

## Black and White in the 20th-Century US<sup>1</sup>

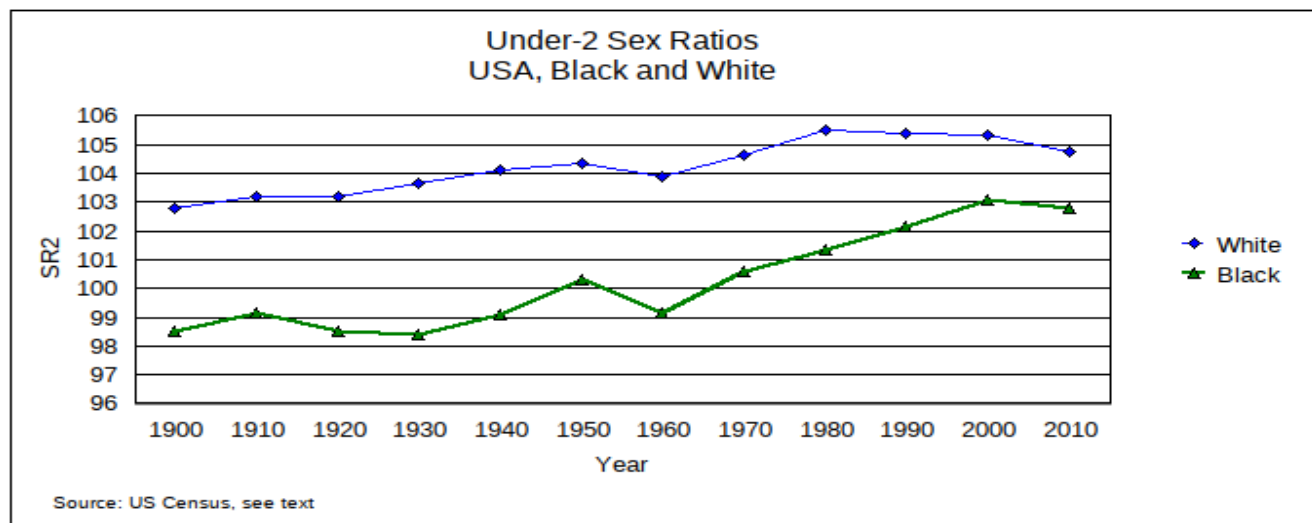
We use the under-two sex ratio (SR2) to track infant well-being in the US from census counts (the SR1 is flawed by a tendency for male-biased age-heaping at age one).<sup>2</sup> Looking at the SR2 for black children offers a number of interesting results. First, based on the SR2, across the twentieth century, improvements in the well-being of black children were limited in magnitude, and came only in the last three or four decades of the 20th century. At census benchmarks from 1900 to 1940, the black SR2 hovered in a narrow range from 98.4 to 99.2 (see Table and Figure). Until 1990, the black SR2 was consistently some 4 or 5 percentage-points below the white SR2. The sex-ratio evidence offers one more perspective on well-known racial disparities in well-being in America.

Table 1: The Under-Two Sex Ratios, Blacks & Whites in the 20<sup>th</sup>-century US

	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010
Black	98.5	99.2	98.5	98.4	98.9	100.3	99.2	100.6	101.4	102.1	103.1	102.8
White	102.8	103.2	103.2	103.6	104.2	104.3	103.9	104.6	105.5	105.4	105.3	104.7
Gap	4.3	4.0	4.7	5.2	5.3	4.0	4.7	4.1	4.2	3.3	2.3	2.0

Sources: US Census Bureau, Population Division, National Intercensal Dataset: 2000-2010; Censuses of Population, 1900-1990 (see appendix).

The sex ratios for Blacks and whites tended to improve after 1960, with some relative improvement in the black SR2, as the gap fell from over 4 points in 1970 and 1980 to well under 3 points in 2000 and 2010. Ignoring the racial disparity, one might focus on the black SR2 reaching a level of about 103 in 2000 and 2010, a substantial improvement over the roughly 99-point values typical before 1950. However, with the white SR2 at about 105 in 2010, a pronounced (if narrower) racial disparity in child well-being is evident.

