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 3 decades. However, over this period the racial gap in happiness 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 happiness 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.

1. 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

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[*Journal of Legal Studies*, vol. 41 (June 2012)]

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 blacks experienced large improvements in occupational status, which led to the rise of the black middle class (Wilson 1980, pp. 126–30; Thomas and Hughes 1986).

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 law 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.[1] 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.[2]

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

Pensions and Retirement Security at the University of Pennsylvania, and the NIH National Institute of Child Health and Human Development's Population Research Infrastructure Program (grant R24 HD-044964) at the University of Pennsylvania for funding.

1. 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.

2. Median usual weekly earnings of employed full-time wage and salary workers, black or African American men and white men (Current Population Survey, author's calculations using series LEU0252883900 and LEU025288488800, which report median usual weekly earnings [second quartile] of men employed full time as wage and salary earners for whites and blacks, respectively).

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). In 1998, they revisited 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 happiness gap has shrunk since the 1970s.[3] However, none of these studies have investigated the racial gap in happiness in depth, nor have they attempted to consider what may be behind these declines. We show in this paper that the black-white happiness 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 happiness by race were greater than differences in happiness 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 happiness 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 happiness of blacks both absolutely and relative to whites. In the 1970s, nearly a quarter of all blacks 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 4 decades have in-

3. 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 nonwhites. Yang (2008) also finds that inequality in happiness by race is declining over time.

creased 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 unemployment disparities are little improved.[4] In addition, health differences, such as 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 happiness 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 data sets covering various demographic groups, time periods, and measures of subjective well-being. To preview our findings, Section 2 shows that blacks in the United States were much less happy than whites in the 1970s and that the racial gap in happiness was greater than that which would be predicted by objective differences in life circumstances. We next show that over recent decades, blacks have become happier, both absolutely and relative to whites. Blacks continue to report lower levels of happiness 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 3 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 4, we consider who has received the greatest gains in happiness among blacks and how that has contributed to the closing of the racial gap. We also explore the relationship between income and happiness by race and take a look at other measures of well-being.

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

2. HAPPINESS TRENDS BY RACE

We begin by examining subjective well-being in the United States since the 1970s using data from the 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.[5] These repeated cross sections are designed to track 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 happiness make it ideally suited for analyzing trends in well-being over time. However, there are a few changes to the survey that can impact reported happiness. 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).[6] Finally, in order to ensure that these time series are nationally representative, all estimates are weighted (using the

5. 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 resurveyed.

6. 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.

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.[7]

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 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.[8]

Figure 1 shows the average levels of happiness for blacks and whites in each year of our sample. In the 1970s there is a large gap between the happiness of blacks and whites. The happiness index is standardized, and hence the metric is interpretable: the black-white happiness gap in the 1970s was equal to nearly half of the standard deviation of happiness. Over the ensuing period the average happiness level of whites declined slightly, while the average happiness level of blacks trended upward. The increasing happiness of blacks and, to a lesser extent, the declining happiness of whites has led to a closure of two-fifths of the black-white happiness gap.

7. This treatment of the data also follows Stevenson and Wolfers (2008b).

8. 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 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).

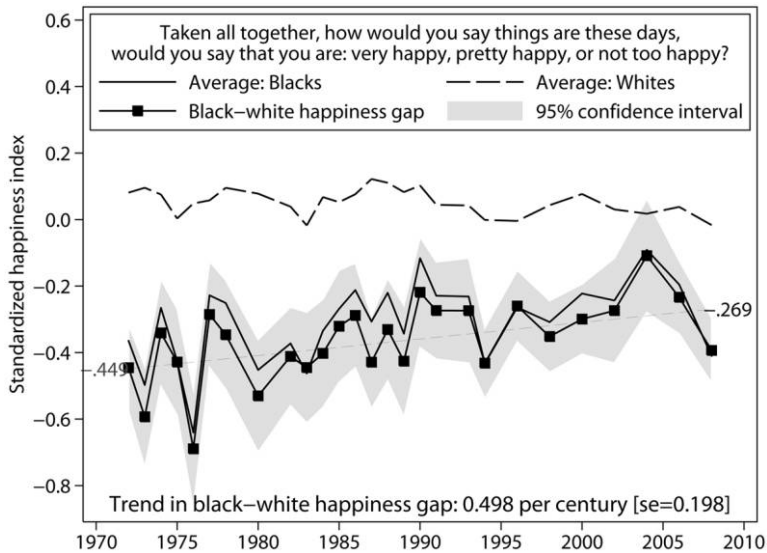

Figure 1. Happiness in the United States by race, 1972–2008

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

$$\text{Happiness}_{i,t} = \alpha + \beta_1 \text{Black}_i + \beta_2 \text{Black}_i \times \frac{\text{Year}_t - 1972}{100} + \beta_3 \text{White}_i \times \frac{\text{Year}_t - 1972}{100} + \varepsilon_{it}, \quad (1)$$

