Happy Together, Sad Together?
Another Look at the Relative Decline in Women's Subjective Well-Being

June 2010

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Abstract

In a provocative paper, Betsey Stevenson and Justin Wolfers (2009) provide evidence that women over the last several decades experienced an absolute and relative decline in happiness. This paper draws upon novel data from the DDB Needham Life Style Survey to take another look at the evolution of women's subjective well-being. In contrast to Stevenson and Wolfers, I find that men and women between 1985 and 2005 experienced similar decreases in life satisfaction. Furthermore, both sexes witnessed comparable slippages in self-confidence, growing regrets about the past, and declines in virtually every measure of self-reported physical and mental health. I also provide evidence that men's well-being in recent years has begun to fall more rapidly than that for women. In the final section of the paper, I attempt to reconcile these conflicting results.

[1] Please direct all correspondence to chris.herbst@asu.edu. I would like to thank participants in the College of Public Programs Quantitative Analysis Working Group, Jeff Chapman, Mark Lopez, Tom Catlaw, John Ifcher, Justin Wolfers, and Betsey Stevenson for helpful comments and discussions. I am also grateful to Chris Callahan, at DDB Needham, who provided the Life Style Survey data between 1999 and 2005 and answered many questions along the way.

I. Introduction

In a provocative paper, Stevenson and Wolfers (2009) uncover evidence that women over the last three decades experienced an absolute and relative decline in happiness. Relying primarily on data from the General Social Survey (GSS), the authors (hereafter referred to as SW) find that men's self-reported happiness changed very little since the early-1970s, while women experienced a sharp downward trend in well-being. Indeed, SW report that women in 1972 were substantially more likely to be "very happy." By 2006, that happiness gap in favor of women turned into a deficit, with men reporting higher levels of well-being. The differential decline in female happiness is evident across multiple datasets spanning a large number of Western industrialized countries, and it pervades most demographic groups.[2]

This paper uses novel data from the DDB Needham Life Style Survey to provide another look at the evolution of women's subjective well-being over the last few decades. Data collection on the annual Life Style Survey began in the mid-1970s when the advertising agency DDB Needham commissioned the polling firm Market Facts to examine Americans' consumer habits and social activities. Fortunately for the purposes of this paper, the Life Style Survey also contains a large number of items on subjective well-being, ranging from life satisfaction and self-confidence to various measures of physical and mental health. This survey offers several advantages over the GSS—the standard data source on Americans' happiness—thus providing scholars with an opportunity to take a fresh look at changes in subjective well-being over the last few decades.

In contrast to SW's results, I find that men and women between 1985 and 2005 experienced very similar declines in life satisfaction. The parallel reduction in well-being is evident throughout the distribution of life satisfaction, and it holds across a large number of demographic groups defined

[2] In addition to the GSS (observation period: 1972-2006), SW examine well-being trends using the Virginia Slims Survey of American Women (1972-2000), Monitoring the Future (1976-2005), and the Eurobarometer Trend File (1973-2002). The female trend in happiness/life satisfaction is estimated to be declining in all datasets except the Eurobarometer (for which it is increasing). The male trend in happiness/life satisfaction is estimated to be flat in the GSS, declining in the Virginia Slims survey, increasing in the Monitoring the Future survey, and increasing in the Eurobarometer survey. Results from all surveys point to a relative decline in women's subjective well-being.

by age, marital and fertility status, educational attainment, and income level. Men and women have also experienced comparable slippages in self-confidence, growing regrets about the past, and declines in virtually every measure of self-reported health. In a further departure from SW's results, I find that although the downward trend in life satisfaction became less severe for men and women over time, the slowdown occurred more aggressively among *women*. As a result, men's life satisfaction began to fall more precipitously than that for women beginning in the late-1980s.

To explain the differential decline in women's happiness, SW posit that women may have been influenced by broad social and economic changes in ways that differ from men.[3] For example, it is plausible that the constellation of structural changes in the economy, the rise in income inequality, or the deterioration in social and political trust decreased women's happiness without affecting men's well-being. In this paper, I use the Life Style Survey to examine whether local economic conditions as well as personal views on trust and public safety have differential impacts on life satisfaction across men and women. Not surprisingly, I find consistent evidence that each of these economic and social forces is strongly associated with life satisfaction. In most cases, however, these factors influence the well-being of men and women in a similar manner. Such results are consistent with the main finding that men and women experienced parallel trends in subjective well-being.

In the final section of the paper, I attempt to reconcile my results with those reported in SW. I focus on three potential explanations. First, SW's GSS results rely on a question inquiring about respondents' *happiness*, whereas the Life Style Survey contains an item on *life satisfaction*.[4] Although questions on happiness and life satisfaction tap different dimensions of subjective well-

[3] SW are quite thorough in describing potential explanations for the differential decline in female happiness. In addition to those mentioned in the text, SW inquire whether women's increased participation in multiple domains (e.g., home, work, professional/social clubs, etc.) may have led to an averaging of happiness over those domains in a way that decreased happiness. Another explanation put forth is that a change in women's reference group (from predominately other women to other men) when determining happiness might have lowered relative well-being, or it could simply be an artifact of a shift in how women approach and answer survey questions on subjective well-being.

[4] It is important to note that one of the datasets used by SW contains a life satisfaction question (Virginia Slims), and one dataset includes questions on happiness and life satisfaction (Eurobarometer). Both well-being measures in the Eurobarometer yield qualitatively similar trend results.

being, both capture global quality-of-life assessments and both elicit cognitive rather than affective evaluations of well-being (Fischer, 2009; Kahneman & Krueger, 2006). As such, they tend to be used interchangeably in the literature (Easterlin, 2001; Frey & Stutzer, 2002). I provide some evidence on the comparability of happiness and life satisfaction measures by estimating regressions of each on a common set of demographic characteristics in the GSS and Life Style Survey. I find remarkable consistency in both the sign and magnitude of the determinants of happiness and life satisfaction.

Second, I explore the role of using different time periods in the analyses. The datasets used by SW generally begin to track subjective well-being in the early-1970s, whereas life satisfaction data become available in the Life Style Survey starting in the mid-1980s. Such temporal differences are potentially important in light of SW's graphical evidence suggesting that most of the differential decline in women's happiness occurred throughout the 1970s. I find mixed evidence in support of this explanation. When SW's well-being equations are estimated on a time period for which comparable Life Style data are available, the relative female decline disappears in the GSS but remains detectable in the Virginia Slims and Eurobarometer data.

Finally, I focus on the data collection strategies used by the GSS and Life Style Survey. The GSS data are fielded by face-to-face interviews, while the Life Style Survey is administered as a mail questionnaire. An important issue is whether certain characteristics of aural (e.g., face-to-face) and visual (e.g., mail) survey formats produce different answers on similar questionnaire items. I provide evidence from the survey methodology literature that the physical presence of an interviewer and the time pressures associated with face-to-face surveys lead participants to express socially desirable opinions and underreport highly sensitive information. Therefore, it seems plausible that differences in interview techniques account for some of the discrepancies between my results and those in SW.

This paper makes several contributions to the literature on subjective well-being trends. First, I introduce a potentially useful dataset that may improve upon or augment analyses typically

carried out using the GSS. The Life Style Survey's extensive time coverage, breadth and depth of available well-being measures, and large sample sizes make it an ideal data source for conducting research on Americans' quality-of-life. In addition, I provide new evidence on the evolution of life satisfaction for men and women. Results in this paper point to a population-wide decline in subjective well-being over the last 20 years. Americans—regardless of age, marital status, and labor market outcomes—experienced deteriorating life satisfaction and self-confidence, increases in a range of stress-related health problems, and rising concerns about financial security. In contrast to SW's results, men have not been immune to the downward shift in subjective well-being. In fact, the evidence presented here suggests that men's well-being in recent years has declined more rapidly than that for women. Finally, I shed light on an important but heretofore largely ignored methodological issue in subjective well-being research: survey respondents have a strong tendency to answer sensitive attitudinal questions differently depending on the interview mode. Such differences are particularly evident in comparisons of face-to-face interviews (GSS) with mail surveys (Life Style Survey). Future research should therefore explore how these survey modes influence the comparability of subjective well-being measures.

II. Data and Empirical Framework

The DDB Needham Life Style Survey

I examine gender-specific trends in subjective well-being using the DDB Needham Life Style Survey. Each year since 1975, the advertising agency DDB Needham contracts with Market Facts, a commercial polling firm, to conduct the survey on a sample of approximately 3,500 Americans.[5] The survey instrument covers a remarkably diverse set of topics, ranging from consumer behavior and product preferences to recreational activities and political attitudes. The current study exploits a large number of items covering multiple dimensions of subjective well-being. The main results rely

[5] The sample size ranges from 2,774 respondents in 1977 to 4,116 respondents in 1988.

on a question measuring life satisfaction, but auxiliary analyses examine trends in self-reported health status and financial security.[6]

The Life Style Survey has a number of advantages over the GSS, the primary data archive used to evaluate subjective well-being in the U.S. First, whereas the GSS relies on a single question to measure global happiness, the Life Style Survey contains numerous well-being items that enable researchers to construct a textured and multi-dimensional understanding of subjective well-being. Specifically, the survey covers such issues as life satisfaction, feelings of regret about the past and optimism about the future, self-confidence, self-reported physical condition, and stress-related physical symptoms. In addition, the Life Style Survey has been conducted annually since the mid-1970s, with all well-being questions asked in precisely the same manner each year and the data collection procedures remaining stable over time. The GSS, in contrast, operated as an annual survey (except in 1979, 1981, and 1992) until 1994, when it became a biennial survey. Furthermore, only half of all GSS respondents were asked the happiness question in 2002 and 2004, and two-thirds were asked the question in 2006.[7] Finally, given that the Life Style Survey is administered through the mail, it allows DDB Needham to inquire about sensitive issues while maintaining privacy and reducing social desirability effects (Visser et al., 1996).

