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Subjective and Objective Indicators of Racial Progress *

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Abstract

Progress in closing differences in many objective outcomes for blacks relative to whites has slowed, and even worsened, over the past three decades. However, over this period the racial gap in wellbeing has shrunk. In the early 1970s data revealed much lower levels of subjective well-being among blacks relative to whites. Investigating various measures of well-being, we find that the well-being of blacks has increased both absolutely and relative to that of whites. While a racial gap in well-being remains, two-fifths of the gap has closed and these gains have occurred despite little progress in closing other racial gaps such as those in income, employment, and education. Much of the current racial gap in well-being can be explained by differences in the objective conditions of the lives of black and white Americans. Thus making further progress will likely require progress in closing racial gaps in objective circumstances.

Keywords

Subjective well-being, life satisfaction, happiness, race

JEL Classification

D6, I32, J1, J7, K1

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Subjective and Objective Indicators of Racial Progress*

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Abstract

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I. Introduction

The Civil Rights Movement revolutionized the lives of blacks in the United States. A series of legal victories and public policy changes in the 1950s and 1960s outlawed de jure discrimination. These legal and policy changes—*Brown v Board of Education* (37 U.S. 483 [1954]), the *Civil Rights Act* of 1964, the *Voting Rights Act* of 1965, and the *Fair Housing Act* of 1968—opened the doors to schools, jobs, housing, and private establishments that served the public, throughout the country. Sociologists have argued that during this period black men and women experienced large improvements in occupational status, which led to the rise of the black middle class.[1]

These legal and policy changes yielded improvements in the objective circumstances of the lives of blacks, particularly in the period right after the laws were passed. Donohue and Heckman (1991) study the timing of the changes in the laws and labor market gains accruing to black men. They conclude that the wage gains experienced by black men relative to white men in the period from 1965 to 1975 were due to the reduction in de jure discrimination, particularly in the South.[2] However, since then, the earnings gap by race has widened for both men and women. Altonji and Blank (1999, p. 3149) note that "although black men's wages rose faster than white men's in the 1960s and early 1970s, there has been little relative improvement (and even some deterioration) in the 25 years since then." In the decade since their article there has been little change in the ratio of median weekly earnings of black and white men.[3]

At the time of the legal reforms, blacks reported levels of subjective well-being that were well below those of whites. Sociologists examining data on subjective well-being have pointed to this large gap and concluded that improvements in the civil rights of blacks have had little impact on their subjective well-being despite having made improvements in objective measures. In 1986, Thomas and Hughes evaluated data from the General Social Survey (GSS), showing that "blacks score consistently lower than whites on measures of psychological well-being." Further, they argued that "the differences between blacks and whites remained constant between 1972 and 1985." This led them to conclude that race continues to be an important factor determining subjective well-being, "in spite of recent changes in the social and legal status of black Americans" (Thomas and Hughes 1986, p. 830).

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[1] Wilson (1980, pp. 126-30); Thomas and Hughes (1986)

[2] Donohue and Heckman (1991) point to the experience of episodic, rather than continuous, wage gains as evidence that the gains reflected the legal reforms instead of being part of broader trends in inequality.

[3] Median usual weekly earnings of employed full time, wage and salary workers, Black or African American, men and white men, Current Population Survey.

In 1998, they re-visited the question and concluded that even with the longer run of data, there had been no change in the self-reported happiness of blacks (Hughes and Thomas 1998).

Yet more recent studies have found that the black-white well-being gap has shrunk since the 1970s.[4] However, none of these studies have investigated the racial gap in well-being in depth, nor have they attempted to consider what may be behind these declines. We show in this paper that the black-white well-being gap observed in the 1970s was three times greater than that which can be explained by objective differences in the lives of blacks and whites. Moreover, differences in well-being by race were greater than differences between other groups, such as rich and poor. For instance, in the 1970s, blacks at the ninetieth percentile of the black household income distribution had as much income as a white person at the seventy-fifth percentile; however, their average level of well-being was lower than that of a white person with income at the tenth percentile. This finding is consistent with health studies that find that the health outcomes of blacks are worse than those of whites even when conditioning on income (Franks, et al. 2006).

We show that there has since been substantial improvement in the reported well-being of blacks both absolutely and relative to whites. In the 1970s, nearly a quarter of all blacks in the GSS reported being in the lowest category ("not too happy"), compared to a tenth of whites. By the 2000s roughly a fifth of blacks reported being in the lowest category, compared to a tenth of whites. Blacks have moved out of the bottom category of happiness and in doing so have become more likely over this period to report being in the top category ("very happy"). In contrast, whites have become less likely to report being very happy. While the opportunities and achievements of blacks have improved over this period, the happiness gains far exceed those that might be expected on the basis of these improvements in conventional objective measures of status.

Social changes that have occurred over the past four decades have increased the opportunities available to blacks, and a standard economic framework would suggest that these expanded opportunities would have increased their well-being. However, others have noted that continued discrimination presents a barrier to realizing these benefits. And there has been little progress in closing racial gaps in many objective measures. As previously noted, there has been little progress in closing the earnings gap since 1980, the education gap has been stubbornly persistent since 1990, and

[4]Blanchflower and Oswald (2004) find evidence of an improvement in the well-being of blacks over time. Stevenson and Wolfers (2008b) find that inequality in well-being is declining over time, including a decline in the differences in well-being between whites and non-whites. Yang (2008) also finds that inequality in happiness by race is declining over time.

unemployment disparities are little improved.[5] In addition, health differences, like higher infant mortality rates among blacks, have proven persistent (MacDorman and Mathews 2011; Krieger et al. 2008). Our study illustrates that the fruits of the civil rights movement may lie in other, more difficult to document, improvements in the quality of life—improvements that have led to rising levels of happiness and life satisfaction for some blacks. But these improvements have taken decades to be realized, and even if current rates of progress persist, it will take several more decades to fully close the black-white well-being gap.

Our contribution in this paper is to carefully document trends, over several decades, in subjective well-being by race in the United States, collecting evidence across a wide array of datasets covering various demographic groups, time periods, and measures of subjective well-being. To preview our findings, Section II shows that blacks in the United States were much less happy than whites in the 1970's and that the racial gap in well-being was greater than that which would be predicted by objective differences in life circumstances. We next show that over recent decades, the well-being of blacks has increased, both absolutely and relative to whites. Blacks continue to report lower levels of well-being compared to whites, but the gap has been systematically closing, and much of the extant gap is explained by conditioning on objective circumstances. In section III we show that this fact is robust to accounting for trends in incarceration (potentially missing data) and to exploring other data sets and measures of subjective well-being. In section IV, we consider who has received the greatest gains in well-being among blacks and how that has contributed to the closing of the racial gap. We also explore the relationship between income and well-being by race and take a look at other measures of well-being.

II. Subjective Well-Being Trends by Race

We begin by examining subjective well-being in the United States since the 1970s using data from the General Social Survey (GSS). This survey is a nationally representative sample of about 1,500 respondents each year from 1972 to 1993 (except 1979, 1981, and 1992) and continues with around 3,000 respondents every second year from 1994 through to 2004, rising to 4,500 respondents in 2006 and falling to 3,500 respondents in 2008.[6] These repeated cross-sections are designed to track

[5]Krueger, Rothstein, and Turner (2006, p. 284) describe "slow and episodic" improvements in test scores between 1970 and 1990 that "essentially stopped around 1990."

[6] Only half the respondents were queried about their happiness in 2002 and 2004, followed by two-thirds in 2006. In 2008, there were 2,036 new people surveyed and 1,536 people from the 2006 survey who were re surveyed.

attitudes and behaviors among the U.S. population and contain a wide range of demographic and attitudinal questions. Throughout this paper, we focus on the sample of respondents who identify themselves as either "white," or "black"; the residual "other" category comprises less than 5 percent of all respondents (and less than 1 percent in the 1970s) and so yields too small a sample to permit meaningful analysis.

Subjective well-being is measured using the question: "Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?" In addition, respondents are asked about their satisfaction with a number of aspects of their life, such as their marriage, their health, their financial situation, and their job. The long duration of the GSS and the use of consistent survey language to measure subjective well-being make it ideally suited for analyzing trends over time. However, there are a few changes to the survey that can impact reported well-being. For example, in every year but 1972, the question about happiness followed a question about marital happiness, and in every year except 1972 and 1985, the happiness question was preceded by a five-item satisfaction scale. Both of these changes have been shown to impact reported happiness (Smith 1990). We create a consistent series that accounts for these measurement changes using the split-ballot experiments done by the GSS in order to provide a bridge between different versions of the survey. We make adjustments to the data following the approach detailed in appendix A of Stevenson and Wolfers (2008b).[7] Finally, in order to ensure that these time series are nationally representative, all estimates are weighted (using the product of the usual GSS weight WTSSALL and the weight OVERSAMP, which allows us to include the black oversamples in 1982 and 1987). In order to maintain continuity with earlier survey rounds, we also exclude those 2006 interviews that occurred in Spanish and could not have been completed had English been the only option, as Spanish-language surveys were not offered in previous years.[8]

In order to facilitate comparisons with other data sets, we need to find a way to standardize the measure of subjective well-being, since these data lack a natural scale and are reported differently across data sets. We treat these ordered categories, running from "not too happy" to "pretty happy" and then "very happy" as scores of 1, 2, and 3, respectively, so higher numbers indicate greater happiness. In order to make the scale meaningful, we then standardize the happiness variable by subtracting the mean and dividing by the standard deviation. Therefore, the coefficients in our

[7] While using the split-ballot experiments allows a comparison to include the years 1972 and 1985, it also means that it is not possible to simply drop these 2 outlier years, as results from subsequent surveys also need to be adjusted for the presence of these experimental split ballots.

[8] This treatment of the data also follows Stevenson and Wolfers (2008b).

regressions have a natural interpretation—they capture the average number of standard deviation changes in subjective well-being associated with a 1 unit change in the independent variable. This rescaling has the disadvantage of assuming that the difference between any two levels of a subjective well-being question is equal (that it is equally valuable to move, for example, from "not too happy" to "pretty happy" as it is to move from "pretty happy" to "not too happy"). The results we present are robust to alternative methods of standardizing such as using an ordered probit regression or simply using the raw scaling.[9]

Figure **1** shows the average levels of well-being for blacks and whites in each year of our sample; the solid squares also show the implied annual estimates of the black-white well-being gap, and the 95 percent confidence interval around these estimates are shaded. In the 1970s there is a large gap between the well-being of blacks and whites. The well-being index is standardized, and hence the metric is interpretable: the black-white well-being gap in the 1970s was equal to nearly half of the standard deviation of well-being. Over the ensuing period the average well-being level of whites declined slightly, while the average well-being level of blacks trended upward. The increasing well-being of blacks and, to a lesser extent, the declining well-being of whites has led to a closure of two-fifths of the black-white well-being gap.

