age-Race Income/1000	0.012*	0.007	1.860	0.062	-0.001	0.025
Household size	0.005**	0.002	2.540	0.011	0.001	0.008
Years of education	0.000***	0.001	-0.340	0.732	-0.002	0.002
Retired	-0.006	0.009	-0.710	0.479	-0.024	0.011
Unemployed	0.068***	0.022	3.070	0.002	0.025	0.111
Keeping house	-0.008	0.006	-1.220	0.224	-0.020	0.005
Student	-0.018	0.011	-1.590	0.111	-0.039	0.004
Other	0.031	0.027	1.130	0.259	-0.023	0.085
Parents divorced or separated	0.004	0.009	0.470	0.641	-0.013	0.021
Living with own parents at 16	0.000	0.006	-0.030	0.973	-0.012	0.012
Married	-0.055***	0.008	-6.480	0.000	-0.072	-0.038
2nd+ Marriage	-0.006	0.007	-0.960	0.335	-0.019	0.007
Separated	0.019*	0.011	1.750	0.080	-0.002	0.041
Divorced	0.009	0.016	0.540	0.589	-0.023	0.040
Widowed	0.035**	0.015	2.380	0.017	0.006	0.063
Number of Children	-0.001	0.002	-0.790	0.430	-0.005	0.002
Monthly with relatives	-0.011***	0.004	-2.560	0.010	-0.020	-0.003
Monthly with neighbors	-0.010**	0.004	-2.310	0.021	-0.019	-0.002
Monthly with friends	-0.012***	0.004	-2.720	0.007	-0.020	-0.003
Monthly at bar	0.015**	0.006	2.400	0.016	0.003	0.028
Others can be trusted	-0.004	0.005	-0.760	0.449	-0.013	0.006
Others are helpful	-0.017***	0.005	-3.410	0.001	-0.028	-0.007
Others are unfair	0.014**	0.006	2.530	0.012	0.003	0.026
Member of 1 or 2 P-Groups	-0.010**	0.005	-1.980	0.048	-0.019	0.000
Member of 3+ P-Groups	-0.024***	0.005	-4.440	0.000	-0.034	-0.013
Member of 1 O-Group	-0.004	0.005	-0.730	0.465	-0.013	0.006
Member of 2+ O-Groups	0.016	0.010	1.640	0.102	-0.003	0.036
Member of other Groups	0.004	0.005	0.730	0.466	-0.007	0.014
Very confident in banks	-0.020***	0.005	-4.030	0.000	-0.029	-0.010
Very confident in companies	-0.022***	0.005	-4.750	0.000	-0.032	-0.013
Very confident in organized relig,	-0.005	0.005	-0.940	0.349	-0.014	0.005
Very confident in education	-0.018***	0.005	-3.900	0.000	-0.027	-0.009
Very confident in executive	-0.014**	0.006	-2.510	0.012	-0.026	-0.003
Very confident in org. labor	-0.012	0.007	-1.720	0.085	-0.026	0.002
Very confident in press	0.003	0.006	0.570	0.571	-0.008	0.015
Very confident in medicine	-0.001	0.005	-0.240	0.811	-0.010	0.008
Very confident in television	-0.003	0.006	-0.450	0.654	-0.016	0.010
Very confident in supreme court	0.000	0.005	-0.040	0.971	-0.010	0.010
Very confident in scientific	0.001	0.005	0.180	0.857	-0.008	0.010

Very confident in congress	-0.002	0.007	-0.290	0.768	-0.016	0.012
Very confident in military forces	-0.003	0.005	-0.590	0.554	-0.013	0.007
Year Dummies	YES					

Ordered logit regression with robust standard errors. Year dummies included. First column shows the marginal effects for the lowest category of reported happiness calculated at average values of other regressors (* means significant at 10%, ** means significant at 5%, *** means significant at 1%.). The last two columns reports the confidence interval at 95% level.