In addition to the structural differences between the GSS and Life Style Survey, it is worth comparing measures of subjective well-being in these surveys. Happiness in the GSS is measured with the following question: "Taken all together, how would you say things are these days—would you say that you are (3) very happy, (2) pretty happy, or (1) not too happy?" Life satisfaction in the Life Style Survey is ascertained by responses to the following statement: "I am very satisfied with the way things are going in my life these days" (response categories: 6=definitely agree, 5=generally agree, 4=moderately agree, 3=moderately disagree, 2=generally disagree, and 1=definitely disagree).

[6] Putnam and Yonish (1999) and Groeneman (1994) provide detailed introductions to the Life Style Survey. It is important to note that this is a proprietary data archive, although the 1975-1998 surveys are freely available on Robert Putnam's *Bowling Alone* website.

[7] That the happiness data became less available starting in the early 1990s is somewhat concerning since this period marks the first time that men began consistently reporting higher levels of well-being.

Life satisfaction's larger and more balanced set of response categories creates more space within which to express the direction and magnitude of subjective well-being.[8] Conceptually, some argue that measures of life satisfaction are preferred over measures of happiness because the latter is more susceptible to measurement error arising from instantaneous or unpredictable affective responses (e.g., momentary mood swings) that have little to do with cognitive assessments of long-term well-being (Fischer, 2009). Moreover, the word "satisfaction" has been shown to suffer from fewer translation problems than "happiness" (Bjørnskov, 2010). In fact, a recent study finds that well-being statements containing the word "satisfaction" are easier to translate across cultures and languages, thereby generating more reliable measures of subjective well-being (Fischer & Kirchgassner, 2008).

The Life Style Survey also contains a number of important drawbacks. Between 1975 and 1984, the survey included only married individuals. To maintain consistency in the sampling frame, I begin the observation period in 1985.[9] Second, the item on life satisfaction was introduced into the survey in 1983, precluding an analysis of well-being trends throughout the 1970s, as is possible with the GSS.[10] Third, as noted by Putnam and Yonish (1999), the sample appears to slightly under-represent racial minorities, single individuals, and those with low levels of education. If the degree of undercounting changes over time or is correlated with trends in subjective well-being, it could result in a form of sample selection bias. However, a careful analysis by Putnam and Yonish (1999) find no evidence that the nature or magnitude of under-representation has changed over time.

Finally, the Life Style Survey is based on a form of quota sampling called the "mail panel."[11] Briefly, the process for creating the sample begins when Market Facts invites (by mail) large,

[8] The smaller number of response categories in the GSS's happiness question is a consequence of its face-to-face interview approach. Respondents' cognitive limitations (as well as the clumsiness associated with having to read long strings of answer categories) preclude the use of larger response options.

[9] The survey underwent a dramatic redesign in 2006. Therefore, I end the observation period in 2005.

[10] Once introduced, however, the life satisfaction question appears in every Life Style Survey between 1983 and 2005. Data collection on the other well-being measures reported in this paper began in 1975.

[11] Unlike traditional panel surveys, which follow sample members for several years, the LS survey constructs its sample from a group of individuals who agree to participate in multiple surveys throughout a single year, after which the sampling process begins anew.

representative samples to express a willingness to participate in future mail inquires on consumer habits. From this pool of several hundred-thousand individuals, Market Facts then selects a demographically representative sample for the DDB Needham Life Style Survey. Approximately 5,000 respondents are mailed a written questionnaire, for which the response rate is consistently between 70 percent and 80 percent. Given the multitude of potential biases present in this sampling strategy, mail panels in general and the Life Style Survey specifically have been subjected to extensive validity tests (e.g., Groeneman, 1994; Heberlein & Baumgartner, 1978; Putnam & Yonish, 1999; Visser et al., 1996).[12] Results from these tests indicate a striking similarity in the distribution of demographic characteristics for respondents in the Life Style Survey and GSS; a close agreement in the trends of attitudinal variables common to both surveys; and a strong correspondence in the demographic correlates of those attitudinal variables.

Table 1 provides additional comparisons between the Life Style Survey and GSS. I present summary statistics for a number of standard demographic variables found in both surveys. The GSS figures are calculated using SW's analysis dataset for the period 1972-2006 and 1985-2004.[13] With the exception of marital status, summary statistics in Life Style Survey match closely those derived from the GSS. Consistent with previous work, the Life Style Survey appears to overcount married individuals and undercount never married individuals. Comparisons of educational attainment using SW's analysis variables reveal considerable differences between these surveys. However, the differences are largely driven by the GSS's severe undercounting of those with some college education. An alternative variable in the GSS provides more consistency in the distribution of educational attainment across both surveys.[14]

[12] The primary concern is the mechanism by which individuals initially select into the mail panel. In particular, it raises the question of whether people who join mail panels are different from those who respond to other surveys. A related concern focuses on the extent to which people are knowledgeable about the content of the survey before joining the panel. If such individuals are interested in the content, they might be more likely to join than those who are not. Therefore, the sample selection procedure might be prone to over-representing individuals with certain personality traits relevant to a study on subjective well-being.

[13] SW provide full access to their data and code, which can be found here: http://bpp.wharton.upenn.edu/jwolfers/data.shtml#WomensHappinessData.

[14] SW's analysis variables for education are based on the GSS variable "degree." The alternative variables are derived from "educ."

Empirical Analysis of Gender-Specific Trends in Life Satisfaction

Before proceeding to the regression analysis, it is useful to provide a graphical look at well-being trends for men and women between 1985 and 2005. Figure 1 displays raw means in the life satisfaction index (range: one to six), while Figures 2 shows time series movements in different parts of the life satisfaction distribution. Looking first at Figure 1, we find that men and women experienced similar declines in well-being over the last two decades. Average life satisfaction levels for men and women are indistinguishable in both 1985 (male average: 4.16; female average: 4.15) and 2005 (male average: 3.99; female average: 3.99). Interestingly, it appears that most of the slippage in life satisfaction occurred between 1985 and the early-1990s, followed by a considerable rebound that ended in the early-2000s. Such results suggest that macro-economic conditions play an important role in shaping subjective well-being.

Figure 2 examines the proportion of respondents who "definitely agree" (top lines) and "definitely disagree" (bottom lines) that they are very satisfied with life. Women are consistently more likely than men to report extremely high and extremely low levels of life satisfaction. Once again, however, there are no discernible gender differences in the well-being trends. Women in 1985, for example, are three percentage points more likely to "definitely agree" that they are very satisfied. By 2005, the well-being gap stood at 2.7 percentage points. The figure also reveals that the reduction in life satisfaction overall has been driven by the decline in those self-reporting the highest levels of well-being.

The story emerging from Figures 1 and 2 indicates that men and women experienced similar reductions in subjective well-being over the past 20 years. These raw trends, however, do not account for changes in potentially confounding variables. As pointed out by SW, the last several decades witnessed dramatic shifts in educational attainment and labor market outcomes that favor women. In addition, there have been important compositional changes in the population, including a shift to an older population and the rise in female-headed households. It is therefore important to

condition the gender-specific trends on these observable characteristics.[15] To maintain consistency with SW's empirical approach, I estimate permutations of the following regression model:

[1] $y_{it} = \beta_0 + \beta_1 female_{it} + \beta_2(female_t \times trend) + \beta_3(male_t \times trend) + \mathbf{D}'_{it}\gamma + \varepsilon_{it}$,

for $i = 1, \ldots, I$; $t = 1, \ldots, T$, where i indexes individuals and t indexes years. The dependent variable, y_{it}, represents various measures of life satisfaction for the i^{th} respondent in year t. I model the full life satisfaction index using an ordered probit. In addition, separate binary indicators are created to equal unity for those reporting "definitely agree," "definitely disagree," and any agreement ("definitely," "generally," or "moderately") with the life satisfaction statement. The binary outcomes are estimated using probit regression. The *female* is a dummy variable that equals unity if a given respondent is female and zero if the respondent is male. The interaction term ($female_t \times trend$) is a linear time trend applied to women (/100), and the ($male_t \times trend$) is a time trend applied to men (/100).[16] The $\mathbf{D}'$ is a vector of observable demographic characteristics, including age and age-squared, race and ethnicity, marital status, the presence of children ages 0 to 17 in the household, educational attainment, employment status, household income, and nine Census region indicators.[17] I allow for the possibility that the demographic variables influence life satisfaction differently for men and women by incorporating a full set of interactions between *female* and $\mathbf{D}'$. Finally, dummy variables are included to account for missing information in the demographic controls. Standard errors emerging from [1] are adjusted for clustering by year.[18]

The β_1, β_2, and β_3 are the parameters of interest in [1]. The coefficient β_1 is an estimate of the average subjective well-being gap in 1985, and β_2 and β_3 report the average, annual change in well-

[15] As pointed out by SW, however, many of these characteristics are endogenous in a model of subjective well-being. Therefore, I estimate the well-being regressions with a smaller set of strictly exogenous characteristics (age, race, etc.). Trend results from this model are qualitatively similar to those reported in the paper.

[16] A potential problem with linear time trends in the current context is that they are quite restrictive. Therefore, I estimate a version of [1] that adds year-specific dummy variables. The results are qualitatively similar to those reported here.

[17] Summary statistics for all demographic variables are reported in Table 1. The measure of race/ethnicity changed once during the study period (in 1995); the measure of household income changed once (in 2001); the measure for the presence of children changed once (in 2001); and the measure of educational attainment changed three times (1986-1998; 1999, 2000, 2002-2005; and 2001). I standardize these measures to maintain consistency.

[18] The Life Style Survey includes a weight, but there is insufficient documentation available on how the weight is constructed and whether the methods for constructing it changed over time. Therefore, I conduct the analyses using unweighted data. However, applying the weight does not change any of the results discussed in the text.

being for women and men, respectively. For ease of exposition, I present only the trend coefficients (β_2, and β_3) in the tables. To determine whether men and women experienced different life satisfaction trends between 1985 and 2005, I report p-values from a test of the null hypothesis of the equality of estimated trends for men and women.

III. Estimated Trends in Subjective Well-Being

Comparison of Life Satisfaction Trends for Men and Women

Tables 2 through 5 present the paper's main results. Specifically, Table 2 presents gender-specific life satisfaction trends for the entire observation period (Panel A: 1985-2005), as well as subsets of the 20-year period (Panel B: 1985-1994 and Panel C: 1995-2005). Table 3 disaggregates the overall trends by showing results for a number of demographic sub-groups. Table 4 explores other dimensions of well-being, including several proxies for life satisfaction (Panel A), physical and mental health (Panel B), and financial security (Panel C). Finally, Table 5 examines whether life satisfaction for men and women is differentially determined by a number of economic and socio-political forces known to be correlated with subjective well-being.