Table **1**embeds these findings in a more formal regression analysis. We estimate a regression of the form:

$$Happiness_{i,t} = \alpha + \beta_1 Black_i + \beta_2 Black_i * \frac{Year_t - 1972}{100} + \beta_3 White_i * \frac{Year_t - 1972}{100} + \epsilon_{it} \quad [1]$$

where *i* denotes an individual, and *t* denotes the year in which that individual was surveyed by the GSS. The time trends are measured as time since the start of the sample in 1972, divided by 100, which means that β_1 measures the black-white happiness gap in 1972, while β_2 and β_3 measure the growth per century in well-being for whites and blacks, respectively. Thus $\beta_2 - \beta_3$ measures changes in the black-white well-being gap per century, and $\frac{\beta_2 - \beta_3}{\beta_1}$ measures the fraction of a century required to close the initial black-white well-being gap. We estimate this using ordinary least squares regresson, and cluster our standard errors at the year level. These results are shown in column 1 of Table **1**. The regression reveals the same patterns seen in Figure **1**, showing both an increase in the well-being of

[9] The most important difference between the standardization we employ here and the ordered probit regression is that the latter scales differences relative to the standard deviation of well-being conditional on covariates, while the simpler normalization we employ scales differences relative to the unconditional standard deviation of

blacks and a decline in the well-being of whites. While the increase in black well-being is not itself statistically significant—largely reflecting the statistical imprecision that comes from the small sample of blacks in the GSS—the difference between the two trends is statistically significantly different from zero at the 1 percent level. Black well-being increased relative to that of whites at a rate of .498 of a standard deviation per century, which over the 36 years of our data cumulates to a closing of .180 of a standard deviation. Taking the predicted values of this equation suggests that in 1972, blacks were on average .449 of a standard deviation less happy than whites, and that difference had shrunk to .269 of a standard deviation by 2008.

Interpreting the magnitude of the racial well-being gap

In order to get a sense of the relevant magnitudes, it is worth comparing the racial well-being gap with the well-being gap between rich and poor. Figure **2** shows the relationship between well-being and the log of income, plotting average levels of well-being and income for each vigintile (20-quantile) of the income distribution. (To be clear, our income measure is real family income per household equivalent.)[10] Notice that the horizontal axis is a log scale, and so the linear pattern suggests a linear relationship between measured well-being and log income (thus, subjective well-being rises at a decreasing rate as income increases). As shown in previous studies, the relationship between subjective well-being and income is best described as a level-log relationship, with well-being increasing linearly as the log of income rises.[11] One simple comparison contrasts the well-being of the poor (roughly the bottom quartile of the family income distribution—those with incomes less than $15,000 per year per equivalent household), and the rich (the top quartile, with household-equivalent incomes of more than $40,000 per year). This yields a rich-poor well-being gap of 0.441. That is, the

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well-being. For more information on cardinalizing happiness variables see van Praag and Ferrer-i-Carbonell (2004) and appendix A in Stevenson and Wolfers(2008a).

[10] The General Social Survey (GSS) measures nominal family income in various categories. We transform these into point estimates by using interval regression, assuming that income is log normally distributed in each year, and deflate by the consumer price index research series using current methods (CPI—RS) so that this is measured in 2005 dollars. We use the modified Organisation for Economic Co-operation and Development (OECD) equivalence scale to take account of economies of scale in household size (the first adult is counted as one person, subsequent adults count as .5, and children count as .3). Thus, our income concept is real family income per equivalent.

[11] Stevenson and Wolfers (2008a) and Deaton (2008) explore the functional form that best fits the data. While the level-log relationship appears to be the best fit, analysis of the relationship of well-being with both the level and the log of income show a similar finding, which is that subjective well-being rises at a decreasing rate as income increases, with no evidence that the decreasing rate slows over time. In fact, estimates suggest that, if anything, the decrease in the marginal increase in subjective well-being from each additional dollar may begin to slow at high levels of income.

magnitude of the black-white well-being gap in the 1970s was roughly equal to the well-being gap between people in the top and bottom quartiles of the income distribution. This large well-being gap occurred despite the fact that the black-white income gap was much smaller than the rich-poor income gap—indeed, in the GSS, the average income of blacks in the 1970s was $16,500, compared with $26,800 for whites.

In order to be more formal about this, we can compare our estimates of the black-white well-being gap with the coefficient on income in a standard well-being equation. Thus, we estimate a simple regression of our standardized well-being measure on log income, controlling for a full set of age × race × gender fixed effects and year fixed effects. This yields a well-being-income gradient of 0.186, with a standard error of 0.006, which is consistent with previous estimates; this estimated regression line is illustrated in Figure **2**.[12] In the 1970s the average of log income for blacks was 0.56 log point less than that for whites. This income gap would be expected to create a well-being gap of 0.186 × 0.56 = 0.10. Thus, the black-white well-being gap in 1972 was roughly four times larger than might be expected on the basis of the income gap. As Figure **1** shows, over the ensuing four decades, two-fifths of the black-white well-being gap closed despite little closure in the income gap. Yet there remains a racial well-being gap that is larger than might be expected simply on the basis of income differences.

The conditional racial well-being gap

To assess the racial well-being gap, while holding income differences constant, the regression in the second column of Table 1 controls flexibly for income, adding a quartic in log family income per equivalent (using the Organisation for Economic Co-operation and Development's modified equivalence scale) plus a dummy variable for those with missing data. In this specification we see that the 1972 racial gap in well-being, conditional on real family income in 1972, fell from.449 to .354. This simply repeats the finding above: less than one-quarter of the initial racial well-being gap can be explained by income differences. By 2008 the racial gap in well-being had fallen by a similar amount whether or not we hold differences in household income constant. In column 1, we see that the racial gap in well-being fell by .18 of a standard deviation, and adding controls for income yields a fall of .17 of a standard deviation.

Thus, little of the change over time in the black-white well-being gap is explained by changes in income. This is partially due simply to the fact that the black-white income gap has not closed much

since the 1970s. Table 2 reports the median wages of men and women in constant dollars in the 1970s and in the 2000s. Earnings of the median black man are 60 percent of those of the median white man in the 1970s and have grown to 72 percent by the 2000s, closing only 20 percent of the earnings gap. Income gaps between women are much smaller, with the median white woman earning around 10 percent more than the median black woman in the 1970s and 4 percent more in the 2000s. Turning to family income we see that the average family income for blacks has largely paralleled rises in white incomes, and hence there has been very little narrowing of the black-white income gap. In the 1970s, median black family income was 58 percent of that of whites, and in the 200s it had risen only to 64 percent. Finally, the black poverty rate has declined somewhat, yet black families are still about three times as likely as white families to be living in poverty. Thus, the black-white well-being gap has narrowed despite slow progress in the narrowing of the black-white income gap.

There are, of course, many other differences between black and white families that might affect the subjective well-being of each. Table 2 provides a summary of changes in the lives of blacks and whites from the 1970s to the 2000s. Over this period the percentage of blacks dropping out of high school fell both absolutely and relative to whites, while the percentage enrolled in college and the proportion with a bachelor's degree rose. However a large racial disparity in education remains. Similarly, we see that while the life expectancy of blacks increased over this period, it also increased among whites, and a large racial gap in life expectancy persists. In the 1970s whites lived an average of 6.8 years longer than blacks, and that gap had shrunk to 5.3 by the 2000s. Finally, the racial gap in incarceration over this period has grown for both men and women, something we will investigate further in section 3.

Thus, there have been some important changes in the objective indicators of black well-being, and so it is important to assess how controlling for these changes impacts the estimated trends in the racial gap in well-being. In other words, we want to assess if blacks and whites have become more similar in terms of reported subjective well-being simply because the circumstances of their lives have become more similar. In the third column of Table 1, we add controls for own and parents' education, religion, employment status, marital behavior, children, region, age, and sex in addition to controlling for income.[13] To the extent that these characteristics are associated with subjective well-being and

[12] Stevenson and Wolfers (2008a) find that the cross-sectional gradient of the relationship between happiness and log income is around .3 in most data sets and is .2 in the GSS.

[13] Our socioeconomic controls include indicator variables for gender, age (by decade), employment status (full- and part-time, temporary illness/vacation/strike, unemployed, retired, in school, keeping house, or other), marital status (married, widowed, divorced, separated, or never married), highest degree earned by the

differ in their prevalence across the population by race, they may account for some of the estimated difference in subjective well-being between blacks and whites. However, while many of these controls are highly correlated with well-being, in many cases this simply reflects the underlying well-being of the people choosing a particular life circumstance. For example, while married people are typically happier than those who are not married, much of this relationship is due to happier people being more likely to marry (Stevenson and Wolfers 2007). Further, there has been changing selection through time into employment, education, and marriage. Thus, while blacks have become less likely to marry over this period (both absolutely and relative to marital behavior by whites), it is difficult to know if (or by how much) this may have changed their subjective well-being (Isen and Stevenson 2010).

In the fourth column we allow the relationship between the controls and well-being to vary by race, and thus we interact all of the controls with race. This specification yields similar results to those seen in column 3 where controls are not allowed to vary by race. There are, however, important differences in the relationship between well-being and many of these controls by race. We will return to discussing these in section IV as we explore trends separately by demographic groups.

In column 5, we also allow for different well-being trends based on each of these characteristics, by also interacting each of our controls with time trends. While there are some important time trends that differ by group—such as the decline in women's well-being relative to men's over this period, as noted by Stevenson and Wolfers (2009), and a widening of education differentials documented in Stevenson and Wolfers (2008b)—accounting for these trends does not much change our conclusions.

Comparing these various estimates, we find that controlling for measurable differences in the lives of blacks and whites explains about one-third of the black-white well-being gap in the 1970s, and much of this is due to the differences in income between blacks and whites. Turning to the trends over time we see that little of the change over time is explained by the controls. In all specifications the black-white well-being gap—measured relative to the standard deviation of well-being—is closing at a rate of about 0.5 per century. However, this relative change is composed of both a decrease in the well-being of whites and an increase in the well-being of blacks. The decrease in the well-being of

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respondent and his or her parents (less than high school, high school, associates degree or junior college, bachelors degree, or graduate degree), religion (Protestant, Catholic, Jewish, other, or none), and nine census regions.

whites is larger once controls for objective indicators are taken into account.[14] Finally, while the racial gap in well-being remains large, around two-thirds of the gap in 2008 can be explained by differences in observable characteristics, compared to only one-third in 1972. This suggests that there have been improvements in subjective well-being for blacks over time that are distinct from changes in their objective circumstances.

III. Robustness

Before we turn to a more granular analysis of the trends in well-being across different groups by race, it is worth checking to see whether the observed racial differences hold across alternative measures of well-being, potential sample selection problems, and other data sets.

