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Abstract

This study, carried out in partnership with researchers from Cedeplar/UFMG, investigates the differences in life expectancy at birth between blacks and whites in Brazil. Using a combination of information from the IBGE and mortality statistics from the SUS, life expectancy for different racial and gender groups was estimated. The results indicate that white women born between 2010 and 2019 have a life expectancy at birth of 80.06 years, while black women reach 76.01 years. White men have a life expectancy of 74.52 years, while blacks have 68.65 years, with a difference of 5.87 years. However, these differences are more pronounced in the first 30 years of life and decrease with advancing age. Among men, 10% of the difference is due to childhood mortality (0-4 years), and approximately 38% is associated with a higher incidence of deaths among black men aged 15 to 34 years, of which 83.6% are attributed to disease. In the case of women, the greatest difference is concentrated between 35 and 59 years of age, due to higher mortality rates from neoplasms and respiratory diseases in black women. The differences in life expectancy observed are intrinsically linked to socioeconomic factors, including conditions of poverty, access to sanitation and clean water, unequal access to education, and exposure to violence. This demonstrates the urgent need for public policies and actions focused on sanitation, water supply and the most vulnerable groups.

1. INTRODUCTION

Life expectancy is a key indicator of mortality, synthesizing a wide variety of factors that affect the well-being of the population. Understanding variations in life expectancy across different population subgroups is, therefore, of paramount importance. However, measuring life expectancy by subgroups poses significant methodological challenges, including the poor quality of death records and the presence of numerator-denominator bias, which arises from the use of data from different sources (Chiavegatto et al., 2014).

In death records, information on race or skin color is often based on hetero-classification, that is, classification based on the perception of third parties, such as physicians. In contrast, in population censuses, information is usually obtained by self-declaration, although often answered by secondary informants on behalf of all residents of the household. This discrepancy introduces errors and disparities in both the numerators and denominators of mortality rates. In addition, the perception of race or skin color of individuals is subject to political and socioeconomic influences, leading to racial reclassification over time—a common phenomenon in the Brazilian context (Cunha et al., 2010).

In view of the challenges imposed by the inconsistency between data from different sources and by racial reclassification, this project sought to estimate life expectancy by race or skin color in Brazil using intercensal estimation methods. These methods helped mitigate errors present in death and population data. As a result, estimates of life expectancy at birth for women and men, disaggregated by race or skin color, were obtained for the periods 2000–2009 and 2010–2019.

After a thorough evaluation of the methods used, Method 5—an iterative intercensal technique (Merli, 1998) incorporating corrections to align population data with a hetero-identification perspective—was recommended. This approach is detailed in the Second Technical Report. From the analysis of the racial differential in the estimated life expectancies, a secondary objective of the project emerged: to examine the contribution of age groups and causes of death to the racial differential in life expectancy at birth in Brazil, during the periods 2000–2009 and 2010–2019.

Despite the internal consistency indicated by the intercensal methods applied, it is crucial to highlight the discrepancy between life expectancy at birth obtained through these methods and the official estimates published by the Brazilian Institute of Geography and Statistics (IBGE) and the United Nations (UN). For instance, according to the IBGE, the life expectancy at birth for women in Brazil in 2015 was 79.05 years, while the UN estimated a slightly lower value of 78.5 years. In contrast, Method 5 pointed out that the highest female life expectancy for this period, estimated for white women, was 77.26 years.

Considering the internal consistency of the age pattern of mortality, an adjustment to the level of the estimated mortality was proposed to align the estimates by race or skin color with the overall level of official mortality reported by the UN. Following these final adjustments, life

expectancy at birth for the period 2000-2009 was estimated at: 76.66 (white women), 72.48 (black women), 70.42 (white men) and 65.23 (black men). In addition, for the period 2010-2019, the following life expectancies were estimated: 80.06 (white women), 76.01 (black women), 74.52 (white men) and 68.65 (black men).

Finally, it is important to emphasize that despite the use of methods that seek to mitigate inconsistencies and data issues, the life expectancy estimates obtained. Each method relies on specific assumptions, and corrections — such as adjusting racial classification to align population and death data — are themselves based on assumptions. As presented in a previous report, the discrepancy among the results produced by different methods is considerable, demonstrating the sensitivity of the estimates and the challenges of developing them in the Brazilian scenario.

