

Racial inequalities in incidence of major adverse cardiovascular events in ELSA-Brasil cohort: the mediating role of weathering

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INTRODUCTION

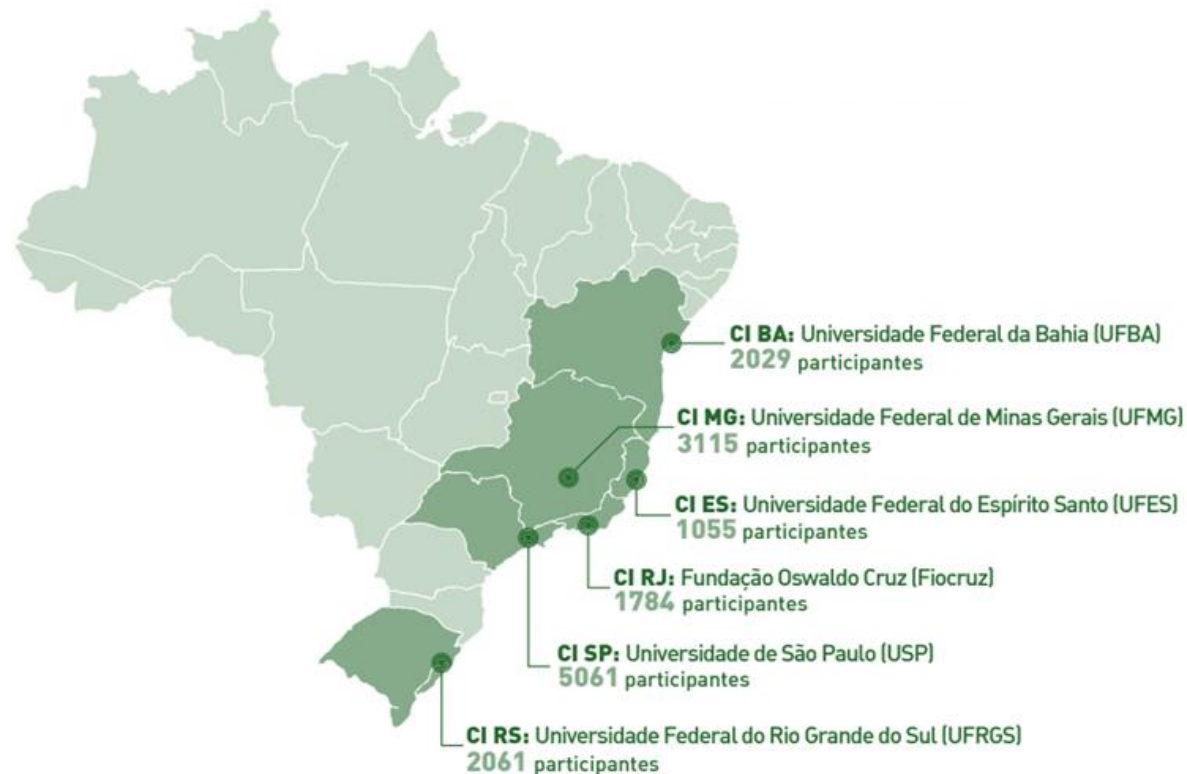
- Brazil: profound racial inequality in cardiovascular diseases (CVD) distribution and risk factors;
- Possible explanation: chronic exposure to social disadvantage leads to the aging acceleration and earlier onset of age-related diseases (weathering hypothesis);
- Incipient investigation of such hypothesis in Brazil, which is a society strongly marked by racism.

OBJECTIVES

- To investigate whether racism is associated with MACE incidence in Brazilian adults in about 5-year follow-up;
- To evaluate the extent to which weathering, assessed through the difference between biological age and chronological age, explains this association.