Examining the distribution of well-being

The first alternative measure of well-being simply considers those in the top and bottom of the well-being distribution in the GSS separately. Columns 6 and 7 of Table 1 turn to probit regressions analyzing indicators for whether the respondent is "very happy" or "not too happy," respectively. In order to retain comparability with the earlier regressions, we report raw probit coefficients, which describe the changes in a standardized latent well-being variable.

Column 6 shows that whites have become less likely to report being very happy over time, while blacks have become more likely to do so (albeit not statistically significantly so). Over time this has led to a statistically significant closure of the racial gap in self-reporting as being very happy, and the difference in the estimated time trends suggests that this well-being gap is declining by 0.6 of a standard deviation per 100 years, a magnitude that is similar to earlier regressions that examined the complete set of response categories. These coefficients imply that in 1972, blacks were 16 percentage points less likely than whites to report being very happy, and by 2008, this gap had halved, with blacks 8 percentage points less likely to report being very happy.

Turning to the bottom of the scale, we see that blacks have become less likely over time to report being not too happy, while there has been little change in the likelihood that whites report being in this category. These coefficients imply that in 1972, blacks were 12.5 percentage points more likely than whites to report being not too happy and this difference shrinks by about a third to 8.7

[14] Many scholars note that the United States has not had the happiness gains that would be expected given increases in income (see, for example, Stevenson and Wolfers 2008b; Blanchflower and Oswald 2004; Easterlin 1995).

percentage points, in 2008. The racial gap in reporting being "not too happy" is closing by 0.3 of a standard deviation per 100 years, a magnitude that is smaller than that seen for the "very happy" category, but statistically indistinguishable from our overall estimates and still suggestive of a role for improvements at the bottom as well as the top of the distribution in the narrowing of the racial gap in well-being.

The impact of incarceration

The GSS strives to include a representative sample of the adult household population each year, but by focusing on households, the sample misses those living in group quarters, including institutions. The period we are examining coincides with a large, and racially unbalanced, increase in incarceration. In turn, this means that the GSS sampling frame may have become increasingly unrepresentative of the aggregate U.S. black population. To gauge the seriousness of this concern, we collected data on black and white incarceration and institutionalization rates since the 1970s; these data are shown in Figure **3**. During the GSS sample period (1972-2008) the proportion of the adult population that was incarcerated rose among whites from 0.2 percent to 0.4 percent, while a higher rate among blacks of 1.0 percent of the population more than tripled to 3.4 percent. Incarceration rates are much higher for certain sub groups of the population—particularly for men relative to women and for the young relative to the old.

Our concern is that those who are at risk for incarceration may be the least happy members of society and therefore as incarceration rates rose, a larger proportion of unhappy people (and particularly, unhappy blacks) may have been removed from the sampling frame, mechanically raising the average levels of well-being among those blacks who were surveyed. To bound the maximum extent of this effect we add back to the GSS sample the proportion of both blacks and whites who are missing because of incarceration, and assign all of these people a happiness score of "not too happy"—the lowest happiness category.[15] Figure **4** reports the results of this exercise, showing both the already

[15] Estimates of the incarcerated population in each year are collected from several sources, as there is no single data series that measures the incarcerated over time. We start with the 1970 and 1980 censuses of population, from which we estimate the size of the institutionalized adult population in correctional facilities and then divide by the relevant adult population, linearly interpolating to obtain annual estimates for 1970 to 1979. From 1980 to 2008, we rely on Western and Petit (2009) who construct annual estimates for blacks and whites of the number of people ages 18-64 who are currently incarcerated. Their data are built from Bureau of Justice Statistics estimates of the penal populations across local jails and state and federal correctional facilities, as well as surveys of the inmate populations. (While Western and Pettit measure only the incarcerated population under 65 years of age, Sabol, West and Cooper [2009] estimate that in 2008 only around 1 percent of all prisoners under state or federal jurisdiction were 65 or older.) In order to estimate incarceration rates, we simply divide Western and Pettit's incarceration numbers by estimates of the total adult population by race,

reported happiness levels of blacks and whites, and just below each line, our estimates of the lower bound that results from adding back in the incarcerated population. For whites, the two lines are imperceptibly different (reflecting the low incarceration rate), while for blacks, a wedge emerges through time. Taking account of the possible effects of rising incarceration results in a slightly smaller closing of the well-being gap—it closes by 0.4 per century rather than 0.5. Thus, the notion that growing incarceration rates may explain up to a fifth of the closing of the well-being gap represents an upper bound on the extent of this effect.[16] This exercise, however, does not consider how high rates of incarceration may be impacting the well-being of those not incarcerated, and we will return to this question when we examine well-being by race among various socioeconomic and age categories.

Alternative datasets

In our final set of robustness checks, we turn to considering alternative data sets with varying measures of subjective well-being and different survey modes. As Herbst (2012) describes, the DDB Needham Life Style surveys—which are conducted by mail—provide a useful alternative indicator of subjective well-being for much of this period. This survey began in 1975 and has since run annually with around 3,500 respondents each year. However, before 1985 the sample consisted only of married households. From 1985 onward the sample is a representative sample of all U.S. households and includes a life satisfaction question asking on a 6-point scale how much respondents agree or disagree with the statement "I am very satisfied with the way things are going in my life these days."[17] Figure **5** summarizes these data, illustrating very similar patterns to those seen with the GSS. In the mid-1980s, there was a large black-white subjective well-being gap, equal to about 0.4 of a standard deviation; subsequently the satisfaction of whites has fallen slightly, while the subjective well-being of blacks has risen strongly, closing much of the black-white satisfaction gap. Because of the later starting date of this survey, the absolute closing of the well-being gap over the duration of the survey is somewhat less than that seen in the GSS, but the point estimate of the rate of change is more rapid.

Finally, to investigate the most recent data, we turn to the Behavioral Risk Factor Surveillance System (BRFSS), which has asked 1.9 million people about their life satisfaction since 2005. The BRFSS asks "In general, how satisfied are you with your life?" with possible responses of: very satisfied, satisfied, dissatisfied, or very dissatisfied. These data suggest that recent years have seen a

---

which we generate by interpolating decadal population estimates aggregated from the 1980-2000 Integrated Public Use Microdata Series, and then the 2001-8 American Community Survey.

[16] Assuming that all those left out were very happy would establish the upper bound of our estimate.

[17] The survey began including the life satisfaction question in 1983. Since there are only 2 years, 1983 and 1984, in which satisfaction data were collected for the married only sample, we simply begin our analysis with the full population in 1985.

continuation of the longer-run trends evident in earlier figures. As with our other samples, the estimated black-white well-being gap over this period is around one-fifth to one-quarter of a standard deviation. Moreover, these data also suggest that the black-white well-being gap continued to close between 2005 and 2010—our analysis shows a closing of the racial gap over this period of .29 of a standard deviation per century. However, the short time period makes it difficult to estimate this with any precision and the standard error on that estimate is .17.[18] This richer recent sample does, however, strongly suggest that the recent downward blip in measured black well-being seen in the GSS data is likely due to simple sampling error.

We now turn to breaking these trends apart by various demographic and socioeconomic groups to investigate further which groups experienced the largest gains in well-being for blacks and the most closure of the racial well-being gap.

IV. Who Gained?

In order to consider how well-being has changed among various groups, taking account of the many changes in the life circumstances of Americans, we turn toward estimating a regression that disaggregates our main findings from the GSS and simultaneously takes account of how well-being has changed for different sub-groups of blacks and whites. Thus, we re-estimate equation [1] but interact each of the terms with a family of dummy variables indicating whether the respondent is a member of various age, gender, region, urban, education, income, employment and marital status groups:

[18] Figure and data analysis are available from the authors.

$$
\begin{aligned}
Happiness_{i,t} = & \sum_{a}^{age\ groups} I(Age_i = a)\left[\alpha_a + \beta_1^a Black_i + \beta_2^a Black_i * \frac{Year_t - 1972}{100} + \beta_3^a White_i * \frac{Year_t - 1972}{100}\right] \\
& + \sum_{s}^{sex} I(Sex_i = s)\left[\alpha_s + \beta_1^s Black_i + \beta_2^s Black_i * \frac{Year_t - 1972}{100} + \beta_3^s White_i * \frac{Year_t - 1972}{100}\right] \\
& + \sum_{r}^{region} I(Region_i = r)\left[\alpha_r + \beta_1^r Black_i + \beta_2^r Black_i * \frac{Year_t - 1972}{100} + \beta_3^r White_i * \frac{Year_t - 1972}{100}\right] \\
& + \sum_{u}^{urban} I(Urban_i = u)\left[\alpha_u + \beta_1^u Black_i + \beta_2^u Black_i * \frac{Year_t - 1972}{100} + \beta_3^u White_i * \frac{Year_t - 1972}{100}\right] \\
& + \sum_{y}^{income\ quartile} I(Income_i = y)\left[\alpha_y + \beta_1^y Black_i + \beta_2^y Black_i * \frac{Year_t - 1972}{100} + \beta_3^y White_i * \frac{Year_t - 1972}{100}\right] \\
& + \sum_{e}^{education} I(Education_i = e)\left[\alpha_e + \beta_1^e Black_i + \beta_2^e Black_i * \frac{Year_t - 1972}{100} + \beta_3^e White_i * \frac{Year_t - 1972}{100}\right] \\
& + \sum_{e}^{emp\ status} I(Emp_i = e)\left[\alpha_w + \beta_1^w Black_i + \beta_2^w Black_i * \frac{Year_t - 1972}{100} + \beta_3^w White_i * \frac{Year_t - 1972}{100}\right] \\
& + \sum_{m}^{marital} I(Marital_i = m)\left[\alpha_m + \beta_1^m Black_i + \beta_2^m Black_i * \frac{Year_t - 1972}{100} + \beta_3^m White_i * \frac{Year_t - 1972}{100}\right] + \epsilon_{it}
\end{aligned}
\qquad [2]
$$

We are particularly interested in evaluating the differential black-white trends within each group, and this approach allows us to do this while controlling for the differential trends affecting blacks and whites in other groups, too. It can be difficult to directly interpret any regression involving so many interaction terms. For instance, predicted growth in well-being for a black woman depends not only on β_2^{women} but also on her assumed other characteristics, each multiplied by the relevant β_2s We begin by reporting the implied black-white well-being gaps at both the beginning and end of our sample for someone with sample average characteristics (apart from race and time). Using the whole-sample average—rather than different averages for blacks and whites—ensures that our results are not affected by the different composition of the black and white populations. The implied racial gap in well-being for 1972 is reported in the first column of Table 3, and the gap in 2008 is reported in the second column. We report the difference between the two, which is the amount that the racial gap closed over the period, in the third column.