Table 13. Predicted Variation in Probability of Reporting to Be "Not So Happy" by Variables

Very Happy (hap=1)	dy/dx	Mean 1975	Stnd err	Mean 2004	Stnd err	Var 1975-2004	Variation of prob(hap=1)
Female	-0.004	0.5503	0.0129	0.545	0.009	-0.0055	0.0000
Age	0.003***	44.3077	0.4585	45.965	0.317	1.6569	0.0053
Age square	0.000***	2275.1560	44.4773	2395.012	31.971	119.8560	-0.0041
Black	0.034***	0.1094	0.0081	0.134	0.006	0.0247	0.0009
Other non-white	-0.001	0.0027	0.0013	0.071	0.005	0.0688	-0.0001
% Diff, Regional price index	0.015	0.0170	0.0031	-0.002	0.005	-0.0195	-0.0003
Ln household income/1000	-0.019***	2.9548	0.0239	4.238#	0.022	1.2831#	-0.0243
Ln Regional-Age-Race Income/1000	0.012*	3.1783	0.0125	4.600#	0.010	1.4215#	0.0175
Household size	0.005**	3.1691	0.0442	2.453	0.026	-0.7161	-0.0034
Years of education	0.000***	11.6826	0.0809	13.698	0.055	2.0156	-0.0007
Retired	-0.006	0.1107	0.0081	0.143	0.007	0.0326	-0.0002
Unemployed	0.068***	0.0409	0.0051	0.035	0.003	-0.0057	-0.0004
Keeping house	-0.008	0.2698	0.0115	0.095	0.006	-0.1752	0.0013
Student	-0.018	0.0329	0.0046	0.041	0.004	0.0080	-0.0001
Other	0.031	0.0134	0.0030	0.022	0.003	0.0086	0.0003
Parents divorced or separated	0.004	0.0919	0.0075	0.168	0.007	0.0763	0.0003
Living with own parents at 16	0.000	0.7651	0.0110	0.700	0.009	-0.0653	0.0000
Married	-0.055***	0.6725	0.0122	0.526	0.009	-0.1465	0.0080
2nd+ Marriage	-0.006	0.1054	0.0080	0.126	0.006	0.0205	-0.0001
Separated	0.019*	0.0564	0.0060	0.148	0.007	0.0912	0.0017
Divorced	0.009	0.0329	0.0046	0.034	0.003	0.0009	0.0000
Widowed	0.035**	0.0966	0.0077	0.073	0.005	-0.0241	-0.0008
Number of Children	-0.001	2.1125	0.0507	1.823	0.031	-0.2898	0.0004
Monthly with relatives	-0.011***	0.5578	0.0129	0.581	0.016	0.0234	-0.0003
Monthly with neighbors	-0.010**	0.4168	0.0128	0.338	0.016	-0.0783	0.0008
Monthly with friends	-0.012***	0.3879	0.0126	0.412	0.016	0.0236	-0.0003
Monthly at bar	0.015**	0.1585	0.0095	0.146	0.012	-0.0127	-0.0002
Others can be trusted	-0.004	0.3951	0.0127	0.359	0.016	-0.0363	0.0001
Others are helpful	-0.017***	0.5649	0.0129	0.502	0.017	-0.0631	0.0011
Others are unfair	0.014**	0.3076	0.0120	0.398	0.017	0.0908	0.0013
Member of 1 or 2 P-Groups	-0.010**	0.4494	0.0131	0.369#	0.013	-0.0802	0.0008
Member of 3+ P-Groups	-0.024***	0.1537	0.0095	0.161	0.010	0.0069	-0.0002
Member of 1 O-Group	-0.004	0.2667	0.0116	0.211	0.011	-0.0561	0.0002
Member of 2+ O-Groups	0.016	0.0400	0.0051	0.052	0.006	0.0118	0.0002
Member of other Groups	0.004	0.1840	0.0102	0.152	0.009	-0.0319	-0.0001
Very confident in banks	-0.020***	0.3289	0.0124	0.282	0.015	-0.0472	0.0009
Very confident in companies	-0.022***	0.2041	0.0108	0.170	0.013	-0.0340	0.0008
Very confident in organized relig,	-0.005	0.2604	0.0118	0.241	0.015	-0.0198	0.0001

