

FOOD ACQUISITION IN THE GEOGRAPHY OF BRAZILIAN OBESITY

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INTRODUCTION

Overweight and obesity are a worldwide pandemic with geographic differences. Possible explanations include variable access to food and its quality, dietary habits of the populations, behavioral patterns, and characteristics of the food markets. This study aimed to examine the acquisition of food in the different regions of Brazil and to relate it with the geography of Brazilian obesity.

METHOD

We used data provided by a Brazilian official organ, which gathers periodic data on the household food acquisition. Descriptive statistics and multidimensional scaling techniques were used to ascertain the similarity of food acquisition among populations in the Brazilian states.

RESULTS AND DISCUSSION

In Brazil, overweight and obesity are also major issues, and there is no single state that is free from population growth in overweight levels. However, this growth is more intense in some areas and more discreet in others. We identify that states with similar dietary patterns have similar population levels of overweight and obesity, demonstrating a possible relationship between the supply models and food insecurity manifestations. However, the occurrence of regional singularities suggests that the food supply model constitutes only one of the multiple variables that compete for diversity in the Brazilian regional distribution of obesity and overweight. We found that socio-geographic factors influence the nutritional misalignment in Brazil. Our results show that overweight and obesity have a higher occurrence in middle age, as well as it is more present in females. Moreover, women with lower education and lower incomes have higher levels of overweight and obesity. In men, obesity is more frequent in those with more schooling and higher incomes.

CONCLUSION

In short, a complex picture of the geography of Brazilian obesity is revealed. Overweight and obesity cannot be seen only as an individual problem, since not everyone has access to a healthy lifestyle and quality food.