But none of this tells us whether changes in the gap were driven by changes in the well-being of blacks, whites, or a combination of both. For this, we evaluate $\frac{\delta Happiness}{\delta time}\Big|_{black}$ and $\frac{\delta Happiness}{\delta time}\Big|_{white}$ for someone with the sample average characteristics. These race-specific time trends are reported in the

fourth and fifth columns and show standard deviation changes in well-being per century. Thus, the trend in the change in the black-white well-being gap, per century, is the difference between the two columns, reported in the sixth column. Note that the third column is simply the sixth column divided by 100 (to convert it into per year changes) and multiplied by the number of years that have passed (36).

In 1972, the racial gap in well-being was largest among women, the young, those living in the South, college graduates, those in the top half of the income distribution, the non-employed, and the married. By 2008, some things remained the same—those with more education and income still faced large well-being gaps. However, the racial gap in well-being among women was eliminated, while half of the racial gap among men remained. While the early period experienced large racial gaps in well-being among people of all ages, differences in the racial gap across people of various ages emerged by 2008, with a large well-being gap persisting for the young (ages 18-29). The largest gains in well-being were in the South, erasing the large racial gap in well-being that was present in 1972.

Let us turn to considering these changes in more detail. Focusing on women, we see that a racial well-being gap of .4 of a standard deviation was nearly erased over the decades. This occurred both because black women became happier—by around .2 of a standard deviation over the 36 year period (.006 a year)—and because white women became less happy by around .15 of a standard deviation (-.004 a year).[19] A larger well-being gap remains among men, both because black males' well-being rose slightly less—by .13 of a standard deviation—and because there was no decline in the well-being of white men. In sum, subjective well-being appears to have risen more strongly for black women than black men, an outcome that is consistent with other indicators of economic and social progress.

Turning to the trends by age we see that those ages 18 -29 and those ages 30 -44 had the largest racial gaps in well-being: within each group blacks were about .4 of a standard deviation less happy than whites. Blacks in these two age groups also had the largest absolute well-being gains, with the well-being of blacks ages 18 -29 increasing by .3 of a standard deviation over the period. However, the well-being of young whites also rose and, as such, the well-being gap closed by only .18 of a standard deviation.

[19] Stevenson and Wolfers (2009) discuss trends in women's happiness in detail and document these racial differences in the trends in women's happiness.

That young blacks had the largest gains in well-being is perhaps somewhat surprising given the high rates of incarceration among this age group and raises suspicions about the fact that those incarcerated are not in our sample. However, recall section II that accounting for the missing incarcerated individuals had little impact on our results. Moreover, these are changes by age conditional on changes by education and income, among other things. When we look at the raw trends and, most important, when we break the age trends down by gender, we see that the problems facing young black men are indeed impacting their well-being. Figure 6 shows that among blacks, young men have become less happy over this period and are the only age group to face substantial well-being losses and for which the racial gap in well-being actually grew.

Figure 6 points to large well-being gains among young and prime age black women and gains for men ages 30-44. Returning to the regression results, we see that closing of the racial gap in well-being for those ages 30- 44 occurred both because blacks became happier and because whites of that age group became less happy. Among those ages 45-59, the racial gap in well-being closed even though blacks in this age group became less happy, because their well-being losses were smaller than those experienced by whites. This result is seen equally for men and women in Figure 6. Turning to those over 60, we see a racial gap in well-being in 2008 in which blacks were statistically significantly happier than whites. This reversal occurred because blacks in this age group became happier, while whites in this age group became less happy. These divergent trends brought about the largest change in the racial well-being gap, with a closure in the gap of nearly .5 of a standard deviation. It should be noted that while this is not a cohort assessment, examining those over 60 in 2008 shows that the racial gap in well-being has been eliminated among those who lived through the civil rights struggles.

We noted at the start of this section that well-being gaps were largest for those with the most education and income in 1972.[20] Yet this was largely true at the end of the sample as well. But this is not because there was no change. Over the ensuing decades the well-being gains were largest among college educated blacks, with little change in the well-being of college-educated whites. However, by 2008 the racial well-being gap was still largest among those with a college degree or more, since that gap began as the largest. Moreover, a smaller gain in well-being among blacks with only a high school

[20] Recall that we are measuring family income converted to 2005 dollars. The dollar amounts are per household equivalent, where the first adult counts for one, additional adults count for .5, and children count for .3. This is done to adjust for any role that change in family size may have on interpreting family income over time. The income breaks we use are selected to roughly divide the sample into quartiles.

education was combined with declining well-being among whites with only a high school education, resulting in a closing of the racial gap in well-being among high school graduates.

Turning to income, we see that the well-being gains were largest for those in the third income quintile. Blacks in this income category had large well-being gains, which combined with well-being losses among whites to completely eliminate the racial gap in well-being of nearly half a standard deviation. The racial gap in well-being remains largest among those with the most income. While blacks in the top income category became happier over time, so did those with less income. Those in the bottom two quartiles and the top quartile all experienced a decline in the well-being gap of .18 of a standard deviation. Since the well-being gap was largest for those with the most income in 1972, it was also largest for this group in 2008.

Figure 7 further illustrates the relationship between income and well-being. It shows the relationship between income and well-being, not conditional on other factors such as education and age, both of which are important inputs into income. While both blacks and whites with more income are happier than those with less, well-being levels rose more steeply with income among whites in the 1970s. As a result, the racial gap in well-being grew with income. It is possible that discriminatory barriers in spending money—being excluded from restaurants, hotels, or social clubs for the well-to-do—reduced the ability of extra income to generate further gains for blacks. Over the ensuing decades, however, the gap closed and the unconditional relationship between income and well-being steepened for blacks such that by the 2000s, the unconditional mapping of income and well-being was the same for blacks and whites, although whites remained slightly happier at each level of income.

If exclusion from places of business is playing a role for the well-to-do, exclusion and discrimination in general might be impacting all blacks most notably in the South. Arguably the antidiscrimination measures ushered in during the civil rights era had their largest impact in the South. Donohue and Heckman (1991) argue the South was the area that both resisted and was affected the most by the federal activity surrounding the civil rights movement.[21] Indeed, we see that in the 1970s the racial gap in well-being was largest in the South. Blacks in the South were nearly a half of a standard deviation less happy than whites, compared to differences of between .2 and .3 of a standard deviation in other regions.

[21] Donohue and Heckman (1991, p. 1605) argue that "federal activity was imposed on the South and had its greatest apparent effect in the region that resisted it the most."

Over the 36 years of the sample period, the well-being gains among blacks were greatest in the South with blacks becoming happier at a rate of .009 of a standard deviation per year, for a total gain of a third of a standard deviation in well-being. In contrast whites in the South became somewhat less happy. By 2008, there was a negligible gap of .01 of a standard deviation gap in black-white well-being.

It may be that more subtle forms of racial discrimination took decades to play out following the legislation ushered in by the civil rights movement. We examined data on racial attitudes from the GSS and found that measures of prejudice such as not being willing to vote for a black president, favoring laws against inter-racial marriage, and supporting segregated neighborhoods were much higher in the South than in the rest of the country. Figure 8 shows that in the early 1970s more than half of Southerners supported the rights of whites to have segregated neighborhoods and favored laws against racial intermarriage. Almost half said that they would not vote for a black president. In contrast, 10-20 percent in other regions said that they would not vote for a black president, and 20-40 percent favored laws against racial intermarriage and supported the right to segregated neighborhoods. Over time these measures of prejudice have declined throughout the country. However, the declines have been greatest in the South. The graphs show that while formal laws reducing discrimination took effect at a point in time, it has taken decades for racial attitudes to change. While these laws may have been the catalyst for declines in prejudice, time was a necessary ingredient to complete the change.

Donohue and Heckman (1991) point to the importance of northern migration of blacks out of the South in improvements for blacks until the mid-1960s, but argue that such migration accounts for little of the post-1964 change. Changes in the migration patterns are perhaps the most convincing evidence that the closing of the racial gap in subjective well-being indicates that life for blacks in the South is now on par with that of whites of similar backgrounds. For the 35 years prior to the late 1990s, the migration flow was a net outflow of blacks from the South. That pattern reversed in the late 1990s, and the South began to experience a net inflow of blacks (Frey 2004).

The last thing that we consider are changes in well-being by marital status. We include this discussion because marriage patterns of blacks and whites have diverged substantially over the past 4 decades. Blacks are now much less likely than whites to marry, and, if they do marry and divorce, they are less likely to remarry. They also have children at younger ages and more often out of wedlock (Isen and Stevenson 2010). However, it should be noted that subjective well-being is both a function of the individual's personality and his or her reaction to life events. As such, correlations between life

outcomes and well-being may not be causal. For example, one reason that married people report substantially greater well-being than unmarried people in a cross section is because happy people are more likely than unhappy people to marry (Stevenson and Wolfers 2007). It may be that there have been important changes in the underlying well-being of blacks who choose to marry compared to blacks who do not marry. These composition changes could potentially explain all of the differences that we see by marital status. Thus analyzing trends by marital status may not be informative about the role of changing marital behavior in changes in reported subjective well-being. With that caveat we examine differences in the well-being trends by marital status and find that the racial gap in well-being was largest among married individuals in 1972 (see Table 3). We also see that married blacks have had the largest gains in well-being and this, combined with a small decline in the well-being of married whites, has led to an elimination of the racial gap in well-being among the married. The well-being gap is now largest for those who are widowed, at one-third of a standard deviation. Both blacks and whites who never married became less happy over the decades and there was little change in the racial gap in well-being among them.

We conclude our investigation by considering racial gaps in various domains of well-being. The GSS assesses people's satisfaction with their family, friends, job, finances, city, and health. Looking at the racial gaps, we find little change over time in satisfaction with family, despite the changes in family patterns by race. Similarly, we see little change in the racial gap in satisfaction with people's job or finances. The one domain in which there is a clear closing of the racial gap is health satisfaction. Blacks' subjectively assessed health improved throughout the period, as did their satisfaction with their health. As health scholars have noted there is still a gap in health outcomes by race, but equally important, the gains over this period were large.

V. Conclusion

We have shown that the black-white well-being gap declined from 1972 to 2008 by an amount that is both statistically significant and economically meaningful. In the 1970s blacks were nearly half of a standard deviation less happy than whites, and two-thirds of this gap cannot be explained by conditioning on differences in the measured lives of blacks and whites. While economists have lamented the large differences in household income by race, scientists in other fields have noted that socioeconomic differences alone cannot explain the often large racial differences in well-being. Blacks have worse physical and mental health along a number of dimensions than can be explained by

differences in objective measures such as income or education.[22] For example, Franks et al. (2006) find that socioeconomic differences between blacks and whites explain only half of the racial difference in mortality. Pamuk et al (1998) find residual differences in self-rated health, hypertension, obesity, and infant mortality after conditioning on socioeconomic status.

This research contributes to these findings by highlighting the large differences in subjective well-being by race. Consistent with the health literature, we also find a large unexplained racial difference in satisfaction with health, but find, similar to our findings on overall well-being, that this unexplained racial difference has declined over the past 35 years. While there remains a large racial gap in well-being, much of the present gap can be explained by differences in the objective conditions of the lives of black and white Americans.