METHODS

Study type and population



Study type: longitudinal study;

ELSA-Brasil population: 15,105
Brazilian adults;

Age: 35 – 75 years;

Study sample: 10,983 participants
with valid data at baseline

Source: ELSA-Brasil Archives

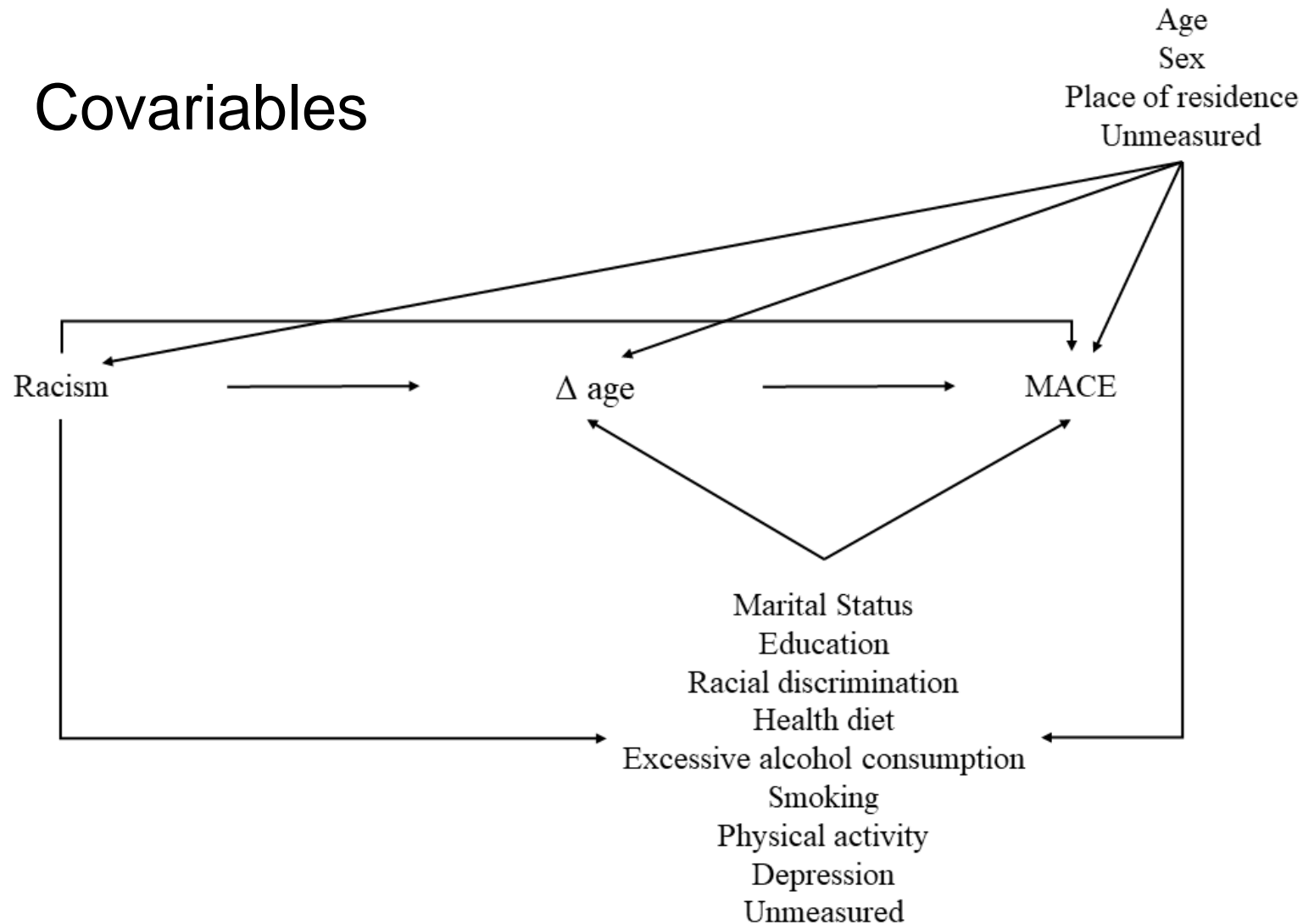
METHODS

Study variables and data analyses

- Explanatory variable: Self-reported race/color (Racism);
- Outcome: time until the development of MACE, (stroke, coronary syndrome, coronary revascularization, and heart failure);
- Mediator: Weathering (Δ age = biological age – chronological age);

METHODS

Covariables



Data analyses:
Mediation analyzes
using Marginal
Structural Models
(MSM)