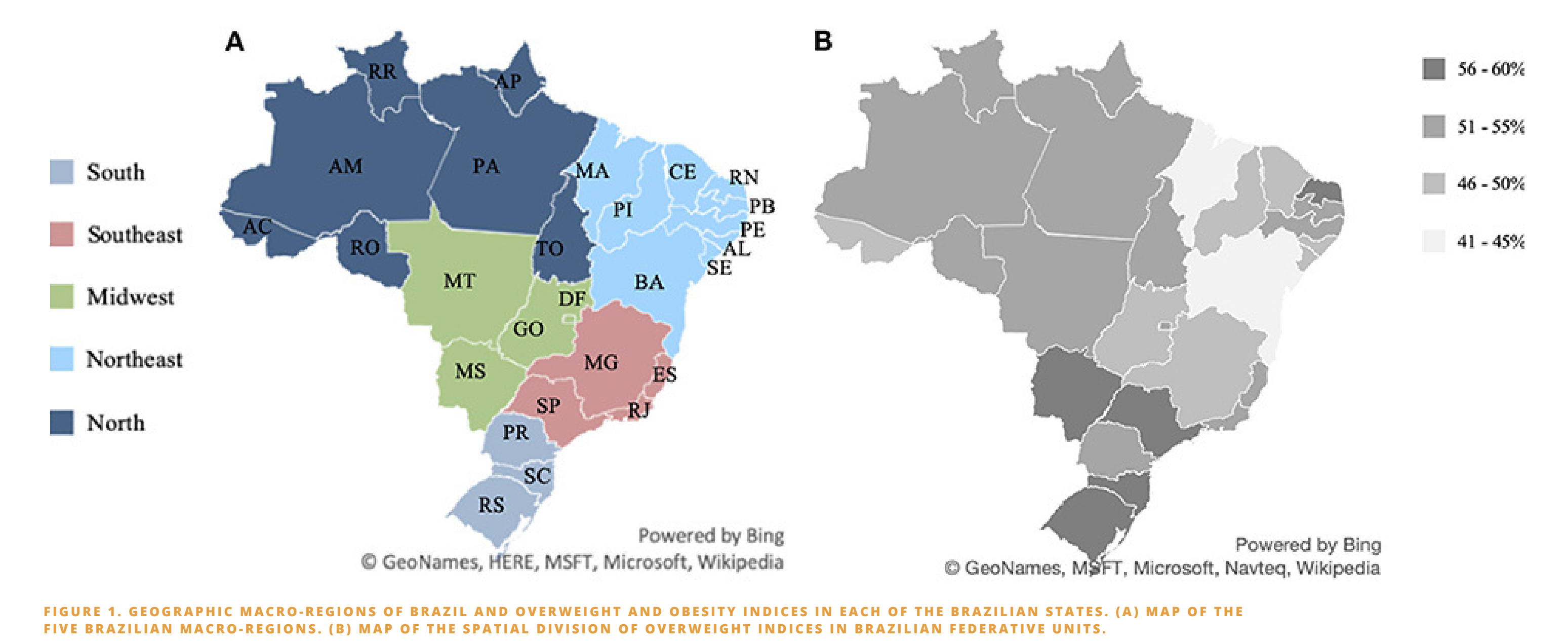


FIGURE 1. GEOGRAPHIC MACRO-REGIONS OF BRAZIL AND OVERWEIGHT AND OBESITY INDICES IN EACH OF THE BRAZILIAN STATES. (A) MAP OF THE FIVE BRAZILIAN MACRO-REGIONS. (B) MAP OF THE SPATIAL DIVISION OF OVERWEIGHT INDICES IN BRAZILIAN FEDERATIVE UNITS.