Some recent scholars have pointed to the successes of the civil rights agenda in reducing health disparities, while noting that "unfinished parts of the civil rights–era agenda, the persistence of more subtle forms of segregation, and the failure to assure nondiscriminatory treatment pose major challenges to current efforts to eliminate health care disparities" (Smith 2005, p. 317). We have shown that there have been large declines in prejudicial attitudes over time and these declines appear to be associated with improvements in the subjective well-being of blacks. However there remains prejudice today and, along with it, a racial gap in well-being, some of which, as with health disparities, may have its explanation in the unfinished parts of the civil-rights era agenda.

However, there are some important caveats to consider. Recall that some of the relative change in the black-white well-being gap is driven by a decrease in the well-being of whites, particularly when we control for objective indicators. This raises a question as to why whites have become less happy and whether the conditions that have led to their declining subjective well-being should have had the same effect on blacks. In other words, have there been improvements in the welfare of blacks that have protected them against general societal trends that have reduced well-being? Or have blacks been unaffected by the societal trends that have harmed the well-being of whites?

In our previous research we have shown that the decline in American well-being among whites is concentrated among white women (Stevenson and Wolfers 2009). In contrast, American white men have had little change in their reported well-being over the past 35 years. In that research we note

[22] Williams and Mohammed (2009) present a meta-analysis of the literature from the mid-2000s examining racial discrimination and health outcomes.

that these trends may reflect societal trends that have impacted women differently from men. Similarly, these trends may have impacted white women differently from blacks. Alternatively, these trends may reflect broad social trends that shift how we should interpret people's answers to subjective well-being questions. For instance, satisfaction at home may have been a more important component of life satisfaction for women in the past. As women's lives have changed, so may have their interpretation of their well-being. Again, there is a parallel possibility to consider in interpreting our results here: that the meaning of well-being has shifted for blacks along with their changing social situation. If, for example, rising expectations are playing a role in dampening well-being for blacks, then this would imply that the true increase in subjective well-being for blacks is even larger than we have measured. Finally, it is simply possible that our results capture the partial improvement, beyond objective measures, in the lives of blacks in the United States over the past 35 years.

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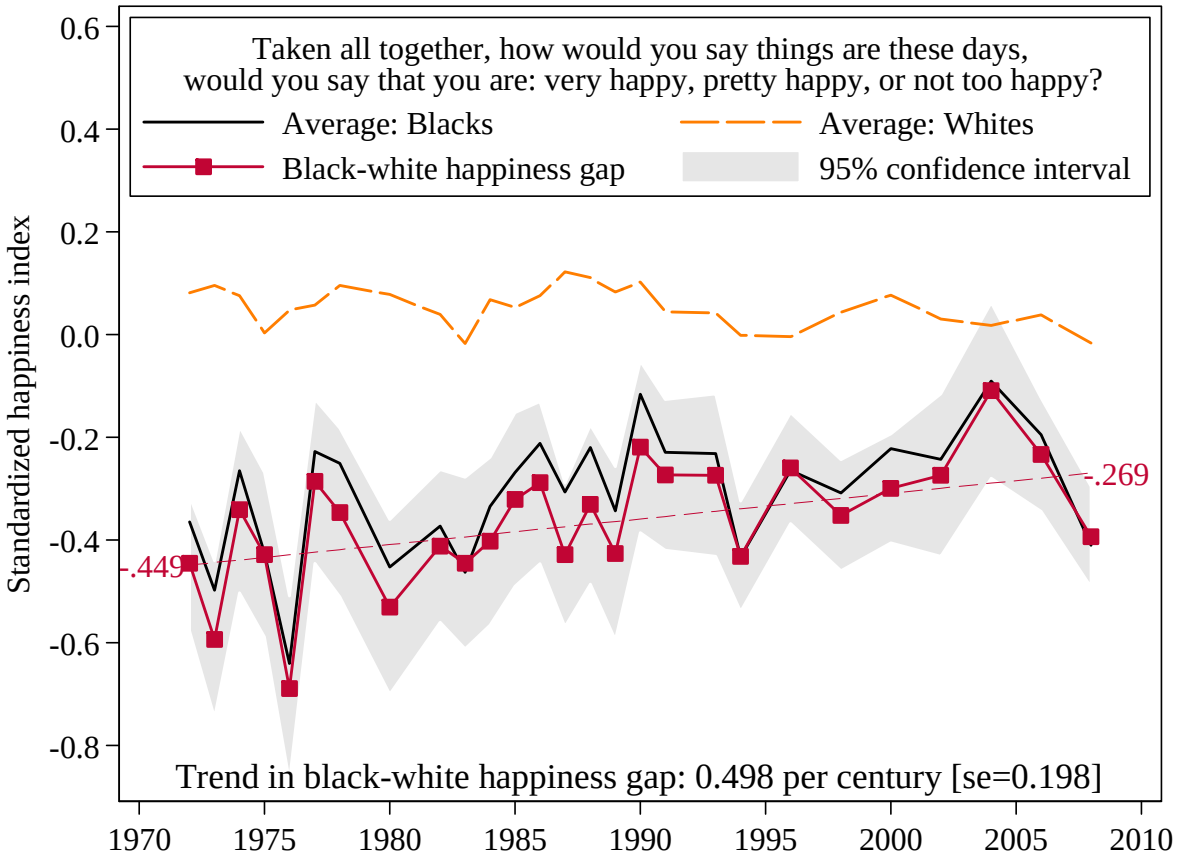
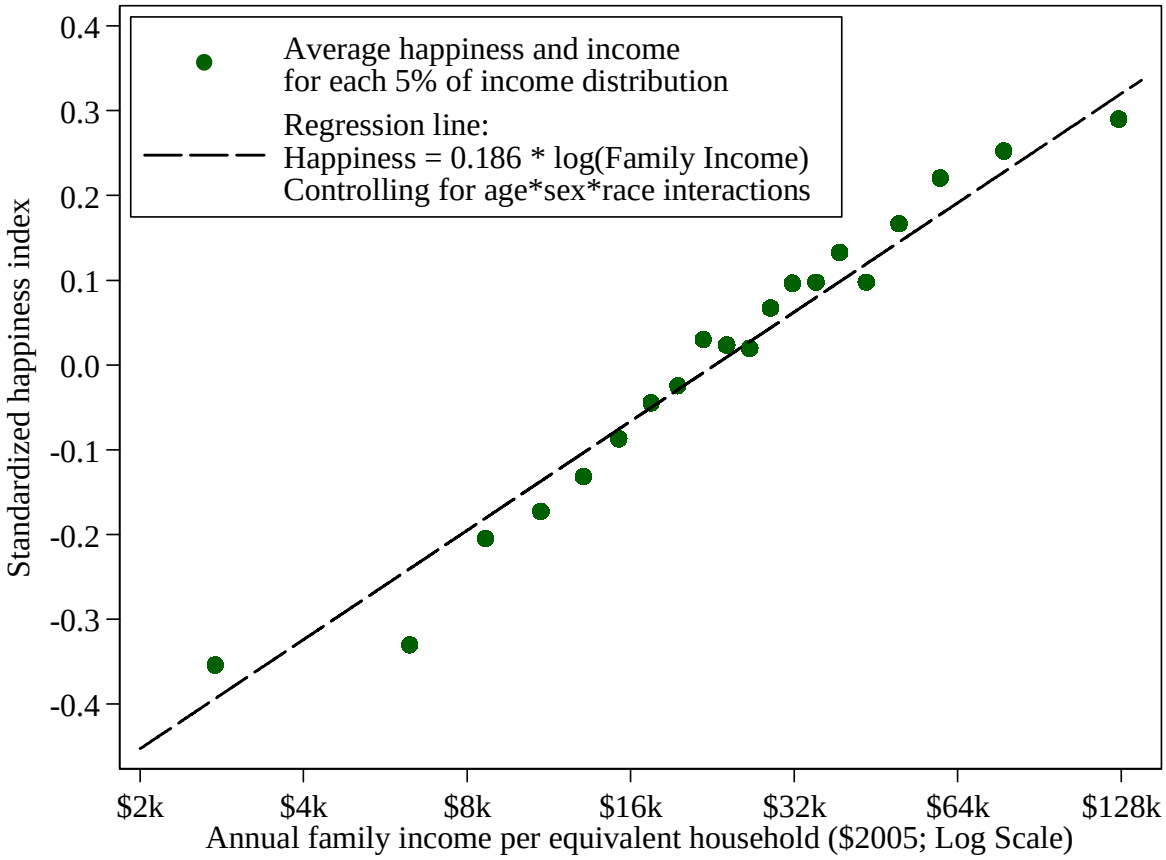
Figure 1: Subjective Well-being in the United States by Race, 1972-2008



Data: General Social Survey, 1972-2008.
Notes: Ordered happiness categories (3="Very happy", 2="pretty happy" and 1="not too happy" are treated as cardinal values, and then standardized to have a whole-sample mean of zero, and a standard deviation of one. Figure shows average values in each survey round, for blacks and whites, as well as the black-white well-being gap, and the trend in that gap.

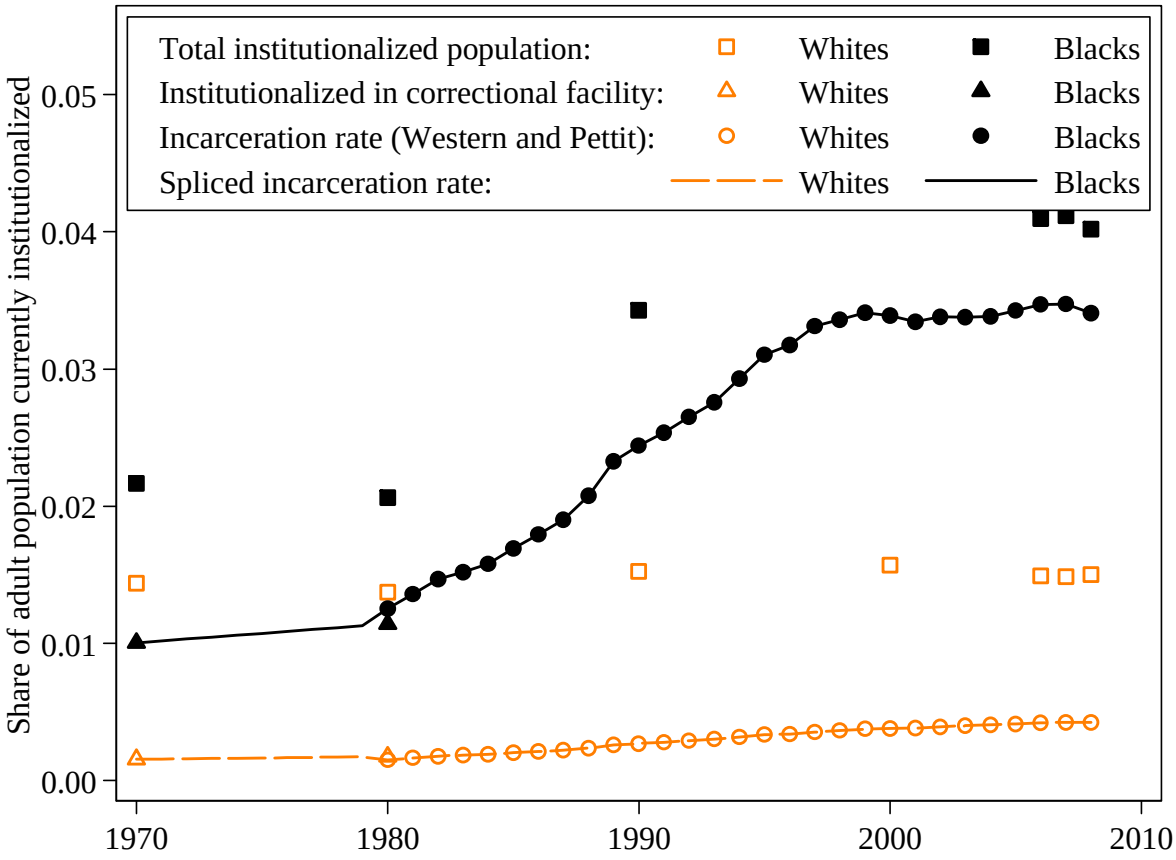
Figure 2: Subjective Well-Being and Income



Data: U.S. General Social Survey, 1972-2008.