Very confident in education	-0.018***	0.3146	0.0121	0.275	0.015	-0.0400	0.0007
Very confident in executive	-0.014**	0.1366	0.0090	0.208	0.014	0.0711	-0.0010
Very confident in org. labor	-0.012	0.1077	0.0083	0.124	0.011	0.0164	-0.0002
Very confident in press	0.003	0.2455	0.0113	0.092	0.010	-0.1539	-0.0005
Very confident in medicine	-0.001	0.5126	0.0131	0.365	0.016	-0.1472	0.0002
Very confident in television	-0.003	0.1826	0.0101	0.103	0.010	-0.0795	0.0002
Very confident in supreme court	0.000	0.3216	0.0124	0.310	0.016	-0.0116	0.0000
Very confident in scientific	0.001	0.4217	0.0136	0.425	0.017	0.0032	0.0000
Very confident in congress	-0.002	0.1371	0.0091	0.133	0.012	-0.0039	0.0000
Very confident in military forces	-0.003	0.3695	0.0128	0.568	0.017	0.1988	-0.0006

Predicted changes in the probability of reporting the lowest category of happiness. First column shows the marginal effects (* means significant at 10%, ** means significant at 5%, *** means significant at 1%.). Second and third columns report, respectively, mean values of regressors in 1975 and their standard errors. Fourth and fifth columns report, respectively, mean values of regressors in 2004 and their standard errors (# means that average is relative to 2002 instead of 2004). Sixth column reports the difference between average values of regressors in 2004 and average values in 1975 (# means that the difference is between 2002 and 1975). Last column reports the change in predicted probability of reporting to be "not so happy" which is imputed to each regressor (which is the product of the values in column seven and the marginal effect reported in column one). Shaded numbers are relative to marginal effects which are significant at least at the 10% level.

Table 14. Actual and Predicted Variation in Probability of Reporting to Be "Not So Happy"

Observed Frequencies of Reporting to be "Very Happy"

Frequency in 1975	13.06%
Frequency in 2004	13.46%
Variation	0.40%

Predicted Changes in Probability of Reporting to Be "Very Happy" by Group of Variables

Group of Variables	Predicted Change	Aggregate Predicted Changes by Sum of Groups	
Demographics	0.21%	0.21%	
Absolute Income	-2.43%		
Reference Income	1.75%	-0.69%	**Net Income**
Other Socio-economics	-0.37%	-0.85%	**All non-SC**
Marital Status & Children	0.90%		
Social Contacts	0.01%		
Trust in Individuals	0.24%		
Putnam's Group	0.06%	1.20%	**Intrinsic RSC**
Olson's Group	0.00%	1.20%	**RSC**
Confidence in institutions	0.14%	1.34%	**SC**
		0.49%	**Total predicted variation**

Actual and Predicted changes in probability of reporting to be "not so happy" over the period 1975-2004. Demographics aggregates the predicted changes due to "age", "age square" and "black". Income and reference income are relative to, respectively, changes in "Ln household income/1000" and changes in "Ln Reg-Age-Race Income/1000". Other socio-economics aggregates predicted changes due to "household size" and "unemployed". Marital status & children aggregates predicted changes due to "married", "separated" and "widowed". Social contacts aggregates predicted changes due to "monthly with relatives", "monthly with neighbors", "monthly with friends" and "monthly at bar". Trust in individuals aggregates predicted changes due to "others are helpful" and "others are unfair". Putnam's group aggregates predicted changes due to "membership of 1 or 2 P-groups" and "3+ P-groups". Olson's group is the predicted change due to "member of 2+ O-groups". Confidence in institutions aggregates predicted changes due to "very conf. in banks", "very conf. in companies", "very conf. in education" and "very conf. in executive".

