The Paradox of Declining Female Happiness*

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Abstract

By most objective measures the lives of women in the United States have improved over the past 35 years, yet we show that measures of subjective well-being indicate that women's happiness has declined both absolutely and relative to male happiness. The paradox of women's declining relative well-being is found examining multiple countries, datasets, and measures of subjective well-being, and is pervasive across demographic groups. Relative declines in female happiness have eroded a gender gap in happiness in which women in the 1970s typically reported higher subjective well-being than did men. These declines have continued and a new gender gap is emerging—one with higher subjective well-being for men. Our findings raise provocative questions about the contribution of the women's movement to women's welfare and about the legitimacy of using subjective well-being to assess broad social changes.

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I. Introduction

Two facts stand in stark opposition: women's lives over the past 35 years have improved by most objective measures and we document that, during this period, measures of women's subjective well-being have fallen both absolutely and relatively to that of men. While the expansion in women's opportunities has been extensively studied, the concurrent decline in subjective well-being has largely gone unnoted. These facts raise difficult questions about how best to assess and measure well-being since a standard economic framework would suggest that expanded opportunities for women would have increased their welfare.

By many measures the progress of women over recent decades has been extraordinary: the gender wage gap has closed; educational attainment has risen and is surpassing that of men in recent cohorts; women have gained an unprecedented level of control over fertility; technological change in the form of new domestic appliances has freed women from domestic drudgery; and women's freedoms within both the family and market sphere have expanded. Blau's 1998 assessment of objective measures of female well-being since 1970 finds that women made enormous gains. Labor force outcomes have improved, as women's real wages have risen for all but the least educated women, and women's wages relative to those of men have increased for women of all races and education levels. Similarly female labor force participation has risen to record levels both absolutely and relative to that of men, and women have become more tied to the labor market (Blau and Kahn 2007).

The rise in women's relative wages has improved their position both in the marketplace and potentially within the home as higher wages may improve women's bargaining position by raising their opportunities outside of marriage. While concern has been raised about the potential for labor force participation to increase the total amount of work done by women, time use surveys do not bear these fears out. Aguiar and Hurst (2007) document relatively equal declines in total work hours since 1965 for both men and women, with the increase in hours of market work by women offset by large declines in their non-market work and a small increase in non-market work by men. Blau (1998) points to the increased time spent by married men on housework and the decreased total hours worked (in the market and in the home) by married women relative to married men as evidence of women's improved bargaining position in the home.

Many of the legislative gains for women have been shown to increase women's subjective well-being. For example, Pezzini (2005) demonstrates that within Europe, women's life satisfaction increased with the introduction of birth control and abortion rights and several studies have demonstrated an association between more education and higher subjective well-being.[1] While the expansion of women's rights can be immiserizing for some groups (Akerlof, Yellen and Katz 1996), economic theory leaves little room for such a tremendous increase in opportunities to render women as a group worse off, as an expanded choice set gives them greater scope to make decisions that improve their well-being. While some may lament the entrance of women into the labor force en masse, the improvement in legal rights for women has expanded their choice set giving women greater scope to make decisions that improve their well-being.

Yet, a richer consideration of the psychology behind happiness might suggest that greater equality may lead to a fall in well-being. For example, if happiness is assessed relative to outcomes for one's reference group then greater equality may have led women to compare their outcomes to those of the men around them. In turn, women might find their relative position lower than when their reference group included only women. An alternative form of reference-dependent preferences relates well-being to whether or not expectations are met. If the women's movement raised women's expectations faster than society was able to meet them, they would be more likely to be disappointed by their actual experienced lives. As women's expectations move into alignment with their experiences this decline in happiness may reverse. A further alternative suggests that happiness may be driven by good news about lifetime utility (Kimball and Willis 2006) . Under this view, the salience of the women's movement fuelled elation in the 1970s that has dissipated in the ensuing years.

Our contribution in this paper is to carefully document trends over several decades in subjective well-being by gender in the United States and other industrialized countries, collecting evidence across a wide array of datasets covering various demographic groups, time periods, countries, and measures of subjective well-being. To preview our findings, section II shows that women in the United States have become less happy, both absolutely and relative to men. The trend in subjective well-being between men and women is largely toward convergence: men have traditionally reported lower levels of happiness than women and women are now reporting happiness levels that

[1] Blanchflower and Oswald (2004) find that education is associated with higher subjective well-being independent of income; Ross and Van Willigen (1997) find that education is negatively associated with subjective measures of emotional and physical distress.

are similar or even lower than those of men. We explore these trends by demographic group, and find that the relative decline in women's well-being is ubiquitous, and holds for both working and stay-at-home moms, for those married and divorced, for the old and the young, and across the education distribution. The relative decline in well-being holds across various datasets, and for whether one asks about happiness or life satisfaction. The exception is that this phenomenon has not occurred similarly across racial groups. African-American women have become happier over this period as have African-American men and there has been little consistent change in the gender happiness gap among African Americans over this period. In section III we turn to data from other countries, finding a pervasive decline in the relative well-being of women in nearly all European countries. Section IV assesses the evolution of satisfaction in a number of domains—marriage, work, health, and finances—and while women report decreasing satisfaction in some of these domains, typically men report similar, or even more rapid, declines.

Our findings hold provocative implications for public policymakers, those interested in gender, and those interested in using subjective well-being measures to assess public policy. A simple syllogism captures why we regard our results as challenging, and lays out the possible implications of our analysis. If: (1) The women's movement increased the welfare of women more than men; (2) This was the most important gendered-biased change during our sample; and (3) Subjective well-being data provides policy-relevant welfare measurements; then we are led to infer that our data should show a rise in the subjective well-being of women relative to that of men since the 1970s. That we observed a decline in the relative well-being of women leads to questions about where the syllogism breaks down. Did men somehow garner a disproportionate share of the benefits of the women's movement? Alternatively, perhaps the well-being data point to different, and largely undocumented, changes that have disadvantaged women. In other words, one needs to ask: what social changes are the happiness data capturing? Or one might regard this rather striking observation as an opportunity to better understand the determinants of subjective well-being, and the mapping between responses to survey questions about happiness and usual notions of welfare.

We highlight a puzzle in trends in women's measured subjective well-being that may be driven by an aggregate change that is impacting women differently than men, a change in the reference group or expectations for women such that their lives are more likely to come up short today than in the past, or finally, may be driven simply by a change in how women answer the question, i.e. a measurement, rather, than a hedonic trend. At this stage, our ambitions are somewhat limited. We do not purport to offer an answer to what is driving the decline in subjective well-being among women. Rather we aim

to organize the relevant data, and highlight the robust evidence in favor of a rather puzzling paradox: women's relative subjective well-being has fallen over a period in which objective measures point to robust improvements in their opportunities.

II. Happiness Trends in the United States

For the United States, we examine men's and women's subjective well-being over the last 35 years using data from the General Social Survey (GSS). This survey is a nationally representative sample of about 1,500 respondents each year from 1972-1993 (except 1992), and continues with around 3,000 respondents every second year from 1994 through to 2004, rising to 4,500 respondents in 2006. These repeated cross-sections are designed to track attitudes and behaviors among the U.S. population and contains a wide range of demographic and attitudinal questions. Subjective well-being is measured using the question: "Taken all together, how would you say things are these days, would you say that you are very happy, pretty happy, or not too happy?" In addition, respondents are asked about their satisfaction with a number of aspects of their life such as their marriage, their health, their financial situation, and their job. (We will return to these data on subjective well-being across life domains in section IV.) The long duration of the GSS and the use of consistent survey language to measure happiness make it ideally suited for analyzing trends in well-being over time.

Figure 1 shows how answers to the happiness question have trended over time for both men and women. The top lines show the percent of men and women who report being "very happy", while the bottom two lines show the percent reporting that they are "not too happy" (the residual reflects those answering "pretty happy"). As has been shown in previous studies, women were historically more likely to report higher levels of subjective well-being, yet, we see that this happiness gap has largely reversed as women's reported subjective well-being has fallen over the past 35 years (Blanchflower and Oswald 2004). By the start of the 21st century, women reported happiness levels on par with, or perhaps lower than, those reported by men. Examining the categories separately, we observe that at the beginning of the period men and women were roughly equally likely to report being "not too happy" and a gap emerges in the 1990s with women more likely than men to report unhappiness. Turning to the top lines, it is clear that women in the 1970s were more likely than men to report being "very happy", while this differential began to evaporate in the 1980s.

While Figure 1 shows the data in the most transparent way possible, ordered probit estimates allow us to exploit variation in the ranking information contained in the qualitative happiness data

(responses are ordinal), and a formal regression allows us to control for other factors.[2] Thus in Table 1 we report more formal ordered probit regression analyses, estimating regressions of the form:

$$Happiness_{i,t} = \alpha + \beta_1 Female_i * (Year_t - 1972) + \beta_2 Male_i * (Year_t - 1972) + \beta_3 Female_i + Controls_{i,t} + \varepsilon_{i,t} \quad [1]$$

where *i* denotes an individual, and *t* denotes the year in which that individual was surveyed by the GSS. The raw trend in reported happiness by gender, without controls, is shown in the first column of Table 1. As in Figure 1, this regression shows a decline in women's happiness but very little change in men's reported happiness. The fourth row calculates the female-male difference in the happiness trend, while the fifth and sixth rows show the implied estimates of the gender happiness gap in 1972 and 2006 respectively. At the start of the sample women reported higher levels of subjective well-being than did men, however by 2006 this earlier gap had reversed and women's subjective well-being in recent years is lower than that of men.

Further specifications add a range of controls. Column 2 adds dummy variables for decadal age categories, race, and immigrant status to explore whether shifts in the age or racial distribution in the United States are playing a role in the gender trends in happiness. While the US has undergone large demographic changes over the past 35 years—the population is 4½ years older on average and the non-white population has doubled—accounting for these shifts has little impact on the estimated trends in happiness.

The third column of Table 1 adds controls for socioeconomic characteristics such as income, children, employment status, and marital status, while the fourth column allows the relationship between these characteristics and happiness to differ for men and women (that is, we include interactions of each control variable with gender; this specification most closely parallels that in Blanchflower and Oswald, 2004). Note that these variables no longer reflect exogenous characteristics assigned by nature, but instead reflect life outcomes in various domains. Even so the inclusion of these controls barely affects our estimated trend in the gender happiness gap, and even makes it slightly more dramatic. The similarity of the estimated trend in the gender happiness gap across specifications

[2] The ordered probit assumes that the measure of subjective well-being captures an underlying latent variable that is normally distributed and by estimating the cut-points between different categories, it assigns the numerical values for each qualitative response that are most likely given the sample proportions in the data. While we emphasize the ordered probit estimates, alternative approaches consistently yielded similar results (as can be seen by comparing Figure 1 and Table 1).

highlights the fact that it remains unexplained by these important, and changing, facets of adults' lives. However, these controls do impact the estimated trend for men and women individually. Conditioning on all of these factors, a man in 2006 is happier than a similarly situated man was 34 years ago, while women, conditional on these factors, are less happy by a roughly equal amount.

Given that the dependent variable is qualitative in nature, one must take care in interpreting these magnitudes. The bell curves in Figure 2 show the distribution of happiness in the population inferred from the estimates in the first column of Table 1. The estimated cut-points reflect the most likely categorization of respondents into 'very happy', 'pretty happy' or 'not to happy' in 1972 and 2006, given these regression estimates. In 1972 women were happier than men on average and the median woman was as happy as a man at the 53.3rd percentile in the male distribution. By 2006, however, the median woman's happiness was less than that of the median man in 1972, while the median man in 2006 was slightly happier than his counterpart in 1972. Comparing the 2006 medians with the distribution for men in 1972, we see that the median woman in 2006 is as happy as a man at the 48.8th percentile in 1972—almost 5 percentage points below her position 34 years prior, while the median man in 2006 is as happy as the man at the 50.7th percentile in 1972.

From 1972 to 2006, women's happiness relative to men's fell by $(\beta_2-\beta_1)\Delta t$ = (-0.328-0.052)*(2006-1972)/100 ≈ 0.13 points. The ordered probit normalizes the underlying distribution of happiness to have a standard deviation of one, and hence this shift amounts to about one-eighth of the cross-sectional standard deviation of happiness. Of course, the cross-section variation in happiness is much larger than the intertemporal variation, and so the same shift is 1½ times the standard deviation of the aggregate annual gender happiness happiness gap.[3] To compare this change with other well-known shifters of the happiness distribution, we can consider how large an increase in unemployment would be needed to generate a similar shift in subjective well-being. In a related context, Wolfers (2003) regressed individual happiness against a state's unemployment rate, controlling for state and year fixed effects, finding that a one percentage point rise in a state's unemployment rate leads to a decline in happiness 0.015 points. The ratio between these two estimates suggests that the relative decline in the subjective well-being of U.S. women over the past 35 years is roughly comparable to the effects of an 8½ percentage point rise in unemployment rates. An alternative

[3] The intertemporal variability of the gender happiness gap was computed by running an ordered probit of happiness on the interaction of year and gender fixed effects; this yielded 26 annual (or biennial) observations of the gender happiness gap, and these had a standard deviation of 0.082.

metric comes from the literature assessing the cross-country relationship between happiness and levels of GDP per capita(Wolfers 2006, Deaton 2007). Across a range of ordered probit regressions of happiness or life satisfaction on the log of GDP per capita, Wolfers (2006) finds coefficient estimates of around 0.2, suggesting that the relative decline in women's well-being over the past 35 years is equivalent to them having enjoyed none of the accumulated gains due to economic growth (output rose by 0.64 log points through this period and $\beta\Delta y$=0.2*0.64=0.13≈the observed relative decline in women's well-being).

