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Navigating Food Choices in Unequal Realities: A Comparative Study Across São Paulo, Brazil

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ABSTRACT

The determinants of food choice represent a set of factors that influence dietary decisions, justifying this act from a multidisciplinary perspective. Understanding these determinants appears to be a promising approach for implementing effective public policies aimed at behavioral changes and the adoption of healthy habits. This study aims to analyze the influence of socioeconomic inequality on individuals' food choices. A cross-sectional study with a sample of 136 adults from different regions of the city of São Paulo, divided into of low (LNSE) and high socioeconomic status (HNSE). Food choice motives were assessed using the Food Choice Questionnaire (FCQ). The LNSE group showed significantly higher averages for price, sensory appeal, and mood, while ethical concern and natural content were more relevant for the HNSE group. The results suggest significant differences in food choice motives between socioeconomically disparate groups, highlighting the need for policymakers and nutritionists to consider motivational individualities as guiding principles for their practices and decision-making processes to reduce health inequities.

KEYWORDS

Food choice; food consumption; foods; health policies; socioeconomic inequality

Introduction

The relationship between food and health has become an increasingly complex subject of study. While the isolated analysis of nutrients has its relevance, it proves insufficient to understand the multitude of factors influencing human diets (Brasil 2014). Food transcends its physiological role, also reflecting social, cultural, and symbolic aspects. According to Alvarenga et al. (2019), the phrase “you are what you eat” takes on a broader meaning: beyond calories and nutrients, foods carry meanings that intertwine with cultural and social identities. In this context, Fischler (1988) introduced the concept of the “principle of incorporation,” emphasizing that, by consuming food, humans absorb not only nutrients but also the beliefs and values associated with them.

Although the biological mechanisms of hunger and satiety are innate, food choices are often modulated by external factors, including social, emotional, and economic elements. This complexity becomes even more apparent in scenarios of socioeconomic inequality, where factors such as income, education, and food access play significant roles in shaping eating behaviors. Therefore, understanding the determinants of food choices across diverse contexts is crucial for developing effective interventions that promote healthier eating behaviors. As noted by Leng et al. (2017), global strategies in food education and fiscal regulations often fail because they do not account for the multifaceted factors that shape food choices. Hence, an interdisciplinary approach that incorporates biological, social, and cultural perspectives is essential (Jomori, Proença, and Calvo 2008).

São Paulo, the largest metropolis in Brazil, has a population of approximately 11.5 million people, according to the 2022 Census (IBGE 2022). The city accounts for about 10.3% of the national Gross Domestic Product (GDP), totaling R\$ 763.8 billion in 2019 (IBGE 2019). Despite its significant economic contribution, São Paulo faces substantial social inequalities. While neighborhoods such as Itaim Bibi and Jardim Paulista boast high development levels, reflected in better education rates and access to healthcare services, areas like Brasilândia and Jardim Ângela struggle with high levels of poverty and food insecurity, highlighting the socioeconomic contrasts that define the city (Prefeitura Municipal de São Paulo 2021; RNSP 2022).

While previous studies have explored food choice determinants using the Food Choice Questionnaire (FCQ) in diverse cultural and national contexts, few have examined how these motives vary within a single city marked by deep social inequalities. In this sense, the present study offers an original contribution by comparing adults from neighborhoods of low and high socioeconomic status in São Paulo, Brazil. This intraurban approach provides a more precise understanding of how localized socioeconomic disparities influence food choices in everyday life.

Given its socioeconomic diversity, São Paulo serves as a strategic setting for such analysis, offering contrasting realities within the same urban space. Accordingly, this study aims to identify and compare the perceived importance of food choice determinants across different socioeconomic contexts, and to discuss how these differences may inform public health policies aimed at promoting equitable access to healthy food.