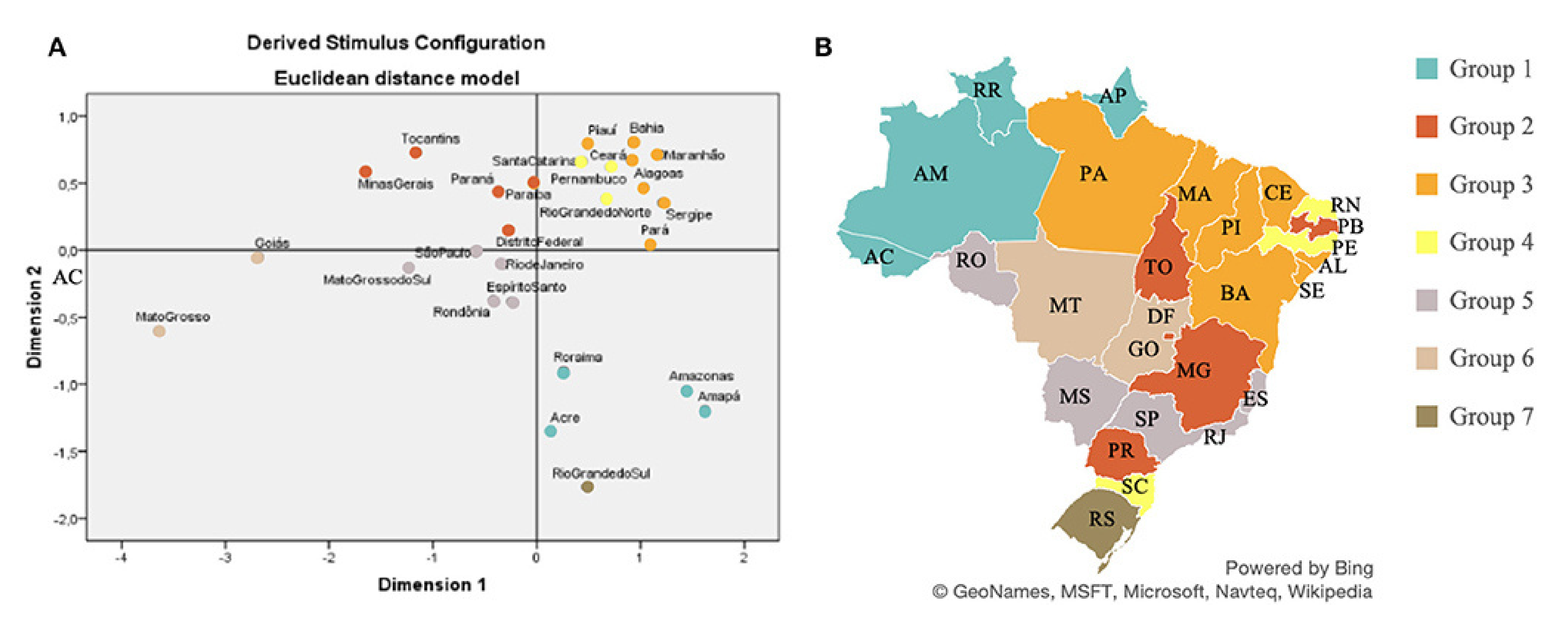


FIGURE 2. SIMILARITIES OF HOUSEHOLD FOOD ACQUISITION IN THE BRAZILIAN STATES, BASED ON THE MULTIDIMENSIONAL SCALE, IN THE PERIOD 2008-2009. (A) EUCLIDEAN DISTANCE ARRANGEMENT BETWEEN BRAZILIAN FEDERATIVE UNITS ACCORDING TO FOOD ACQUISITION. (B) COLORS INDICATE THE STATES GROUPED ACCORDING TO THEIR RESPECTIVE, SIMILAR PATTERNS OF FOOD ACQUISITION.

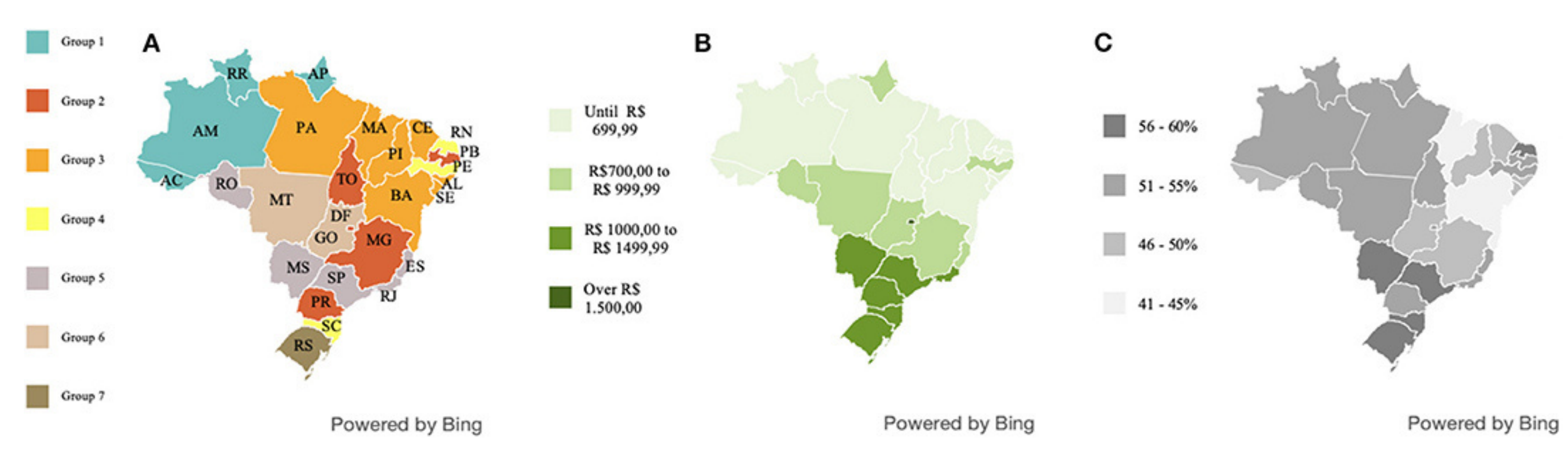


FIGURE 3. GEOGRAPHIC DISTRIBUTION OF THE STATES WITH SIMILAR DIETARY PATTERNS AND THEIR RESPECTIVE AVERAGE PER CAPITA INCOME PER HOUSEHOLD AND LEVEL OF OBESITY AND OVERWEIGHT IN BRAZIL, PERIOD 2008-2009. (A) MAP OF THE SPATIAL DIVISION OF GROUPS OF BRAZILIAN FEDERATIVE UNITS WITH A SIMILAR DIETARY PATTERN. (B) MAP OF THE AVERAGE INCOME OF INDIVIDUALS BY BRAZILIAN FEDERATIVE UNIT. (C) MAP OF SPATIAL DIVISION OF OVERWEIGHT INDICES IN BRAZILIAN FEDERATIVE UNITS.