Consistent with the raw life satisfaction trends presented in Figure 1, the regression estimates in column (1) of Panel A (Table 2) imply that women and men experienced similar reductions in well-being between 1985 and 2005. Indeed, the specification test fails to reject the null hypothesis of equal trend coefficients for women and men throughout this period (p=0.874). Adding the full set of demographic controls in column (2) increases the magnitude of the downward trend, although life satisfaction continues to decline at the same rate for both groups (p=0.475).[19] In light of these new results, it is important to clarify how these trends differ from those in SW. Whereas men and women in the Life Style Survey show absolute declines in subjective well-being, only female respondents in

[19] OLS models estimated on a standardized life satisfaction index yields results similar to those rendered by the ordered probit. This is not surprising given that the ordered probit model generates estimates based on a conditional, latent standard normal index of (in this case) life satisfaction.

the GSS do so. Male GSS respondents reveal flat happiness trends. Therefore, it appears that the GSS overstates the trajectory of men's subjective well-being in comparison to the Life Style Survey.

Columns (3) through (8) examine the nature of well-being trends at different points in the life satisfaction distribution. In particular, columns (3) and (4) examine the probability that respondents "definitely agree" that they are very satisfied with life; columns (4) and (5) examine the probability that respondents "definitely disagree" that they are very satisfied with life; and columns (7) and (8) examine the likelihood of any agreement with the life satisfaction statement. Trend coefficients in these columns indicate that well-being for is deteriorating throughout the distribution of life satisfaction. Nevertheless, a comparison of columns (4) and (6) reveals that most of the decline in well-being is driven by a sharp reduction in the number of individuals at the top of the satisfaction distribution (i.e., those most satisfied with life). In most cases, the absolute value of the trend coefficient for men exceeds that of women—indicating steeper well-being declines among men—although once again the estimated trends are never statistically significantly different.

How much did life satisfaction decline for men and women between 1985 and 2005? As of 1985, fully 18 percent and 21 percent of men and women, respectively, reported that they "definitely agree" they are very satisfied with life. Findings from a regression model that includes the full set of demographic controls and a vector of year fixed effects indicate that men's satisfaction by 2005 fell 5.6 percentage points and women's satisfaction fell 6.0 percentage points. This amounts to about a 30 percent reduction in the number of men and women feeling very satisfied over this 20-year period. In 1985, a similar fraction of men and women (seven percent) reported that they "definitely disagree" they are very satisfied with life. By 2005, both groups became 3.5 percentage points more likely to respond in this manner, representing a nearly 50 percent rise in the number of men and women feeling very dissatisfied.

The story above changes dramatically, however, when subsets of the full observation period are examined separately (Panels B and C). To preface this discussion, it is important to note that

adding quadratic time trends to the model reveals that the reduction in life satisfaction for men and women occurs at a decreasing rate over time. However, this slowdown is considerably more aggressive for women than it is for men.[20] Consistent with these results, when the start date for the analysis is moved forward to virtually any year after the mid-1980s, the trend coefficients for men and women are generally smaller than those estimated from the full sample period, but the coefficient for men consistently shows significantly steeper declines in life satisfaction.[21] In fact, this relative drop in men's subjective well-being is evident when the observation period begins in any year between 1986 and 1995 (with the exception of 1993) and most years after 1999.

Panels B and C in Table 2 provide illustrative evidence on this issue by running separate well-being regressions for the period 1985-1994 and 1995-2005.[22] As shown in Panel B, men and women experienced similar declines in life satisfaction throughout the late-1980s and early-1990s. In models with the demographic controls included, the trend coefficients for men and women are always statistically indistinguishable. When the analysis period is constrained to the years 1995-2005 (Panel C), the trend coefficients for both sexes are smaller than those from the prior decade. However, men now show significantly greater reductions in well-being that are evident throughout the distribution of life satisfaction. The null hypothesis of equal trend coefficients is rejected in four of eight models, and is close to rejection in another two models.

Heterogeneous Life Satisfaction Trends

The results summarized so far indicate that men and women experienced similar, absolute declines in life satisfaction between 1985 and 2005. However, the estimated trends have been averaged over all men and women, regardless of age, race and ethnicity, marital and fertility status,

[20] Female linear time trend coefficient (standard error): -2.971 (0.428). Male linear time trend coefficient (standard error): -2.192 (0.361). Female quadratic trend coefficient (standard error): 8.854 (2.077). Male quadratic trend coefficient (standard error): 4.313 (1.882). Full results are available upon request.

[21] To provide one example, an analysis based on the years 1987 to 2005 yields the following results: Female linear time trend coefficient (standard error): -0.985 (0.136). Male linear time trend coefficient (standard error): -1.285 (0.111). The test of differential trends yields a p-value of 0.022.

[22] These periods were chosen because they nearly split the full study period in half; as is clear from the discussion in the text, the results emerging from this particular split are representative of other sample splits.

educational attainment, and labor market outcomes. Individuals in various demographic sub-groups may have experienced different changes in well-being over time, in part due to structural changes in the economy, recent reforms to the U.S. tax and transfer system, and dramatic shifts in household structures. As a point of departure, it is important to note that SW examine heterogeneity in well-being trends across sub-groups of men and women.[23] Their results suggest that women in virtually every demographic sub-group experienced declines in happiness over time, while men's well-being remained flat. Such findings point to the pervasiveness of the relative decline in women's happiness.

Table 3 shows the trend results for a comparable set of analyses using the Life Style Survey's question on life satisfaction. In particular, I estimate separate well-being regressions for respondents in various age categories, racial groups, marital and fertility statuses, educational classifications, employment statuses, and household income categories. In all regressions, which take advantage of the full sample period, I continue to incorporate separate linear time trends for men and women. Results in this table consistently show declines in life satisfaction for men and women, irrespective of the sub-group examined. The only exception to this is black men, who experienced a statistically significant increase in well-being between 1985 and 2005.[24] Relative to individuals in other marital statuses, widowed men and women experienced the largest declines in life satisfaction over time. Not surprisingly, the downward shift in well-being is more pronounced among the unemployed. There is also evidence that men and women without children in the household experienced greater well-being declines than those with children, and individuals at lower income levels witnessed their life satisfaction drop more than those at higher levels.

Nevertheless, in contrast to SW's results, the life satisfaction trend for women is statistically indistinguishable from the trend for men in 18 of the 22 sub-groups examined. Among the demographic groups for which differential trends are present, there do not appear to be discernible

[23] Curiously, SW conduct the sub-group analyses only among white men and women.

[24] The race trends represent another key difference between my results and those in SW. SW find that black women experienced an increase in happiness, while black men experienced no discernible changes in well-being. In the current study, life satisfaction among black women declined, and it increased among black men.

patterns emerging from the data. Black women and those with at least a bachelor's degree experienced larger decreases in life satisfaction than their male counterparts in these groups. On the other hand, widowed men and those with household incomes between $50,000 and $69,000 experienced relative declines in well-being. In results not reported, I estimate the sub-group models on the period 1995-2005 to determine whether men once again show steeper declines in well-being. I find fairly consistent evidence that life satisfaction for sub-groups of men fell more sharply than that for women, although in most cases the smaller sample sizes preclude estimating differential trends with much precision.

Additional Domains of Subjective Well-Being

I now focus on gender-specific trends in other domains of subjective well-being. Specifically, I examine several proxies for life satisfaction, including survey items covering regrets about the past, optimism about future, and self-confidence. I then turn my attention to a number of items inquiring about physical and mental health: self-reported physical condition, the prevalence of headaches and quality of sleep, and the ability to relax. In a final set of alternative well-being indicators, I examine responses to two Life Style Survey items tapping financial security. The first item ("Our family income is high enough to satisfy nearly all our important desires") examines absolute assessments of financial security, and the second item ("No matter how fast our income goes up we never seem to get ahead") provides an understanding of relative assessments.

Such alternative measures are important to examine because, as outlined by conceptual models of life satisfaction, they represent many of the conditions that either facilitate or stymie a happy and productive life. For example, insofar as life satisfaction is correlated with the income generated by employment, we might expect less healthy individuals to have lower levels of well-being because of their diminished ability to work (Blanchflower & Oswald, 2004; Deaton & Paxon, 1998; Marmont, 2003). It is also conceivable that healthier individuals are more productive at work and in other contexts, creating positive spillovers to overall happiness, marital satisfaction, and one's

life social (Heller et al., 2002; Rogers & May, 2003). Beyond these income- and employment-related benefits, healthy individuals are perhaps less likely to experience interference with daily functioning and more likely to engage in hedonically satisfying activities, all of which is expected to increase life satisfaction (Celiker & Borman, 2001; van Jaarsveld et al., 2001). In addition, economic theory predicts that financial security should be positively correlated with subjective well-being: to the extent that income is related to individual's choice-sets and more choices lead to higher well-being, it follows that those with higher incomes should also have greater levels of life satisfaction. Previous research generally upholds this proposition, finding that income and financial security are important determinants of life satisfaction (e.g., Stevenson & Wolfers, 2008a). Finally, self-esteem—defined in the psychological literature as the magnitude of favorable global self-evaluation (Baumeister et al., 2003)—is highly correlated with life satisfaction itself (Lyubomirsky et al., 2006) as well as a number of antecedents of life satisfaction, including labor market success (Dooley & Prause, 1997; Judge & Bono, 2001), the ability to cope with unpleasant events (Arndt & Goldenberg, 2002), and positive social behaviors (Rosenberg et al., 1989; Trzesniewski et al., 2002).