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 happiness for whites and blacks, respectively. Thus, $\beta_2 - \beta_3$ measures changes in the black-white happiness gap per century, and $(\beta_2 - \beta_3)/\beta_1$ measures the fraction of a century required to close the initial black-white happiness gap. We estimate this using ordinary least squares regression 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 happiness of blacks and a decline in the happiness of whites. While the increase in black happiness is not itself statistically

Table 1. Happiness Trends in the United States by Race, General Social Survey (GSS) Data

	Standardized Happiness Scores					Very Happy	Not Too Happy
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
β_1: White time trend	−.161*	−.363**	−.256**	−.254**	N.A.	−.335**	−.140
	(.060)	(.058)	(.065)	(.067)		(.072)	(.141)
β_2: Black time trend	.337	.093	.338	.315	.557*	.259	−.463
	(.231)	(.221)	(.221)	(.247)	(.240)	(.227)	(.336)
β_3: Black dummy	−.449**	−.354**	−.304**	N.A.	N.A.	−.456**	.531**
	(.037)	(.035)	(.033)			(.044)	(.041)
Implied trends in black-white happiness gap:							
Difference in time trends	.498*	.456*	.594**	.569*	.557*	.594**	−.323
	(.198)	(.187)	(.180)	(.213)	(.240)	(.198)	(.243)
Gap in 1972	−.449	−.354	−.304	−.295	−.291	−.456	.531
% Difference						−15.7	+12.5
Gap in 2008	−.269	−.190	−.090	−.091	−.091	−.309	.415
% Difference						−8.3	+8.7
Control variables included:							
Income	No	Yes	Yes	Yes	Yes		
Socioeconomic controls	No	No	Yes	Yes	Yes		
Socioeconomic controls × race	No	No	No	Yes	Yes		
Socioeconomic controls × time	No	No	No	No	Yes		

Note. Values are the results of estimating the regression in equation (1). N = 47,593 black or white respondents from the GSS, 1972–2008. Robust standard errors clustered by year are in parentheses. Columns 1–5 report OLS regressions, where the dependent variable is the standardized response to the question about happiness ($\mu = 0$; $\sigma = 1$); columns 6 and 7 report probit estimates of the likelihood of responses in the most and least happy categories. The time trends report the change in happiness per 100 years, while the black dummy reports the black-white happiness gap in 1972. The 1972 and 2008 gaps are projections based on reported coefficients, evaluated at sample means. N.A. = not applicable.

*Statistically significant at 5%.

**Statistically significant at 1%.

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 happiness 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 Happiness Gap

In order to get a sense of the relevant magnitudes, it is worth comparing the racial happiness gap with the happiness gap between rich and poor. Figure 2 shows the relationship between happiness and the log of income, plotting average levels of happiness and income for each vigintile (20-quantile) of the income distribution. (To be clear, our income measure is real family income per household equivalent.)[9] Notice that the horizontal axis is a log scale, and so the linear pattern suggests a linear relationship between measured happiness 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 happiness increasing linearly as the log of income rises.[10] One simple comparison contrasts the happiness 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 happiness gap of .441. That is, the magnitude of the black-white

9. The General Social Survey (GSS) measures nominal family income in various categories. We transform these figures into point estimates by using interval regression, assuming that income is lognormally distributed in each year, and deflate by the consumer price index research series using current methods (CPI-U-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).

10. 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, analyses 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.