Given these rather dramatic findings, it is worth analyzing happiness trends in alternative datasets and using alternative measures of well-being. The "Virginia Slims American Women's Opinion Polls" have asked both women and men about women's issues approximately every 5 years since their inception in 1970. The first question on each survey (since 1972) asks respondents about their life satisfaction and Figure 3 summarizes these data in two ways. The dashed lines show the proportion of the population "very satisfied" with their lives, while the solid lines report a well-being index constructed by running an ordered probit regressionof life satisfaction on a saturated set of year-by-gender fixed effects; the bars show the implied gender satisfaction gap. These data reveal a strong downward trend in life satisfaction for both men and women. While the overall downward trend is larger than that observed in the GSS, it is even stronger for women, and the magnitude of the difference in the trend in men's and women's subjective well-being is similar to that seen in the GSS.[4]

We now turn to examining various groups to see if the happiness gap has developed differently across demographic groups, analyzing trends by race, education, age, family employment, and labor market status. We start by examining differences along racial lines. The civil rights movement has dramatically expanded the opportunities available to African Americans and, while these improvements are evident in most objective measures, it is useful to consider whether these changes are evident in aggregate trends in subjective well-being. Table 2 examines the gender happiness gap separately for whites and blacks. The first two columns report the results from running the regressions for whites only, initially with no controls (column one), and then with a full set of controls interacted with gender (in column two). Excluding blacks has a small amplifying affect on the coefficients and the decrease in happiness for women relative to men is slightly larger than our whole-population estimates in Table 1. Trends in happiness among blacks are examined in columns three

[4] We cannot tell whether the differences in the overall trend in well-being reflect differences in the questions asked between the Virginia Slims and GSS data, or other methodological differences.

and four. These data show that happiness has trended quite strongly upward for both male and female African-Americans, erasing about half of the large racial differences in subjective well-being that were evident in the early 1970s. However, there is little difference in these trends by gender. Indeed, these data suggest that well-being has risen more strongly for black women than black men, an outcome that is consistent with other indicators of economic and social progress. It is also worth noting that the difference in subjective well-being for black men and women in 1972 is very different from that seen for whites—black women in 1972 were less happy than black men, while white women were happier than white men. While the point estimates suggest that the gender gap in happiness for blacks has decreased over this period, the estimated change in the gap is not statistically significant.

Since Table 2 demonstrates that the paradox of declining female happiness is not occurring among blacks, Table 3 explores this trend by further disaggregating the trends by group, focusing only on whites. However, before examining trends in happiness for each group, it is worth emphasizing the tremendous changes in the composition of these groups. In 1970 less than a quarter of the adult population had attended college and only 10% had a bachelor's degree. By 2005, over 50% had attended college and half of those had achieved a bachelor's degree. Moreover, this change was not gender-neutral, as there has been a large scale increase in female educational attainment both absolutely, and relative to that of men, with female college attendance rates exceeding those of men for cohorts born in 1960 or later (Goldin, Katz and Kuziemko 2006). Female labor force participation rates also rose dramatically from 43% in 1970 to 59% in 2005, while male labor force participation fell from 80% to 73%. Finally, marital behavior has changed substantially, with a greater incidence of divorce and remarriage including incidence of marriage among those at older ages (Stevenson and Wolfers 2007). Because happiness can be considered both a trait of the individual as well as a reaction to the individual's life circumstance, this shifting of people into different categories confounds their underlying tendency toward happiness with changes in the hedonic experience of people in the group.

We start by examining differences across education groups in Panel A of Table 3, finding that women of all education groups have become less happy over time. Men, however, differ in their happiness trends by education, with those at the lower end of educational attainment becoming less happy over time while those with more education have become happier, a pattern consistent with trends in income inequality between education groups. As a result, the difference between men and women in happiness rises with educational attainment, although few of these differences are statistically significant. Moreover, before concluding that women with advanced degrees have experienced a particularly large decline in subjective well-being, it is again worth emphasizing the

changed composition of this category. Very few women had advanced degrees in the 1970s and their numbers have risen enormously, both absolutely and relative to those of men. Thus, changing selection into higher levels of education likely contributes to the differential happiness trends by educational attainment.

If there are particular changes in men's and women's lives that explain the decline in subjective well-being for women, then one might expect to see differences based on the time period in life that we examine. However, Panel B shows that the trend toward lower subjective well-being for women relative to men is seen in every age category in roughly equal measure. Examining the trends without controls for life outcomes, however, the change in the gender happiness gap appears to be largest for women aged 30-44. Once controls for life outcomes are added large changes are seen for every age group with the exception of 18-29 year olds; equally, this estimate is extremely imprecise and sensitive to the choice of control variables.

In an effort to better understand youth trends, Figure 4 turns to analyzing data from the Monitoring the Future study, which has surveyed around 15,000 U.S. 12th graders about their attitudes each year since 1976. These data suggest that young men have become increasingly happy, while young women have become slightly less happy; the difference between these trends yields a trend in the gender happiness gap that parallels that among U.S. adults. While there is some change in the composition of the sample due to rising high school graduation rates, this is unlikely to explain much of these trends as the relative change in the share of girls reporting that they are very happy is larger than the rise in the proportion of girls staying in school until the 12th grade.[5] Similar surveys of 8th and 10th graders have also been run since 1991, but interestingly, for those age groups, we find boys and girls both getting happier at roughly equal rates (while for 12th graders, even over this sub-period, we find girls getting less happy relative to boys).

Panels C and D of Table 3 disaggregate our data by marital status and fertility outcomes. The largest happiness gains over the past 35 years have accrued to married men. In contrast married women have seen little change in subjective well-being. While we have previously discussed the difficulty interpreting these results in light of the compositional changes in marital status over time, the difference between men and women is notable regardless of whether it reflects differences in who

[5] The U.S. Census Bureau (2007) report that the proportion of 18-24 year olds who were high school graduates rose from 82% of young women in 1976 to 86% in 2005, while the proportion of young men who graduated was unchanged at 79%.

is marrying or changes in the hedonic experience of married adults. The trend in the gender happiness gap appears systematically across all marital categories.

Finally, we turn to employment status and see that both women who are employed and those who are not have experienced roughly similar declines in subjective well-being. When conditioning on life outcomes the trend in the gender happiness gap appears to be stronger among the employed, a finding that reflects the upward trend in subjective well-being for employed men (conditional on other life outcomes).

All told, these data suggest that both the absolute decline in happiness among U.S. women, and the even larger decline relative to men, appears pervasive and is evident irrespective of the education, age, marital status, or employment group analyzed.

III. International Trends in the Gender Happiness Gap

We now turn to examining these trends across a number of other countries. Our main data source is the Eurobarometer, a series of repeated cross-sections, designed to gauge trends within member states of the European Union. The Eurobarometer began asking about life satisfaction in a core of 9 countries in 1973 and expanded to 12 countries by 1985 (including Northern Ireland), and included 17 countries (counting East and West Germany separately) by the end of our sample (we are analyzing the Mannheim Eurobarometer Trend File, 1970-2002). For most countries, a cross-section of roughly 1,000 people is interviewed in each biannual survey round (turning to quarterly in 2000). There are two key questions measuring an individual's subjective well-being. The first asks about life satisfaction—"On the whole, are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the life you lead?", while the second question asks more directly about happiness—"Taking all things together, how would you say things are these days—would you say you're very happy, fairly happy, or not too happy these days?". The life satisfaction question is available for a longer period—it was asked every year from 1973 to 1998, except 1974 and 1996, while the happiness question was asked only from 1975 to 1986 (and not in 1980 or 1981). While life satisfaction and happiness are somewhat different concepts, responses are highly correlated.

Figure 5 shows trends in life satisfaction by gender, aggregating across the entire Euro area. As in the U.S., women's well-being was higher than men's in the early 1970s, but by the early 2000s, women were somewhat less well off. As with U.S. women, the well-being of European women has declined relative to men. However, while U.S. women also experienced an absolute decline in well-

being, the subjective well-being of European women has risen in an absolute sense. Table 4 formalizes this analysis, showing that life satisfaction and happiness rose for both European men and women since the early 1970s. Even so, the magnitude of the difference between these trends—the closure of the gender happiness gap—is remarkably similar to that for the United States. These same patterns are robust to the addition of controls for age and nation in column two, and to controls for life outcomes in column three, and finally for the full set of controls interacted with gender in column four. (It should be noted that the set of control variables available in these data are not quite as rich as those available in the GSS.)

Table 5 disaggregates these Euro-wide results by country, but in order to maintain reasonable sample sizes, we focus only on life satisfaction, and only on those countries entering the data before the 1990s. We begin by re-estimating our results by country, estimating male and female trends in life satisfaction, controlling only for gender; this also allows country-specific estimates of the "cut-points" mapping ordinal responses to their underlying quantities. These results, reported in the first three columns, are quite striking, showing that—in contrast to the United States—life satisfaction is growing throughout Europe. The well-being of men rose in all countries with the exceptions of a small (and insignificant) decline in Greece and a larger decline in Belgium. The increase in well-being in many of these countries is remarkable, and Italy experienced particularly large increases. In most of these countries, women's life satisfaction has also grown.

However, these increases in subjective well-being have been experienced to a greater degree by men, leading to a pervasive decline in well-being among women relative to men. Indeed, women's happiness fell relative to men's in all but one of the countries in the sample, and while the pattern is by no means uniform, the magnitudes are remarkably similar. The only exception to this rule is West Germany, although even there, the data are not clear cut. Referring to an alternative data source, the GSOEP, a panel dataset run from 1984, one finds parallel declines in life satisfaction for both men and women in West Germany, and hence no trend in the gender happiness gap.

The final three columns of Table 5 assess the robustness of these raw trends to a full set of control variables interacted with gender; these equations are estimated country-by-country, which expands the analysis in Table 4 by allowing the effects of these controls to vary by gender in each country. Again, these results point to a pervasive rise in well-being across European nations, and a pervasive decline in the well-being of women relative to men.

To further examine gender trends in mental distress we turn to examining data on self-reported measures of distress. Every year since 1991, the British Household Panel Study has administered the GHQ-12, a mental health battery for assessing psychological well-being.[6] We follow Oswald and Powdthavee (2007), and create a single index of mental strain as the simple sum of the number of negative responses; thus in contrast to the rest of this paper, higher scores are equated with lower levels of well-being. Figure 6 shows that since 1991, mental strain has been rising for British women, but falling for British men. Both of these trends are statistically significant (we cluster standard errors by year), as is the difference between them, and this finding remains unaltered by the inclusion of a rich set of individual-level control variables.

Finally, we have analyzed data from the other major data collections on subjective well-being, but begin by noting that they are not well-suited for assessing whether the gender happiness gap is changing. The International Social Survey Program asked comparable happiness questions across countries in 1991, 1998 and 2001,[7] while the World Values Study asked both happiness and life satisfaction questions in all four waves (1981-84; 1989-93; 1994-99 and 1999-2004). Both surveys typically involve about 1,000-2,000 respondents per country in each wave. Unfortunately, the infrequency of these samples, combined with the small number of respondents in each wave, limits their statistical power substantially. To see this, note that using annual GSS data for the U.S. yielded an estimate of the change in the gender happiness gap over a 35-year period that was 1½ times the standard deviation of the year-to-year movements in the gender happiness gap. Thus, while the magnitude of trend in the gender happiness gap could be reliably discerned from idiosyncratic year-to-year changes in data collections running for many years (like the GSS or the Eurobarometer), these cross-national data cover shorter periods (over which less change occurred), involve fewer observations, and have greater noise due to survey design changes between waves, ultimately undermining the ability of these data to falsify most interesting hypotheses. And indeed, this is what

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[6] The questions asked are: "Have you recently: (1) Been able to concentrate on whatever you are doing? (2) Lost much sleep over worry? (3) Felt that you are playing a useful part in things? (4) Felt capable of making decisions about things? (5) Felt constantly under strain? (6) Felt you could not overcome your difficulties? (7) Been able to enjoy your normal day-to-day activities? (8) Been able to face up to your problems? (9) Been feeling unhappy and depressed? (10) Been losing confidence in yourself? (11) Been thinking of yourself as a worthless person? (12) Been feeling reasonably happy all things considered?". Positive responses are "not at all" and "no more than usual", while negative responses include "rather more than usual" and "much more than usual".