Table 4 presents the gender-specific trend results for these alternative measures of subjective well-being, organized around proxies for life satisfaction (Panel A), health (Panel B), and financial security (Panel C).[25] The first two indicators in Panel A evaluate respondent feelings on regrets about the past. Both measures point in a consistent direction: men and women over the last two decades increasingly feel that they would live life differently if given another chance. The rising regrets about the past, moreover, have been experienced in a similar manner by both sexes, as evidenced by non-significant differences in the trend coefficients (p=0.909 and p=0.556). The next item ("I dread the future") assesses respondents' optimism about the future, with greater scores on this measure indicating less optimism. The gender-specific trend coefficients indicate women

[25] All outcomes are available for the years 1985-2005, and continue to be measured on a scale of 1 ("definitely disagree") to 6 ("definitely agree). The models are estimated using an ordered probit, with the full set of demographic controls included.

became less likely to dread the future over time, while men's sense of optimism held steady. The trend coefficients in this case are statistically significantly different, suggesting that men experienced a comparatively greater deterioration in this well-being domain. The final item in Panel A examines self-esteem through the statement "I have more self-confidence than most people." Consistent with the slippage in other dimensions of subjective well-being, men and women witnessed reductions in self-confidence between 1985 and 2005, although in this case it declined more dramatically among women.

Turning to the physical and mental health indicators in Panel B, we continue to find evidence of widespread declines in well-being. Men and women are less likely to report being in "very good physical condition" and more likely to report headaches, sleeping problems, and an inability to relax. With the exception of self-reported physical condition, the magnitudes of the observed health declines have been identical for men and women. Interestingly, women experienced significantly greater slippages in perceived physical condition over the last 20 years (p=0.001), although the reductions have been striking for both sexes. In 1985, for example, 64 percent of women agreed with the statement that "I am in very good physical condition." By 2005, the level of agreement fell to 51 percent. Fully 69 percent of men in 1985 agreed that they were in very good physical condition, a figure that declined to 59 percent by 2005.

As previously stated, Panel C provides results for two measures of financial security, with the first assessing absolute changes in security and the second assessing relative changes. In both cases, the trend coefficients point to rising financial insecurity among men and women. However, the upward trend in insecurity has been substantially steeper among men (p=0.034 and (p=0.000). Once again, these results stand in contrast to those in SW, who use a similar question in the GSS: "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?" Although SW find that both sexes experienced declines in financial satisfaction, the slippage was significantly greater among women.

Gender Differences in the Economic and Socio-Political Determinants of Life Satisfaction

To explain the relative drop in women's happiness, SW posit that men and women might have responded differently to broad changes in the economy, the nature of social and political trust, and family structures. Indeed, SW argue that "while each of these trends have impacted 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" (p. 222). To examine this proposition, I turn to the Life Style Survey to assess whether life satisfaction among men and women is differentially influenced by a number of economic, socio-political, and familial forces that are known to shape subjective well-being. A finding that life satisfaction is gender-blind with respect to these forces would bolster confidence in this paper's key result that men and women experienced parallel reductions in well-being since the mid-1980s.

I begin by exploring the differential effects of macro-economic conditions on life satisfaction. While previous work finds that local and national labor market conditions are highly correlated with physical health outcomes (e.g., Ruhm, 2000; 2005; 2007), comparatively little research focuses on the relationship between economic conditions and subjective well-being (e.g., Wolfers, 2003).[26] I then turn to the Life Style Survey to exploit several measures of social cohesion and political trust. Such forces are important contributors to life satisfaction (Helliwell, 2003a,b; Twenge, 2002), and previous work documents a steep decline in both in recent decades (Putnam, 2000). I also explore a related survey item tapping perceptions about public safety, which to my knowledge has not been studied previously. Respondent views on public safety might be driven, in part, by overall views on institutional trust and effectiveness as well as by actual crime rates. Finally,

[26] Beyond unemployment rates, previous work finds a relationship between inflation and happiness (Di Tella et al., 2001), but no relationship between social security benefits (Veenhoven, 2000) or income inequality (U.S. only) (Alesina et al., 2000) and well-being.

I consider differential responses to a statement measuring the pressure associated with balancing multiple responsibilities. Results presented earlier point to decreases in the ability to relax and increased feelings of pressure over time, and previous work indicates that anxiety and neuroticism are similarly on the rise (Twenge, 2000). These trends suggest that the growing complexity in balancing responsibilities at home and work could be partially responsible for the decline in life satisfaction.

Table 5 reports the main results from this exercise. The first set of regression results [Column (2)] explores the impact of each factor on life satisfaction using an ordered probit.[27] Each coefficient should be interpreted as the *average* response in life satisfaction over all survey participants to a change in the relevant right-hand-side variable. The results presented in Column (3) allow the impact of each factor to vary across men and women. A statistically significant coefficient on the interaction term provides evidence of a differential life satisfaction response across men and women. Panels A and B consider the impact of macro-economic conditions; Panels C through E explore the role of socio-political changes; and Panel F examines perceptions of balancing multiple responsibilities.

Panels A and B test for the presence of a differential effect of macro-economic conditions on life satisfaction. I parameterize economic conditions using the average, annual state unemployment rate (Panel A) and a measure of the amount of variability in county-level unemployment rates around the state rate (Panel B).[28] The latter measure is intended to be a rough indicator of within-state inequalities in labor market outcomes and wealth. As shown Column (2), increases in both measures

[27] Also included in the regression are the controls listed in Table 1, four family income dummies, state fixed effects, and year dummies.

[28] To create the measure of economic variability, EV, I first collected county-level unemployment rate data for each state and year over the period 1985-2004. I then define the measure in the following manner:

$$\mathrm{EV}_{w,\,st} = \frac{\sum(|\,CUR_{st} - SUR_{st}\,|\,w_{st})}{\sum w_{st}}$$

where *w* indicates a weighted version of EV calculated for each state, *s*, in year *t*. The CUR denotes a given county-level unemployment rate, SUR denotes the state unemployment rate, and *n* denotes the number of counties in *s*. The weight, *w*, is the size of a county's labor force, and is used to adjust for the differential size of labor markets both within and across states. This measure represents the absolute value of the average county-level deviation in unemployment rates from the overall, state-level unemployment rate. Higher values for EV indicate a greater spread of county-level unemployment rates around the state unemployment rate, and therefore increasingly heterogeneous labor market conditions.

are found to significantly reduce life satisfaction for the average respondent in the Life Style Survey. A one percentage point increase in the unemployment rate is associated with a 0.7 percentage point decrease in the probability of any agreement with the life satisfaction statement. The comparable marginal effect for the measure of economic variability is a 0.6 percentage point decrease in the probability of any agreement. However, as shown in Column (2), men and women appear to respond largely the same to changes in local economic conditions. The coefficient on the interaction term is small in magnitude and only marginally significant in the unemployment rate model, and it is insignificant in the economic variability model. In results not shown, I also test for a differential response to (the log of) state-level per capita incomes. The findings once again fail to show that life satisfaction for men and women is differentially sensitive to economic conditions.

Panels C through E test various responses to statements measuring social cohesion, political trust, and views on public safety. Consistent with previous work, I find an overall downward trend in the probability that respondents agree with the statement that "most people are honest" and an upward trend in the probability of agreeing with the statement that "an honest man cannot get elected to high office." As shown in Column (2), any agreement with these statements is strongly associated with the global assessment of life satisfaction.[29] When these survey items are interacted with the gender indicator, in no case is the coefficient on the interaction term large in magnitude or precisely estimated, implying that views on social and political trust influence life satisfaction for men and women in a similar manner. The final survey item in this cluster attempts to elicit views on public safety, through the statement "I worry a lot about myself or a family member becoming a victim of crime." Not surprisingly, any agreement with this statement is negatively associated with life satisfaction. The results also fail to show that life satisfaction for men and women is differentially affected by perceptions of safety. To assess whether perceptions about crime differs from actual

[29] Of course, one must be cautioned against applying a causal interpretation to these results. In reality, there is likely to be a simultaneous relationship between these social and political attitudes and life satisfaction.

crime rates, I estimate the life satisfaction model using interactions of (the log of) state-level violent and property crime rates with the gender indicator. I do not uncover evidence of gender-specific responses to reported crime rates.

The final set of results, presented in Panel F, attempt to understand whether men and women respond differently to a measure of balancing multiple responsibilities. Although the statement (which reads "I feel like I'm so busy trying to make everybody else happy that I don't have control of my own life") is vague with respect to specific responsibilities, one can presume that it elicits opinions about the home-work balance, among other things. Agreement with this statement is trending upward across men and women between 1985 and 2005, and as shown in Column (2), is it negatively associated with the global measure of life satisfaction. In contrast with the previous results in this section, responses to this statement appear to differentially shape life satisfaction for men and women. In particular, women who indicate that they do not have control over their lives report substantially lower levels of life satisfaction than men who report the same. It is difficult to determine whether this differential effect is driven by women's greater participation in multiple domains (e.g., formal employment and home production) or whether, on a per hour basis, women experience more disutility from those multiple domains.

IV. Potential Explanations for the Divergent Results

The main result presented in this paper—that of a similar downward shift in life satisfaction for men and women—is at odds with that of SW, who find that women's happiness fell more sharply than men's over the past several decades. In this section, I attempt to reconcile these differing results. In particular, the following discussion focuses on three potential explanations: the use of different subjective well-being measures in the GSS (in particular) and Life Style Survey, the estimation of well-being trends using different time periods, and fundamental differences in data collection techniques between the GSS (in particular) and Life Style Survey.

Comparability of Happiness and Life Satisfaction Measures

Recall that SW primarily rely on a single GSS question measuring respondent *happiness*, whereas the main Life Style Survey results presented here are based on a statement measuring *life satisfaction*. These measures are known to capture global assessments of subjective well-being, and both represent the cognitive rather than affective dimensions of quality-of-life. For these reasons, most studies treat happiness and life satisfaction measures interchangeably. However, there are several reasons to doubt their comparability. First, some argue that rather than being conceptually equivalent to happiness, life satisfaction is subsumed by it and therefore is one of its constitute pieces (Diener, 2006). Furthermore, the discussion in Section II points out that cultural and language barriers make it difficult to create a consistent understanding of subjective well-being using the words "happiness" and "life satisfaction." In particular, some ethnic groups apply multiple meanings to these words, while other groups are required to experience substantially more happiness in order to feel a comparable level of life satisfaction (Bjørnskov, 2010; Kitayama & Marcus, 2000). Finally, it is conceivable that the experience of happiness is more malleable than life satisfaction, making it sensitive to momentary changes in reported well-being. Indeed, some argue that happiness has a strong affective component (e.g., Layard, 2005) that may not be present to the same extent in evaluations of life satisfaction.