This project was structured into three Technical Reports. The First Report analyzed the composition of racial subgroups, examining variables such as age, sex, education and per capita household income. The Second Report focused on estimating life expectancy at birth by race or skin color, using six different methodological approaches. Finally, the Third Report provided a decomposition analysis of the difference in life expectancy at birth between white and black populations by age and cause of death.

Below, summaries of each report will be presented, detailing their main objectives, methodologies, key findings and the pertinent considerations. We will conclude with a summary of the main conclusions and recommendations of the project.

1. Summary of Technical Reports

2.1 First Report – Analysis of the population composition of racial subgroups

Objective and context

The first report sought to analyze the composition and potential variations in the subgroups categorized by race or skin color. Descriptive analyses were conducted using data from the PNAD surveys of 1987, 1988, 1997, 1998, 2007, 2008, 2017 and 2018 in versions compatible with the Data Zoom PUC-Rio project. These analyses assessed the consistency of information on race or skin color across consecutive survey years.

This analysis is important because, when disaggregating racial subgroups to analyze mortality rates by race or skin color, the composition of these subgroups becomes extremely relevant. Evidence shows that individuals belonging to socioeconomically disadvantaged groups face higher risks of death compared to those with higher levels of income or education (Cutler, Deaton, and Lleras-Muney 2006). Thus, differences in life expectancy between racial groups can be influenced both by disparities in the composition of these groups and by variation in mortality levels.

Main results

- **Schooling:** There was a significant reduction in the proportion of people aged 25 and over without schooling or with incomplete primary education, across all racial subgroups. Despite these improvements, racial differentials in education persist. In 2008, 14.1% of the self-declared white population had completed higher education. In contrast, only 4.6% of the brown population and 4% of the black population had the same level of education.
- **Per capita household income**: There are marked disparities in income between the self-declared white population and the brown and black populations. In 2017, in the median per capita household income, represented by the 50th percentile, self-declared black people had on average, the equivalent of 62% of the income of self-declared whites. These disparities become even more pronounced at higher income levels: at the 99th percentile, the black population earned, on average, only 42% of the income of their white counterparts.

Other considerations

Discrepancies in education levels and income between racial groups are critically important, as these factors significantly influence differences in life expectancy between subgroups. Careful interpretation of life expectancy estimates by race or skin color is essential. Furthermore, the size and composition of racial groups have undergone substantial changes over the decades, underscoring the importance of calculating and analyzing survival rates for different racial groups separately for each period.

2.2 Second Report – Estimates of Life Expectancy at Birth by race or skin color in Brazil (2000-2019)

Objective and context

The second report presented estimates of life expectancy by race or skin color in Brazil for the decades 2000-2009 and 2010-2019, using data from the 2000, 2010, and 2022 Demographic Censuses, combined with information on deaths for the period from 2000 to 2019, made available by the Ministry of Health. Due to the inadequate quality of data on deaths prior to the year 2000, it was not possible to estimate life expectancy for the 1990s.

Measuring life expectancy by racial subgroups is a complex task. Methodological challenges include the low quality of information in death records, affected by missing or incorrectly filled variables. In addition, mortality rates are still affected by the use of data from different sources (Chiavegatto et al. 2014). In death records, information on race color is often based on hetero-

classification, that is, determined by the perception of third parties, such as physicians. In contrast, in population censuses, information is usually obtained by self-declaration, although often answered by secondary informants on behalf of all residents. In addition, the self-perception of race or skin color of individuals is subject to the political situation and socioeconomic dynamics.

Methodology

Six different methods were applied to address the methodological challenges in estimating mortality by race or skin color.

- **Standard Life Table Methods (1, 2, and 3):** These methods calculate life expectancy based on observed mortality rates but are vulnerable to biases, such as underreporting of deaths and inconsistencies in racial classification.
- **Iterative Intercensal Methods (4, 5 and 6):** these methods employ an iterative process, combining information from population censuses and death records to correct errors in growth rates and inconsistencies in racial classification.

In Method 1, no corrections are applied. In Methods 2 and 5, the population is corrected for hetero-classification perspective, while in Methods 3 and 6 the deaths are corrected for self-classification. The techniques employed for additional corrections, as well as their justifications and assumptions, are explained in detail in the Second Technical Report.