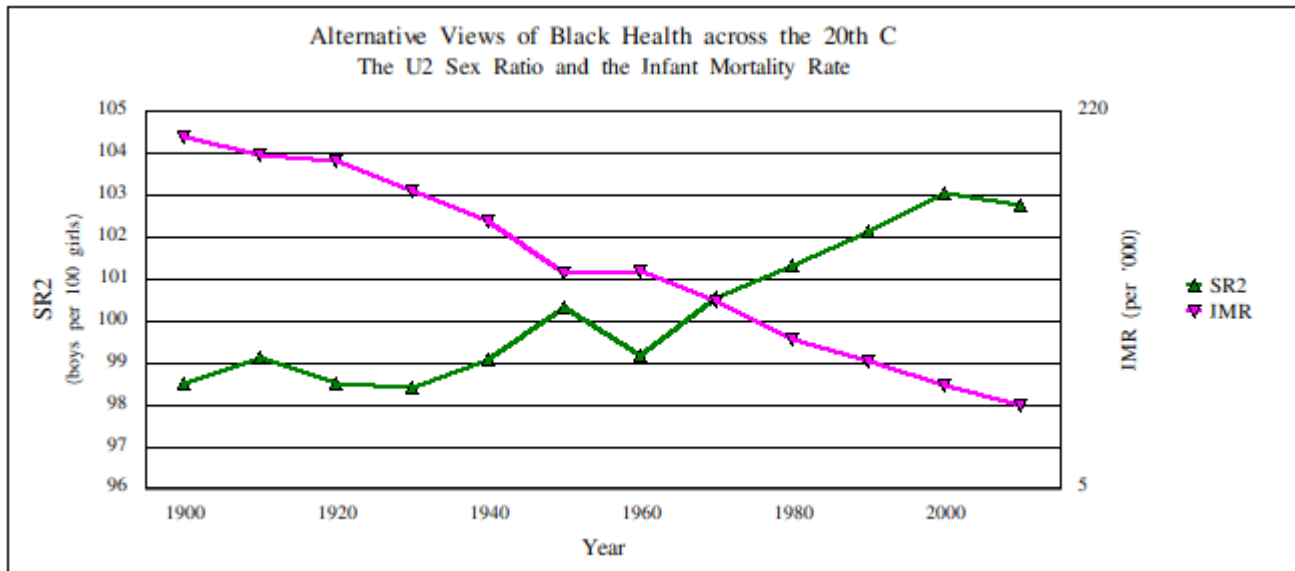


1 A part of “Infant Sex-Ratios and Maternal-Infant Health,” Jesse McDevitt-Irwin & James R. Irwin, Feb. 2021

2 Relative male-biased age-heaping at one-year’s age among blacks is evident in the most of the censuses before 1970. For example, from the counts in the published 1960 census, the black SR1 was 98.8 and the SR1-2 was 99.5; the PUMS sample also shows an elevated SR1-2 vs SR1, at 101.8 and 103.2 respectively. Those samples include fewer than 30,000 children in each age group, and the discrepancies between the levels of sex ratios in the samples relative to the published tabulations is a reminder of the need for large samples to dampen random variation.

## The Black IMR

The SR02 evidence raises questions about existing estimates of black infant mortality. The HSUS series indicates a dramatic decline in black infant mortality across the period 1900 to 1940, falling from 170 per thousand to just 73 per thousand. That size of drop in the IMR would tend to cause at least a 2-point rise in the SR2 (from 99.3 to 101.3, for example). However, the black SR2 is roughly stable over those four decades, hovering around 99.<sup>3</sup>



## Black and White Sex Ratios at Birth

Some of the narrowing of the black-white infant sex ratio gap can be attributed to changes in sex ratios at birth. For example, from 1960 to 2000, the SR2 gap narrowed from 4.7 to 2.3 (see Table 1, above). In about the same period (1961 to 2000), the black SRB rose by 0.9 percentage points and the white SRB fell by 0.5 percentage points.<sup>4</sup> This 1.4 percentage-point narrowing of the SRB can account for almost six-tenths of the 2.4 point narrowing of the SR2 gap in the period ( $1.4/2.4=0.583$ ). The remainder of the narrowing of the SR2 would be accounted for by improvements in infant mortality for Blacks relative to whites. Those 40 years saw black infant mortality fall from 44 (per thousand) to 14 (per thousand) while the white rate fell from 23 to 6 (HSUS Series Ab923,921; CDC-NCHS, Health, US, 2003, Table 19, p. 21). The narrowing of the racial infant mortality gap might be celebrated as progress. But in 2010 the infant sex ratio (SR1) for Blacks was just 102.8, fully 2 percentage-points below the white value -- a reminder that modest progress has left substantial racial health inequities to be addressed.

<sup>3</sup> The SR02 series is somewhat less inconsistent with Eriksson et al.'s (2018) revised estimates of black infant mortality, which are for the period 1915-1940. For 1915, their black IMR (12.6%) is 5.5 percentage points below the HSUS rate (18.1%). Eriksson et al.'s estimates (pp. 2003, 2016) show a lesser decline in the black IMR from 1915 to 1940 -- a drop of just 6.8 %-points compared to a 10.8 point drop in the HSUS series. But both sets of IMR estimates suggest improvement in the health of black infants in the period 1915 to 1940 which is not corroborated by our sex-ratio evidence.