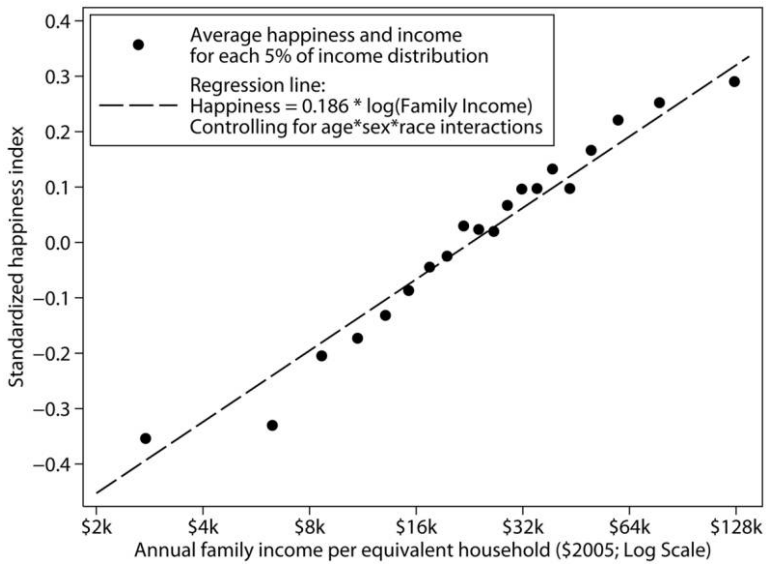

Figure 2. Happiness and income

happiness gap in the 1970s was roughly equal to the happiness gap between people in the top and bottom quartiles of the income distribution. This large happiness 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 happiness gap with the coefficient on income in a standard happiness equation. Thus, we estimate a simple regression of our standardized happiness measure on log income, controlling for a full set of age × race × gender fixed effects and year fixed effects. This yields a happiness-income gradient of .186, with a standard error of .006, which is consistent with previous estimates; this estimated regression line is illustrated in Figure 2.[11] In the 1970s the average of log income for blacks was .56 log point less than that for whites. This income gap would be expected to create a happiness gap of .186 × .56 = .10.

11. 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.

Thus, the black-white happiness 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 4 decades, two-fifths of the black-white happiness gap closed despite little closure in the income gap. Yet there remains a racial happiness gap that is larger than might be expected simply on the basis of income differences.

The Conditional Racial Happiness Gap

To assess the racial happiness gap, while holding income differences constant, the regression in column 2 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 the 10 percent of respondents without valid income data. In this specification we see that the 1972 racial gap in happiness conditional on real family income in 1972 falls from .449 to .354. This simply repeats the finding above: less than one-quarter of the initial racial happiness gap can be explained by income differences. By 2008 the racial gap in happiness has 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 happiness has fallen 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 happiness 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 2000s it had risen only to 63 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 happiness

Table 2. Objective Indicators

	Blacks		Whites	
	1970s	2000s	1970s	2000s
Median wages of men (constant $)	20,958	26,002	34,749	36,149
Median wages of women (constant $)	11,020	19,937	12,177	20,660
Median household income ($)	26,319	34,514	45,733	54,230
Families in poverty (%)	28.080	21.600	7.200	7.900
Young men (18–29) incarcerated (%)	2.193	5.51	.354	1.12
Young women (18–29) incarcerated (%)	.077	.213	.009	.074
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
Young men (18–24) who are high school dropouts (%)	28.100	14.667	14.680	12.956
Young women (18–24) who are high school dropouts (%)	25.230	12.400	14.750	9.711
Young men (18–24) enrolled in college (%)	19.654	27.444	29.838	34.544
Young women (18–24) enrolled in college (%)	18.484	35.611	23.030	41.067

Note. See the Appendix for data sources.

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 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 grew 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 happiness. 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 column 3 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.[12] To the extent that these characteristics are associated with subjective well-being and 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 happiness, in many cases this simply reflects the underlying happiness 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,

12. 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 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.

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 happiness (Isen and Stevenson 2010).

In column 4 we allow the relationship between the controls and happiness 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 were not allowed to vary by race. There are, however, important differences in the relationship between happiness and many of these controls by race. We will return to discussing these in Section 4 as we explore trends separately by demographic groups.

In column 5, we also allow for different happiness 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 happiness 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 happiness 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 happiness gap—measured relative to the standard deviation of happiness—is closing at a rate of about .5 per century. However, this relative change is composed of both a decrease in the happiness of whites and an increase in the happiness of blacks. The decrease in the happiness of whites is larger once controls for objective indicators are taken into account.[13] Finally, while the racial gap in happiness 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.

13. 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).

3. ROBUSTNESS

Before we turn to a more granular analysis of the trends in happiness 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 Happiness

The first alternative measure of well-being simply considers those in the top and bottom of the happiness 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 happiness 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 happiness gap is declining by .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 percentage points, in 2008. The racial gap in reporting being not too happy is closing by .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 happiness.