[7] A question about happiness was also included in the 2002 survey round, but with a non-comparable set of response categories.

we find in Figure 7, which reports the estimated differential trend in happiness by gender for each country, along with a 95 percent confidence interval, estimated within each of these datasets. Out of the 147 country-survey estimates of the differential trend, only six yield statistically significant trends of greater relative well-being for men (none of these from the ISSP), and only twelve yield statistically significant trends of greater well-being for women.

While we fail to find a clear pattern of negative coefficients in these data sources, the confidence interval around these country-specific estimates are extremely wide—typically 5-10 times those from either the GSS or Eurobarometer estimates. Indeed, our key estimates for the U.S. and Europe (shown in Table 1and Table 4) suggest a trend in the gender well-being gap of about 0.3/100 per year, and this lies in the 95% confidence interval of 125 of the 147 estimates shown in Figure 7.

In an effort to exploit the strength of these data, which is in exploring the evolution of well-being across many countries, we pool the data to look for evidence of a "global" trend in women's well-being. The results in Table 6 are mixed, and somewhat imprecise. The ISSP data yield statistically significant evidence of a large decline in the relative well-being of women; if anything, these results are somewhat larger than those obtained for alternative samples; the World Values Survey yields a small positive trend, although these results do not falsify a null that there is a small negative trend.

IV. Satisfaction in Various Life Domains

On aggregate women's subjective well-being has declined relative to that of men, but with which aspects of their lives are they now less satisfied? In this section we explore a number of survey questions that assess men's and women's satisfaction across a number of domains: their work, their financial lives, their family, and their health. To preview our findings, we fail to pinpoint any specific domain of life that has driven the overall decline in the relative happiness and life satisfaction of women. Indeed, while women report declining satisfaction across a number of domains, men also report similar, and in some cases larger, declines.

We begin by analyzing job satisfaction, motivated by the observation that many laud the women's movement for having improved their employment options. Indeed, in an open-ended question asking "What do you think are the key accomplishments of the women's movement", more

women nominated improved employment opportunities than any other category (and interestingly, the top-ranked response among men was "the right to vote").[8]

Research in social psychology and labor economics has long highlighted the "paradox of the contented female worker" (Crosby 1982). The paradox is simply that despite women being over-represented in jobs that are worse by most objective standards—they face lower wages, occupational segregation into jobs with lower pay and worse conditions, and fewer opportunities for advancement—they have historically reported higher levels of job satisfaction than men.

One possible explanation is that women who would get the least satisfaction from market work have been more likely to select home production. A particular advantage of job satisfaction data from the General Social Survey is that they ask both homemakers and the employed: "On the whole, how satisfied are you with the work you do? Would you say you are very satisfied, moderately satisfied, a little dissatisfied, or very dissatisfied?" The levels and trends in the gender job satisfaction gap are shown in the top left panel of Figure 8. These data show no discernable difference in job satisfaction between men and women, and no discernable trend for either men or women over the period. Panel A of Table 7 formalizes this analysis, and these regressions yield similarly positive but imprecise estimates on the trend for both men and women.

Subsequent regressions disaggregate these data so as to disentangle job satisfaction among those engaged in market versus non-market work; of course these comparisons reflect both the changing hedonic experience of work for men and women, and dramatic changes in those selecting into market-based employment through this period.

Average job satisfaction among women engaged in market work has been declining, while job satisfaction among employed men has remained roughly constant. In unreported regressions we find that this decline in job satisfaction is concentrated among prime age women, while there is little change for either younger or older women. It should also be noted that the pre-existing positive gender gap in (market-based) job satisfaction only existed for these prime age women, and hence this

[8] These data come from the 1999 Virginia Slims American Women's Opinion Poll. Overall 17% of women nominated "employment opportunities/better jobs available to women", but the number of employment-related statements is even higher, as 7% noted "women are now accepted in the work-force"; 6% noted "equal paying jobs"; 6% noted "equal jobs"; 5% noted "better paying jobs"; 2% noted "less discrimination"; and in broader categories, 14% suggested "equal rights/equal opportunities"; and 10% pointed to "more freedom/freedom to make choices". By contrast "the right to vote" was suggested by only 13% of women (and 16% of men).

decline largely erases the paradox of the contented female worker. The point estimate on the job satisfaction of women "keeping house" has risen slightly, however the estimate is only statistically significant when controls are added. While the job satisfaction of men keeping house has risen substantially, this difference is not worth emphasizing as only around 1% of men are homemakers (compared with 30% of women), and the composition of this group has changed since the 1970s (as its size has tripled from about ½% to 1½% of men).

All told, job satisfaction can do little to explain the overall happiness patterns observed as women, unconditional on their choice of market versus home production, remain similarly satisfied with their work both when compared with the past and when compared with men. What has changed is not women's satisfaction, but the choice as to whether to work in the market, and the marginal woman entering the labor market has had lower job satisfaction than those who had previously entered.

As women have entered the labor force they have also increased their role in managing household finances, leading us to explore GSS data on satisfaction with family finances. Specifically, the GSS asks: "We are interested in how people are getting along financially these days. So far as you and your family are concerned, would you say that you are pretty well satisfied with your present financial situation, more or less satisfied, or not satisfied at all?" Women begin the sample with reported financial satisfaction that is similar to, or perhaps even higher, than that seen for men and men's satisfaction shows no obvious trend. In contrast, women's financial satisfaction declines significantly through the sample and, by the end of the sample, they are substantially less satisfied with their household financial situation than are men. Interestingly, these results are similar in the baseline specification and when controlling for life outcomes including family income (interacted with gender).

Because the survey question asks about a family's financial situation, it is useful to assess whether these trends reflect the different subjective responses of men and women to their combined family circumstances, or different satisfaction of female- and male-headed households. Thus, we disaggregate by marital status, finding that the relative decline in financial satisfaction is common to both the married and unmarried.

Turning to marital satisfaction, Figure 8 shows trends in answers to the question "Taking things all together, how would you describe your marriage? Would you say that your marriage is very happy, pretty happy, or not too happy?" Naturally this question is only asked of married women, so it is worth re-emphasizing our earlier finding that the overall relative decline in women's happiness was

common across both the married and unmarried populations. On average, women are less happy with their marriage than men and women have become less happy with their marriage over time. However, men have also become less happy with their marriage over time and thus, the gender gap in marital happiness has been largely stable over time.

It is interesting to juxtapose these trends in satisfaction with work and family life with time use data describing the commitment of men and women to the domestic and market spheres. Robinson and Godbey (1999) show that women decreased the time they spent each week doing housework and childcare by more hours between 1965 and 1985 than they increased their hours in the labor force. During the same period, men's hours doing housework and childcare rose by 4 hours. Between 1985 and 2000, fathers continued to increase their time doing housework and childcare, while mothers' time doing housework continued to decrease. Women still do more household labor than men, but they have been doing less every decade. In addition, men are much more likely than in the past to tell pollsters that they desire fewer hours in the labor force and more time for their family. Krueger (2007) analyzes changes in time use from 1965-2005, while he documents important changes across time use categories, he finds that "there have not been major shifts in time allocation toward more or less unpleasant activities over the last 40 years for men and women as a whole, although for men there has been a gradual downward trend in the proportion of time spent in unpleasant activities."

Finally, women's subjective assessment of their health has been increasing. When asked to rate their health on a four point scale from poor to excellent, women are reporting greater health satisfaction over the period both absolutely and relative to men. Even though adding controls for life outcomes reverses this relationship, the relative subjective assessment of the health of women is not declining.

In order to try to assess whether these measures of domain-specific satisfaction can account for the overall decline in the relative happiness of women, we included these subjective assessments of job, marital, financial and health satisfaction as controls in our earlier regressions. Specifically, we re-ran equation [1], but included as further controls a saturated set of dummy variables describing each of these four satisfaction measures, interacting each with gender, to allow for different effects by gender. Because of the way these variables were collected, this required us to analyze a sample of married men and women who were either working or keeping house. Missing values in various domain-specific data also meant dropping four years from the sample. While these estimates are not intended to reflect a causal model of happiness, they provide a useful accounting device. These control variables all had the expected signs, with greater satisfaction in any domain yielding greater overall

happiness. But overall, the residual (or unexplained) trend in the relative happiness of women is even more negative.

From 1976-1994 the General Social Survey also included a battery of questions asking how much satisfaction respondents get from a range of areas. Trends in these data are shown in Figure 9. Across the five sources of satisfaction probed, we find no statistically significant evidence of trends in women getting satisfaction from any particular area—either in either absolute terms or relative to men. We find suggestive evidence that family and friendships are increasingly an important source of satisfaction for women relative to men. However, the nature of the question makes this finding difficult to interpret, as the increase in satisfaction that women derive from family may imply greater satisfaction with that domain (a finding at odds with the finding of declining marital satisfaction), or differences in how men and women have come to see family life as a source of women's satisfaction.

We now turn to the Monitoring the Future survey, which probes subjective well-being in far greater detail than any other study run during our sample period. The obvious limitation with these data is that the important dimensions of well-being for 12th graders may be very different from that of adults. Nonetheless, it is worth recalling that the relative decline in the subjective well-being of 12th grade girls appeared as strongly as in our adult samples. A battery of questions explores the satisfaction of youth with various aspects of their lives. As before, we use ordered probit regressions to estimate trends in these variables, and Figure 10 shows these trends by gender, and in the leftmost panel, the trend in female relative to male well-being.

Two of these questions are rather global in nature, asking about satisfaction with "yourself", or with "your life as a whole these days". These results largely parallel the response to the happiness question analyzed in the previous section, with the subjective well-being of girls falling and the well-being of boys rising. Turning to the more specific questions, the common thread appears to be that 12th grade girls increasingly find themselves to be under time pressure, with both absolute and relative declines in reported satisfaction with "time for doing the things you want", "the way you spend your leisure time", and "the amount of fun you are having". Interestingly, there is also a substantial decline in the proportion of these young women reporting satisfaction with "friends and people you spend time with". The only domain in which girls experienced an absolute increase in well-being is in satisfaction with their personal safety. The trends for 12th grade boys are typically smaller, and often insignificant.

While it seems difficult to explain changes in the overall satisfaction of men and women by reference to well-being in specific domains, it may be that what is changing are the weights given to each of these domains in determining global well-being. As such, in Figure 11 we show the trends for young women and men in self-reports of the importance attached to various life domains. The most striking point is that young women are increasingly attaching greater importance to thirteen of the fourteen domains examined, with "finding purpose and meaning in my life" the only exception. This intensification of preferences largely holds true for young men, although the ability to find steady work is decreasingly important for them. In terms of the relative differences in these trends, the common thread appears to be an increasing ambition of young women beyond the domestic sphere, with greater importance attached to "being successful in my line of work", "being able to find steady work", "making a contribution to society", and "being a leader in my community".

While the analysis in this section is necessarily limited by available data, a few rough conclusions suggest themselves. Female subjective well-being is decreasing in many domains, however these decreases are in many cases similar to those experienced by men and there are few occurrences of a large or significant decrease in female subjective well-being relative to male well-being among the domains. Thus, it is difficult to pinpoint one aspect of women's lives that is contributing to their overall decrease in happiness relative to men. These data suggest an alternative framing of our research question: perhaps the puzzle is why men's happiness has not declined in line with women's happiness given their observed decrease in well-being across a multitude of domains.

V. Discussion

By most objective measures the lives of women in the United States have improved dramatically over the past 35 years. Moreover, women believe that their lives are better; in recent polls asking about changes in the status of women over the past 25 or 50 years, around four in five adults state that the overall status of women in the U.S. has gotten better (and the remaining respondents break two-for-one towards "stayed the same" over "worse").[9] Additionally, the 1999 Virginia Slims Poll found that 72% of women believe that "women having more choices in society today gives women more opportunities to be happy" while only 39% thought that having more choices

[9] *Survey by CBS News, April 28-April 30, 2006; Survey by CBS News, May 20-May 24, 2005.* Retrieved September 10, 2007 from the iPOLL Databank, The Roper Center for Public Opinion Research, University of Connecticut.

"makes life more complicated for women." Finally, women today are more likely than men to believe that their opportunities to succeed exceed those of their parents.

Yet trends in self-reported subjective well-being indicate that women are less happy today than they were in the 1970s. This finding of a decline in women's well-being, both absolutely and relatively to that of men, raises questions about whether modern social constructs have made women worse off, or alternatively about the interpretability of subjective well-being data analyzed over long-time periods. In 1974, Richard Easterlin pointed to a related puzzle—as countries got wealthier there was little evidence that their populations got happier, despite the existence of a robust relationship between income and well-being in both individual data and across countries. Similarly, despite findings of higher well-being among women in countries with less gender discrimination(Bjørnskov, Dreher and Fischer 2007), the decrease in gender discrimination since the 1970s has not improved the (subjectively perceived) lot of women. Rather than immediately inferring that the women's movement failed to improve the lot of women, we conclude with a simple taxonomy for organizing alternative explanations of this paradox.