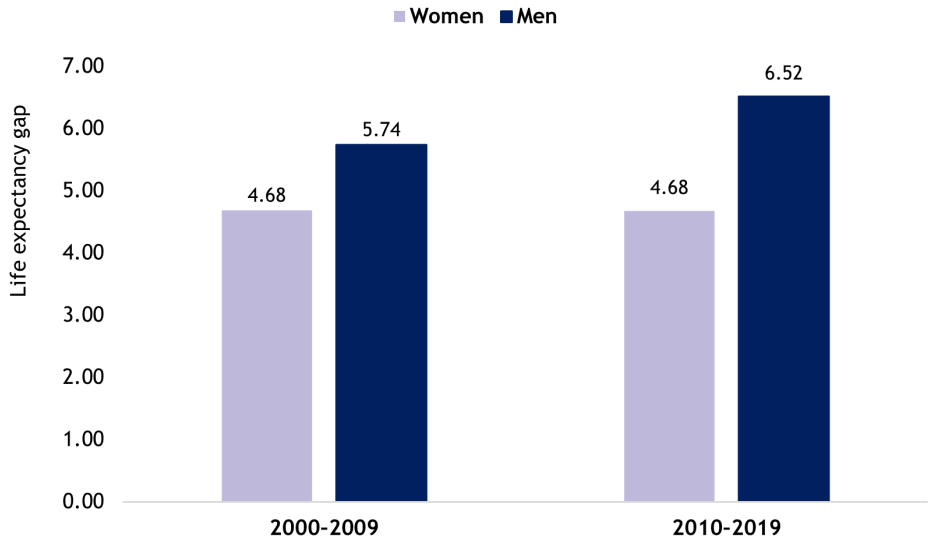
Main results

- Method 5 (population correction for hetero-classification) produced results consistent with Method 4 but was deemed more reliable due to its corrections for inconsistencies between population and death data.

- According to method 5, between 2000 and 2009 life expectancy at birth for white women was 74.86 years, while for black women (combining brown and black women) was 70.17 years. Over the same period, life expectancy at birth for white men was 68.17 years, compared to 62.43 years for black men.

- In the subsequent period, from 2010 to 2019, the life expectancy at birth estimated by Method 5 for white women increased to 77.26 years, while for black women it rose to 72.58 years. For men, life expectancy at birth among whites increased to 71.32 years, while among black it was 64.80 years.

Figure 1 – Disparity in life expectancy at birth between whites and blacks according to Estimation Method 5, Brazil 2000 to 2019



Source: elaborated by the authors.

Estimates indicate that, between the periods 2000–2009 and 2010–2019, the gap in life expectancy at birth between white and black populations remained stable among women, at 4.68 years. In contrast, for men, this difference increased from 5.74 years to 6.52 years, as illustrated in Figure 1.

Other considerations

- The standard life table methods do not produce reliable estimates of life expectancy by race or skin color.

- Methods based on intercensal estimates have proven more reliable. However, discrepancies remain between these estimates and the official figures published by the IBGE, with intercensal methods tending to underestimate life expectancy at birth.

- To understand the stability of the racial differential in life expectancy at birth among women and its increase among men, it is crucial to analyze the contributions of specific age groups and causes of death to the gap in life expectancy at birth between white and black populations.

2.3 Third Report – Decomposition of the difference in life expectancy at birth between whites and blacks in Brazil (2000-2019)

Objective

The third report aimed to decompose the difference in life expectancy at birth between white and black populations in Brazil. This analysis sought to clarify the stability of the racial gap in life expectancy among women and its widening among men.

Methodology

The decomposition method of Arriaga (1984) was applied to assess the contributions of different age groups and causes of death to the racial gap in life expectancy at birth. This method involves two key steps: first, the decomposition of the gap by age groups and, second, the decomposition by causes of death within each age group.

Main results

Age decomposition – contribution of age groups to the differences in life expectancy at birth by race or skin color

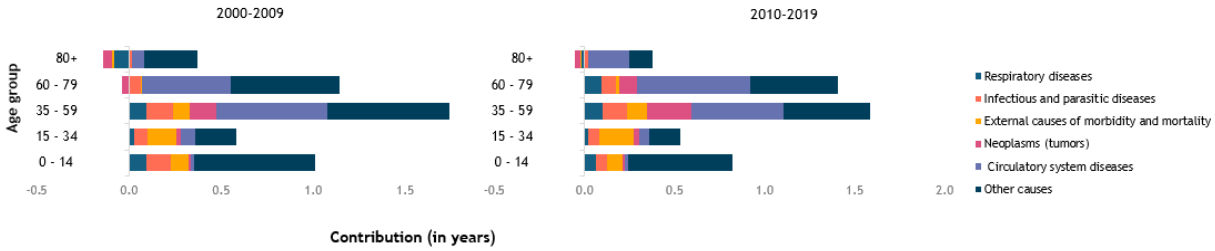
1. Among women, in both periods (2000 –2009 and 2010 –2019), all age groups contributed positively to the racial gap, increasing the life expectancy advantage of white women over black women. The 0 to 4 years age group contributed the most to this difference in both periods.