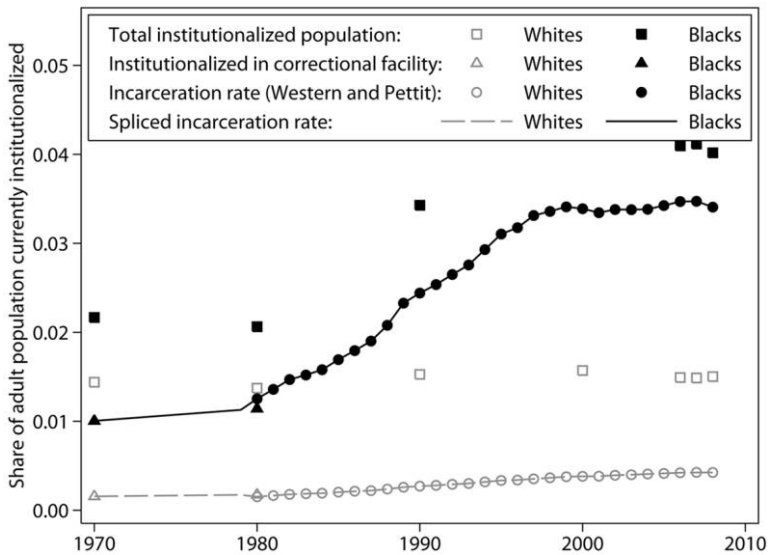

Figure 3. Incarceration and institutionalization rates, by race

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 .2 percent to .4 percent, while a higher rate among blacks of 1.0 percent more than tripled to 3.4 percent. Incarceration rates are much higher for certain subgroups 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 happiness 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 them a happiness score of "not too happy"—the lowest happiness category.[14] Figure 4 reports the results of this exercise, showing both the already 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 happiness gap—it closes by .4 per century rather than .5. Thus, the notion that growing incarceration rates may explain up to a fifth of the closing of the happiness gap represents an upper bound on the extent of this effect.[15] This exercise, however, does not consider how high rates of incarceration may be impacting the happiness of those not incarcerated, and we will return to this question when we examine happiness by race among various socioeconomic and age categories.

Alternative Data Sets

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 in-

14. 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 Pettit (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, 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.

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

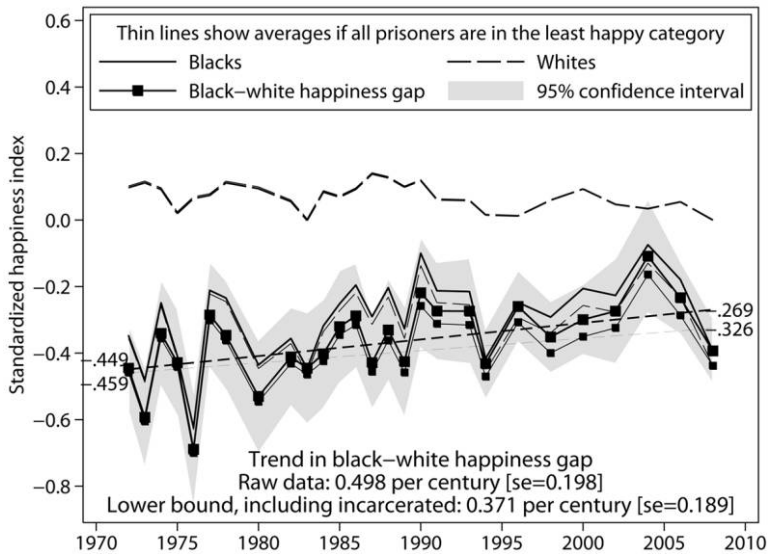

Figure 4. Bounding the effect of incarceration on happiness

dicator 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."[16] 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 .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

16. 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.

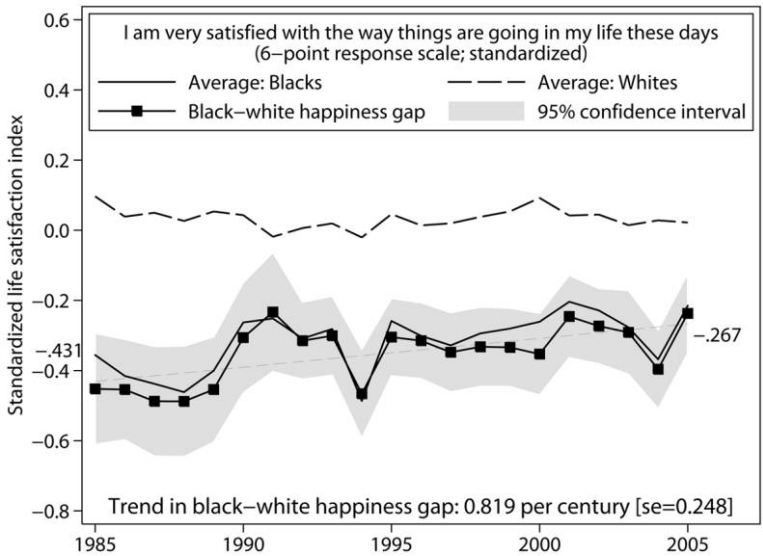

Figure 5. Life satisfaction in the United States by race, 1985–2005: alternative data set

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 continuation of the longer run trends evident in earlier figures. As with our other samples, the estimated black-white subjective 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 happiness gap continued to close over the period 2005–10—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.[17] This richer recent sample does, however, strongly suggest that the recent downward blip in measured black happiness 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 experi-

17. Figure and data analysis are available from the authors.

enced the largest gains in happiness for blacks and the most closure of the racial happiness gap.