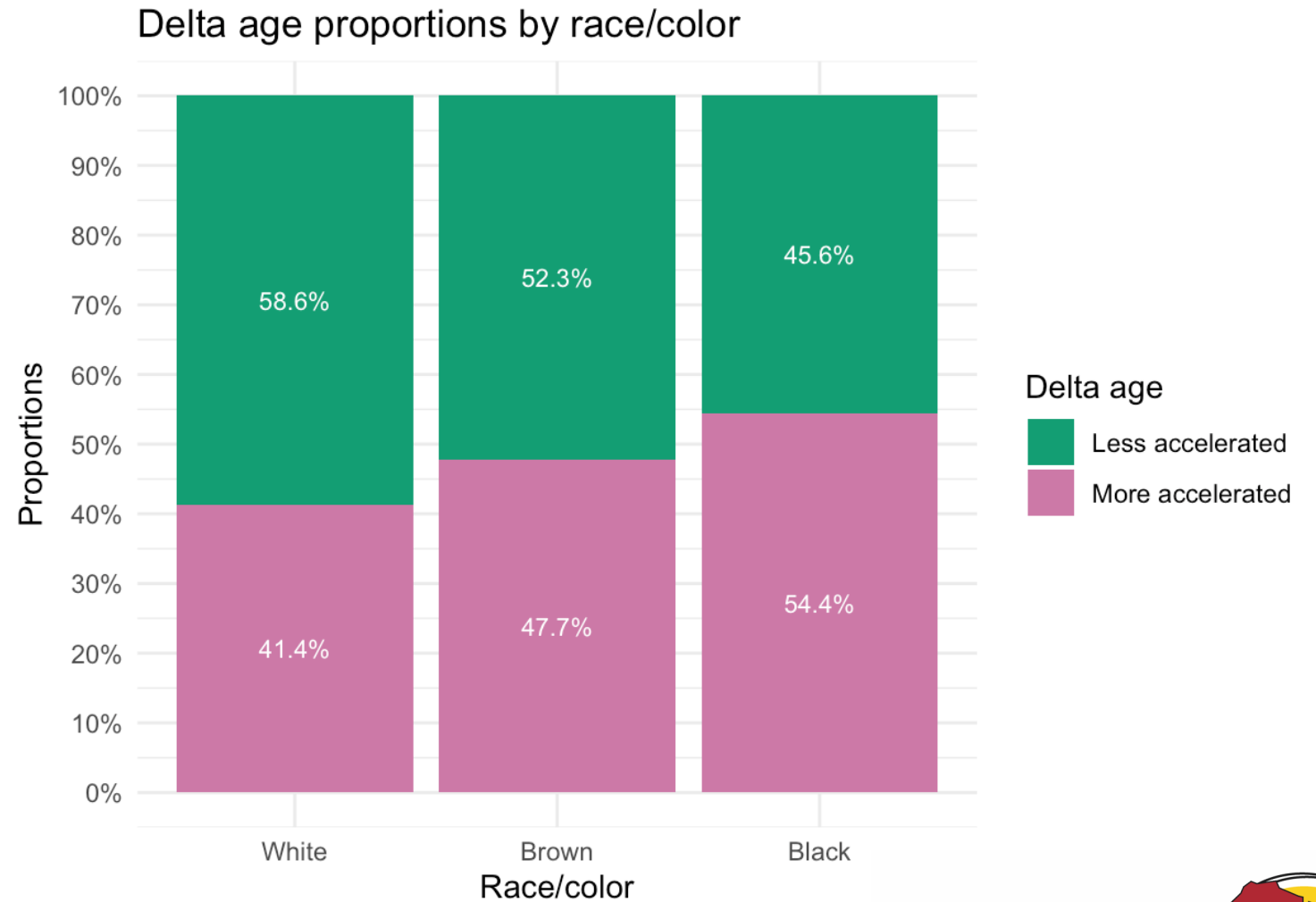
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RESULTS

Figure 1 – Proportion of delta age less (<0) and more (>0) accelerated by race/color. The Brazilian Longitudinal Study of Adult Health (ELSA-Brasil).