- Among men, all age groups contributed to widening the life expectancy gap between whites and blacks. In 2000-2009, age groups from 15 to 59 years accounted for 73.2% of the 5.74-year gap in life expectancy at birth. In 2010–2019, these same age groups explained 71.7% of the 6.52-year gap in life expectancy.

Decomposition by cause – contribution of age groups and causes of death to the disparity in life expectancy at birth by race or skin color

Figures 2 and 3 illustrate the main causes of death contributing to the differences in life expectancy at birth between white and black populations, disaggregated by gender and age group

Figure 2 – Contribution of age groups and causes to the disparity in life expectancy at birth between white and black **women**, Brazil, 2000–2019 and 2010–2019



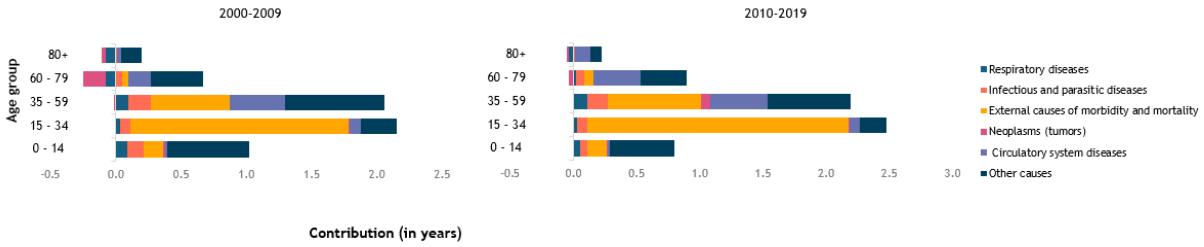
Source: elaborated by the authors based on data from SIM/Datasus and SIDRA/IBGE.

- In the period 2000–2009, the total contribution of "Other causes" to the difference in life expectancy between white and black women was 2.43 years, representing 51.9% of the differential. Diseases of the circulatory system accounted for 1.25 years (26.6%) of this difference.

- From 2010 to 2019, the total contribution of "Other causes" to the difference in life expectancy between white and black women was 1.85 years, corresponding to 39.6% of the differential. There was an increase in the contribution of diseases of the circulatory system, which accounted for 1.44 years (30.7%) to the differential life expectancy at birth of 4.68 years.

- Between 2000 and 2009, the difference in life expectancy at birth between white and black men was 5.74 years (Figure 1). The largest contributing factor to this disparity was the higher mortality of black men due to external causes. External causes accounted for **2.46 years**, which corresponded to **42.9%** of the gap (Figure 3).

Figure 3 – Contribution of age groups and causes to the disparity in life expectancy at birth between white and black **men**, Brazil, 2000–2019 and 2010–2019



Source: elaborated by the authors based on data from SIM/Datasus and SIDRA/IBGE.

1. During 2010–2019, the difference in life expectancy at birth between white and black men increased to 6.52 years (Figure 1). The largest contributor to this gap was the higher mortality of black men from external causes. During this period, external causes contributed 3.03 years, accounting for 46.4% of the differential. This figure represents an 8.2% increase compared to 2000–2009.

Other considerations

- The widening gap between white and black men is primarily driven by the higher mortality of black men from external causes, especially among those aged 15 to 34 years.

- While the difference in life expectancy between white and black men increased by 13.6% between the periods 2000–2009 and 2010–2019, the contributions of external causes and diseases of the circulatory system increased by 8.2% and 24.6%, respectively. Although the proportional increase in the contribution of diseases of the circulatory system has been greater, external causes remain the main driver of the difference in life expectancy.

- Without the higher mortality of black men from external causes, the life expectancy gap in 2010–2019 could be **3.03 years smaller**.