First, there may be other important socio-economic forces that have made women worse off. A number of important macro trends have been documented—decreased social cohesion (Putnam 2000), increased anxiety and neuroticism (Twenge 2000), and increased household risk (Hacker 2006). While each of these trends have impacted both men and women, it is possible for even apparently gender-neutral trends to have gender-biased impacts if men and women respond differently to these forces. For example, if women get more disutility from risk than do men, then an increase in risk may lower women's utility relative to that of men.

The second possibility is that broad social shifts such as those brought on by the changing role of women in society fundamentally alter what measures of subjective well-being are capturing. Subjective well-being data have come to be used in the psychology and economics literatures because they have been shown to be correlated with physical evidence of affect such as smiling, laughing, heart rate measures, and electrical activity in the brain and have relatively high test–retest correlations (Diener 1984). Yet these measures do not necessarily indicate that subjective well-being measures are able to capture the positive or negative consequences of large-scale social changes over time. It has been recognized that an individual's assessment of their well-being may reflect the social desirability of responses and Kahneman (1999) argues that people in good circumstances may be hedonically better off than people in worse circumstances, yet they may require more to declare themselves happy. In the context of the findings presented in this paper, women may now feel more comfortable

being honest about their true happiness and have thus deflated their previously inflated responses. Or, as in Kahneman's example, the increased opportunities available to women may have increased what women require to declare themselves happy.

Finally, the changes brought about through the women's movement may have decreased women's happiness. The increased opportunity to succeed in many dimensions may have led to an increased likelihood of believing that one's life is not measuring up. Similarly, women may now compare their lives to a broader group, including men, and find their lives more likely to come up short in this assessment. Or women may simply find the complexity and increased pressure in their modern lives to have come at the cost of happiness.

Diener (2000) notes that one of the hallmarks of subjective well-being is that it is subjective, stating that "objective conditions such as health, comfort, virtue, or wealth" are "notably absent" and, while influencing subjective well-being, "they are not seen as inherent". This aspect of subjective well-being makes understanding what is behind declining female happiness a challenging task, yet decoding the paradox identified in this paper may indeed be the key to a better understanding of subjective well-being.

VI. References

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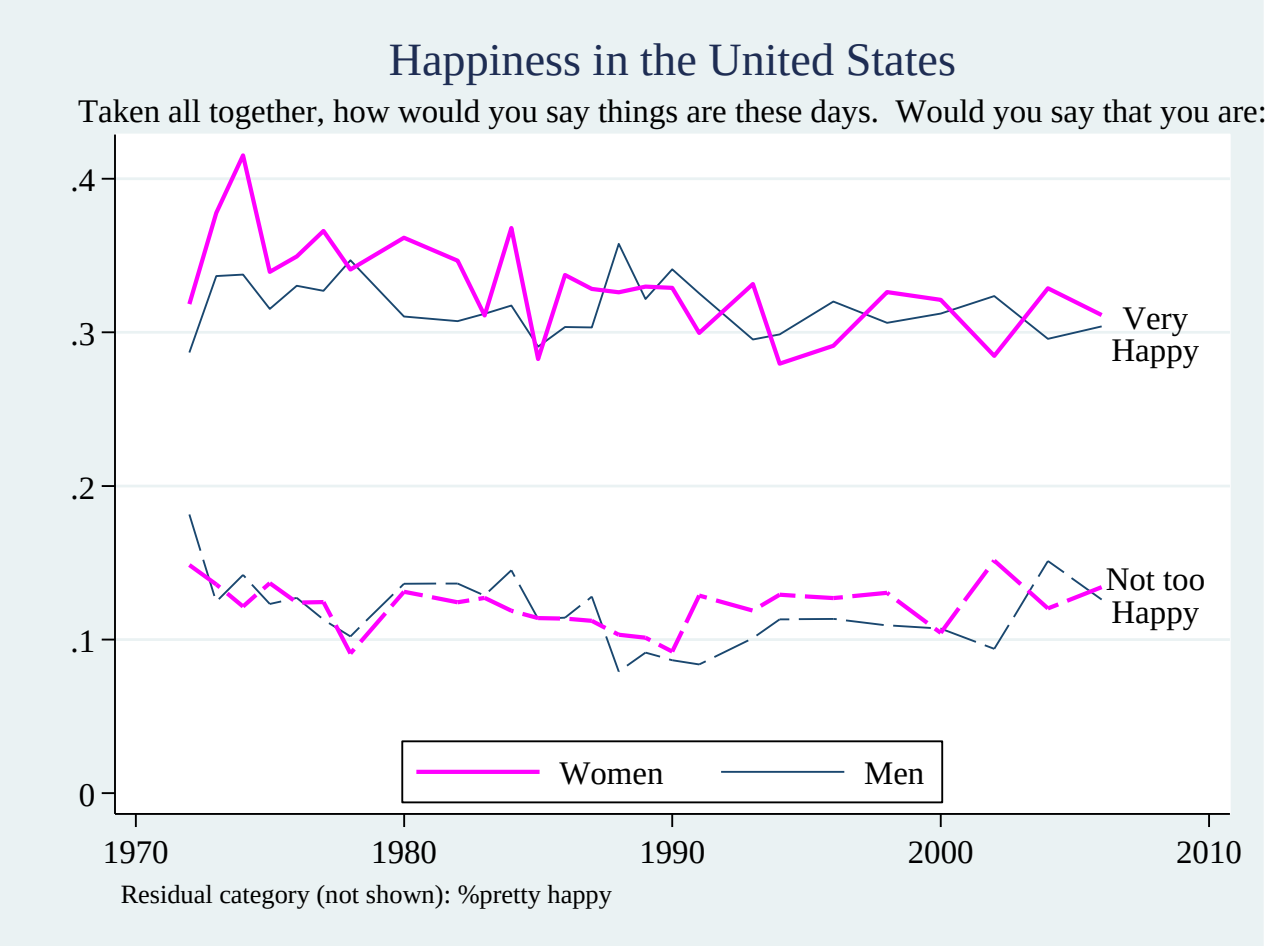
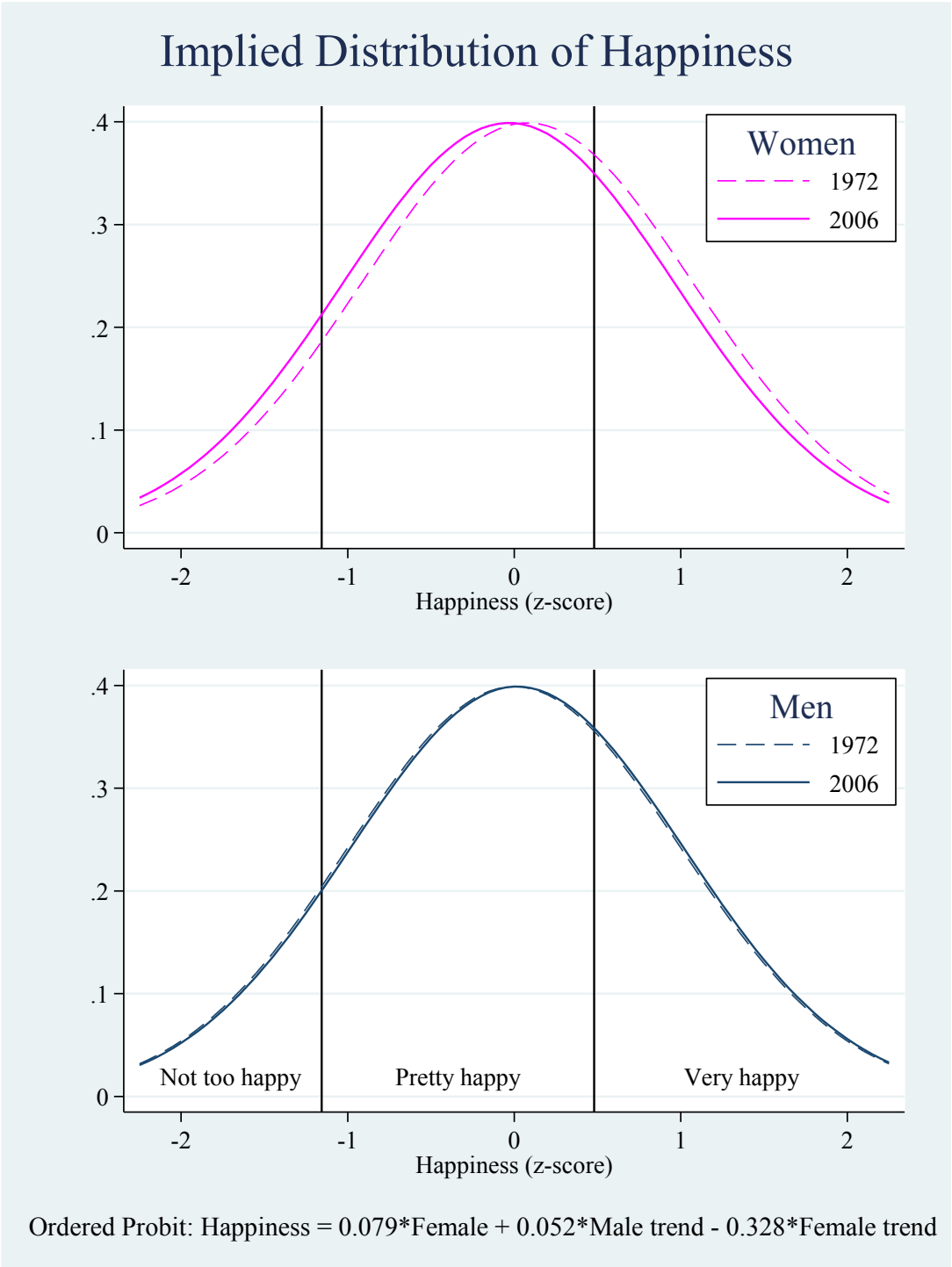
Figure 1: Happiness in the United States, 1972-2006



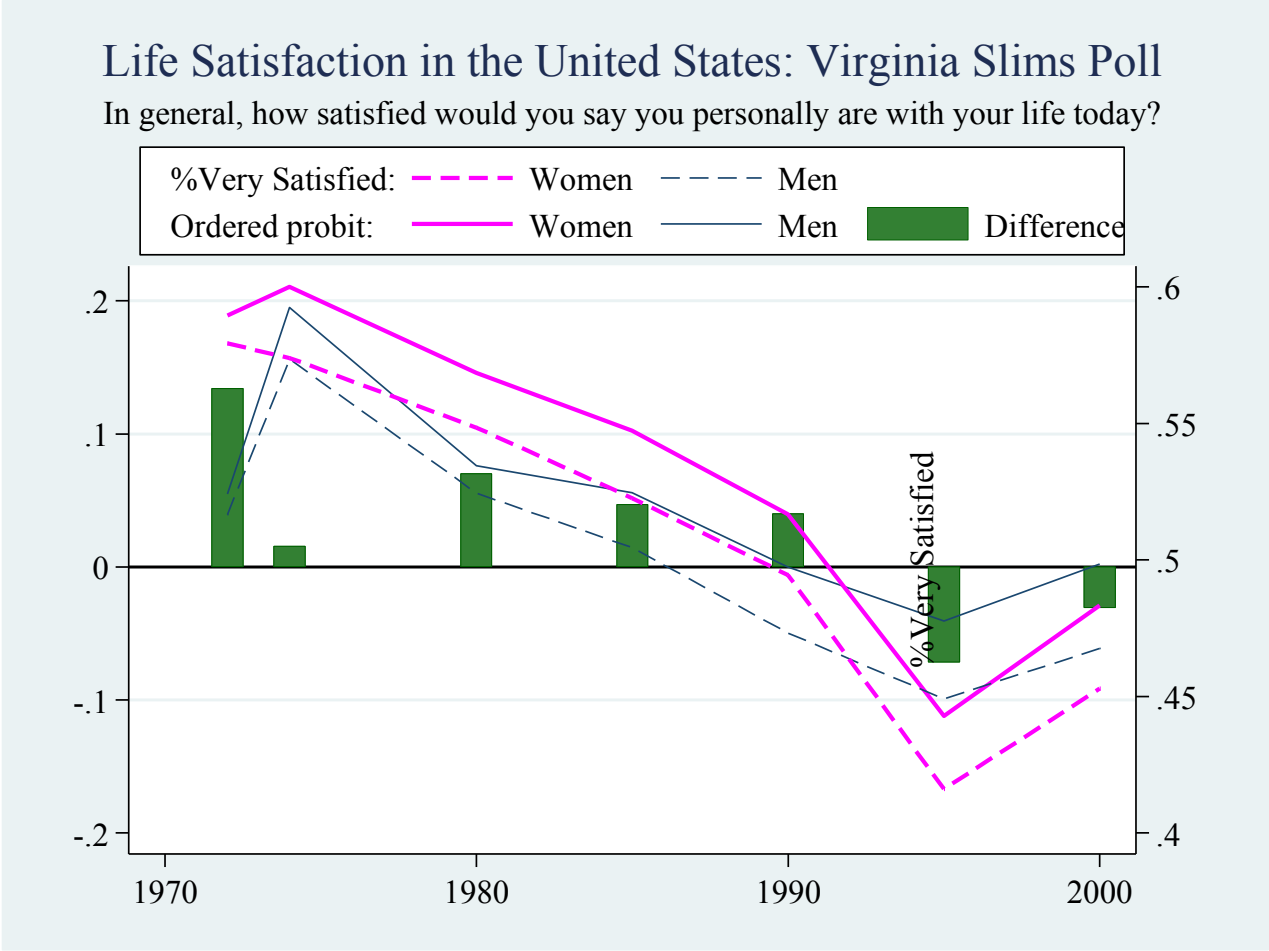
Source: General Social Survey, 1972-2006.