In light of these differences, it is reassuring that applied work consistently shows both measures yield similar results in a variety of contexts. For example, SW's analysis relies in part on the Eurobarometer survey, the only dataset I am aware of that inquires about life satisfaction and happiness. Well-being trends are qualitatively very similar across both measures, indicating that life satisfaction and happiness increased throughout the European Union, and both are generally supportive of SW's conclusion that women's well-being fell relative to that of men's. This is not surprising given that these measures are highly correlated in raw data (0.56). To provide further evidence on the comparability of life satisfaction and happiness measures, I estimate regressions of

each (using an ordered probit) on a common set of demographic characteristics in the Life Style Survey and GSS.[30] Estimated coefficients from these models, which are shown in Table 6, reveal that the demographic determinants of life satisfaction and happiness are remarkably similar in both sign and magnitude. Age reveals a highly non-linear relationship with both measures, and separated individuals are the least satisfied and happy relative to those who are married. Life satisfaction and happiness are both increasing monotically in education, and employed individuals report higher levels of well-being than the unemployed. Together, this evidence suggests that differences in subjective well-being measures are not primarily responsible for the divergent results.

The Impact of Using Different Time Periods to Analyze Well-Being Trends

I now explore the role of using different time periods in the analyses. The datasets used by SW generally begin to track subjective well-being in the early-1970s, whereas life satisfaction data become available in the Life Style Survey starting in the mid-1980s. For example, the GSS happiness trends utilize data between 1972 and 2006; the life satisfaction trends in the Virginia Slims Survey come from the period 1972 to 2000; and the Eurobarometer happiness and life satisfaction analysis begins in 1975 and 1973, respectively. Such temporal differences are potentially important in light of SW's graphical evidence suggesting that most of the differential decline in women's happiness occurred throughout the 1970s. The authors also report that women's happiness is declining at decreasing rate, raising additional concerns that the later start date in the current study is partially responsible for the divergent results.

Results in Table 7 explore the role of using different time periods in the GSS, Virginia Slims Survey, and Life Style Survey. Panel A re-estimates SW's well-being regressions in the GSS and Virginia Slims Survey, first on the full observation period and then on the sub-set of years that overlaps with the availability of Life Style Survey data. As shown in the first row, I am able to

[30] The GSS happiness models estimated using SW's analysis dataset. The use of an ordered probit, which conditionally standardizes the regression coefficients, allows for direct comparisons between the coefficients in the life satisfaction and happiness equations.

recreate SW's original GSS results showing the differential decline in female happiness over the period 1972 to 2006. However, when the analysis is constrained to the years 1985 to 2006, as shown in the second row, the differential decline disappears (p=0.512). The attenuation of the relative decline in female happiness appears to be driven by both a lessening of women's absolute decline and an increase in unhappiness among men. It is important to note, however, that tests of the null hypothesis of equal gender-specific trend coefficients across both time periods (1972-2006 versus 1985-2006) cannot be rejected. The analogous set of results for the Virginia Slims Survey is presented in the next two rows of Panel A. Once again, I am able to recreate SW's original results; however, in this case, the differential female decline in well-being remains detectable when the analysis is constrained to begin in 1985. In results not reported, I conduct a similar set of analyses using the Eurobarometer, which also continues to show a relative decline in women's life satisfaction when the analysis period is moved forward to 1985.

Panel B takes a different approach to examining differences in analysis time periods. It presents Life Style Survey trend results for married individuals between 1975 and 2005. In particular, I estimate well-being regressions on the married sample between 1975 and 2005 and again on the period 1985 to 2005. The analysis is constrained to married individuals because it is the only group sampled throughout the first decade of the Life Style Survey. In addition, the analyses do not use the life satisfaction index, as this question was not included in the early surveys. I instead examine five survey items tapping other domains of subjective well-being. Finally, missing demographic information during the early survey years prevents me from adding the typical controls to the well-being regressions. Nevertheless, this exercise should provide a rough picture of the impact of changes in the analysis period on the estimated well-being trends.

The first two rows examine trends in responses to the statement "I wish I could leave my present life and do something entirely different," with the first row presenting results for the period 1975 to 2005 and the second row presenting results for the period 1985 to 2005. The full sample

results indicate that women's well-being declined significantly more than men's (p=0.002), while the constrained sample period reveals similar, flat tends in well-being (p=0.631). When the analysis is conducted using the statement "If I had my life to live over I would sure do things differently," a similar pattern emerges: women throughout the period 1975 to 2005 show significantly greater declines in well-being, which disappears when the analysis is constrained to the period 1985 to 2005. However, the remaining outcomes in Panel B ("I dread the future," "I have more self-confidence than most people," and "I wish I knew how to relax") show a different story. Trends in these well-being outcomes show a similar pattern for men and women irrespective of the time period analyzed. Is it particularly reassuring that the self-confidence trends do not change with the observation period, given that it is the most highly correlated alternative outcome with the life satisfaction index. Overall, these mixed results suggest that differences in the observation period likely play a small role in explaining the divergent results.

The Role of Survey Mode

The final avenue I pursue focuses on the data collection strategies used by the Life Style Survey and GSS. Recall that the former is a self-administered survey that arrives in mail, whereas data in the latter are obtained through face-to-face interviews. For the purposes of this study, it is critical to determine whether certain characteristics of visual (e.g., mail-based) and aural (e.g., face-to-face and telephone) survey formats produce different answers on similar questionnaire items. The following discussion focuses on two particularly relevant attributes cited in the extensive survey methodology literature on this issue (e.g., Dillman et al., 1996). First, face-to-face modes require the presence of an interviewer—typically a stranger—to administer the survey, while mail-based surveys are fundamentally private and therefore ensure respondent anonymity. An important consequence of this difference is the potential for respondents to answer sensitive questions differently in the presence of an interviewer, as compared to when the survey is self-administered. Second, in the face-to-face context, the interviewer is in control of the survey pace and sequence in which the

questionnaire is completed. Mail respondents, in contrast, are able to review and complete the survey instrument at a comfortable pace and without regard for the survey's intended question ordering. It is therefore possible that participants in face-to-face surveys are more susceptible to time pressures and cognitive limitations in ways that influence response quality.

Regarding the first difference, it is widely acknowledged by survey methodologists that the physical presence of an interviewer is important to the way in which participants respond to survey questions (de Leeuw, 1992). By their very nature, face-to-face interviews require extensive interaction, making them vulnerable to a well-known phenomenon called social desirability—or the tendency for survey respondents to provide answers that will make a favorable impression on the interviewer. In principle, the anonymity created by a mail survey allows respondents to provide information without regard for how it will be perceived by the interviewer. Such considerations have led to the concern that participants in face-to-face surveys provide more socially acceptable answers and fewer disclosures about sensitive issues than would be the case had the instrument been self-administered.

The empirical evidence is quite clear on the impact of interviewer presence. Experiments repeatedly show that survey respondents are more likely to provide socially desirable answers in the presence of an interviewer than in the self-administered context (de Leeuw, 1992; 2005; Schuman & Presser, 1981). This finding applies to studies inquiring about a range of sensitive phenomena, including morbidity and anti-social behavior (e.g., Gmel, 2000), drinking and driving (e.g., Dillman & Tarnai, 1991), and self-reported mental health and quality-of-life (e.g., Perkins & Sanson-Fisher, 1998). A major study by de Leeuw (1992) finds that individuals randomly assigned to a face-to-face interview reported lower levels of loneliness and more positive self-evaluations than individuals completing a mail survey. Also relevant to the current study are the findings that face-to-face

participants were less likely to reveal feelings of unhappiness and more likely to report positive well-being.[31]

Two contemporary studies provide additional evidence on response differences across survey modes. In the first study, approximately 800 American veterans were drawn from the Gulf War Registry and randomly assigned to receive either a mail or telephone survey on the number and severity of health-related symptoms (Brewer et al., 2004). The results indicate that telephone participants self-reported significantly fewer health problems than the mail participants. Importantly, telephone respondents were less likely to reveal highly sensitive symptoms, including "feeling depressed or blue," "feeling anxious or upset," and "sexual or genital problems." In the second study, 1,700 German parents were randomly assigned to receive a questionnaire about their child through the mail or over the telephone (Erhart et al., 2009). Two batteries covering Health-Related Quality of Life and Mental Health Problems were administered to parents. Results once again point to substantial response differences across survey modes: parents receiving the telephone survey were less likely to report negative health ratings and behavior problems regarding their children than those receiving the mail questionnaire.

With respect to the second key difference, recipients of a mail questionnaire are in control of the timing, pacing, and sequencing dimensions of its completion. Such qualities are seen as critically important to generating reliable and deliberate survey responses. In contrast, the lack of respondent control in the face-to-face and telephone contexts are believed to create time pressures that result in quick responses with little thought or reflection. Indeed, these survey modes are characterized by rapid interactions between the interviewer and respondent, thereby increasing the likelihood that cognitive short-cuts are relied upon to supply answers. Importantly for this study, the loss of respondent control and the attending time pressures in face-to-face interviews are associated with two

[31] With regard to scale reliability, psychometric tests of loneliness, self-evaluation, and negative/positive affect consistently show that mail-generated responses outperform those from face-to-face and telephone methods (de Leeuw, 1992).

such short-cuts that can alter survey responses from what would have been yielded had the survey been self-administered.

First, face-to-face respondents are consistently more likely than mail respondents to provide extreme responses on questions using ordinal answer scales (Dillman et al., 1996). In addition, these respondents are shown to inflate their approval by providing more extreme *positive* answers (Dillman et al., 2009; Krysan et al., 1994; Tarnai & Dillman, 1992). For example, a recent study using five-point response scales finds that aural participants are substantially more likely (six to 17 percentage points) than mail participants to choose "strongly agree" in attitudinal questions (Srinivasan & Hanway, 1999). Part of this pattern is driven by the social desirability effects discussed previously, but it is also the case that the speed with which face-to-face interviews are conducted can exacerbate respondents' memory limitations. The tendency to choose extreme positive answers is even more likely in aural surveys when such answers appear at the end of a response scale (Krosnick & allen, 1987). This so-called "recency effect," or the propensity to choose the last answer from a list, is known to occur in face-to-face and telephone surveys because the rapid pace prevents individuals from fully processing each response category. When this occurs, respondents rely on a cognitive short-cut whereby the final response category (the one most closely and recently considered) is chosen.