<sup>4</sup> The SRBs were 105.5 and 102.3 in 1961 (CDC-NCHS Series 21 No 1, p. 29) and 105.0 and 103.1 in 2000 (Mathews & Hamilton, 2005, Table 4).

## Appendix: Sources for the Black and White Under-2 Sex Ratios (SR2)

**2010 & 2000:** US Census, [Intercensal Estimates of the Resident Population by Single Year of Age, Sex, Race, and Hispanic Origin for the United States: April 1, 2000 to July 1, 2010](#).

**1990:** 1990 Census of Population, General Population Characteristics, United States (1990 CP-1-1), Table 13 (Single Years of Age by Sex, Race, and Hispanic Origin: 1990).

**1980:** 1980 Census of Population, Volume 1, Characteristics of the Population, Ch. B, [General Population Characteristics, Part 1, United States Summary](#), Table 41 (Single Years of Age by Race, Spanish Origin, and Sex: 1980).

**1970 & 1960:** [National Intercensal Tables: 1900-1990](#) (released in 2004); spreadsheets for [1970](#) and [1960](#).

**1950:** Census of Population: 1950, [Vol. II. Characteristics of the Population](#), Tables [38](#) & [94](#). We rely on Table 38, which is full-count data, over Table 94 which is from a 20% sample. Table 38 groups ages 1&2; we assume age-1 populations are the same proportion as found in Table 94's single-year counts for the aggregate population (about 48%).

**1940:** Census of Population: [1950, Vol. 4](#), Table 95 and [1940, Vol. 2, Table 7](#). 1950's Table 95 has sex by single year of age for "White" and "Nonwhite." For our black SR02 in 1940 (99.1), we reduced the nonwhite value by 0.1, based on the difference between the negro and nonwhite sex-ratios for under-age-1 and under-age-5 (in Table 7). A 1940 black SR02 of 98.9 results from applying the same correction to the nonwhite SR02 from the [spreadsheet for 1940](#) in the National Intercensal Tables: 1900-1990.

**1930:** Fifteenth Census of the United States: [1930, Population](#), Vol. II, Chapter 10, Table 21 (Age by Single Years, By Color, Nativity, and Sex). White and black population counts are given. The black SR02 value is consistent with the nonwhite SR02 value from the spreadsheet for 1930 in the National Intercensal Tables: 1900-1990.

**1920:** [Fourteenth Census of the United States taken in the year 1920](#), Vol. II, Population, Chapter III, Table 9 (Distribution by Single Years of Age for Population Classes, By Sex).

**1910:** [Thirteenth Census of the United States Taken in the Year 1910](#), Vol. 1, Population 1910, Chapter IV, Table 29 (Distribution by Single Years of Age of the Population). A nonwhite SR2 of 100.8 comes from the spreadsheet for 1910 in the National Intercensal Tables: 1900-1990 (released in 2004). The counts there are rounded to the thousands, and we ignore those data in favour of the census tabulation.

**1900:** Twelfth Census of the United States, Census Reports Vol. II, Population, Part II, Ages, Table 1 (Ages of the Aggregate Population of the United States, Classified by Sex, General Nativity, and Color). A nonwhite SR2 of 100.0 comes from the spreadsheet for 1900 in the National Intercensal Tables: 1900-1990. The counts there are rounded to the thousands, and we ignore those data in favour of the census tabulation.

### Other References.

Eriksson, Katherine, Gregory T. Niemesh, and Melissa Thomasson (2018). "Revising Infant Mortality Rates for the Early Twentieth Century United States." *Demography* 55:2001-2024.

*Historical Statistics of the US*, Series Ab921, Ab923.

Martin, Joyce A., Brady E. Hamilton, Stephanie J. Ventura, Fay Menacker, Melissa M. Park, and Paul D. Sutton. "[Births: final data for 2001](#)." National Vital Statistics Reports, Vol. 51, No. 2 (2002).

Mathews, T. J., and Brady E. Hamilton. [Trend Analysis of the Sex Ratio at Birth in the United States](#)" National Vital Statistics Reports, Vol. 51, No. 2 (2002).

*National Center for Health Statistics, Series 21 Number 1, Natality Statistics Analysis, United States 1962*. (US GPO 1964).

National Center for Health Statistics, [Health, United States, 2003](#) (US GPO 2003).