Figure 2: Implied Distribution of Happiness



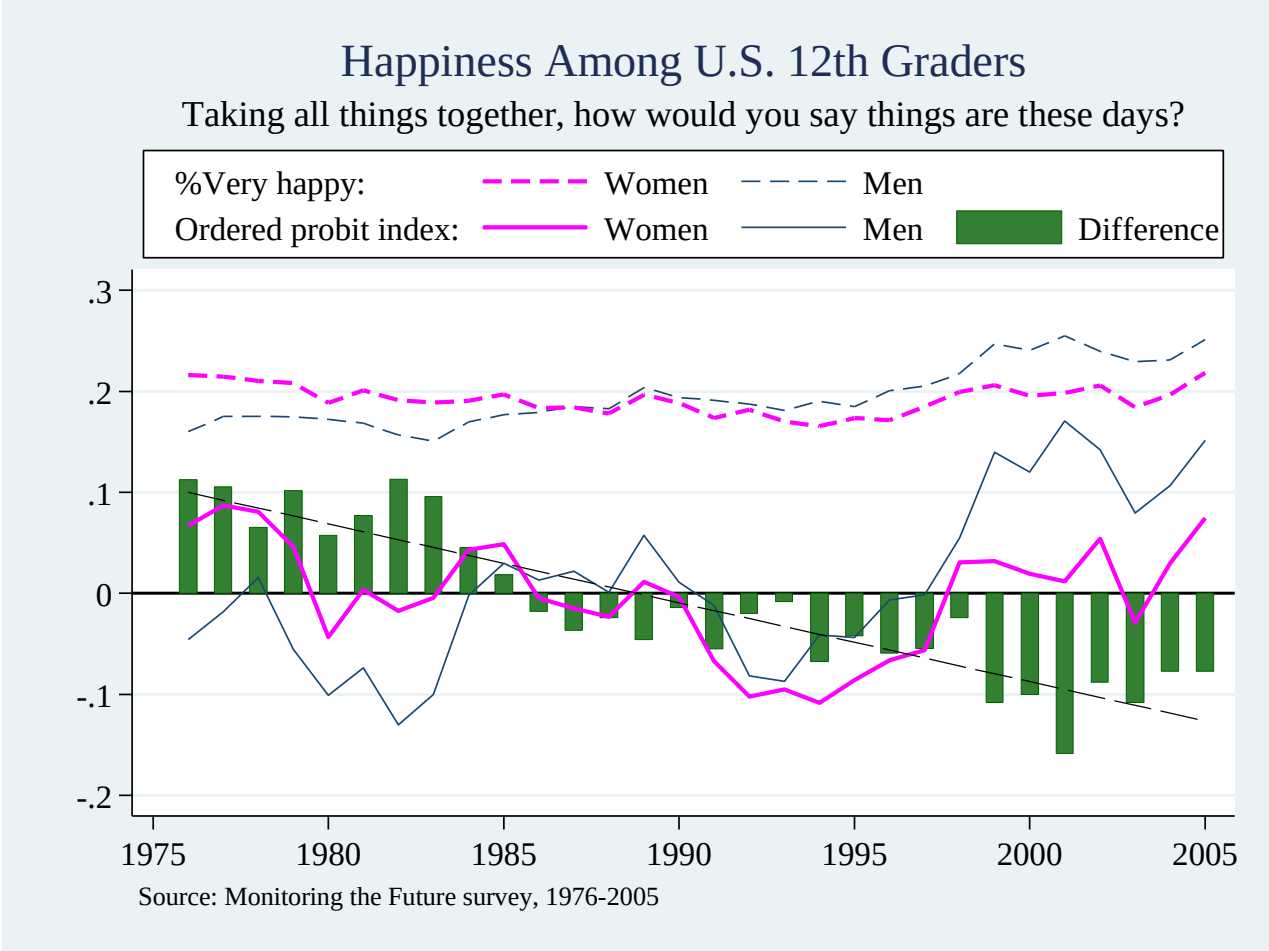
Source: Authors calculations based on regressions in first column of Table 1.

Figure 3: Life Satisfaction in the United States, Virginia Slims Poll



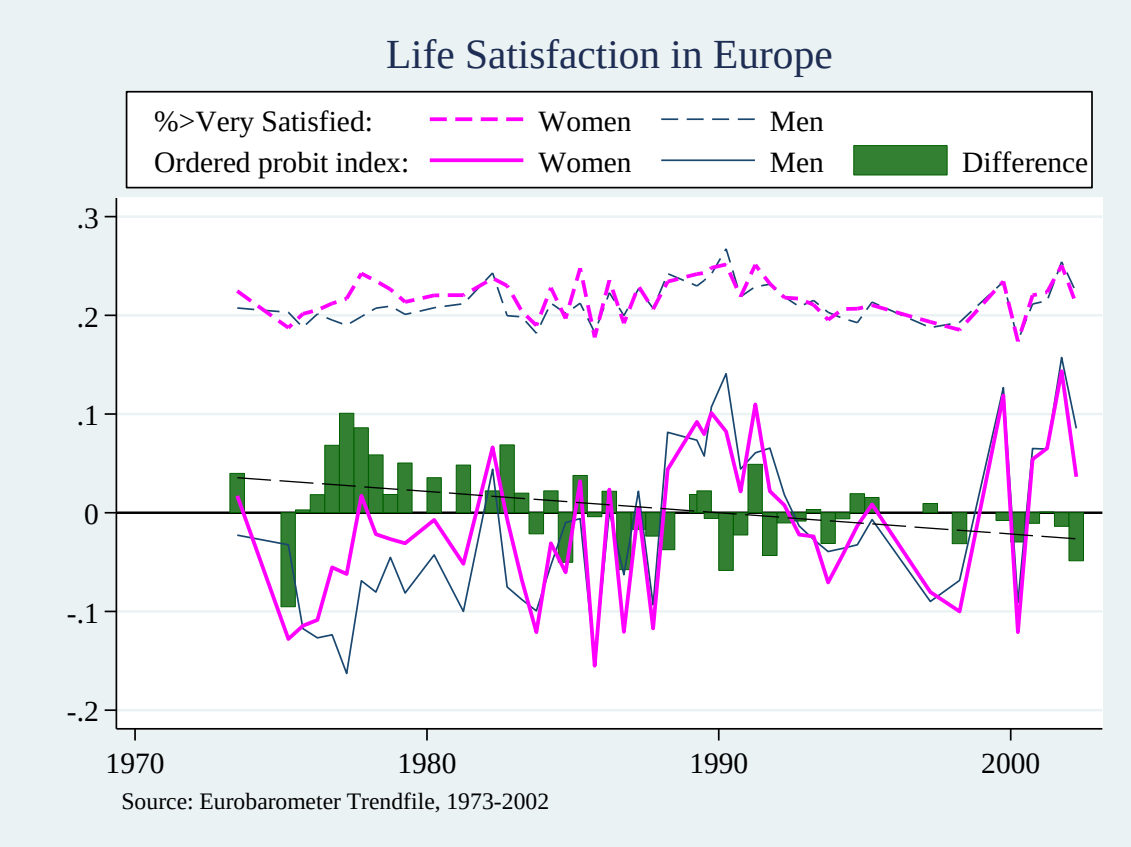
Source: Virginia Slim Survey of American Women (includes men), 1972, 1974, 1980, 1985, 1990, 1995 and 2000.
Notes: Dashed lines show the proportion of the population reporting that they are very satisfed with their lives. Solid lines represent estimates from an ordered probit regression of life satisfaction on a full set of survey*gender fixed effects; bars show the estimated gender well-being gap (female-male) in each survey round.

Figure 4: Happiness Among U.S. 12th Graders, 1976-2005



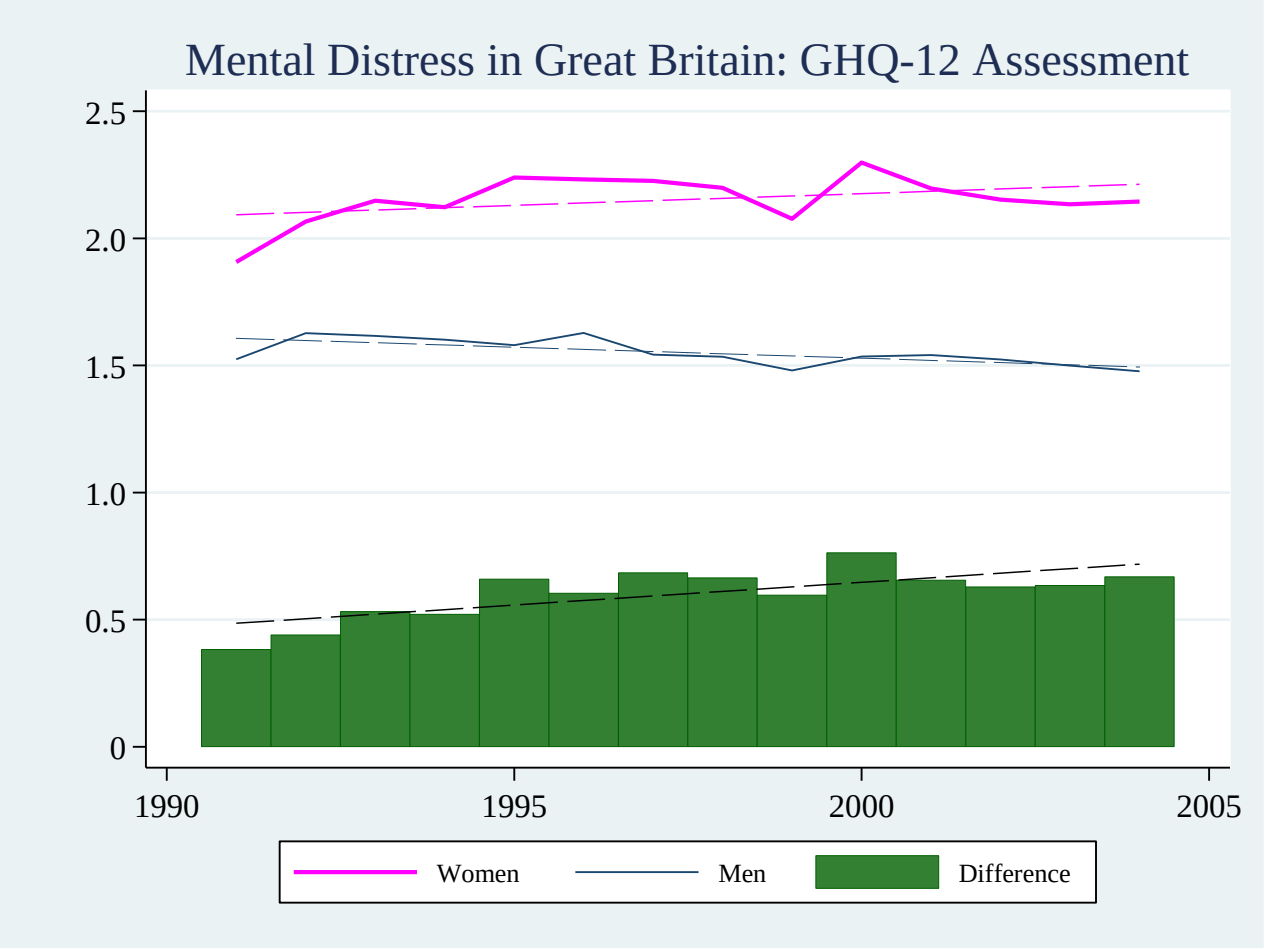
Notes: Dashed lines show the proportion of the population reporting that they are very satisfied with their lives. Solid lines represent estimates from an ordered probit regression of life satisfaction on a full set of survey*gender fixed effects; bars show the estimated gender well-being gap (female-male) in each survey round.