4. WHO GAINED?

In order to consider how happiness 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 happiness has changed for different subgroups of blacks and whites. Thus, we reestimate 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 status, education, income, employment, and marital status groups:

$$
\begin{aligned}
&\text{Happiness}_{i,t} \\
&= \sum_{a}^{\text{age groups}} I(\text{Age}_i = a)\left(\alpha_a + \beta_1^a \text{Black}_i + \beta_2^a \text{Black}_i \times \frac{\text{Year}_t - 1972}{100} + \beta_3^a \text{White}_i \times \frac{\text{Year}_t - 1972}{100}\right) \\
&+ \sum_{s}^{\text{sex}} I(\text{Sex}_i = s)\left(\alpha_s + \beta_1^s \text{Black}_i + \beta_2^s \text{Black}_i \times \frac{\text{Year}_t - 1972}{100} + \beta_3^s \text{White}_i \times \frac{\text{Year}_t - 1972}{100}\right) \\
&+ \sum_{r}^{\text{region}} I(\text{Region}_i = r)\left(\alpha_r + \beta_1^r \text{Black}_i + \beta_2^r \text{Black}_i \times \frac{\text{Year}_t - 1972}{100} + \beta_3^r \text{White}_i \times \frac{\text{Year}_t - 1972}{100}\right) \\
&+ \sum_{u}^{\text{urban}} I(\text{Urban}_i = u)\left(\alpha_u + \beta_1^u \text{Black}_i + \beta_2^u \text{Black}_i \times \frac{\text{Year}_t - 1972}{100} + \beta_3^u \text{White}_i \times \frac{\text{Year}_t - 1972}{100}\right) \\
&+ \sum_{y}^{\text{income quartile}} I(\text{Income}_i = y)\left(\alpha_y + \beta_1^y \text{Black}_i + \beta_2^y \text{Black}_i \times \frac{\text{Year}_t - 1972}{100} + \beta_3^y \text{White}_i \times \frac{\text{Year}_t - 1972}{100}\right) \\
&+ \sum_{e}^{\text{education}} I(\text{Education}_i = e)\left(\alpha_e + \beta_1^e \text{Black}_i + \beta_2^e \text{Black}_i \times \frac{\text{Year}_t - 1972}{100} + \beta_3^e \text{White}_i \times \frac{\text{Year}_t - 1972}{100}\right) \\
&+ \sum_{p}^{\text{emp status}} I(\text{Emp}_i = e)\left(\alpha_p + \beta_1^e \text{Black}_i + \beta_2^e \text{Black}_i \times \frac{\text{Year}_t - 1972}{100} + \beta_3^e \text{White}_i \times \frac{\text{Year}_t - 1972}{100}\right) \\
&+ \sum_{m}^{\text{marital}} I(\text{Marital}_i = m)\left(\alpha_m + \beta_1^m \text{Black}_i + \beta_2^m \text{Black}_i \times \frac{\text{Year}_t - 1972}{100} + \beta_3^m \text{White}_i \times \frac{\text{Year}_t - 1972}{100}\right) + \varepsilon_{it}.
\end{aligned}
\tag{2}
$$

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 happiness for a black woman depends not only on β_2^{women} but also on her assumed other characteristics, each multiplied by the relevant β_2. We begin by reporting the implied black-white happiness 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 happiness 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 happiness of blacks, whites, or a combination of both. For this, we evaluate $(\delta\text{Happiness}/\delta\text{time})\,|\text{black}$ and $(\delta\text{Happiness}/\delta\text{time})\,|\text{white}$ 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 happiness per century. Thus, the trend in the change in the black-white happiness 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 happiness was largest among women, the young, those living in the South, college graduates, those in the top half of the income distribution, the nonemployed, and the married. By 2008, some things remained the same—those with more education and income still faced large happiness gaps. However, the racial gap in happiness among women was eliminated, while half of the racial gap among men remained. While the early period saw large racial gaps in happiness among people of all ages, differences in the racial gap across people of various ages emerged by 2008, with a large happiness gap persisting for the young (ages 18–29). The largest gains in happiness were in the South, erasing the large racial gap in happiness that was present in 1972.

Let us turn to considering these changes in more detail. Focusing on women, we see that a racial happiness 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

Table 3. Trends in Happiness by U.S. Demographic Group: General Social Survey Data, 1972–2008