Definition and Source of Variables

The U.S. General Social Survey (dataset 1972-2004)

Happiness: 3 if respondent declares to be "very happy", 2 if "pretty happy" and 1 if "not too happy" (GSS source variable: *happy*)

Female: 1 if subject is female (GSS source variable: *sex*)

Age: number of years since born (GSS source variable: *age*)

Age square: age to the power of 2 (GSS source variable: *age*)

Black: 1 if respondent defines himself afro-American (GSS source variable: *race*)

Other non-white: 1 if respondent neither defines himself as white nor afro-American (GSS source variable: *race*)

Years of education: number of years the respondent declared to have attended school (GSS source variable: *educ*)

Retired: 1 if respondent declares to have retired (GSS source variable: *wrkstat*)

Unemployed: 1 if respondent declares to be unemployed (GSS source variable: *wrkstat*)

Keeping house: 1 if respondent declares to be keep house as work status (GSS source variable: *wrkstat*)

Student: 1 if respondent declares to be a student as work status (GSS source variable: *wrkstat*)

Other: 1 if respondent declares to be neither working (full or part-time), nor retired, unemployed, keeping house or student (GSS source variable: *wrkstat*)

Parents divorced or separated: 1 if respondent declares to be not be with own parents at 16 years old because they where divorced or separated (GSS source variable: *famdif16*)

Living with own parents at 16: 1 if respondent declares to be living with own parents at 16 years old (GSS source variable: *family16*)

Ln household income/1000: natural logarithm of reported household income as provided in the GSS (variable name: coninc) divided by 1000 (dollars 2000) (GSS source variable: *coninc*)

Ln household regional-age-race income/1000: natural logarithm of average reported household income for a reference group as provided in the GSS divided by 1000 (dollars 2000); reference groups are obtained by sorting people by census region of residence, 5-years age interval (starting from 15) and race (white, black and other non-white)

Ln household per capita inc./1000: reported household income divided by the number of household component (household size) (GSS source variable: *conrinc*)

Household size: number of reported household members (GSS source variable: *hompop*)

Number of Children: reported number of children (GSS source variable: *childs*)

Married: 1 if respondent reports to be currently married (GSS source variable: *marstat*)

2nd+ Marriage: 1 if respondent reports to be married but not for the first time (GSS source variable: *marnum*)

Separated: 1 if respondent reports to be currently separated (GSS source variable: *marstat*)

Divorced: 1 if respondent reports to be currently divorced (GSS source variable: *marstat*)

Widowed: 1 if respondent reports to be currently widowed (GSS source variable: *marstat*)

Monthly with relatives: 1 if respondent reports to spend at least one evening per month with relatives (GSS source variable: *socrel*)

Monthly with neighbors: 1 if respondent reports to spend at least one evening per month with neighbors (GSS source variable: *socommun*)

Monthly with friends: 1 if respondent reports to spend at least one evening per month with friends living outside her neighborhood (GSS source variable: *socfrend*)

Monthly at bar: 1 if respondent reports to spend at least one evening per month at bar or tavern (GSS source variable: *socbar*)

Others can be trusted: 1 if respondent considers people to be trustworthy (0 is associated with answers "not trustworthy" and "depends") (GSS source variable: *trust*)

Others are helpful: 1 if respondent considers people to be helpful (0 is associated with answers "not helpful" and "depends") (GSS source variable: *helpful*)

Others are unfair: 1 if respondent considers people to be unfair and to take advantage whenever possible (0 is associated with answers "fair" and "depends") (GSS source variable: *fair*)

Member of 1 or 2 Putnam's Group: 1 if respondent declares to be member of one, or two among service groups, church organizations, sport clubs, art and literature clubs, national organizations, hobby clubs, fraternal groups and youth associations (GSS source variables: *memfrat, memserv, memsport, memyouth, memschl, memhobby,, memnat, memlit, memchurch*)

Member of 3+ Putnam's Groups: 1 if respondent declares to be member of at least three Putnam's groups (GSS source variables: *memfrat, memserv, memsport, memyouth, memschl, memhobby,, memnat, memlit, memchurch*)