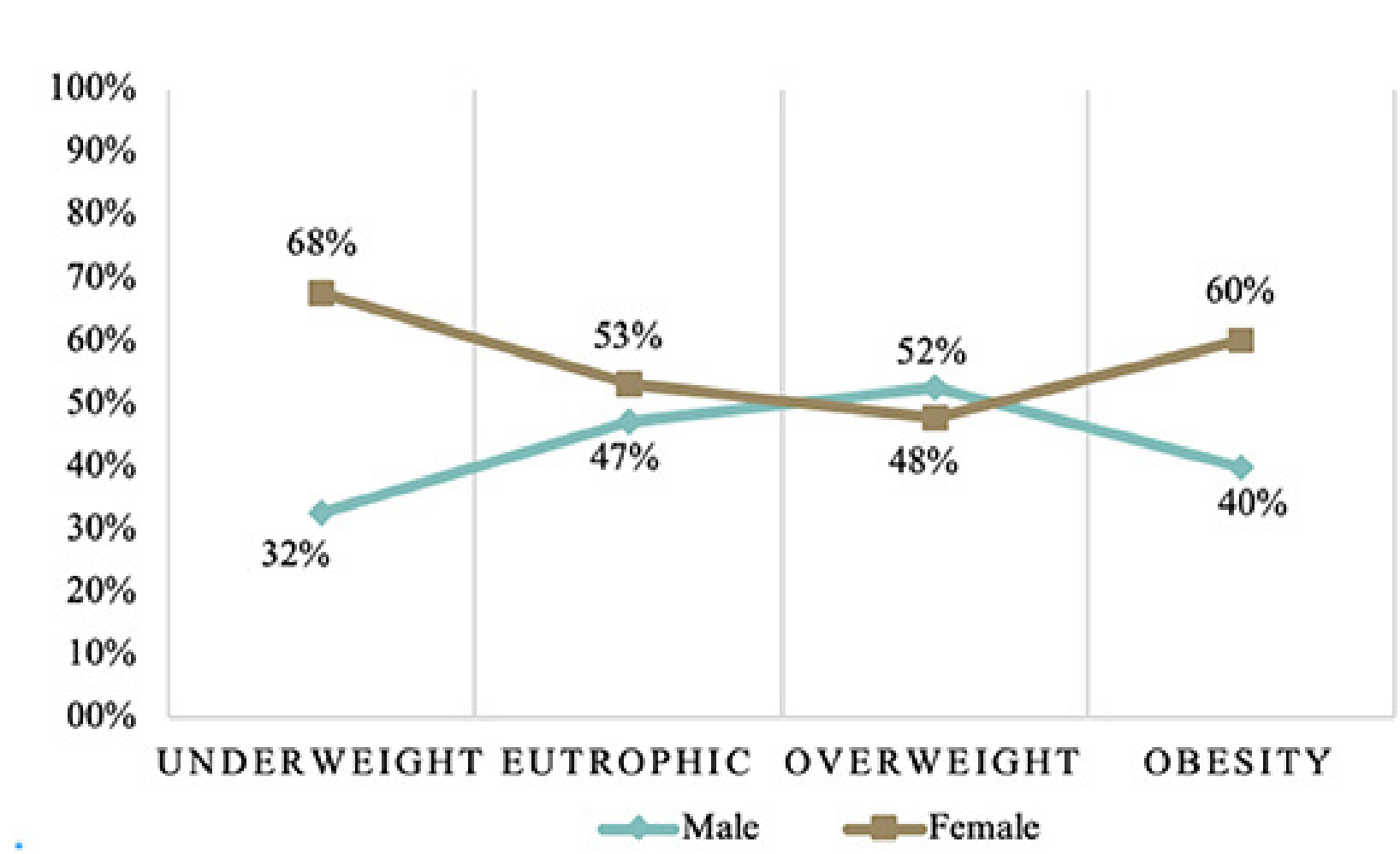


FIGURE 4. NUTRITIONAL STATUS OF ADULTS OVER 25 YEARS OF AGE, SEPARATED BY SEX, IN THE PERIOD 2008-2009 IN THE BRAZILIAN POPULATION.