1. General Considerations

Although this study produced estimates of expectations by race or skin color and elucidated the increase in the differential between white and non-white men, it is essential to highlight that these estimates are subject to several limitations and possible errors inherent to the assumptions of the methods used and the correction techniques applied. These factors can influence the accuracy and reliability of the results. Even so, the project represented a

significant advance in the estimation of mortality by race or skin color in Brazil, highlighting the complex methodological challenges involved in this process.

Estimates indicate that racial inequalities in life expectancy at birth persist between males and females, with specific causes of death affecting racial subgroups in distinct ways. In this context, it is important to highlight the role of conditions of poverty. Regardless of race or skin color, there is an inverse relationship between socioeconomic status and the prevalence of morbidity and mortality. Individuals in more disadvantaged socioeconomic conditions face higher risks of death compared to those with higher levels of income or education (Cutler, Deaton, and Lleras-Muney, 2006). The analysis of the population composition of racial subgroups showed that self-declared black individuals have a higher proportion of people with lower levels of education and income.

In addition, belonging to socioeconomically disadvantaged groups is directly associated with greater exposure to adverse health conditions, which can impact lifetime mortality risks. An example of this is early exposure to infectious and parasitic diseases. Even if these diseases do not result in death during childhood, they can leave biological marks on individuals, making them more fragile and susceptible to other diseases in adult life (Preston et al., 1998). This scenario reinforces the importance of public policies aimed at reducing these inequalities.

Finally, it is essential to highlight the discrepancies between the life expectancies obtained through the estimation methods employed and the official estimates published by the Brazilian Institute of Geography and Statistics (IBGE) and the United Nations (UN). For example, according to the IBGE, the life expectancy at birth for women in Brazil in 2015 was 79.05 years, while the UN estimated a slightly lower value of 78.5 years. In contrast, Method 5 pointed out that the highest female life expectancy for this period, estimated for white women, was 77.26 years. This discrepancy can be attributed to possible violations of the assumptions of the estimation method used.

Given the observed consistency in the age pattern of mortality across estimates (as discussed in the Second Technical Report), it is possible to adjust the level of the estimated mortality to better align the estimates by race or skin color with the overall official mortality level reported by the UN. This adjustment is presented in the following section, with the corresponding adjusted life tables provided in the Annex to this report.

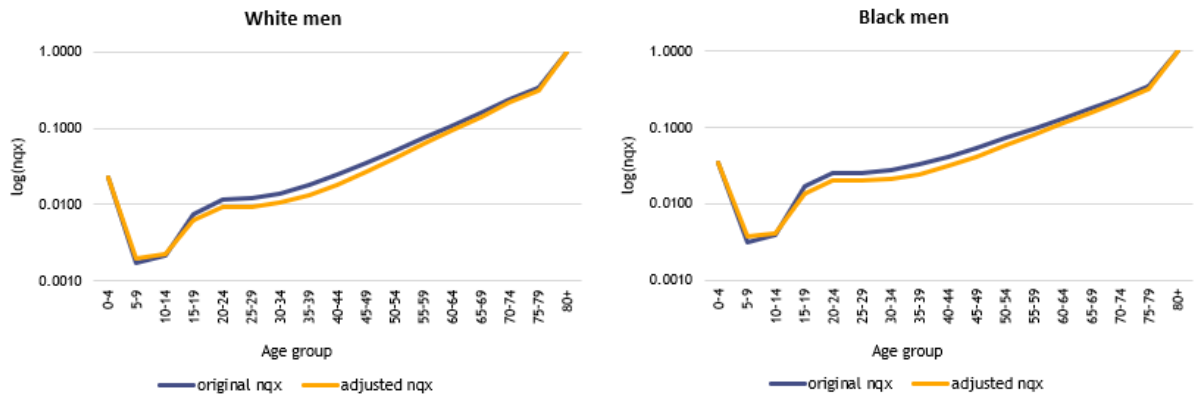
1. Additional adjustment in mortality functions to increase consistency between estimates by race or skin color and the overall level of mortality reported by the IBGE

Method 5 produces life expectancy estimates at birth, both for racial subgroups and the total population, that are lower than the official figures for the total population in Brazil calculated by the IBGE and other institutions (e.g., the UN). While Method 5 has the advantage of reducing inconsistencies between the numerator and denominator in mortality rates—being less

affected by issues such as age misreporting — it cannot be fully relied upon due to other biases discussed in this study.