Literature review and research hypotheses

According to Ferrão et al. (2019), the determinants of food choice can be explained by a set of interconnected factors that go beyond basic physiological mechanisms, primarily hunger and satiety. They are also influenced by health, emotional, economic, sociocultural, environmental, political, and commercial marketing motivations. With this in mind, Jaeger et al. (2011) conducted

a study in New Zealand and concluded that food choices can be explained through three main categories: food, environment, and individual.

Regarding food, key factors include taste, appearance, nutritional value, quality and hygiene, smell, texture, variety, price, origin, and familiarity. Environmental factors encompass physical aspects such as odor, lighting, comfort, cleanliness, location, available options, the presence of familiar people, and distractions, as well as sociocultural influences such as family, peers, media, and local culture. Individual-related factors cover biological aspects, including physiological, pathological, and genetic conditions; food preferences; age; gender; and nutritional status; socioeconomic factors such as household income, education level, and price; and anthropological and psychological aspects like beliefs, emotions, expectations, and past positive or negative experiences (Alvarenga et al. 2019; Jaeger et al. 2011).

In this classification, socioeconomic status (SES) is a theoretical construct – an unobservable measure commonly assessed in sociological literature through a combination of three factors: education, income, and occupation. Education is often used as a single SES indicator due to the strong correlation between years of schooling and income. However, in Brazil, when used alone, it is a limited indicator, as access to education exists, but the inequality in its quality raises concerns (Alves and Soares 2009). Thus, in this study, it is assumed that food choices are influenced by income and education levels.

In this context, studies indicate that families with lower incomes tend to prioritize food price, opting for more affordable items that often have higher energy density but lower nutritional quality. This occurs because nutritious foods generally have a higher cost per calorie, making them less compatible with the limited income of these groups. This perception of cost and satiety directly influences their food decisions, favoring energy-dense but nutritionally poor options (Ares et al. 2017; Darmon and Drewnowski 2015). Based on this, our H1 hypothesis 1 is:

H1: People with lower incomes tend to prioritize food price, limiting their choices to more familiar and less sensory-driven diets.

Conversely, in families with higher socioeconomic status, there is a tendency to spend more on food and adopt healthier purchasing patterns, with a higher energy contribution from fruits and vegetables. In these cases, price ceases to be a decisive factor, allowing other aspects to be considered, such as sensory appeal and food quality. This transition reflects a more hedonic diet, guided by sensory preferences and cultural values associated with food (Markovina et al. 2015; Pechey and Monsivais 2016).

Additionally, education plays a crucial role in shaping food choices. Studies in Brazil show that higher levels of education favor the consumption of fresh and minimally processed foods, while intermediate levels of education are

associated with a higher consumption of ultra-processed foods (Crepaldi et al. 2022). This relationship reflects how access to knowledge and education can positively influence diet quality. Thus, our H2 hypothesis 2 is:

H2: As socioeconomic status increases, represented by income and education, price ceases to be a decisive factor, allowing other factors, such as sensory appeal, which is indicative of a more hedonic dietary pattern, to play a greater role in food choices.

These findings show that food choices are influenced by a combination of biological, economic, educational, and cultural factors. In contexts of socioeconomic inequality, understanding these relationships is essential to identify barriers and propose strategies that promote healthy eating equitably. The proposed hypotheses deepen the analysis of how income and education shape food preferences, contributing to more effective public policies and the reduction of inequalities.

Methods

Sample and data collection

Data were collected using the online platform Google Forms (Alphabet Inc., Mountain View, USA). The study included 136 voluntary participants of both sexes through a non-probabilistic sample. To determine the final sample size, the strategy considered that in factor analysis studies, the sample size is directly proportional to the number of variables analyzed. In this regard, Hair et al. (2009) highlight that analyses with fewer than 50 observations rarely yield conclusive results, with a preferred sample size being 100 or more. A post hoc power analysis was conducted (Faul et al. 2009), considering an effect size of $d = 0.5$ (medium), a significance level (α) of 0.05, and a two-tailed independent samples t-test. The analysis indicated that a sample size of 128 participants would be sufficient to achieve 80% power. Therefore, the final sample of 136 participants meets the minimum statistical requirements for the analyses performed in this study.