Notes: We group the data into 20 equally-spaced bins, based on annual real family income per equivalent household, and the dots show the average well-being and income, for each of these groups. The regression line is fit from a regression on all individuals, regressing well-being on log of this income variable, controlling for a full set of dummy variables for age, sex and race, and their second and third-level interactions.

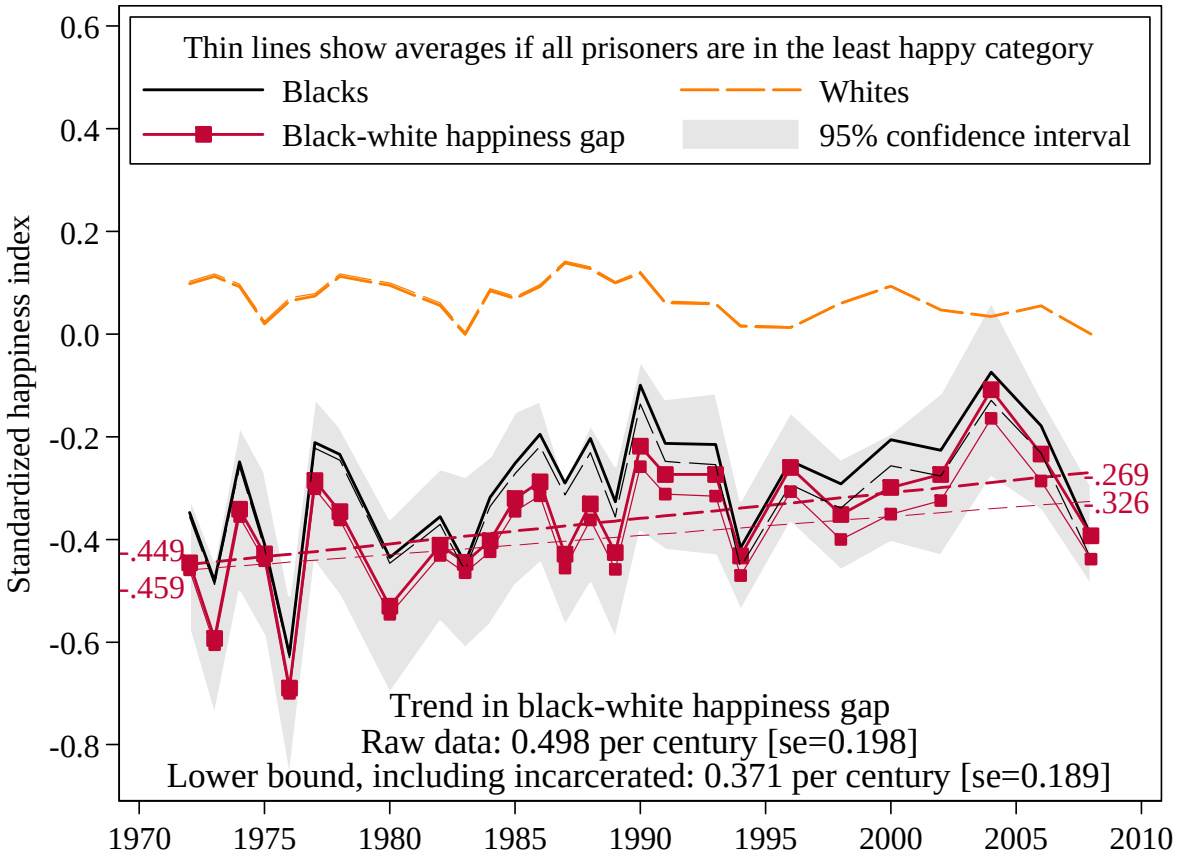
Figure 3: Incarceration and Institutionalization Rates, by Race



Data: Incarceration and institutionalization rates are calculated by the authors using data from the 1970-2000 Census; 2006-2008 ACS; BJS tabulations calculated by Western and Pettit 2009.

Notes: See footnote 15 for construction of these series.

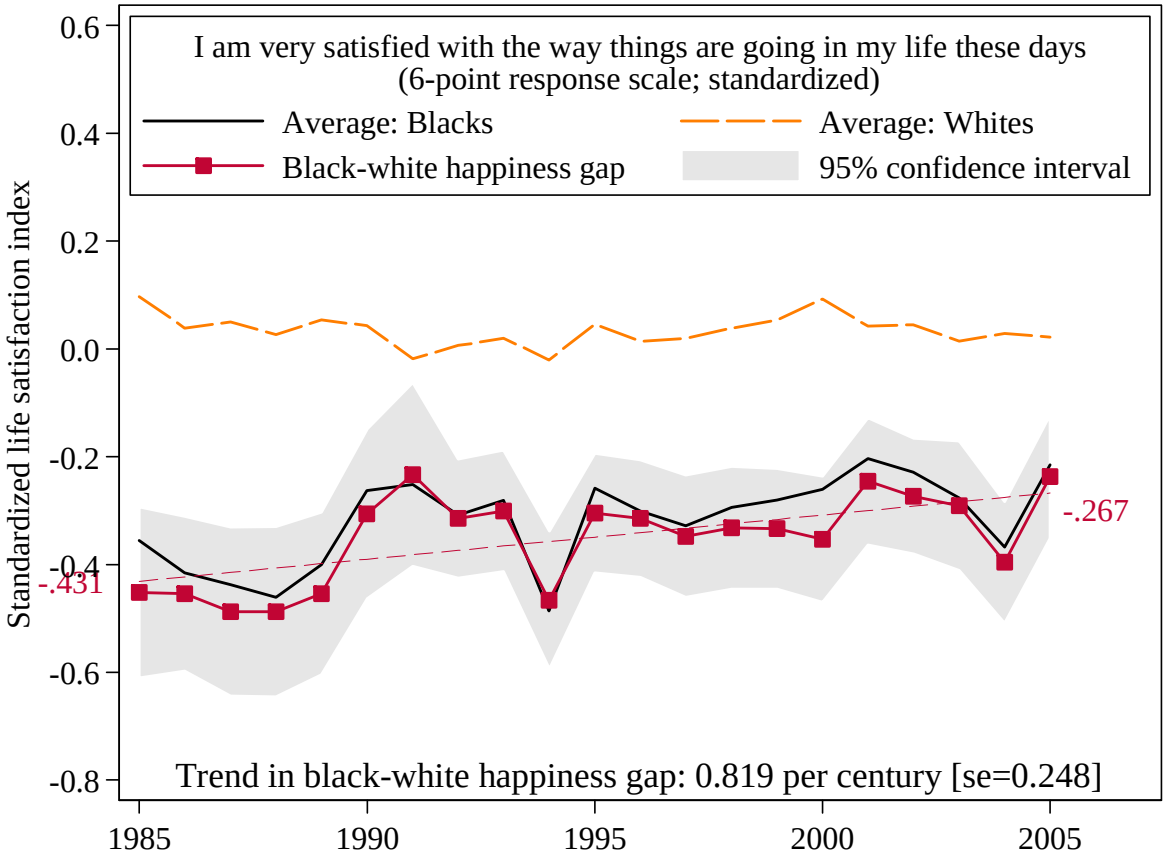
Figure 4: Bounding the Impact of Incarceration on Subjective Well-being



Data: U.S. General Social Survey, 1972-2008.

Notes: For each well-being series, two lines are shown. The upper (thicker) line is the measured well-being data plotted in Figure **1**; the lower (thinner) line also includes all incarcerated people, assuming that they are in the lowest category, "not too happy."

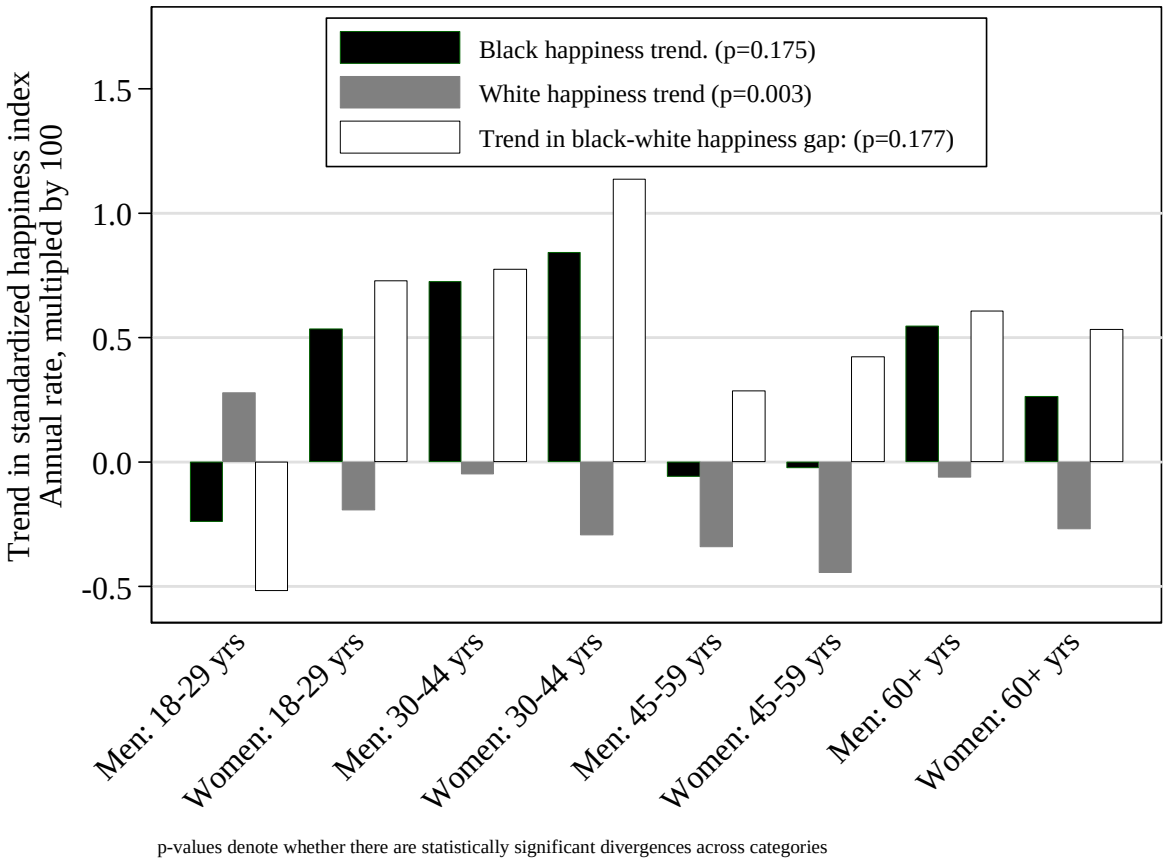
Figure 5: An Alternative Dataset:
Life Satisfaction in the United States by Race, 1985-2005



Data: DDB-Needham Life Style Study, 1985-2005.