To ensure consistency with national estimates, an adjustment was applied to the mortality levels generated by Method 5. This adjustment considers the ratio between the probabilities of death (*nqx*) of the general population, as reported by the UN (World Population Prospects, 2024), and the probabilities of death of the general population estimated from Method 5. These ratios were subsequently applied to the probabilities of death by racial subgroups. The life tables were then recalculated separately by sex, ensuring that the weighted average of life expectancies by race or skin color closely aligns with the official UN life expectancy for Brazil's general population. Below is an example for men in the period 2000–2009.

Figure 4 – Adjustment of the probability of death function (*nqx*) of white and black men, Brazil, 2000–2009



Source: elaborated by the authors

As shown in Figure 4, the adjustment applied does not change the age pattern, concentrating mainly on the level of the mortality function, which, after adjustment, is at a lower level than the original.

For example, the UN estimated male life expectancy at birth for the general population in 2005 (midpoint of 2000–2009) at 68.48 years (World Population Prospects, 2024). According to Method 5, this number was 66.01 years. For white men, the life expectancy estimated by Method 5 was 68.17 years, compared to 62.43 years for black men. After the adjustment, the life expectancy at birth of white men increased to 70.42 years, while that of black men increased to 65.23 years. Thus, the weighted average of adjusted life expectancy at birth is close to the overall UN average of 68.48 years.

Following all adjustments, as shown in Table 1, life expectancy at birth indicates differences in mortality levels by race or skin color, which ranged from 4.05 years for women in 2010-2019 to 5.87 years for men in 2010-2019 (for other functions in the life tables, see Tables 1 to 4 of the Annex):

Table 1 – Summary of Life Expectancy at Birth by race/skin color, for different periods and gender, Brazil	**Race/Skin Color**		Difference
	Whites	Blacks (Blacks + Browns)	
Period/Sex			
2000-2009			
Women	76.66	72.48	4.18
Men	70.42	65.23	5.19
2010-2019			
Women	80.06	76.01	4.05
Men	74.52	68.65	5.87

Source: elaboration by the authors.

References

Arriaga, E. E. (1984). **Measuring and explaining the change in life expectancies**. Demography, 21(1), 83-96.

Arriaga, E. E. (1989). **Changing trends in mortality decline during the last decades**.

Chiavegatto Filho, A. D. P., Beltrán-Sánchez, H., & Kawachi, I. (2014). R**acial disparities in life expectancy in Brazil: challenges from a multiracial society.** American journal of public health, 104(11), 2156-2162.

Cunha, E.M.G.P.; Muniz, J.O.; Jakob, A.A.E.; Cunha, J.M.P. (2010). **Life tables by race: a comparison among methods**. Paper presented at the 14th National Meeting for Population Studies, ABEP, held in Caxambu MG Brazil, from September 20th to September 24th, 2010.

Cutler, D., Deaton, A., & Lleras-Muney, A. (2006). **The determinants of mortality**. Journal of economic perspectives, 20(3), 97-120.

Instituto Brasileiro de Geografia e Estatística. **Características étnico-raciais da população : um estudo das categorias de classificação de cor ou raça: 2008.** (2011). Disponível em: https://biblioteca.ibge.gov.br/index.php/biblioteca-catalogo?id=249891&view=detalhes. Acesso em: 1 de mar. 2024.

Merli, M. G. (1998). **Mortality in Vietnam**, 1979–1989. Demography, 35(3), 345-360.

Muniz, J. O. (2023). **Iterative intercensal single-decrement life tables using Stata**. The Stata Journal, 23(3), 813-834.

PCDaS. Plataforma de Ciência de Dados aplicada à Saúde. Laboratório de Informação em Saúde (Lis). Instituto de Comunicação e Informação Científica e Tecnológica em Saúde (Icict). Fundação Oswaldo Cruz (Fiocruz). Endereço: https://pcdas.icict.fiocruz.br. DOI: https://doi.org/10.7303/syn25882127

Preston, S. H., Hill, M. E., & Drevenstedt, G. L. (1998). **Childhood conditions that predict survival to advanced ages among African–Americans**. Social science & medicine, 47(9), 1231-1246.

Souza, LG. (2023). **Diferencial de gênero na mortalidade no município de São Paulo, 1920 a 2020: padrões por idade e causas de morte**. Tese (Doutorado em Demografia) – Programa de Pós-Graduação em Demografia, Cedeplar – UFMG, Belo Horizonte.