Participants were recruited through digital platforms (Facebook, Instagram, WhatsApp, and SMS) using public posts and direct messages containing an invitation to participate and a brief explanation of the study's purpose. Participation was entirely voluntary, and no incentives were offered. Data collection took place between January and June 2024. Inclusion criteria were: (1) adults aged between 20 and 59 years; (2) residents of the selected neighborhoods in São Paulo; and (3) agreement to the informed consent form. Exclusion criteria included: (1) individuals under 20 or over 59 years old; and (2) individuals undergoing any dietary treatment related to chronic or acute

medical conditions, to avoid interference from medically prescribed eating behaviors. All participants electronically signed an informed consent form. The study was approved by the Ethics Committee of Universidade Paulista (protocol: 73964723.0.0000.5512; November 3, 2023).

To select regions representing the highest and lowest socioeconomic levels (SEL), all districts within the municipalities of São Paulo were considered. The selection criteria included their simultaneous inclusion in the 2022 Inequality Map, the Mapping of Food Deserts in Brazil, and their illiteracy rates reported in the 2010 Demographic Census. Neighborhoods selected for the highest SEL included Itaim Bibi, Jardim Paulista, Pinheiros, Santo Amaro, and Vila Mariana. Conversely, Brasilândia, Grajaú, Iguatemi, Jardim Ângela, and Marsilac were chosen to represent the lowest SEL (CAISAN 2018; Prefeitura Municipal de São Paulo 2021; RNSP 2022).

Measures

To test the research hypotheses, a questionnaire with 45 questions was completed, divided into two sections. The first section included nine questions about sociodemographic characteristics (e.g., gender, age, weight, height, education level, etc.). Weight (kilograms) and height (meters) data were used to calculate the Body Mass Index (BMI, kg/m^2), an indicator widely used in population studies to assess nutritional status (WHO 2000). The second section consisted of the Food Choice Questionnaire (FCQ), an instrument developed by Steptoe, Pollard, and Wardle (1995) in a London-based adult population. Since its development, the FCQ has been widely applied and validated in different countries and cultural contexts, including Europe, Asia, Oceania, and Latin America (Cunha et al. 2018; Markovina et al. 2015). In Brazil, a culturally adapted and psychometrically validated version was published by Heitor et al. (2015, 2019).

The FCQ comprises 36 items distributed across nine motivational categories: (1) Health – importance of food for physical well-being; (2) Mood – how food affects emotional state; (3) Convenience – ease or speed of preparation or access; (4) Sensory appeal – aspects such as taste, smell, and appearance; (5) Natural content – preference for natural ingredients or absence of additives; (6) Price – cost considerations; (7) Weight control – influence on body weight; (8) Familiarity – preference for well-known or habitual foods; and (9) Ethical concern – environmental, political, or animal welfare aspects related to food.

Participants evaluated the following statement while completing the questionnaire: “It is important to me that the food I eat daily. . .” Responses were presented on a Likert scale ranging from 1 = not important at all to 5 = very important.

Data analysis

Descriptive statistics, including mean, standard deviation, and percentages, were used to describe and summarize the collected data and the histogram of distribution. The Kolmogorov – Smirnov’s test (with Lilliefors correction) was used to check normality of data. Subsequently, Confirmatory Factor Analysis (CFA) was conducted to validate the questionnaire structure and determine its applicability to the study sample. CFA is particularly useful when a structural model has been predefined in previous studies, seeking to confirm whether its variables are representative within the research context (Matos and Rodrigues 2019).

Model fit quality was assessed using a set of indices to validate the obtained data. The fit indices used were the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Standardized Root Mean Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA). Acceptable values for CFI and TLI should exceed 0.90, preferably above 0.95. SRMR values should be less than 0.08, and RMSEA values should be below 0.08 or, preferably, below 0.06, with a confidence interval (upper limit) below 0.10 (Brown 2015; Hu and Bentler 1999).