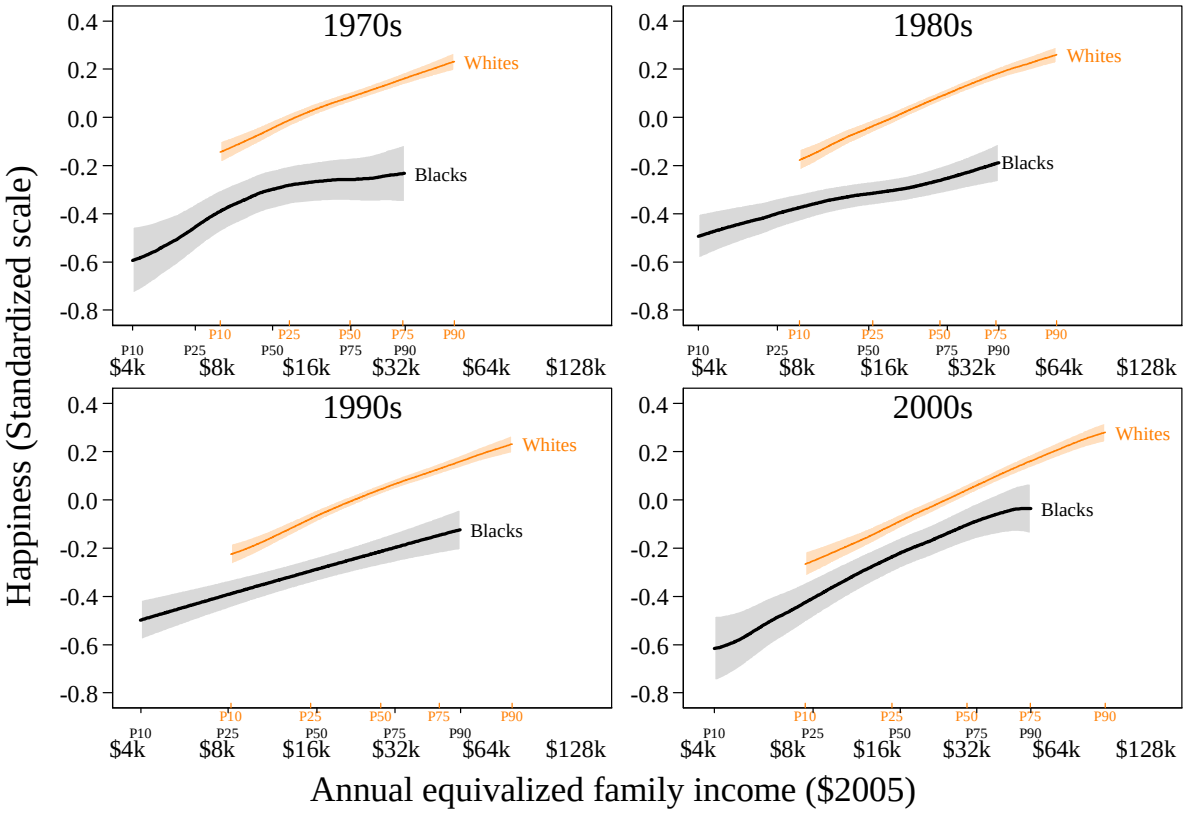
Notes: Ordered life satisfaction categories (6="Definitely agree"; 5= "Generally agree"; 4="Moderately agree"; 3="Moderately disagree"; 2="Generally disagree"; and 1="Definitely disagree" are treated as cardinal values, and then standardized to have a whole-sample mean of zero, and a standard deviation of one. Figure shows average values in each survey round, for blacks and whites, as well as the black-white well-being gap, and the trend in that gap.

Figure 6: Subjective Well-being by Age and Race in the United States, 1972-2008



Data: U.S. General Social Survey, 1972-2008.

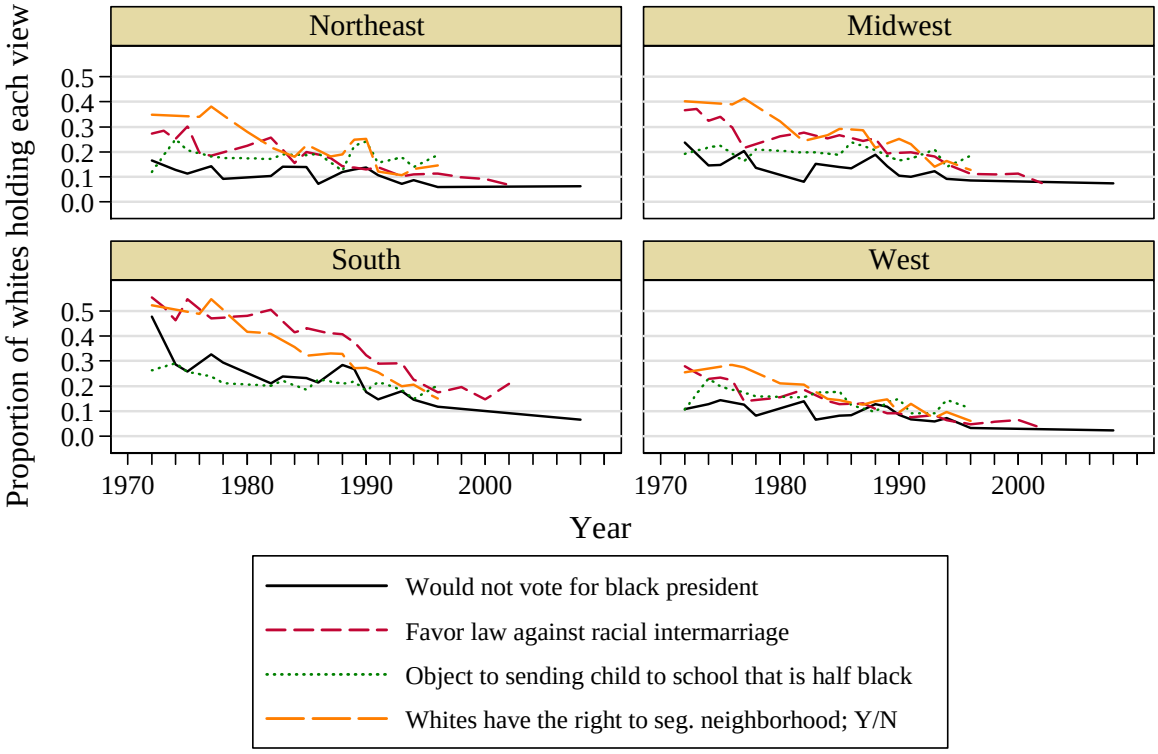
Figure 7: Well-being and Income, by Race



* Lines are local linear regressions of happiness on log(income) shown between the 10th and 90th percentiles of the income distribution. Shaded areas show 95% confidence intervals. Estimated using Epanechnikov kernel and rule-of-thumb bandwidth. P10, P25, P50, P75 and P90 denote the 10th, 25th, 50th, 75th, and 90th percentiles of the respective income distributions.

Data: U.S. General Social Survey, 1972-2008.

Figure 8: Trends in Prejudice, by Region



Graphs by Region

Data: U.S. General Social Survey, 1972-2008.

Table 1: Subjective Well-being Trends in the U.S. by Race, General Social Survey (GSS) Data

$$\mathbf{Happiness_{i,t}} = \alpha + \beta_1 \mathbf{White_i} * \frac{(\mathbf{Year_t} - 1972)}{100} + \beta_2 \mathbf{Black_i} * \frac{(\mathbf{Year_t} - 1972)}{100} + \beta_3 \mathbf{Black_i} + \varepsilon_{i,t}$$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable:[a]	Standardized happiness scores					Very happy	Not too happy
β_1: White Time Trend	-0.161**	-0.363***	-0.256***	-0.254***	n.a.	-0.335***	-0.140
	(0.060)	(0.058)	(0.065)	(0.067)		(0.072)	(0.141)
β_2: Black Time Trend	0.337	0.093	0.338	0.315	0.557**	0.259	-0.463
	(0.231)	(0.221)	(0.221)	(0.247)	(0.240)	(0.227)	(0.336)
β_3: Black Dummy	-0.449***	-0.354***	-0.304***	n.a.	n.a.	-0.456***	0.531***
	(0.037)	(0.035)	(0.033)			(0.044)	(0.041)
	Implied Trends in Racial Well-being Gap (Black-White)[b]						
Difference in Time Trends	0.498**	0.456**	0.594***	0.569**	0.557**	0.594***	-0.323
	(0.198)	(0.187)	(0.180)	(0.213)	(0.240)	(0.198)	(0.243)
Racial well-being gap in 1972	-0.449	-0.354	-0.304	-0.295	-0.291	-0.456	0.531
						[-15.7%-pts]	[+12.5%-pts]
Racial well-being gap in 2008	-0.269	-0.190	-0.090	-0.091	-0.091	-0.309	0.415
						[-8.3%-pts]	[+8.7%-pts]
Control Variables[c]							
Income [c]		✓	✓	✓	✓		
Socioeconomic controls [d]			✓	✓	✓		
Socioeconomic controls * race [d]				✓	✓		
Socioeconomic controls * time[d]					✓		

Notes: ***, **, and * denote statistically significant coefficients at 1%, 5% and 10%, respectively. (Robust standard errors in parentheses; clustered by year)

Sample: n=47,593 black or white respondents from the General Social Survey, 1972-2008.