World Population Prospects (2024). The 2024 Revision. United Nations Department of Economic and Social Affairs 2024. <https://population.un.org/wpp>

ANNEX

Table 1 – Life table by race or skin color, estimated from the iterative intercensus method, with population correction (self-identification → hetero-identification) and mortality level adjusted for consistency with official estimates of the total population - Brazil, **2000–2009**,

Women

	White				Blacks (Brown + Black)			
Age group	*ndx*	*lx*	*nqx**	*ex*	*ndx*	*lx*	*nqx**	*ex*
0–4	1,820	100,000	0.0182	76.66	2,901	100,000	0.0290	72.48
5–9	144	98,180	0.0015	73.07	260	97,099	0.0027	69.63
10–14	136	98,037	0.0014	68.18	237	96,840	0.0024	64.81
15–19	203	97,901	0.0021	63.27	339	96,603	0.0035	59.96
20–24	255	97,698	0.0026	58.39	435	96,264	0.0045	55.16
25–29	305	97,443	0.0031	53.54	553	95,829	0.0058	50.40
30–34	403	97,138	0.0042	48.70	736	95,277	0.0077	45.68
35–39	560	96,735	0.0058	43.89	1,007	94,540	0.0106	41.02
40–44	846	96,175	0.0088	39.13	1,475	93,533	0.0158	36.43
45–49	1,296	95,329	0.0136	34.45	2,168	92,059	0.0235	31.97
50–54	1,974	94,033	0.0210	29.89	3,070	89,891	0.0341	27.68
55–59	3,001	92,059	0.0326	25.48	4,272	86,821	0.0492	23.56
60–64	4,615	89,058	0.0518	21.25	5,998	82,549	0.0727	19.64
65–69	7,193	84,443	0.0852	17.26	8,496	76,552	0.1110	15.97
70–74	10,776	77,250	0.1395	13.62	11,402	68,055	0.1675	12.64
75–79	15,353	66,474	0.2310	10.40	14,524	56,653	0.2564	9.65
80+	51,121	51,121	1.0000	7.74	42,129	42,129	1.0000	7.08

Source: Prepared by the authors based on data from SIM/Datasus, Ipums International, SIDRA/IBGE and UN World Population Prospects 2024.

***nqx* corresponds to the probability of death in the age group**

Table 2 – Life table by race or skin color, estimated from the iterative intercensus method, with population correction (self-identification → hetero-identification) and mortality level adjusted for consistency with official estimates of the total population - Brazil, **2000–2009**,

Men

	White				Blacks (Brown + Black)			
Age group	*ndx*	*lx*	*nqx**	*ex*	*ndx*	*lx*	*nqx**	*ex*
0–4	2,278	100,000	0.0228	70.42	3,518	100,000	0.0352	65.23
5–9	191	97,722	0.0020	67.05	357	96,482	0.0037	62.59
10–14	214	97,530	0.0022	62.18	396	96,126	0.0041	57.82
15–19	609	97,316	0.0063	57.31	1,331	95,730	0.0139	53.04
20–24	898	96,707	0.0093	52.65	1,899	94,399	0.0201	48.75
25–29	891	95,809	0.0093	48.12	1,870	92,500	0.0202	44.70
30–34	993	94,919	0.0105	43.55	1,937	90,629	0.0214	40.57
35–39	1,232	93,925	0.0131	38.98	2,192	88,692	0.0247	36.40
40–44	1,681	92,694	0.0181	34.47	2,738	86,500	0.0316	32.26
45–49	2,434	91,012	0.0267	30.06	3,511	83,762	0.0419	28.23
50–54	3,626	88,579	0.0409	25.81	4,662	80,251	0.0581	24.35
55–59	5,280	84,953	0.0622	21.80	6,081	75,589	0.0805	20.69
60–64	7,453	79,673	0.0935	18.07	7,794	69,508	0.1121	17.27
65–69	10,095	72,220	0.1398	14.66	9,666	61,714	0.1566	14.12
70–74	13,303	62,125	0.2141	11.62	11,635	52,047	0.2235	11.26
75–79	15,322	48,822	0.3138	9.08	12,784	40,412	0.3163	8.75
80+	33,500	33,500	1.0000	7.09	27,628	27,628	1.0000	6.64

Source: Prepared by the authors based on data from SIM/Datasus, Ipums International, SIDRA/IBGE and UN World Population Prospects 2024.