The unidimensional reliability of each factor in the FCQ was assessed by calculating the ordinal omega coefficient (ω). This coefficient evaluates whether the items comprising the instrument reliably measure a single factor. Acceptable reliability values should exceed 0.70. Finally, an independent samples t-test was performed to compare whether significant differences ($p < .05$) existed between the mean responses to FCQ factors from the two study groups. Statistical analyses were conducted using JASP software version 0.18.2 from the University of Amsterdam.

Results

Data analysis

This study included 136 adult individuals (62.5% female and 37.5% male) who met the inclusion criteria, divided into Low Socioeconomic Status (LNSE, $n = 64$) and High Socioeconomic Status (HNSE, $n = 72$). The mean age was 36.10 years (minimum = 20 years; maximum = 58 years). The average BMI was 26.47 kg/m² (minimum = 17.85 kg/m²; maximum = 51.26 kg/m²). Participants self-identified as white (64.0%), black (13.2%), Asian (0.7%), mixed ethnicity (21.3%), and Indigenous (0.7%). The reported education levels were elementary school (5.2%), high school (25.9%), undergraduate degree (47.4%), and postgraduate degree (21.5%). The most commonly reported monthly household income range was R\$ 5,001.00 to 10,000.00 (24.3%).

Table 1 presents the sociodemographic characteristics of the respondents. A comparison between the two study groups shows that, in the low socioeconomic status (LNSE) group, a higher proportion of individuals had a BMI > 24.99 kg/m² (62.6%), self-identified as mixed ethnicity or black (62.9%), had

Table 1. Sociodemographic characteristics of low (LNSE) and high (HNSE) socioeconomic status regions.

Variable	LNSE ^a		HNSE ^b	
	n	%	n	%
Gender				
Female	43	67.2	42	58.3
Male	21	32.8	30	41.7
Age				
20–30	18	30.0	23	32.9
31–40	21	35.0	23	32.9
41–50	13	21.7	18	25.7
51–60	8	13.3	6	8.5
BMI (kg/m²)				
<18.5	0	0	3	4.2
18.5–24.9	24	37.5	38	52.8
25.0–29.9	19	29.7	20	27.8
30.0–34.9	17	26.6	9	12.5
>35.0	4	6.3	2	2.8
Ethnicity				
White	25	39.1	62	86.1
Black	12	18.8	6	8.3
Asian	0	0	1	1.4
Mixed ethnicity	26	40.6	3	4.2
Indigenous	1	1.6	0	0
Education level				
Elementary school	7	11.1	0	0
High school	32	50.8	3	4.2
Undergraduate degree	21	33.3	43	59.7
Postgraduate degree	3	4.8	26	36.1
Monthly household income (R\$)				
1.0 – 500.00	1	1.6	1	1.4
501.00–1,000.00	2	3.1	0	0
1,001.00–2,000.00	19	29.7	2	2.8
2,001.00–3,000.00	16	25.0	4	5.6
3,001.00–5,000.00	8	12.5	7	9.7
5,001.00–10,000.00	16	25.0	17	23.6
10,001.00–20,000.00	2	3.1	24	33.3
20,001.00–100,000.00	0	0	17	23.6

^aLNSE: Brasilândia, Grajaú, Iguatemi, Jardim Ângela e Marsilac.

^bHNSE: Itaim Bibi, Jardim Paulista, Pinheiros, Santo Amaro e Vila Mariana.

attended elementary or high school (61.9%), and the most frequent monthly household income range was between R\$ 501.00 and 5,000.00 (60%). In contrast, the high socioeconomic status (HNSE) group showed a higher proportion of individuals with a BMI between 18.5–24.9 kg/m² (52.8%), who self-identified as white (86.1%), had attended college or held a postgraduate degree (95.8%), and most frequently reported a monthly household income range between R\$ 10,001.00 and 100,000.00 (56.9%).