	Black-White Gap			Trend		
	1972	2008	Difference	Blacks	Whites	Difference
Male	−.231**	−.112+	.119	.346	.015	.331
	(.089)	(.069)		(.432)	(.096)	(.401)
Female	−.392**	−.034	.358	.587	−.408 **	.995
	(.083)	(.075)		(.430)	(.080)	(.395)
18–29	−.412**	−.232*	.181	.838+	.336*	.502
	(.089)	(.094)		(.473)	(.146)	(.431)
30–44	−.394**	−.085	.309	.724*	−.135	.858
	(.068)	(.072)		(.367)	(.103)	(.350)
45–59	−.142	−.089	.054	−.312	−.461**	.149
	(.102)	(.079)		(.419)	(.111)	(.455)
60+	−.312**	.152*	.464	.631	−.657**	1.288
	(.098)	(.064)		(.501)	(.154)	(.398)
Northeast	−.300**	−.088	.212	.473	−.116	.590
	(.101)	(.065)		(.412)	(.113)	(.373)
Midwest	−.200*	−.149+	.052	−.049	−.192+	.143
	(.101)	(.081)		(.430)	(.108)	(.443)
South	−.444**	−.014	.430	.923**	−.272**	1.195
	(.068)	(.063)		(.324)	(.086)	(.327)
West	−.275*	−.040	.235	.399	−.254+	.653
	(.141)	(.134)		(.810)	(.147)	(.690)
Suburban and rural	−.326**	−.059	.266	.510	−.229**	.740
	(.096)	(.081)		(.479)	(.072)	(.445)
Urban	−.305**	−.091+	.213	.406	−.186+	.592
	(.052)	(.050)		(.264)	(.108)	(.237)
< High school	−.233*	−.085	.148	.321	−.090	.411
	(.102)	(.107)		(.482)	(.126)	(.498)

High school	−.327**	−.051	.276	.448	−.319**	.767
	(.065)	(.072)		(.369)	(.076)	(.341)
Bachelors and beyond	−.385**	−.106	.279	.739	−.036	.775
	(.133)	(.096)		(.675)	(.159)	(.572)
< $15,000	−.232**	−.055	.176	.270	−.220+	.490
	(.076)	(.045)		(.346)	(.125)	(.313)
$15,000 to < $25,000	−.263**	−.086	.177	.166	−.325**	.491
	(.102)	(.119)		(.615)	(.117)	(.566)
$25,000 to < $40,000	−.418**	.040	.459	.948**	−.326**	1.274
	(.067)	(.078)		(.311)	(.078)	(.324)
> $40,000	−.360*	−.173+	.187	.338	−.182+	.520
	(.163)	(.099)		(.654)	(.101)	(.647)
Not employed	−.405**	−.121	.284	.594	−.195*	.789
	(.109)	(.104)		(.515)	(.082)	(.538)
Employed	−.265**	−.037	.228	.405	−.228*	.633
	(.064)	(.048)		(.347)	(.114)	(.278)
Married	−.393**	−.003	.390	.896*	−.187+	1.083
	(.079)	(.065)		(.389)	(.100)	(.352)
Widowed	.019	−.333**	−.352	−.824	.154	−.978
	(.126)	(.103)		(.644)	(.260)	(.567)
Divorced or separated	−.347**	−.111	.236	.650	−.006	.656
	(.107)	(.100)		(.550)	(.127)	(.526)
Never married	−.179+	−.170+	.009	−.534	−.560**	.025
	(.096)	(.097)		(.523)	(.189)	(.489)

Note. Robust standard errors clustered by year are in parentheses.

+Statistically significant at 10%.

*Statistically significant at 5%.

**Statistically significant at 1%.

happy by around .15 of a standard deviation (−.004 a year).[18] A larger happiness gap remained among men, both because black males' happiness rose slightly less—by .13 of a standard deviation—and because there was no decline in the happiness 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 happiness: 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 happiness gains, with the happiness of blacks ages 18–29 increasing by .3 of a standard deviation over the period. However, the happiness of young whites also rose and, as such, the happiness gap closed by only .18 of a standard deviation.

That young blacks had the largest gains in happiness 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 from Section 2 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 happiness losses and for which the racial gap in happiness actually grew.

Figure 6 points to large happiness 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 happiness 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 happiness closed even though blacks in this age group became less happy, because their happiness 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 happiness in 2008 in which blacks were statistically significantly happier than whites.