***nqx* corresponds to the probability of death in the age group**

Table 3 – Life table by race or skin color, estimated from the iterative intercensus method, with population correction (self-identification → hetero-identification) and mortality level adjusted for consistency with official estimates of the total population - Brazil, **2010–2019**,

Women

	White				Blacks (Brown + Black)			
Age group	*ndx*	*lx*	*nqx**	*ex*	*ndx*	*lx*	*nqx**	*ex*
0–4	1,124	100,000	0.0112	80.06	1,801	100,000	0.0180	76.01
5–9	73	98,876	0.0007	75.96	129	98,199	0.0013	72.39
10–14	89	98,803	0.0009	71.02	154	98,070	0.0016	67.48
15–19	174	98,714	0.0018	66.08	304	97,916	0.0031	62.59
20–24	210	98,540	0.0021	61.19	361	97,612	0.0037	57.77
25–29	240	98,331	0.0024	56.31	433	97,251	0.0045	52.98
30–34	330	98,091	0.0034	51.45	604	96,817	0.0062	48.20
35–39	478	97,761	0.0049	46.61	880	96,214	0.0092	43.49
40–44	685	97,282	0.0070	41.83	1,213	95,333	0.0127	38.87
45–49	1,031	96,597	0.0107	37.11	1,759	94,120	0.0187	34.33
50–54	1,551	95,566	0.0162	32.48	2,500	92,361	0.0271	29.94
55–59	2,339	94,015	0.0249	27.97	3,517	89,861	0.0391	25.70
60–64	3,513	91,677	0.0383	23.62	4,860	86,344	0.0563	21.64
65–69	5,371	88,164	0.0609	19.45	6,926	81,484	0.0850	17.77
70–74	7,969	82,793	0.0963	15.54	9,371	74,558	0.1257	14.17
75–79	12,827	74,824	0.1714	11.91	13,536	65,187	0.2077	10.83
80+	61,997	61,997	1.0000	8.83	51,651	51,651	1.0000	7.97

Source: Prepared by the authors based on data from SIM/Datasus, Ipums International, SIDRA/IBGE and UN World Population Prospects 2024.

***nqx* corresponds to the probability of death in the age group**

Table 4 – Life table by race or skin color, estimated from the iterative intercensus method, with population correction (self-identification → hetero-identification) and mortality level adjusted for consistency with official estimates of the total population - Brazil, **2010–2019**,

Men

	White				Blacks (Brown + Black)			
Age group	*ndx*	*lx*	*nqx**	*ex*	*ndx*	*lx*	*nqx**	*ex*
0–4	1,421	100,000	0.0142	74.52	2,166	100,000	0.0217	68.65
5–9	88	98,579	0.0009	70.59	151	97,834	0.0015	65.16
10–14	128	98,491	0.0013	65.65	252	97,682	0.0026	60.26
15–19	553	98,363	0.0056	60.73	1,491	97,430	0.0153	55.40
20–24	755	97,810	0.0077	56.06	1,883	95,940	0.0196	51.22
25–29	722	97,056	0.0074	51.47	1,716	94,056	0.0182	47.20
30–34	784	96,333	0.0081	46.84	1,745	92,340	0.0189	43.03
35–39	963	95,550	0.0101	42.20	1,966	90,595	0.0217	38.81
40–44	1,291	94,587	0.0136	37.61	2,331	88,629	0.0263	34.61
45–49	1,900	93,296	0.0204	33.09	3,025	86,299	0.0351	30.47
50–54	2,802	91,396	0.0307	28.73	3,929	83,273	0.0472	26.49
55–59	4,113	88,594	0.0464	24.55	5,204	79,345	0.0656	22.67
60–64	5,880	84,482	0.0696	20.62	6,749	74,141	0.0910	19.07
65–69	8,261	78,601	0.1051	16.96	8,720	67,393	0.1294	15.72
70–74	10,660	70,340	0.1515	13.65	10,311	58,673	0.1757	12.67
75–79	14,361	59,680	0.2406	10.62	12,700	48,362	0.2626	9.81
80+	45,319	45,319	1.0000	8.17	35,661	35,661	1.0000	7.39

Source: Prepared by the authors based on data from SIM/Datasus, Ipums International, SIDRA/IBGE and UN World Population Prospects 2024.

***nqx* corresponds to the probability of death in the age group**