Second, when respondents lack control over the survey tempo and question sequencing, their answers are more prone to question order effects—or the tendency for previous questionnaire items to influence subsequent answers (Dillman et al., 1996). Mail-based participants, in contrast, are less likely to impose question order effects because they have the ability to switch between various sections of a questionnaire and provide answers when they are sufficiently prepared. Importantly for the current study, question order effects occur because respondents desire to be consistent with their answers throughout the survey. For example, Schuman and Presser (1981) uncovered evidence that prefacing questions about happiness with an item about marital satisfaction has important effects on

reported well-being: happily married people are more likely to report being happy in general. As discussed by SW, similar question order effects are present in the GSS.

In sum, research by survey methodologists point to several important differences in the data collection modes used by the GSS and Life Style Survey. Specifically, the physical presence of an interviewer and the loss of control experienced by GSS respondents are potentially critical factors in explaining the divergent well-trends that emerge in the current study. It is important to note, however, that more definitive statements are hampered by a serious limitation of current research in this area: evidence is lacking on the interaction between participant gender and survey mode in describing response differences across visual and aural surveys. In other words, little is known about whether men's (or women's) survey responses are more sensitive to changes in the data collection mode. Recall that while the Life Style Survey is able to recreate the GSS finding of an absolute decline in women's well-being, it is not able to recreate the flat well-being trend among men. This is suggestive of male-specific response differences across survey modes, but unfortunately the empirical literature does not currently permit such a conclusion. Nevertheless, the evidence on response differences between face-to-face and mail surveys is provocative enough to at least consider them among the candidate explanations and to warrant further investigation.

V. Conclusion

In this paper, I present new evidence on the evolution of subjective well-being among men and women. Using heretofore untapped data from the DDB Needham Life Style Survey, I examine trends in life satisfaction between 1985 and 2005. In contrast to SW's results, I find that men and women over the several decades experienced very similar declines in life satisfaction. Moreover, the parallel reduction in subjective well-being is evident in several other domains as well. Indeed, I find similar increases in regrets about the past and the desire to live life differently, as well as comparable slippages in a variety of health-related outcomes. These results apply to virtually every demographic sub-group available in the Life Style Survey, including respondent age, marital and fertility status,

employment status, educational attainment, and income level. Finally, I uncover evidence that men and women experienced slowdowns in the reduction of life satisfaction between 1985 and 2005, although this slowdown occurred more aggressively among *women*. As of the late-1980s, men's life satisfaction began to fall more sharply.

In addition to introducing a potentially useful dataset, this study makes several other contributions to the nascent literature on subjective well-being trends. To explain the relative drop in women's happiness, SW argue that women might have responded more negatively to broad changes in macro-economic conditions, social and political trust, and family life. In this paper, I directly assess whether life satisfaction among men and women is differentially shaped by these forces. Consistent with the main result of parallel changes in life satisfaction, I find that men and women respond similarly to changes in a variety of economic and socio-political variables. A final contribution of this paper is its focus on reconciling the results found here and in SW. Particularly revealing is the possibility that differences in data collection techniques between the GSS and Life Style Survey are responsible for the divergent results. Although item response differences created by face-to-face, telephone, and mail questionnaires are widely acknowledged by survey methodologists, they have been largely ignored by economists and psychologists studying subjective well-being. In fact, several literature reviews have been recently published by happiness researchers (e.g., Diener & Seligman, 2004; Frey & Stutzer, 2002a, b; Kahneman & Krueger, 2006), and none of them discuss the comparability of well-being measures drawn from datasets using different interview techniques. Given that happiness researchers rely almost exclusively on the GSS to examine Americans' happiness, future research should evaluate its face-to-face design in light of the potential problems identified by survey methodologists.

Together, the results in this paper point to a population-wide decline in subjective well-being over the past 20 years. Americans—regardless of age, marital status, and labor market outcomes—experienced deteriorating life satisfaction and self-confidence, increases in a range of stress-related

health problems, and rising concerns about financial security. Although the findings presented here do not settle the question of why this decline occurred for men and women, it seems—perhaps paradoxically—that the arguments originally provided by SW may still apply. For example, it is plausible that the rapidly changing roles of women, including the shift from home production to participation in the paid labor market, may have contributed greatly to the absolute decline in their life satisfaction. It is difficult to believe, however, that changes of this magnitude could have influenced women's well-being without also influencing men's. Therefore, it is reasonable to suspect that such changes partially explain the absolute decline in men's life satisfaction. On the other hand, the relative decline in men's economic outcomes, ranging from lapses in post-secondary school enrollments to the erosion in real wages, may have contributed greatly to their absolute well-being declines. These decreases in life satisfaction could have had leaky effects that also reduced women's well-being. Indeed, results in this paper suggest that the trajectory of subjective well-being for men and women is inextricably linked.

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Table 1: Summary Statistics for the DDB Needham Life Style Survey and General Social Survey

	Life Style Survey	General Social Survey		
	1985-2005	1972-2006	1985-2004	1985-2004: Alternate Education Measure
Female	0.551	0.542	0.543	
	(0.497)	(0.498)	(0.498)	
Age	47.11	44.05	44.30	
	(15.98)	(17.02)	(16.96)	
White	0.859	0.840	0.823	
	(0.348)	(0.367)	(0.382)	
Black	0.078	0.118	0.122	
	(0.268)	(0.323)	(0.327)	
Other Race/Ethnicity	0.063	0.043	0.055	
	(0.243)	(0.202)	(0.227)	
Married	0.707	0.628	0.590	
	(0.455)	(0.484)	(0.492)	
Widowed	0.075	0.067	0.069	
	(0.263)	(0.250)	(0.253)	
Separated	0.018	0.025	0.026	
	(0.134)	(0.157)	(0.160)	
Divorced	0.086	0.084	0.101	
	(0.280)	(0.277)	(0.302)	
Never Married	0.115	0.197	0.213	
	(0.319)	(0.398)	(0.410)	
Children Ages 0 to 17	0.382	0.424	0.392	
	(0.486)	(0.494)	(0.488)	
Less Than High School	0.092	0.230	0.183	0.198
	(0.289)	(0.421)	(0.387)	(0.399)
High School	0.330	0.530	0.542	0.312
	(0.470)	(0.499)	(0.498)	(0.463)
Some College	0.303	0.049	0.060	0.260
	(0.460)	(0.216)	(0.237)	(0.439)
BA+	0.275	0.191	0.216	0.230
	(0.447)	(0.393)	(0.411)	(0.421)
Employed	0.661	0.610	0.644	
	(0.474)	(0.488)	(0.479)	

Notes: With the exception of age, which is expressed in years, all figures are expressed as percentages. Standard deviations are shown in parentheses. The GSS figures are calculated from SW's analysis dataset. All calculations are based on respondents with non-missing information on a given demographic characteristic and with non-missing information on the relevant well-being outcome (GSS: happiness; Life Style Survey: life satisfaction). Some of the GSS variables in the table are recoded (from SW's original coding) in order to achieve greater consistency with the Life Style Survey data. For example, SW measure age through decadal age indicators, whereas I measure age continuously. However, with the exception of education, I use SW's raw GSS variable to construct the recodes. SW's analysis variables for education (shown in the third and fourth columns) are derived from the GSS variable "degree," while the alternate education variables (shown in the fifth column) are derived from "educ." All GSS figures are weighted using "wt," which is constructed by SW (and based on the GSS weight "wtssall") to adjust for differences in the questionnaire placement of the happiness question throughout the survey period. See Stevenson and Wolfers (2008b) for a detailed description of the process for constructing the revised weight.

Table 2: Life Satisfaction Trends by Gender, 1985-2005
Survey Item: "I am very satisfied with the way things are going in my life these days"

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: 1985-2005 (N=75,609)								
Female Linear Time Trend	-0.333**	-1.237***	-0.593***	-1.286***	-0.209	0.635**	-0.271***	-1.270***
	(0.136)	(0.168)	(0.212)	(0.246)	(0.190)	(0.250)	(0.104)	(0.122)
Male Linear Time Trend	-0.352***	-1.342***	-0.711***	-1.496***	-0.133	0.818***	-0.208	-1.337***
	(0.115)	(0.093)	(0.100)	(0.118)	(0.199)	(0.234)	(0.145)	(0.129)
Test of Differential Trends: p-value	0.874	0.475	0.551	0.415	0.731	0.461	0.669	0.648
Panel B: 1985-1994 (N=39,119)								
Female Linear Time Trend	-1.500***	-2.711***	-2.056***	-2.853***	1.054***	2.428***	-0.849***	-2.137***
	(0.276)	(0.268)	(0.468)	(0.447)	(0.401)	(0.453)	(0.211)	(0.196)
Male Linear Time Trend	-1.019***	-2.299***	-1.537***	-2.174***	-0.227	1.555**	-0.917*	-2.520***
	(0.343)	(0.268)	(0.248)	(0.313)	(0.559)	(0.609)	(0.491)	(0.418)
Test of Differential Trends: p-value	**0.056**	0.136	0.281	0.299	**0.033**	0.270	0.894	0.397
Panel C: 1995-2005 (N=36,490)								
Female Linear Time Trend	-0.028	-0.713***	0.241	-0.306	0.227	0.821***	-0.247	-0.989***
	(0.202)	(0.251)	(0.327)	(0.332)	(0.200)	(0.282)	(0.291)	(0.371)
Male Linear Time Trend	-0.463***	-1.132***	-0.388**	-0.971***	0.387	0.880*	-0.598***	-1.396***
	(0.131)	(0.183)	(0.185)	(0.197)	(0.425)	(0.506)	(0.158)	(0.235)
Test of Differential Trends: p-value	**0.030**	**0.050**	**0.060**	**0.045**	0.668	0.895	0.105	0.122
Dependent Variable	Life Satisfaction Index	Life Satisfaction Index	Pr(definitely agree)	Pr(definitely agree)	Pr(definitely disagree)	Pr(definitely disagree)	Pr(any agreement)	Pr(any agreement)
Estimation Method	Ordered Probit	Ordered Probit	Probit	Probit	Probit	Probit	Probit	Probit
Demographic Controls		X		X		X		X