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

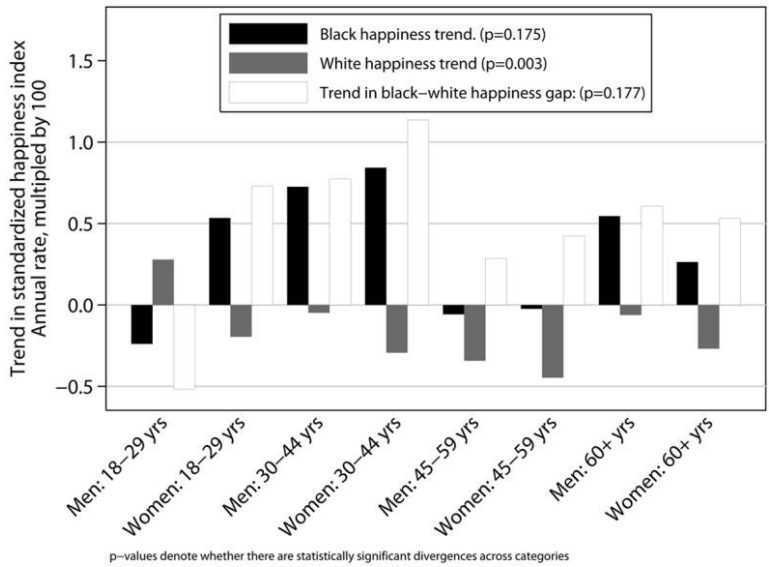

Figure 6. Well-being by age and race in the United States, 1972–2008

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 happiness 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 happiness has been eliminated among those who lived through the civil rights struggles.

We noted at the start of this section that happiness gaps were largest for those with the most education and income in 1972.[19] 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 happiness gains were largest among college-educated blacks, with little change in the happiness of college-educated whites. However, by 2008 the racial happiness gap was still largest among those with a college degree or more, since that gap began as the largest. Moreover, a smaller gain in happiness among

19. 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.

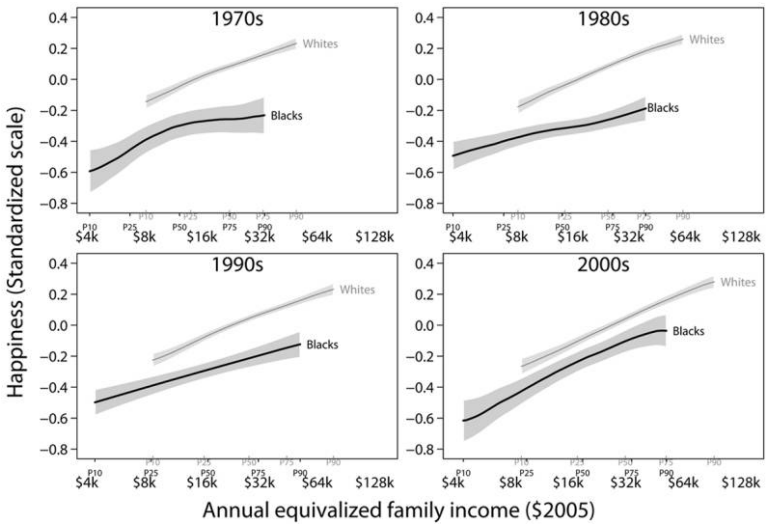

Figure 7. Happiness and income, by race

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

Turning to income, we see that the happiness gains were largest for those in the third income quartile. Blacks in this income category had large happiness gains, which combined with happiness losses among whites to completely eliminate the racial gap in happiness of nearly half a standard deviation. The racial gap in happiness 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 happiness gap of .18 of a standard deviation. Since the happiness 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 happiness. It shows the relationship between income and happiness, 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, happiness levels rose more steeply with income among whites in the 1970s. As a result, the racial gap in happiness 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 happiness 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 that the South was the area that both resisted and was affected the most by the federal activity surrounding the civil rights movement.[20] Indeed, we see that in the 1970s the racial gap in happiness 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.

Over the 36 years of the sample period, the happiness 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 happiness. In contrast, whites in the South became somewhat less happy. By 2008, there was a negligible gap of .01 of a standard deviation in black-white happiness.

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 interracial 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 right 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

20. 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."

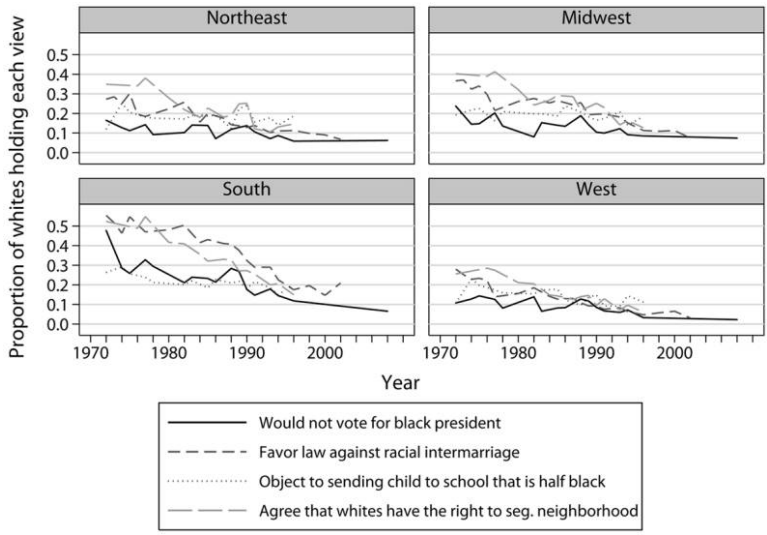

Figure 8. Trends in prejudice, by region

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 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 happiness 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 happiness may not be causal. For example, one reason that married people report substantially greater happiness 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 happiness 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 happiness was largest among married individuals in 1972 (see Table 3). We also see that married blacks have had the largest gains in happiness and this, combined with a small decline in the happiness of married whites, has led to an elimination of the racial gap in happiness among the married. The happiness 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 happiness among them.