Figure 5: Life Satisfaction in the EU, 1973-2002



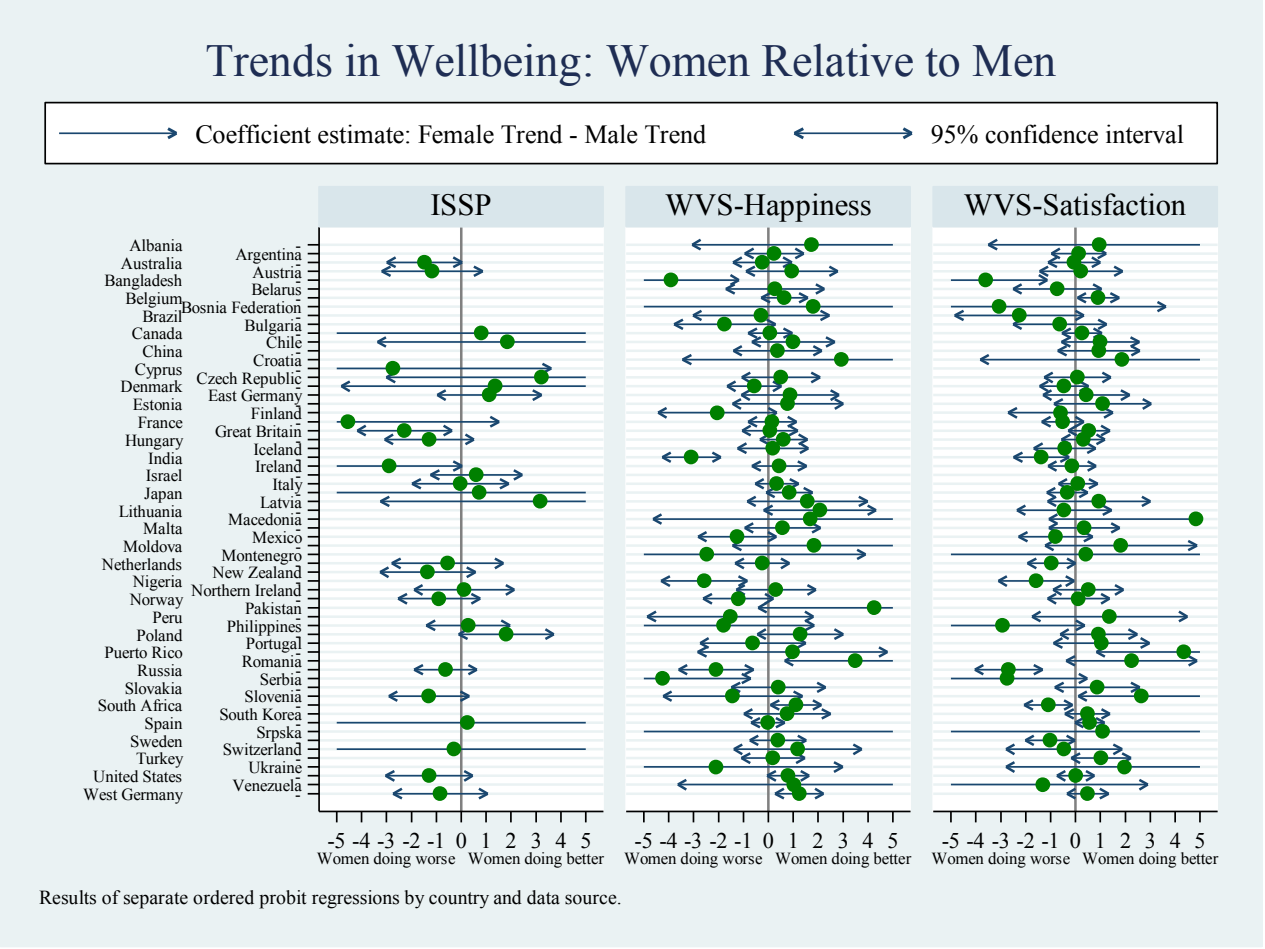
Notes: Dashed lines show the proportion of the population reporting that they are very satisfied with their lives. Solid lines represent estimates from an ordered probit regression of life satisfaction on a full set of survey*gender fixed effects; bars show the estimated gender well-being gap (female-male) in each survey round.

Figure 6: Mental Distress in Great Britain, 1991-2004



Source: British Household Panel Study, 1991-2004. Figure shows the average number of negative responses per person, from a battery of 12 questions probing their mental health, as well as estimated (dashed) trendlines.

Figure 7: Estimated Trends in the Gender Happiness Gap, by Country

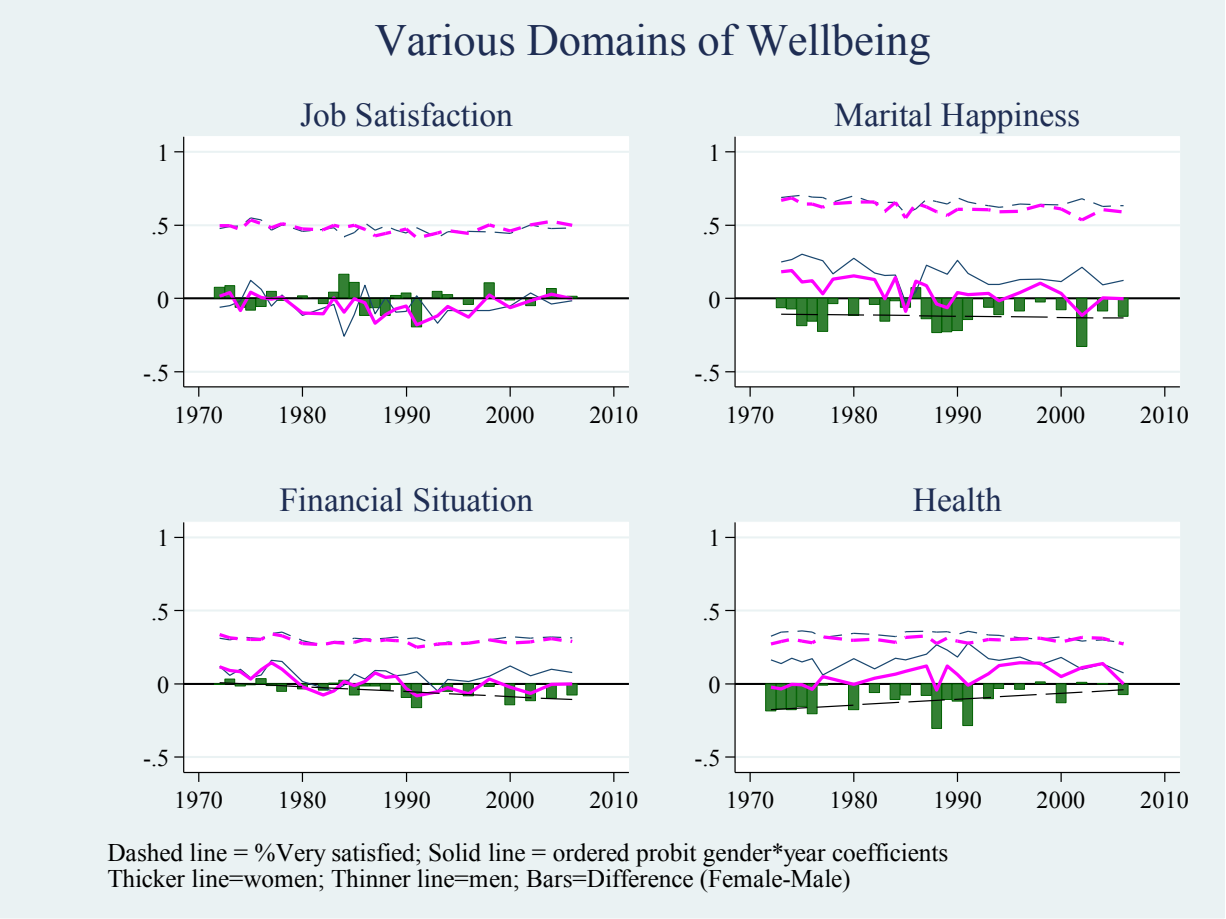


Source: World Values Survey, 1981-2004; International Social Survey Program, 1991, 1998 and 2001.
Notes: Each point reports the difference between trends in women's and men's happiness, obtained by estimating equation [1] (with no controls beyond gender) for each country in each of three data sources (where available):

1. The International Social Science Survey (ISSP), which asked: "*If you were to consider your life in general these days, how happy or unhappy would you say you are, on the whole? [4] Very happy; [3] Fairly happy; [2] Not very happy; [1] Not at all happy.*"
2. The World Values Survey question asking "*Taking all things together, would you say you are: [4] Very happy; [3] Quite happy; [2] Not very happy; [1] Not at all happy?*"
3. The World Values Survey question asking "*All things considered, how satisfied are you with your life as a whole these days?*" with respondents presented with a 10-point scale with the extremes labeled "[1] Dissatisfied" and "[10] Satisfied".

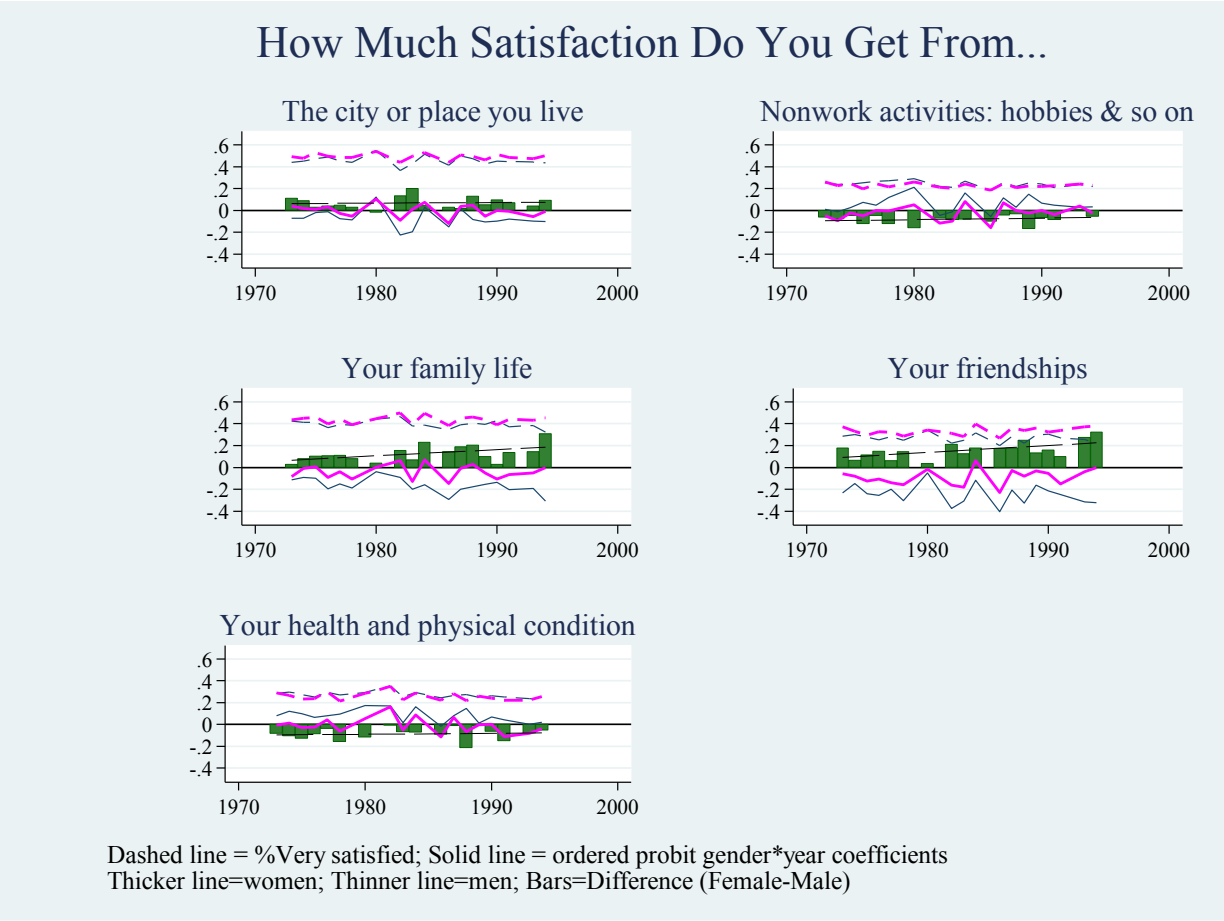
Figure does not report estimates where the standard error exceeds 2.5.
The independent variables are coded to the modal year in responses were collected for that country in that wave.