Notes: Analyses come from the DDB Needham Life Style Survey between 1985 and 2005. The dependent variable is based on the survey item: "I am very satisfied with the way things are going in my life these days" (response categories: 6=definitely agree, 5=generally agree, 4=moderately agree, 3=moderately disagree, 2=generally disagree, and 1=definitely disagree). Raw probit coefficients are presented. The demographic controls include gender, age, age-squared, race, marital status, presence of children ages 0 to17 in the household, educational attainment, employment status, household income, Census region indicators, and interactions between gender and all other controls. All models include dummy variables for missing values on each right-hand-side variable. Standard errors (in parentheses) are adjusted for clustering by year. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3: Heterogeneous Life Satisfaction Trends

	N	Female Linear Time Trend	Male Linear Time Trend	Differential Trends: p-value
	(1)	(2)	(3)	(4)
Ages 18 to 29	11,070	-1.166***	-1.111***	0.864
		(0.154)	(0.259)	
Ages 30 to 44	26,426	-1.007***	-0.821***	0.405
		(0.168)	(0.184)	
Ages 45 to 59	18,921	-1.303***	-1.635***	0.187
		(0.266)	(0.146)	
Ages 60+	19,189	-1.042***	-1.378***	0.210
		(0.311)	(0.218)	
White	64,604	-1.329***	-1.535***	0.282
		(0.188)	(0.109)	
Black	5,875	-0.462*	0.846**	**0.008**
		(0.243)	(0.411)	
Married	52,657	-1.392***	-1.353***	0.820
		(0.174)	(0.125)	
Widowed	5,565	-1.516***	-2.868***	**0.051**
		(0.262)	(0.663)	
Separated/Divorced	7,746	-0.426	-1.171***	0.112
		(0.265)	(0.381)	
Never Married	8,539	-0.818**	-1.288***	0.347
		(0.353)	(0.407)	
Children Ages 0 to 17	28,706	-0.883***	-0.836***	0.850
		(0.129)	(0.193)	
No Children Ages 0 to 17	46,531	-1.476***	-1.668***	0.296
		(0.258)	(0.137)	
Less Than High School	6,806	-1.460***	-1.551***	0.840
		(0.220)	(0.317)	
High School	24,455	-1.138***	-1.553***	0.102
		(0.244)	(0.156)	
Some College	22,487	-1.214***	-1.326***	0.662
		(0.224)	(0.161)	
BA+	20,380	-1.360***	-0.939***	**0.038**
		(0.222)	(0.152)	
Employed	49,802	-1.134***	-1.187***	0.795
		(0.218)	(0.117)	
Not Employed	25,571	-1.311***	-1.734***	0.110
		(0.186)	(0.184)	
Income < $30k	29,554	-1.331***	-1.333***	0.990
		(0.159)	(0.186)	
Income $30k to $49k	19,654	-1.736***	-1.845***	0.591
		(0.179)	(0.160)	
Income $50k to $69k	11,481	-1.056***	-1.666***	**0.045**
		(0.309)	(0.165)	
Income >= $70k	11,540	-0.451	-0.340	0.736
		(0.370)	(0.247)	

Notes: Analyses are based on the DDB Needham Life Style Survey between 1985 and 2005. The dependent variable is based on the survey item: "I am very satisfied with the way things are going in my life these days" (response categories: 6=definitely agree, 5=generally agree, 4=moderately agree, 3=moderately disagree, 2=generally disagree, and 1=definitely disagree). Each row presents results from a separate life satisfaction regression for individuals in the relevant sub-group. Raw coefficients from an ordered probit are presented. The demographic controls include gender, age, age-squared, race, marital status, presence of children ages 0 to17 in the household, educational attainment, employment status, household income, Census region indicators, and interactions between gender and all other controls. All models include dummy variables for missing values on each right-hand-side variable. Standard errors (in parentheses) are adjusted for clustering by year. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4: Trends in Additional Domains of Subjective Well-Being

	N	Female Linear Time Trend	Male Linear Time Trend	Differential Trends: p-value
	(1)	(2)	(3)	(4)
Panel A: Proxies for Life Satisfaction				
"I wish I could leave my present life and do something entirely different"	75,761	0.704*** (0.079)	0.719*** (0.138)	0.909
"If I had my life to live over, I would sure do things differently"	75,710	1.075*** (0.137)	1.152*** (0.138)	0.556
"I dread the future"	75,809	-0.526** (0.230)	-0.106 (0.224)	**0.014**
"I have more self-confidence than most people"	75,722	-1.090*** (0.086)	-0.838*** (0.109)	**0.032**
Panel B: Health				
"I am in very good physical condition"	75,578	-2.194*** (0.234)	-1.717*** (0.149)	**0.001**
"I get more headaches than most people"	75,636	0.894*** (0.162)	0.986*** (0.173)	0.464
"I have trouble getting to sleep"	75,600	1.831*** (0.158)	1.759*** (0.172	0.657
"I wish I knew how to relax"	75,462	0.556*** (0.105)	0.475*** (0.102)	0.536
"I feel I am under a great deal of pressure most of the time"	75,628	0.450** (0.195)	0.590*** (0.147)	0.420
Panel C: Financial Security				
"Our family income is high enough to satisfy nearly all our important desires"	75,488	-2.277*** (0.259)	-2.720*** (0.151)	**0.034**
"No matter how fast our income goes up we never seem to get ahead"	75,731	0.608*** (0.167)	1.146*** (0.131)	**0.000**

Notes: Analyses are based on the DDB Needham Life Style Survey between 1985 and 2005. The response categories for all dependent variables are: 6=definitely agree, 5=generally agree, 4=moderately agree, 3=moderately disagree, 2=generally disagree, and 1=definitely disagree). Each row presents female and male trend results from a separate subjective well-being regression. Raw coefficients from an ordered probit are presented. The demographic controls include gender, age, age-squared, race, marital status, presence of children ages 0 to17 in the household, educational attainment, employment status, household income, Census region indicators, and interactions between gender and all other controls. All models include dummy variables for missing values on each right-hand-side variable. Standard errors (in parentheses) are adjusted for clustering by year. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5: Gender Differences in Economic, Political, and Familial Forces Shaping Life Satisfaction

	N	Dependent Variable: Life Satisfaction Index	
	(1)	(2)	(3)
Panel A: Macro-Economic Conditions			
State unemployment rate	75,609	-0.022***	-0.027***
		(0.004)	(0.005)
State unemployment rate × female			0.009*
			(0.005)
Panel B: Heterogeneity in Macro-Economic Conditions			
Variability in county unemployment rates	72,452	-0.029***	-0.034***
		(0.007)	(0.009)
Variability in county unemployment rates × female			0.008
			(0.006)
Panel C: Social Cohesion and Trust ("Most people are honest")			
Any agreement with the Life Style Survey item	75,103	0.259***	0.249***
		(0.012)	(0.012)
Life Style Survey item × female			0.018
			(0.017)
Panel D: Trust in Political Institution and Leaders ("An honest man cannot get elected to high office")			
Any agreement with the Life Style Survey item	75,175	-0.118***	-0.124***
		(0.009)	(0.010)
Life Style Survey item × female			0.012
			(0.013)
Panel E: Public Safety ("I worry a lot about myself/family member becoming a victim of crime")			
Any agreement with the Life Style Survey item	59,187	-0.128***	-0.118***
		(0.010)	(0.014)
Life Style Survey item × female			-0.017
			(0.021)
Panel F: Balancing Responsibilities ("I feel like I'm so busy trying to make everybody else happy that I don't have control of my own life")			
Any agreement with the Life Style Survey item	67,204	-0.469***	-0.425***
		(0.008)	(0.013)
Life Style Survey item × female			-0.077***
			(0.020)

Notes: Analyses are based on the DDB Needham Life Style Survey. The analyses in Panel A are based on 1985-2005; Panel B is based on 1985-2004; Panel C is based on 1985-2005; Panel D is based on 1985-2005; Panel E is based on 1989-2005; and Panel F is based on 1987-2005. The response categories for the dependent variable are as follows: 6=definitely agree, 5=generally agree, 4=moderately agree, 3=moderately disagree, 2=generally disagree, and 1=definitely disagree. All models are estimated using an ordered probit. The variability measure in Panel B is defined as the average deviation county-level unemployment rates from overall, state-level unemployment rate. The independent variables in Panels C through F are dummies that equal unity if a given respondent indicates any agreement with each statement. The models include the controls in Table 2, four income dummies, state fixed effects, and year dummies. All models include dummy variables for missing values on each right-hand-side variable. Standard errors (in parentheses) are adjusted for clustering by state (Panels A and B) year (Panels C through F). ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6: The Determinants of Life Satisfaction and Happiness

	Life Style Survey	General Social Survey	
	Life Satisfaction	Happiness	
	1985-2005	1972-2006	1985-2004
Female	0.052***	0.104***	0.068***
	(0.009)	(0.017)	(0.019)
Age	-0.027***	-0.018***	-0.022***
	(0.002)	(0.003)	(0.003)
Age-squared	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)
Black	-0.209***	-0.264***	-0.229***
	(0.016)	(0.029)	(0.033)
Other Race/Ethnicity	-0.034**	-0.079*	-0.098
	(0.015)	(0.044)	(0.060)
Widowed	-0.267***	-0.630***	-0.607***
	(0.017)	(0.022)	(0.027)
Separated	-0.627***	-0.748***	-0.787***
	(0.042)	(0.035)	(0.048)
Divorced	-0.390***	-0.597***	-0.582***
	(0.017)	(0.016)	(0.016)
Never Married	-0.383***	-0.438***	-0.446***
	(0.012)	(0.038)	(0.050)
Children Ages 0 to 17	-0.120***	-0.067***	-0.061***
	(0.012)	(0.014)	(0.021)
High School	0.140***	0.136***	0.134***
	(0.015)	(0.018)	(0.021)
Some College	0.182***	0.222***	0.217***
	(0.014)	(0.042)	(0.046)
BA+	0.343***	0.296***	0.295***
	(0.016)	(0.024)	(0.028)
Employed	0.028***	0.085***	0.088***
	(0.011)	(0.016)	(0.025)
N	75,609	45,452	26,025