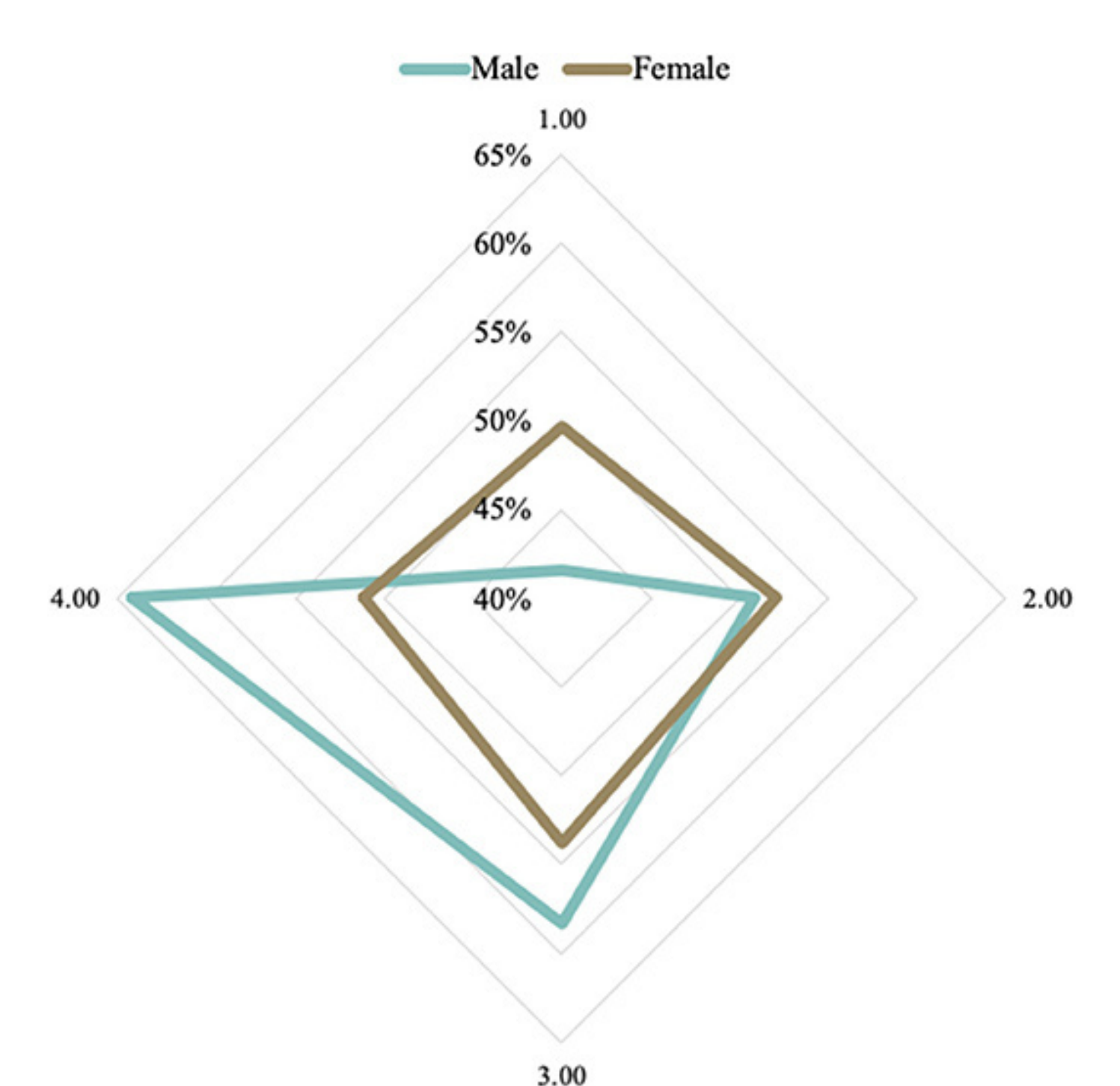


FIGURE 5. PREVALENCE OF OVERWEIGHT AND OBESITY BY SEX, ACCORDING TO THE INCOME LEVELS IN THE BRAZILIAN POPULATION, IN THE PERIOD 2008-2009 (LEVEL 1, THE LOWEST; LEVEL 4, THE HIGHEST)