We conclude our investigation by considering racial gaps in various domains of happiness. The GSS assesses people's happiness and 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.

5. CONCLUSION

We have shown that the black-white happiness gap declined from 1972 to 2008 by an amount that is both statistically significant and econom-

ically 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.[21] 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 happiness, 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 happiness gap is driven by a decrease in the happiness 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

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

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 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 perceptions of 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.

APPENDIX: DATA SOURCES

Wages

Median wages were calculated using annual data for whites and for blacks from U.S. Census Bureau, Table P-5: Regions—People by Median Income and Sex (http://www.census.gov/hhes/www/income/data/historical/people).

Income

Median household income data were obtained from annual statistics provided by U.S. Census Bureau, Households by Total Money Income, Race, and Hispanic Origin of Householder: 1967 to 2007, table A-1 in *Income, Poverty, and Health Insurance Coverage in the United States, 2007* (http://www.census.gov/prod/2008pubs/p60-235.pdf). Averages of

families in poverty were calculated using annual data from U.S. Census Bureau, Table 4: Poverty Status, by Type of Family, Presence of Related Children, Race and Hispanic Origin (http://www.census.gov/hhes/www/poverty/data/historical/families.html).

Incarceration

Incarceration percentages were calculated by dividing the number of prisoners in federal and state prisons by the total population for each demographic. For 1970, decennial census data were used for both the number of imprisoned (U.S. Census Bureau, Age of Persons under Custody in Correctional Institutions by Type of Control of Institution, Sex, Race, and Spanish Origin: 1970, table 3 in *Persons in Institutions and Other Group Quarters, 1970* [http://www2.census.gov/prod2/decennial/documents/42045398v2p4d4ech5.pdf]) and the total population (U.S. Census Bureau, Single Years of Age by Race and Sex, table 50 in *General Population Characteristics: United States Summary, 1970* [http://www2.census.gov/prod2/decennial/documents/1970a_us1-07.pdf]). For the 2000s, prisoner counts are from annual data from Sabol, West, and Cooper (2009, app. table 13) (http://bjs.ojp.usdoj.gov/content/pub/pdf/p08.pdf), and data for total population estimates are from U.S. Census Bureau, 2008–2010 American Community Survey, table B01001: Sex by Age (http://factfinder2.census.gov/bkmk/table/1.0/en/ACS/10_3YR/B01001/0100000US.04000).

Children in Single-Parent Homes

Percentages of children in single-parent homes in the 1970s were calculated using decennial data from the 1970 census (U.S. Census Bureau, Family Status of Persons under 18 Years Old by Presence and Marital Status of Parents, Age, and Race: 1970, table 1 in *Persons by Family Characteristics* [http://www2.census.gov/prod2/decennial/documents/42045395v2p4a4cch05.pdf]). Percentages for the 2000s were calculated by dividing the number of children under 18 in single-parent homes by the total number of children under 18 in each demographic group. Each measure was calculated using decennial data from the 2000 census (U.S. Census Bureau, American Fact Finder, Detailed Tables, table PCT29: Own Children under 18 Years by Family Type and Age [http://factfinder2.census.gov/bkmk/table/1.0/en/DEC/00_SF2/PCT029]). Total population figures in each demographic group were calculated using decennial data from the 2000 census (U.S. Census Bureau, American Fact Finder, Detailed

Tables, table P12A: Sex by Age (White Alone) [http://factfinder2.census.gov/bkmk/table/1.0/en/DEC/00_SF1/P012A], and table P12B: Sex by Age (Black or African American Alone) [http://factfinder2.census.gov/bkmk/table/1.0/en/DEC/00_SF1/P012B]).

Life Expectancy

Life expectancy averages for the 1970s and 2000s were calculated using annual data from U.S. National Center for Health Statistics, Estimated Life Expectancy at Birth in Years, by Race and Sex, 1900–2000, table 12 in *U.S. Life Tables 2005* (http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_10.pdf).

Education

Averages of high school dropouts and college enrollment for the 1970s and 2000s were calculated using annual data from U.S. Census Bureau, The Population 14 to 24 Years Old by High School Graduate Status, College Enrollment, Attainment, Sex, Race and Hispanic Origin: October 1967 to 2008, table A-5A in *School Enrollment, Historical Tables* (http://www.census.gov/hhes/school/data/cps/historical/index.html).

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