Notes: The dependent variable for the DDB Needham Life Style Survey (LSS) is: "I am very satisfied with the way things are going in my life these days" (response categories: 6=definitely agree, 5=generally agree, 4=moderately agree, 3=moderately disagree, 2=generally disagree, and 1=definitely disagree). The dependent variable for the General Social Survey (GSS) is: "Taken all together, how would you say things are these days--would you say that you are (3) very happy, (2) pretty happy, or (1) not too happy?" All models are estimated using an ordered probit, with the standard errors (in parentheses) adjusted for clustering by year. Some of the GSS variables in the table are parameterized differently from SW's analysis in order to achieve greater consistency with the LSS data. All models include dummy variables for the nine census regions and for missing values on each right-hand-side variable. The GSS estimates are weighted using "wt." ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 7: The Influence of Using Different Time Periods in the Estimation of Subjective Well-being Trends

	N	Female Linear Time Trend	Male Linear Time Trend	Differential Trends: p-value
	(1)	(2)	(3)	(4)
Panel A: Examine the Role of Using Different Time Periods in the GSS and Virginia Slims Survey				
General Social Survey, 1972-2006	45,452	-0.400***	0.061	**0.008**
		(0.119)	(0.119)	
General Social Survey, 1985-2006	28,853	-0.333**	-0.156	0.512
		(0.164)	(0.203)	
Virginia Slims, 1972-2000	26,701	-1.095***	-0.539**	**0.002**
		(0.231)	(0.233)	
Virginia Slims, 1985-2000	14,951	-1.194**	-0.478*	**0.007**
		(0.507)	(0.246)	
Panel B: Examine the Role of Using Different Time Periods in the Life Style Survey				
"I wish I could leave my present life…" 1975-2005, married respondents	83,408	0.720***	0.485***	**0.002**
		(0.010)	(0.105)	
"I wish I could leave my present life…" 1985-2005, married respondents	52,761	0.169	0.072	0.631
		(0.122)	(0.171)	
"If I had my life to live over…" 1975-2005, married respondents	83,318	0.696***	0.414***	**0.000**
		(0.085)	(0.070)	
"If I had my life to live over…" 1985-2005, married respondents	52,734	0.375**	0.335*	0.819
		(0.157)	(0.179)	
"I dread the future" 1975-2005, married respondents	83,355	-0.258	-0.059	**0.024**
		(0.268)	(0.247)	
"I dread the future" 1985-2005, married respondents	52,808	-1.639***	-1.254***	**0.008**
		(0.229)	(0.215)	
"I have more self-confidence…" 1975-2005, married respondents	83,302	0.402***	0.339***	0.391
		(0.070)	(0.083)	
"I have more self-confidence…" 1985-2005, married respondents	52,715	0.105	0.132	0.809
		(0.108)	(0.120)	
"I wish I knew how to relax" 1975-2005, married respondents	83,079	-0.172***	-0.209***	0.590
		(0.062)	(0.070)	
"I wish I knew how to relax" 1975-2005, married respondents	52,571	-0.089	-0.032	0.668
		(0.101)	(0.120)	

Notes: Analyses in Panel A come from SW's GSS and Virginia Slims analysis datasets. The dependent variable for the GSS is: "Taken all together, how would you say things are these days—would you say that you are (1) very happy, (2) pretty happy, or (3) not too happy?" The dependent variable for the Virginia Slims Survey is: "In general, how satisfied would you say you personally are with your life today?" (response categories: 4=very satisfied, 3=somewhat satisfied, 2=only slightly satisfied, and 4=not at all satisfied). Analyses in Panel B are based on the DDB Needham Life Style Survey between 1975 and 2005. The response categories for all dependent variables are as follows: 6=definitely agree, 5=generally agree, 4=moderately agree, 3=moderately disagree, 2=generally disagree, and 1=definitely disagree. All models are estimated using an ordered probit. All models include only a control for gender. Standard errors (in parentheses) are adjusted for clustering by year. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

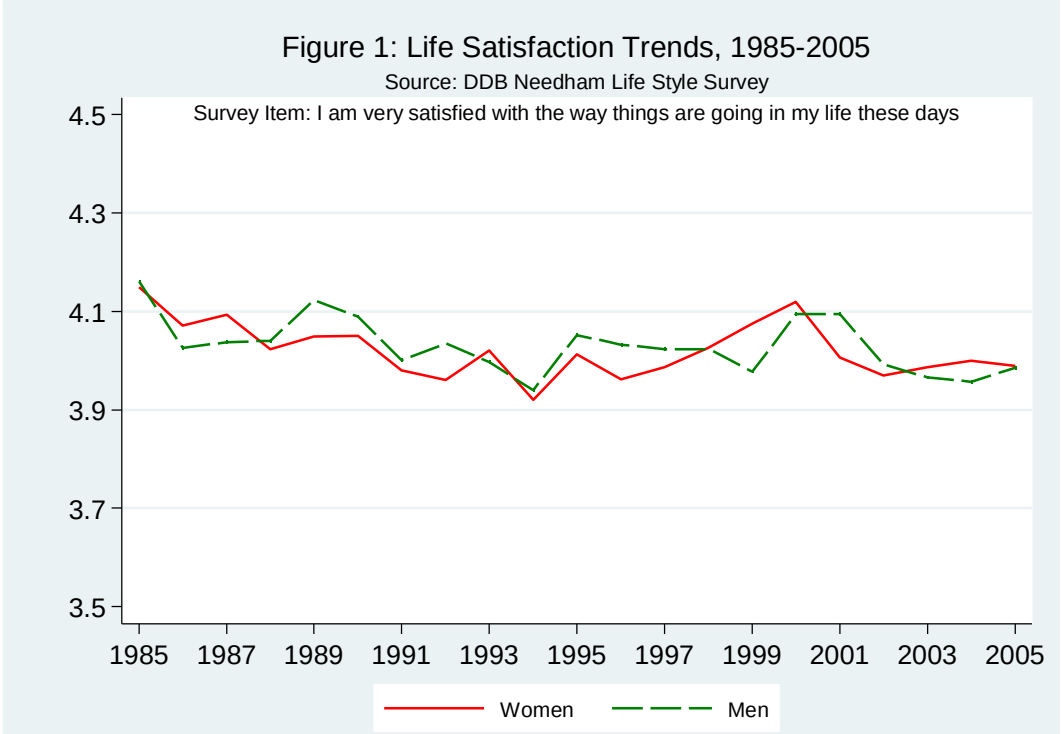
Figure 1: Life Satisfaction Trends, 1985-2005
Source: DDB Needham Life Style Survey
Survey Item: I am very satisfied with the way things are going in my life these days
4.5
4.3
4.1
3.9
3.7
3.5
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
Women
Men

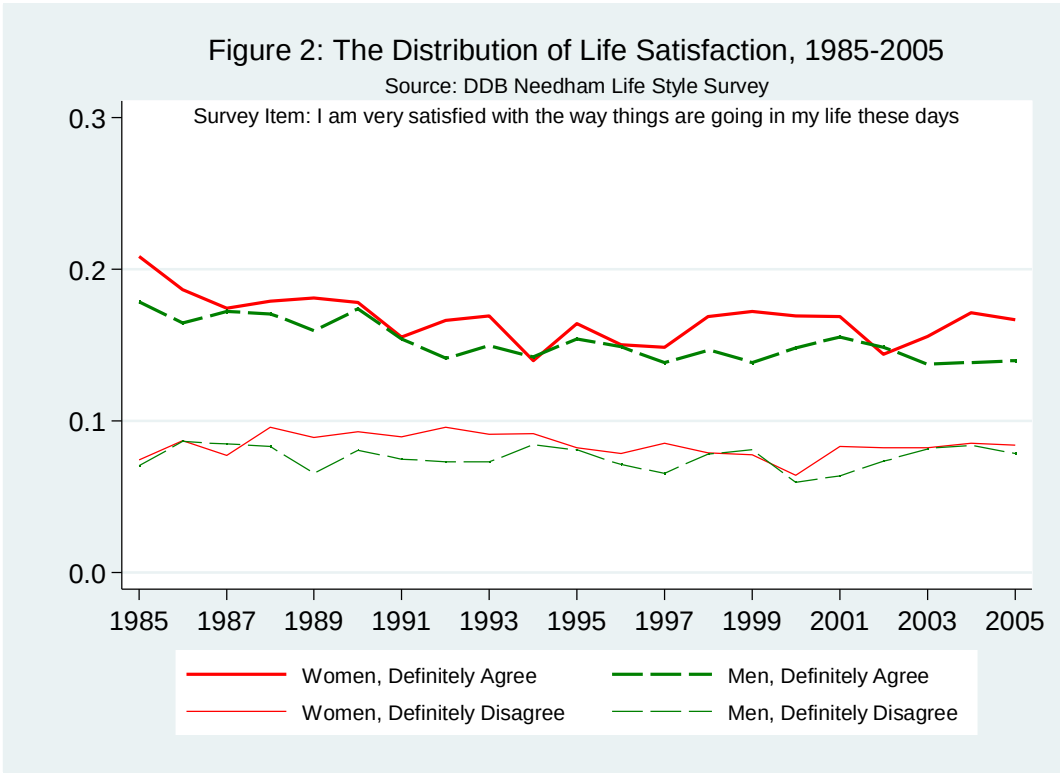
Figure 2: The Distribution of Life Satisfaction, 1985-2005
Source: DDB Needham Life Style Survey
Survey Item: I am very satisfied with the way things are going in my life these days
0.3
0.2
0.1
0.0
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
Women, Definitely Agree
Men, Definitely Agree
Women, Definitely Disagree
Men, Definitely Disagree