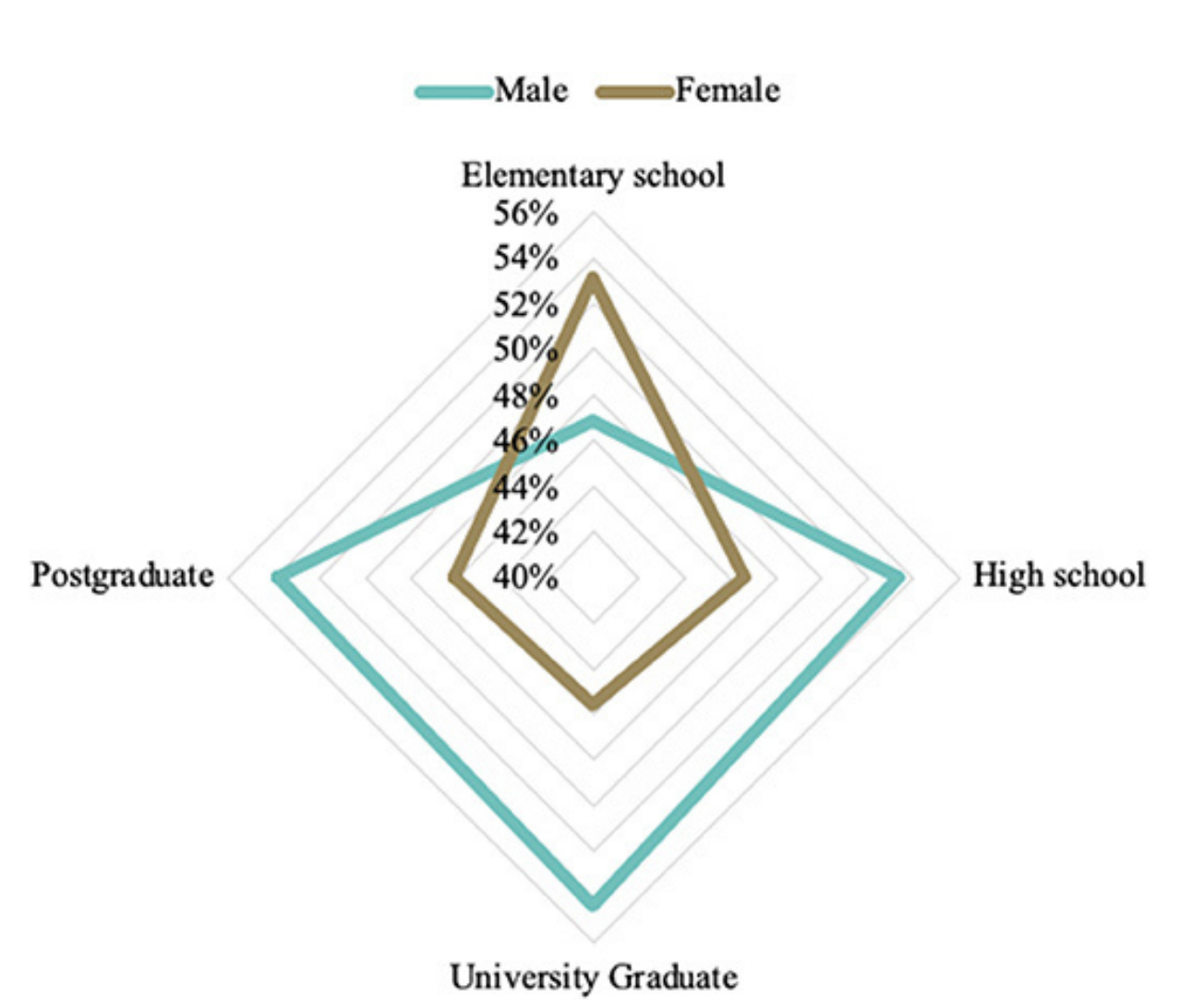


FIGURE 6. PREVALENCE OF OVERWEIGHT AND OBESITY ACCORDING TO SCHOOLING LEVELS AND SEX IN THE BRAZILIAN POPULATION, IN THE PERIOD 2008-2009.