(a) The dependent variable records responses to the question: *Taken all together, how would you say things are these days. Would you say that you are: ; [3] Very happy; [2] Pretty happy; [1] Not too happy."* Columns 1-5 report OLS regressions, where the dependent variable is the standardized response ($\mu = 0$; $\sigma = 1$); columns 6-7 report probit estimates of the likelihood of responding the most and least happy categories. The coefficients on the white and black time trends report the change in well-being per 100 years, while the black dummy reports the black-white well-being gap in 1972.

(b) The racial well-being gap in 1972, 2008 are projections based on reported coefficients, evaluated at sample means.

(c) Income is a quartic in log real family income per equivalent (using the OECD modified equivalence scale, household equivalents=1 + 0.5(other adults) + 0.3kids), and a dummy for the 10% of respondents without valid income data.

(d) Socioeconomic controls include indicator variables for gender; age (by decade); employment status (full and part-time, temporary illness/vacation/strike, unemployed, retired, in school, keeping house, and other); marital status (married, widowed, divorced, separated and never married); education variables code the highest degree earned by the respondent, the respondent's father and mother (<high school, high school, associates /junior college, bachelor's, or graduate degrees); religion (protestant, catholic, jewish, other, or none), and 9 census regions. Separate dummy variables are also included for missing values of each control variable.

(e) In columns 4 and 5 all controls are interacted with race to allow their association with well-being to differ for blacks and whites; and in column 5, all controls are interacted with time, to allow for different well-being trends across socioeconomic groups.

Table 2: Objective Indicators

	Blacks		Whites	
	1970s	2000s	1970s	2000s
Median Wages of Men in Constant Dollars	$20,958	$26,002	$34,749	$36,149
Median Wages of Women in Constant Dollars	$11,020	$19,937	$12,177	$20,660
Median Household Income	$26,319	$34,514	$45,733	$54,230
Percent of Families in Poverty	28.080%	21.600%	7.200%	7.900%
Percent of Young Men Incarcerated (18-29)	2.193%	5.51%	0.354%	1.12%
Percent of Young Women Incarcerated (18-29)	0.077%	0.213%	0.009%	0.074%
Percent of Children (under 18) in Single Parent Homes	33.100%	46.229%	10.300%	18.211%
Life Expectancy at Birth	66.270	72.420	73.040	77.725
Percent Male High School Dropouts (18-24 year olds)	28.100%	14.667%	14.680%	12.956%
Percent Female High School Dropouts (18-24 year olds)	25.230%	12.400%	14.750%	9.711%
Percent Young Men Enrolled in College (18-24 year olds)	19.654%	27.444%	29.838%	34.544%
Percent Young Women Enrolled in College (18-24 year olds)	18.484%	35.611%	23.030%	41.067%

Notes: Median wages were calculated using annual data from the US Census Bureau. (2008). *Historical Tables. Table P-5. Regions of Black [White] People by Median Income and Sex: 1953 to 2008.* Retrieved June 23, 2010, from Poverty: http://www.census.gov/hhes/www/income/data/historical/index.html Median household income data were obtained from annual statistics provided by the US Census Bureau. (2008). *Income, Poverty, and Health Insurance Coverage in the United States: 2007. Table A-1. Households by Total Money Income, Race, and Hispanic Origin of Householder: 1967 to 2007.* Averages of families in poverty were calculated using annual data from the US Census Bureau. (2008). *Historical Tables. Table 4. Poverty Status, by Type of Family, Presence of Related Children, Race and Hispanic Origin.* Retrieved June 23, 2010, from Poverty: http://www.census.gov/hhes/www/poverty/index.html. Incarceration percentages were calculated by dividing the number of prisoners in Federal and State prisons by the total population for that demographic. For 1970, decennial census data from the US Census Bureau provided the data for both the number of imprisoned and the total population. For the 2000s, annual data from the Bureau of Justice Statistics provided prisoner counts and data from the American Community Survey provided the total population estimates. *Persons in Institutions and Other Group Quarters. (1970). Table 3. Age of Persons Under Custody in Correctional Institutions by Type of Control of Institution, Sex, Race, and Spanish Origin: 1970.* http://www2.census.gov/prod2/decennial/documents/42045398v2p4d4ech5.pdf . *General Population Characteristics: United States Summary. (1970). Table 50. Single Years of Age by Race and Sex.* http://www2.census.gov/prod2/decennial/documents/1970a_us1-07.pdf . *Prisoners in 2008. Appendix Table 13. Estimated number of sentenced prisoners under state or federal jurisdiction, by gender, race, Hispanic origin, and age, December 31, 2008.* http://bjs.ojp.usdoj.gov/content/pub/pdf/p08.pdf . *American Community Survey. Table B01001. Sex By Age.* Percentages of children in single parent homes for 1970s were calculated using decennial data from the 1970 U.S. Census. (1970). *Persons by Family Characteristics. Table 1. Family Status of Persons Under 18 Years Old be Presence and Marital Status of Parents, Age, and Race: 1970.* Retrieved June 28, 2010 from Subject Reports:

http://www2.census.gov/prod2/decennial/documents/42045395v2p4a4cch05.pdf . Percentages for 2000s were calculated by dividing the number of under-18 children in single parent homes by the total number of under-18 children for each demographic group. Each measure was calculated using decennial data from the 2000 U.S. Census. (2000). *Detailed Tables. PCT29. Own Children Under 18 Years by Family Type and Age.* Total population figures in each demographic group were calculated using decennial data from the 2000 U.S. Census. (2000). *Detailed Tables. P12B. Sex by Age.* Retrieved June 28, 2010 from American FactFinder. Life expectancy averages for the 1970s and 2000s were calculated using annual data from the U.S National Center for Health Statistics. (2004). *U.S. Life Tables, Table 12. Estimated Life Expectancy at birth in years, by race and sex, 1900-2000.* Retrieved June 23, 2010, FastStats: http://www.cdc.gov/nchs/lifexpec.htm Averages of high school dropouts and college enrollment for the 1970s and 2000s were calculated using annual data from the U.S. Census Bureau. (2007). *Historical Tables, Table A-5a. The Population 14 to 24 Years Old by High School Graduate Status, College Enrollment, Attainment, Sex, Race and Hispanic Origin: October 1967 to 2008.* Retrieved June 23, 2010, from School Enrollment: http://www.census.gov/population/www/socdemo/school.html

Table 3: Trends in Subjective Well-Being by U.S. Demographic Group, General Social Survey Data, 1972-2008

	Black-white gap in 1972	Black-white gap in 2008	Difference	Trend for Blacks	Trend for Whites	Difference in the trends
Male	-0.231***	-0.112*	0.119	0.346	0.015	0.331
	(0.089)	(0.069)		(0.432)	(0.096)	(0.401)
Female	-0.392***	-0.034	0.358	0.587	-0.408 ***	0.995
	(0.083)	(0.075)		(0.430)	(0.080)	(0.395)
18-29	-0.412***	-0.232**		0.838*	0.336**	0.502
	(0.089)	(0.094)	0.181	(0.473)	(0.146)	(0.431)
30-44	-0.394***	-0.085		0.724**	-0.135	0.858
	(0.068)	(0.072)	0.309	(0.367)	(0.103)	(0.350)
45-59	-0.142	-0.089		-0.312	-0.461***	0.149
	(0.102)	(0.079)	0.054	(0.419)	(0.111)	(0.455)
60+	-0.312***	0.152**		0.631	-0.657***	1.288
	(0.098)	(0.064)	0.464	(0.501)	(0.154)	(0.398)
Northeast	-0.300***	-0.088		0.473	-0.116	0.590
	(0.101)	(0.065)	0.212	(0.412)	(0.113)	(0.373)
Midwest	-0.200**	-0.149*		-0.049	-0.192*	0.143
	(0.101)	(0.081)	0.052	(0.430)	(0.108)	(0.443)
South	-0.444***	-0.014		0.923***	-0.272***	1.195
	(0.068)	(0.063)	0.430	(0.324)	(0.086)	(0.327)
West	-0.275**	-0.040		0.399	-0.254*	0.653
	(0.141)	(0.134)	0.235	(0.810)	(0.147)	(0.690)
Suburban	-0.326***	-0.059		0.510	-0.229***	0.740
and rural	(0.096)	(0.081)	0.266	(0.479)	(0.072)	(0.445)
Urban	-0.305***	-0.091*		0.406	-0.186*	0.592
	(0.052)	(0.050)	0.213	(0.264)	(0.108)	(0.237)
<High	-0.233**	-0.085		0.321	-0.090	0.411
School	(0.102)	(0.107)	0.148	(0.482)	(0.126)	(0.498)
High School	-0.327***	-0.051		0.448	-0.319***	0.767
	(0.065)	(0.072)	0.276	(0.369)	(0.076)	(0.341)
Bachelors	-0.385***	-0.106		0.739	-0.036	0.775
and beyond	(0.133)	(0.096)	0.279	(0.675)	(0.159)	(0.572)
<$15,000	-0.232***	-0.055		0.270	-0.220*	0.490
	(0.076)	(0.045)	0.176	(0.346)	(0.125)	(0.313)
$15,000-	-0.263***	-0.086		0.166	-0.325***	0.491
<$25,000	(0.102)	(0.119)	0.177	(0.615)	(0.117)	(0.566)
$25,000-	-0.418***	0.040		0.948***	-0.326***	1.274
<$40,000	(0.067)	(0.078)	0.459	(0.311)	(0.078)	(0.324)
>$40,000	-0.360**	-0.173*		0.338	-0.182*	0.520
	(0.163)	(0.099)	0.187	(0.654)	(0.101)	(0.647)
Not	-0.405***	-0.121		0.594	-0.195**	0.789
employed	(0.109)	(0.104)	0.284	(0.515)	(0.082)	(0.538)

Employed	-0.265***	-0.037		0.405	-0.228**	0.633
	(0.064)	(0.048)	0.228	(0.347)	(0.114)	(0.278)
Married	-0.393***	-0.003		0.896**	-0.187*	1.083
	(0.079)	(0.065)	0.390	(0.389)	(0.100)	(0.352)
Widowed	0.019	-0.333***		-0.824	0.154	-0.978
	(0.126)	(0.103)	-0.352	(0.644)	(0.260)	(0.567)
Divorced /	-0.347***	-0.111		0.650	-0.006	0.656
Separated	(0.107)	(0.100)	0.236	(0.550)	(0.127)	(0.526)
Never	-0.179*	-0.170*		-0.534	-0.560***	0.025
married	(0.096)	(0.097)	0.009	(0.523)	(0.189)	(0.489)

Data: General Social Survey, 1972-2008.

Notes: ***, **, and * denote statistically significant coefficients at 1%, 5% and 10%, respectively. (Robust standard errors in parentheses; clustered by year)