RESULTS

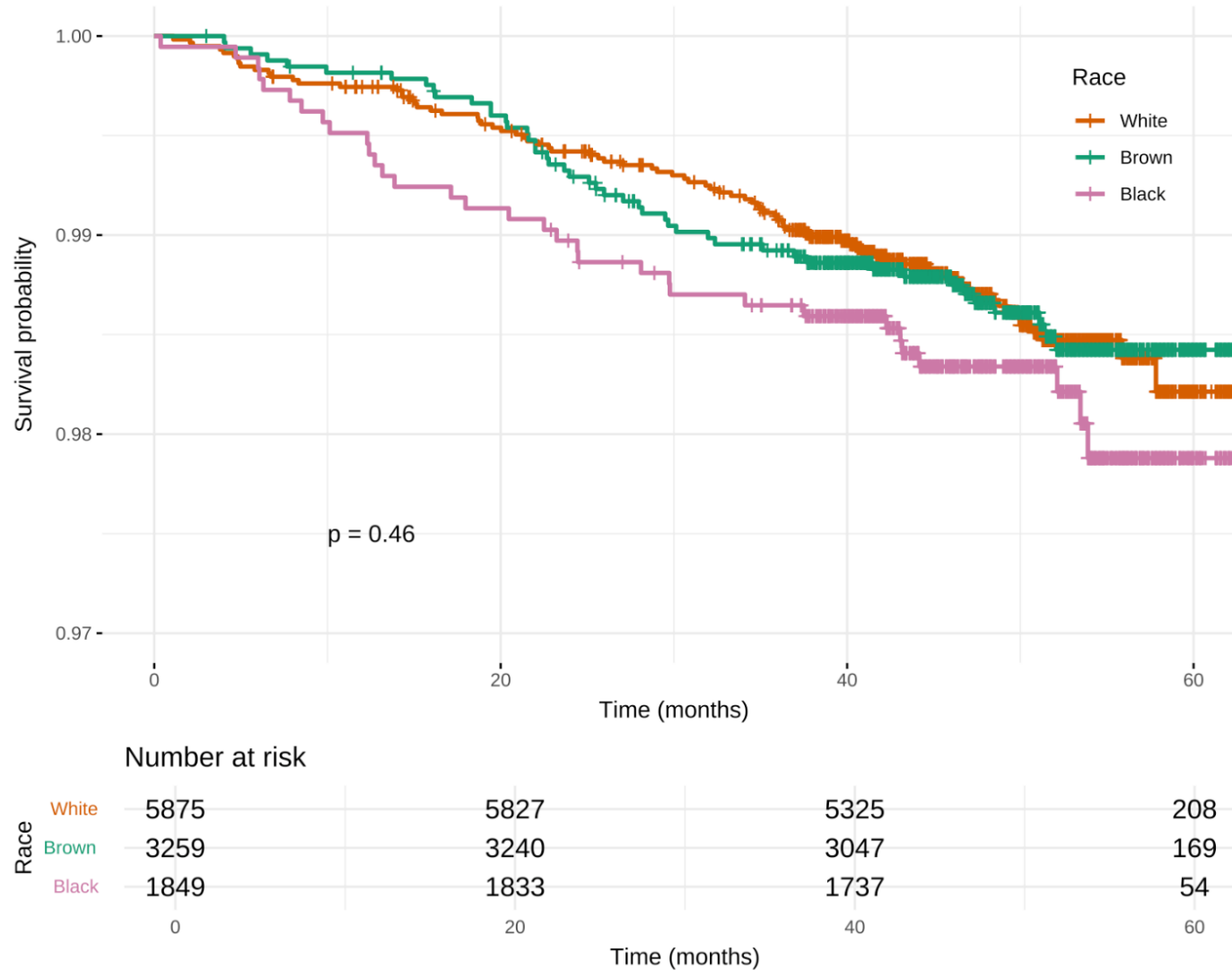


Figure 2 - Kaplan-Meier survival curves by race/color for MACE incidence. The Brazilian Longitudinal Study of Adult Health (ELSA-Brasil)

RESULTS

Table 1 – Effect decomposition of the relationship between race/color, Δ age, and MACE incidence after 5 years of follow-up obtained from marginal structural models. The Brazilian Longitudinal Study of Adult Health (ELSA-Brasil)

	Total Effect	Controlled direct effect
	HR (95%CI)	HR (95%CI)
White	Ref.	Ref.
Brown	1.29 (0.86 – 1.95)	1.11 (0.68 – 1.81)
Black	1.63 (1.01 – 2.64)*	1.05 (0.61 – 1.80)

Note: CI = Confidence interval; MACE = Major Adverse Cardiovascular Event; *p<0.05; **p<0.01; ***p<0.001

CONCLUSION

- Racism is strongly related to cardiovascular disease in Brazilian adults;
- Weathering resulting from exposure to racism fully explained racial inequalities in MACE incidence in Brazilian adults;
- The importance of combating systemic racism in Brazilian society to improve the living conditions and, people's health.