Figure 8: Well-being Across Domains, U.S. 1972-2006



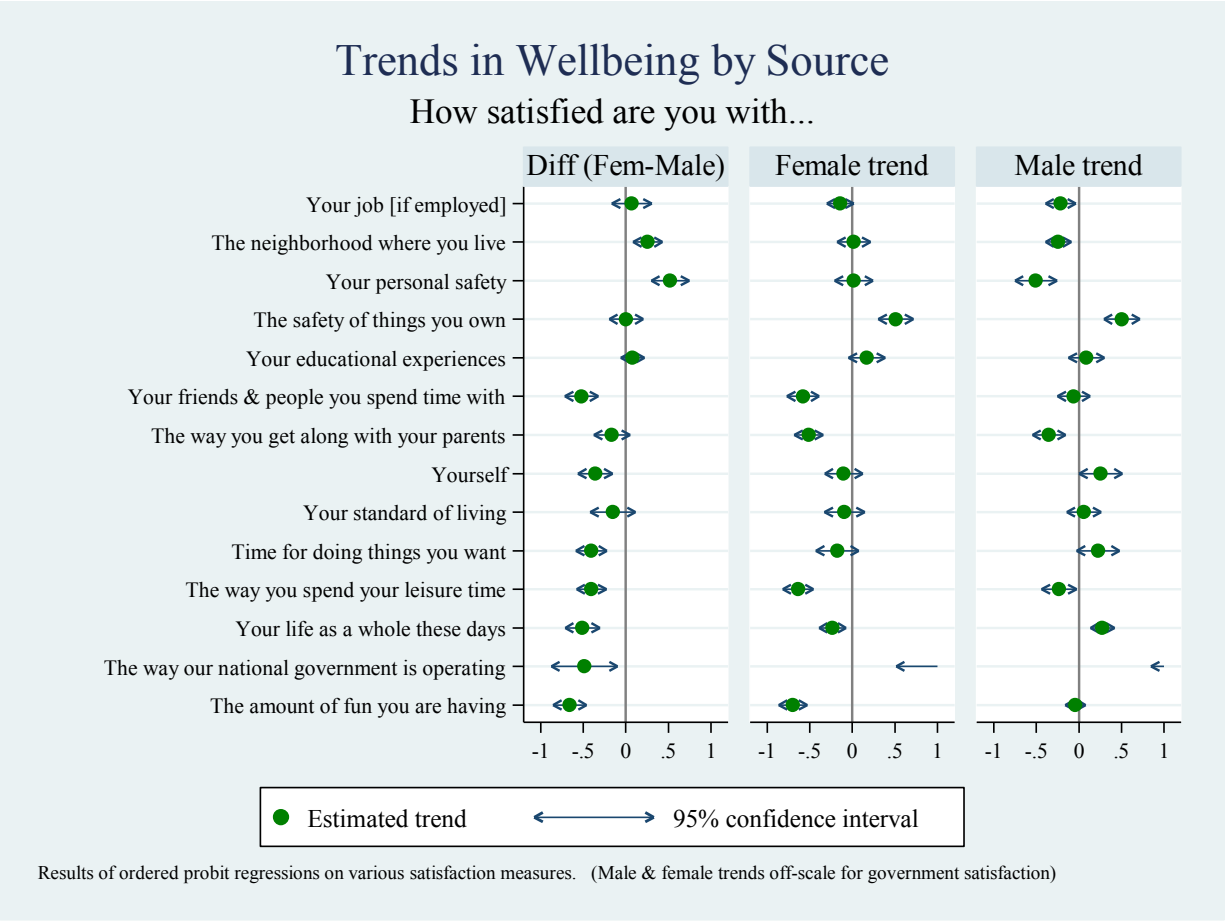
Source: General Social Survey, 1972-2006.

Figure 9: Satisfaction Derived From Various Areas, U.S. 1976-1994



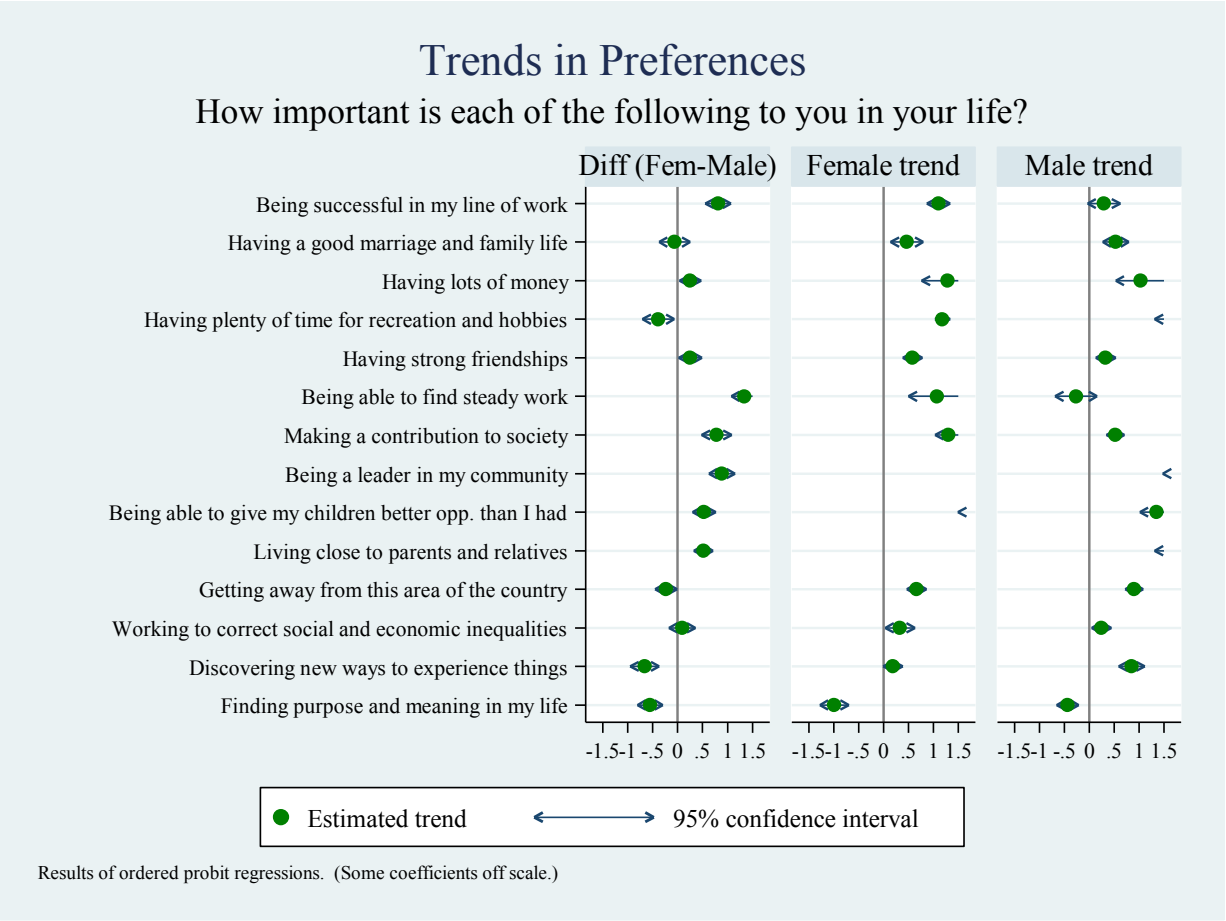
Source: General Social Survey, 1976-1994

Figure 10: Trends in Well-being by Source, U.S. 12th Graders, 1976-2005



Source: Monitoring the Future, 12th grade study, 1976-2005.
Notes: Figure shows estimated coefficients and 95% confidence intervals from estimating an ordered probit of domain-specific satisfaction (rated on a scale from 7="completely satisfied"; 4="neutral" to 1="completely dissatisfied") on separate time trends for men and women (as in equation [1]); these regressions include separate gender controls accounting for the form in which the question was asked. Standard errors are clustered by year.

Figure 11: Trends in Stated Preferences, U.S. 12th Graders, 1976-2005



Source: Monitoring the Future, 12th grade study, 1976-2005.
Notes: Figure shows estimated coefficients and 95% confidence intervals from estimating an ordered probit of the importance of each domain (rated as either [1] "not important", [2] "somewhat important", [3] "quite important", [4] "extremely important") on separate time trends for men and women (as in equation [1]); these regressions include separate gender controls accounting for the form in which the question was asked. Standard errors are clustered by year.

Table 1: Happiness Trends in the U.S. by Gender, General Social Survey

Ordered Probit Regression	**Dependent Variable: *"Taken all together, how would you say things are these days. Would you say that you are: ; [3] Very happy; [2] Pretty happy; [1] Not too happy."***			
Regression Coefficients	*(1)*	*(2)*	*(3)*	*(4)*
Female Time Trend (x100)	-0.328***	-0.273**	-0.243**	-0.262**
	(0.113)	(0.103)	(0.103)	(0.113)
Male Time Trend (x100)	0.052	0.054	0.212*	0.250*
	(0.128)	(0.112)	(0.113)	(0.130)
Female Dummy	0.079***	0.078***	0.182***	n.a.
	(0.022)	(0.025)	(0.025)	
Implied Trends in Gender Happiness Gap (*Female-Male*)				
Difference in Time Trends (x100)	-0.381***	-0.327**	-0.455***	-0.511***
	(0.137)	(0.135)	(0.134)	(0.171)
Gender happiness gap in 1972	0.079	0.078	0.182	0.205
Gender happiness gap in 2006	-0.051	-0.041	0.027	0.031
Control Variables				
Age, Race, Native-born[(a)]		✓	✓	✓
Employment, Income, Marital, & Education outcomes, Kids, Parent's education, Religion & Region[(b)]			✓	✓
All control variables, interacted with gender				✓

Notes: ***, **, and * denote statistically significant coefficients at 1%, 5% and 10%, respectively.
(Robust standard errors in parentheses; clustered by year)
n=46,303; GSS data from 1972-2006.
Gender gap in 1972, 2006 are projections based on reported coefficients.
(a) Age controls include indicators for each age decade; Race indicator variables include black, white and other
(b) Employment status includes indicators for full-time, part-time, temporary illness/vacation/strike, unemployed, retired, in school, keeping house, and other; Income is based on imputations of real family income, collapsed this variable into indicator variables, one for each decile; Marital outcomes include indicators for married, widowed, divorced, separated and never married; Children includes indicator variables for the number of children ever born, up to eight; Education variables are code the highest degree earned by the respondent, respondent's father, and respondent's month, including separate variables for <high school, high school, associates/junior college, bachelor's, or graduate degrees; Religion includes separate indicators for Protestant, Catholic, Jewish, None and Other; Region includes indicator variables for each of 9 regions.
Separate dummy variables are also included for missing values of each control variable.

Table 2: Differential Happiness Trends in the U.S. by Race, General Social Survey

Ordered Probit Regression	**Dependent Variable: *"Taken all together, how would you say things are these days? Would you say that you are: [3] Very happy; [2] Pretty happy; [1] Not too happy."***			
	Whites		**Blacks**	
Regression Coefficients	**No Controls**	**Full Controls**	**No Controls**	**Full Controls**
Female Time Trend (x100)	-0.363***	-0.468***	0.771***	0.835***
	(0.121)	(0.121)	(0.209)	(0.286)
Male Time Trend (x100)	0.037	0.247*	0.631***	0.595**
	(0.113)	(0.141)	(0.234)	(0.286)
Female Dummy	0.109***	n.a.	-0.092	n.a.
	(0.026)		(0.059)	
Implied Trends in Gender Happiness Gap (*Female-Male*)				
Difference in Time Trends	-0.399***	-0.715***	0.140	0.240
	(0.133)	(0.171)	(0.323)	(0.418)
Gender happiness gap in 1972	0.109	0.258	-0.092	-0.005
Gender happiness gap in 2006	-0.026	0.015	-0.044	0.077

Notes: ***, **, and * denote statistically significant coefficients at 1%, 5% and 10%, respectively.
(Robust standard errors in parentheses; clustered by year)
n=38,176 whites and 6,300 blacks; GSS data from 1972-2006.
No controls regression specification as in column one of Table 1; Full controls, includes interaction of individual-level observables with gender, as in the final column of Table 1.