Member of 1 Olson's Group: 1 if respondent declares to be member of one, and only one, among fraternity associations, unions, professional organizations and farm organizations (GSS source variables: *memunion, memgreek, memfarm, memprof*)

Member of 2+ Olson's Groups: 1 if respondent declares to be member of at least two Olson's groups (GSS source variables: *memunion, memgreek, memfarm, memprof*)

Member of 1+ Other Groups: 1 if respondent declares to be member of at least one among veteran associations, political party and "other groups" (GSS source variables: *mempolit, memvet, memother*)

Very confident in banks: 1 if respondent declares to be very confident in banks and financial institutions (0 is associated with answers "confident" and "not very confident") (GSS source variables: *confinan*)

Very confident in major companies: 1 if respondent declares to be very confident in major companies (0 is associated with answers "confident" and "not very confident") (GSS source variables: *conbus*)

Very confident in organized religion: 1 if respondent declares to be very confident in organized religion (0 is associated with answers "confident" and "not very confident") (GSS source variables: *conclerg*)

Very confident in education: 1 if respondent declares to be very confident in education (0 is associated with answers "confident" and "not very confident") (GSS source variables: *conedu*)

Very confident in executive: 1 if respondent declares to be very confident in U.S. executive branch of government (0 is associated with answers "confident" and "not very confident") (GSS source variables: *confed*)

Very confident in organized labor: 1 if respondent declares to be very confident in organized labor (0 is associated with answers "confident" and "not very confident") (GSS source variables: *conflabor*)

Very confident in press: 1 if respondent declares to be very confident in press (0 is associated with answers "confident" and "not very confident") (GSS source variables: *confpress*)

Very confident in medicine: 1 if respondent declares to be very confident in medicine (0 is associated with answers "confident" and "not very confident") (GSS source variables: *confmedic*)

Very confident in television: 1 if respondent declares to be very confident in television (0 is associated with answers "confident" and "not very confident") (GSS source variables: *contv*)

Very confident in Supreme Court: 1 if respondent declares to be very confident the U.S. Supreme Court (0 is associated with answers "confident" and "not very confident") (GSS source variables: *conjudge*)

Very confident in scientific community: 1 if respondent declares to be very confident in the scientific community (0 is associated with answers "confident" and "not very confident") (GSS source variables: *consci*)

Very confident in Congress: 1 if respondent declares to be very confident in the U.S. Congress (0 is associated with answers "confident" and "not very confident") (GSS source variables: *conlegis*)

Very confident in military forces: 1 if respondent declares to be very confident in U.S: military forces (0 is associated with answers "confident" and "not very confident") (GSS source variables: *conarmy*)

Description of the typology of groups and organizations:

service groups: non-profit associations aimed at providing a service which is considered insufficiently supplied;

church organizations: associations created by a church for social activities;

sport clubs: non-profit associations supporting sport activities;

art and literature clubs: small associations for studying and spreading art and literature;

national organizations: association based on national/ethnic homogeneity for social activities;

hobby clubs: non-profit associations centered aroud a single off-work activity;

fraternal groups: non -profit association based on mutual help and a common social purpose;

youth associations: age-based associations for social activities of young people;

fraternity associations: brotherood pursuing the interest of the members;

unions: labor unions;

professional organizations: association of professionals (not farmers);

farm organizations: association of farmers;

veteran associations: association of ex-member of military forces who have been in a war;

political party: any political group which has an organizational structure (not just political movements);

"other groups": residual category (not fitting in any of the previous ones);

US Dept. of Commerce, Bureau of Economic Analysis

Personal/regional: reported household income per capita (GSS dataset) is divided by average regional per capita income provided by the US Dept of Commerce (dollars 2000)

The Office of Federal Housing Enterprise Oversight's

% Diff. Regional price index: percentage of variation between average national house values for single-family detached homes on which at least two mortgages were originated or subsequently purchased or securitized and average regional values (calculated using the Repeat Sales House Price Index).