Table 3: Trends in Happiness by Demographic Group, United States (Whites Only)

Ordered Probit	Estimated Time Trend in Happiness					
	No Controls			Full Controls		
	Women	Men	Difference	Women	Men	Difference
All Whites	-0.363***	0.037	**-0.399*** **	-0.468***	0.247*	**-0.715*** **
	(0.121)	(0.113)	**(0.133)**	(0.121)	(0.141)	**(0.171)**
Panel A: By Education						
<High School	-0.571***	-0.349*	**-0.222**	-0.217	0.123	**-0.340**
	(0.191)	(0.179)	**(0.206)**	(0.297)	(0.177)	**(0.371)**
High School	-0.791***	-0.246*	**-0.545*** **	-0.619***	0.116	**-0.734** **
	(0.147)	(0.136)	**(0.170)**	(0.193)	(0.203)	**(0.306)**
Jr College	-0.959***	-0.016	**-0.943**	-1.244***	0.208	**-1.452*** **
	(0.334)	(0.442)	**(0.551)***	(0.425)	(0.516)	**(0.519)**
Bachelors	-0.350	0.428**	**-0.778** **	0.049	0.923***	**-0.874** **
	(0.256)	(0.198)	**(0.321)**	(0.322)	(0.314)	**(0.344)**
Graduate	-0.803***	0.406	**-1.209*** **	-0.802**	0.567	**-1.370** **
	(0.309)	(0.290)	**(0.402)**	(0.405)	(0.401)	**(0.552)**
Panel B: By Age						
18-29	-0.045	0.283	**-0.328**	0.026	0.040	**-0.015**
	(0.204)	(0.203)	**(0.267)**	(0.256)	(0.407)	**(0.483)**
30-44	-0.357	0.232	**-0.589** **	0.042	0.655**	**-0.613***
	(0.220)	(0.156)	**(0.247)**	(0.287)	(0.317)	**(0.351)**
45-59	-0.542***	-0.092	**-0.450**	-0.435*	0.613**	**-1.049*** **
	(0.209)	(0.177)	**(0.281)**	(0.263)	(0.265)	**(0.406)**
60+	-0.470**	-0.290	**-0.180**	-0.573***	0.123	**-0.696** **
	(0.217)	(0.206)	**(0.234)**	(0.218)	(0.212)	**(0.297)**
Panel C: By Marital Status						
Married	0.051	0.626***	**-0.575*** **	-0.135	0.391**	**-0.526** **
	(0.160)	(0.156)	**(0.158)**	(0.150)	(0.184)	**(0.221)**
Widowed	0.117	0.602	**-0.485**	-0.908***	0.389	**-1.297** **
	(0.192)	(0.427)	**(0.474)**	(0.219)	(0.598)	**(0.623)**
Divorced / Separated	-0.072	0.321	**-0.393**	-0.953***	-0.022	**-0.931** **
	(0.208)	(0.251)	**(0.262)**	(0.235)	(0.375)	**(0.437)**
Never married	-0.521	0.228	**-0.749** **	-0.620*	0.098	**-0.718***
	(0.336)	(0.221)	**(0.312)**	(0.340)	(0.205)	**(0.432)**
Panel D: By Fertility (live births)						
Kids	-0.392***	0.125	**-0.517*** **	-0.460***	0.450**	**-0.910*** **
	(0.142)	(0.137)	**(0.126)**	(0.118)	(0.176)	**(0.152)**
No kids	-0.268	-0.040	**-0.228**	-0.305	-0.111	**-0.194**
	(0.192)	(0.179)	**(0.268)**	(0.208)	(0.195)	**(0.324)**

Panel E: By Employment Status						
Employed	-0.324**	0.099	**-0.423**	-0.427**	0.439***	**-0.866***
	(0.165)	(0.121)	**(0.151)**	(0.179)	(0.179)	**(0.198)**
Not employed	-0.477***	-0.105	**-0.343****	-0.519***	-0.170	**-0.349**
	(0.128)	(0.158)	**(0.162)**	(0.128)	(0.178)	**(0.237)**

Notes: ***, **, and * denote statistically significant coefficients at 1%, 5% and 10%, respectively.
(Robust standard errors in parentheses; clustered by year)
n=38,176 whites; GSS data from 1972-2006.
Each row examines a different subset of the total white population and shows the results of two regressions. The first three columns are the coefficients on female*time and male*time and the difference in these estimates, from an ordered probit that also controls for a female dummy, as in column one of Table 1. The last three columns report the same coefficients, but from a specification that controls for a rich array of individual-level controls interacted with gender, as in the final column of Table 1.

Table 4: Trends in Subjective Well-being in the EU, Eurobarometer 1973-2002

Ordered Probit Regression				
Dependent Variable: *"On the whole, are you very satisfied, or not at all satisfied with the life you lead? Would you say you are: [4] Very satisfied; [3] Fairly satisfied; [2] Not very satisfied; [1] Not at all satisfied"*				
Regression Coefficients	*(1)*	*(2)*	*(3)*	*(4)*
Female Time Trend (x100)	0.385**	0.559***	0.481***	0.450***
	(0.154)	(0.147)	(0.162)	(0.166)
Male Time Trend (x100)	0.580***	0.756***	0.655***	0.726***
	(0.142)	(0.136)	(0.159)	(0.165)
Female Dummy	0.033**	0.035***	0.073***	n.a.
	(0.013)	(0.014)	(0.013)	
Implied Trends in Gender Satisfaction Gap (*Female-Male*)				
	-0.195***	-0.197***	-0.174***	-0.275***
	(0.062)	(0.064)	(0.063)	(0.088)
Dependent Variable: *"Taking all things together, how would you say things are these days would you say you're: [3] Very happy; [2] Fairly happy or [1] Not too happy these days"*				
Female Time Trend (x100)	0.994	1.315**	1.104**	1.091**
	(0.638)	(0.668)	(0.517)	(0.504)
Male Time Trend (x100)	1.386***	1.728***	1.766***	1.789***
	(0.520)	(0.545)	(0.444)	
Female Dummy	0.040*	0.050**	0.113***	
	(0.023)	(0.024)	(0.025)	
Implied Trends in Gender Happiness Gap (*Female-Male*)				
Difference in Time Trends	-0.392*	-0.413*	-0.662***	-0.698**
(x100)	(0.227)	(0.237)	(0.245)	(0.284)
Control Variables				
Age, Nation [(a)]		✓	✓	✓
Occupation, Marital Status, Education, Ideology [(b)]			✓	✓
All control variables * gender				✓

Notes: ***, **, and * denote statistically significant coefficients at 1%, 5% and 10%, respectively.
(Robust standard errors in parentheses; clustered by Eurobarometer survey round.)
Eurobarometer data from the 1973-2002 ZEW Eurobarometer Trend File
Country samples weighted to be representative of the entire EU
Life satisfaction: n=636,400 in 47 survey rounds, drawn from 1973, 1975-2002.
Happiness: n=134,504 in 14 survey rounds, drawn from 1975-1979, 1982-1986.
(b) Occupation includes indicators for 27 occupation codes, including categories for housewives, students, military service, retirement and unemployment; Marital status includes separate indicator variables for single, married, living as married, divorced, separated and widowed; Education includes separate indicators for the age at which full-time education was completed (from14-22), with a separate indicator for those still studying; Ideology codes 10 indicator variables for where the respondent placed themselves on a left-right scale. Separate dummy variables are also included for missing values of each control variable.

Table 5: Life Satisfaction Trends by Country, Eurobarometer Survey

Ordered Probit		Estimated Time Trend in Life Satisfaction					
	#Surveys	No Controls			Full Controls		
		Women	Men	Difference	Women	Men	Difference
All EU	47	0.385** (0.154)	0.580*** (0.142)	**-0.195 (0.062)*****	0.450*** (0.166)	0.726*** (0.162)	**-0.275 (0.088)*****
By Country							
Belgium	47	-1.421*** (0.257)	-1.325*** (0.245)	**-0.097 (0.113)**	-1.298*** (0.298)	-1.422*** (0.293)	**0.123 (0.217)**
Denmark	47	1.179*** (0.193)	1.467*** (0.192)	**-0.288** (0.136)**	0.875*** (0.247)	1.185*** (0.270)	**-0.31 (0.222)**
France	47	0.413* (0.249)	0.961*** (0.235)	**-0.548***** (0.104)**	0.368 (0.272)	0.937*** (0.258)	**-0.569***** (0.183)**
Great Britain (inc. N. Ireland)	47	0.137 (0.124)	0.247** (0.123)	**-0.110 (0.103)**	0.490** (0.201)	0.766*** (0.192)	**-0.275 (0.206)**
Greece	36	-0.590 (0.427)	-0.204 (0.425)	**-0.386** (0.194)**	-0.882** (0.430)	-0.181 (0.490)	**-0.701** (0.317)**
Ireland	47	-0.155 (0.293)	0.032 (0.308)	**-0.187* (0.100)**	-0.542** (0.236)	-0.395 (0.273)	**-0.147 (0.222)**
Italy	47	1.714*** (0.219)	2.177*** (0.201)	**-0.463***** (0.153)**	1.683*** (0.230)	2.261*** (0.234)	**-0.578** (0.236)**
Luxembourg	47	0.184 (0.292)	0.879*** (0.215)	**-0.696***** (0.260)**	0.142 (0.337)	0.745** (0.310)	**-0.603* (0.342)**
Netherlands	47	0.311 (0.208)	0.694*** (0.154)	**-0.383***** (0.137)**	-0.023 (0.247)	0.551** (0.227)	**-0.574***** (0.200)**
Portugal	28	-0.081 (0.593)	1.275** (0.598)	**-1.356***** (0.138)**	-0.169 (0.550)	1.016 (0.623)	**-1.186***** (0.245)**
Spain	28	0.309 (0.484)	0.532 (0.512)	**-0.223 (0.226)**	0.398 (0.464)	1.032* (0.548)	**-0.634* (0.339)**
West Germany	47	0.468 (0.291)	0.160 (0.213)	**0.308** (0.154)**	0.282 (0.313)	-0.325 (0.269)	**0.607***** (0.234)**

Note: See notes to Table 4. Not shown: Those countries entering the Eurobarometer in the 1990s.

Table 6: Trends in the Gender Happiness Gap Around the World

Dataset:	ISSP	World Values Survey	
Dependent variable:	**Happiness**	**Happiness**	**Life satisfaction**
Ordered Probit Regression Coefficients			
Female Time Trend (x100)	-0.169	1.286***	-0.248
	(0.708)	(0.184)	(0.222)
Male Time Trend (x100)	0.440	1.188***	-0.288
	(0.667)	(0.209)	(0.207)
Implied Trends in Gender Happiness Gap (Female-Male)			
Difference in Time Trends (x100)	-0.609***	0.098	0.040
	(0.191)	(0.118)	(0.087)
Gender well-being gap in 1991	0.045	0.026	0.015
Gender well-being gap in 2001	-0.016	0.035	0.019
Control Variables			
Country * Gender	✓	✓	✓
Sample			
Observations	97,462	257,679	263,097
Country-years	79	193	193
Countries (≥2 waves)	35 (28)	86 (59)	86 (60)

Source: World Values Surveys, 1981-2004; International Social Survey Program 1991, 1998, 2001.
Notes: ***, **, and * denote statistically significant coefficients at 1%, 5% and 10%, respectively.
(Robust standard errors in parentheses; clustered by country-wave in parentheses.)
Weights reflect composition of the underlying samples.

Table 7: Trends in Well-being by Domain, GSS

Estimated Time Trend in Well-being						
Question	**No Controls**			**Full Controls**		
Sample	**Women**	**Men**	**Difference**	**Women**	**Men**	**Difference**
Job Satisfaction	*A. "On the whole, how satisfied are you with the work you do? Would you say you are [4] Very satisfied; [3] Moderately satisfied; [2] a little dissatisfied, or [1] Very dissatisfied"?*					
All respondents	-0.044	-0.070	**0.026**	0.120	0.126	**-0.005**
	(0.126)	(0.112)	**(0.109)**	(0.166)	(0.155)	**(0.171)**
If market work	-0.258**	-0.085	**-0.173***	-0.285*	0.094	**-0.379****
	(0.117)	(0.106)	**(0.104)**	(0.162)	(0.152)	**(0.173)**
If keeping house	0.192	2.637***	**-2.445*****	0.975***	2.385*	**-1.410**
	(0.269	(0.597)	**(0.656)**	(0.327)	(1.251)	**(1.312)**
Family finances	*B. "We are interested in how people are getting along financially these days. So far as you and your family are concerned, would you say that you are [3] Pretty well satisfied with your present financial situation; [2] More or less satisfied; or [1] Not satisfied at all?"*					
All adults	-0.340***	-0.028	**-0.313*****	-0.216*	0.021	**-0.237*****
	(0.100)	(0.095)	**(0.000)**	(0.114)	(0.119)	**(0.082)**
Married	0.093	0.391***	**-0.298*****	-0.243*	0.006	**-0.248****
	(0.087)	(0.116)	**(0.100)**	(0.129)	(0.172)	**(0.119)**
Single	-0.396***	-0.216	**-0.180**	-0.185	0.061	**-0.246**
	(0.152)	(0.111)	**(0.150)**	(0.179)	(0.113)	**(0.154)**
Marital happiness	*C. If currently married: "Taking things all together, how would you describe your marriage? Would you say that your marriage is [3] Very happy; [2] Pretty happy; or [1] Not too happy*					
Currently married	-0.463***	-0.451***	**-0.012**	-0.437***	-0.330**	**-0.107**
	(0.109)	(0.093)	**(0.136)**	(0.156)	(0.141)	**(0.195)**
Health	*D. Would you say your own health, in general, is [4] Excellent; [3] Good; [2] Fair, or [1] Poor*					
All adults	0.287*	-0.096	**0.382*****	-0.183***	-0.171*	**-0.012**
	(0.155)	(0.102)	**(0.115)**	(0.07)	(0.103)	**(0.137)**

Notes: ***, **, and * denote statistically significant coefficients at 1%, 5% and 10%, respectively.
(Robust standard errors in parentheses; clustered by year)
GSS data from 1972-2006; sample sizes vary by data availability.
Each row examines a different subset of the total white population and shows the results of two regressions. The first three columns are the coefficients on female*time and male*time and the difference in these estimates, from an ordered probit of each satisfaction measure, controlling for a female dummy, as in column one of Table 1. The last three columns report the same coefficients, but from a specification that controls for a rich array of individual-level interacted with gender, as in the final column of Table 1.