Factorial validity

The results of the factorial validity demonstrated adequate indices for the 9-factor model of the FCQ in the total sample (CFI = 0.999, TLI = 0.998, RMSEA = 0.018, SRMR = 0.082). Regarding unidimensional reliability, all

Table 2. Comparison of food choice motives between LNSE and HNSE.

Factor		Items	Perceived Importance ^a				
			LNSE		HNSE		ω
			Mean	SD	Mean	SD	
(1) Health	Contains a good amount of vitamins and minerals	4.25	0.99	4.36	0.79	0.835	
	Keeps me healthy	4.63	0.81	4.65	0.63		
	Is nutritious	4.50	0.94	4.58	0.71		
	Is good for my skin/teeth/hair/nails, etc.	4.27	0.98	3.92	1.03		
	Is rich in fiber and keeps me full	4.25	1.01	4.19	0.85		
(2) Mood	Helps me deal with stress	3.89	1.29	3.51	1.35	0.847	
	Helps me deal with life	4.02	1.13	3.76	1.32		
	Helps me relax	4.19	1.02	3.53	1.40		
	Keeps me awake/alert	3.82	1.26	3.60	1.17		
	Makes me feel happy/excited	4.11	1.14	3.94	1.17		
(3) Convenience	Makes me feel good	4.61	0.86	4.39	0.91	0.871	
	Is easy to prepare	4.13	1.08	4.25	1.12		
	Can be cooked very simply	4.11	1.03	4.18	1.10		
	Does not take much time to prepare	4.02	1.08	4.13	1.11		
	Can be bought close to where I live or work	4.41	0.93	4.38	1.04		
(4) Sensory Appeal	Is easy to find in grocery stores and supermarkets	4.60	0.79	4.42	0.85	0.813	
	Has a good smell	4.78	0.60	4.39	0.91		
	Has a good appearance	4.67	0.59	4.10	1.05		
	Has a pleasant texture	4.38	0.85	4.32	0.90		
	Tastes good	4.89	0.31	4.72	0.56		
(5) Natural Content	Contains no additives	3.39	1.18	3.93	1.00	0.874	
	Contains natural ingredients	4.05	1.09	4.33	0.79		
	Contains no artificial ingredients	3.62	1.28	4.04	0.91		
(6) Price	Is not expensive	4.33	0.87	3.86	0.92	0.826	
	Is cheap	4.13	0.98	3.46	1.01		
	Has a fair price	4.79	0.54	4.46	0.75		
(7) Weight Control	Is low in calories	3.53	1.13	3.17	1.23	0.841	
	Helps me control my weight	3.86	1.13	3.49	1.13		
	Is low in fat	3.97	0.98	3.81	1.03		
(8) Familiarity	Is what I usually eat	3.81	1.18	3.58	1.16	0.848	
	Is familiar	3.81	1.26	3.54	1.22		
	Is similar to the food I ate as a child	3.29	1.35	2.82	1.20		
(9) Ethical Concern	Comes from countries where I approve of how food is produced	2.59	1.47	3.19	1.32	0.846	
	Clearly identifies its country of origin	2.64	1.54	3.46	1.34		
	Is packaged in an environmentally friendly way	3.72	1.42	4.00	1.14		

factors exhibited good reliability, with the omega coefficient (ω) showing values > 0.80 (Table 2).

Food choice motives

Table 3 presents a comparison of food choice motives, according to the nine factors of the FCQ, between regions of low and high socioeconomic status, including the respective means and standard deviations for the items explaining each factor.

The perceived importance of each FCQ factor was determined by calculating the arithmetic mean of the scores assigned by participants to the individual items comprising each factor, as presented in Table 3. For the LNSE group, the most important food choice motives were sensory appeal (4.68), followed by price (4.40) and health (4.38). In contrast, ethical

Table 3. Mean absolute values for food choice reasons among residents of HNSE and LNSE regions, with differences assessed using independent samples T-Test.

Factor	LNSE ^a	HNSE ^b	p-value
	Mean (± SD)	Mean (± SD)	
Health	4.38 (± 0.80)	4.34 (± 0.59)	.721
Mood*	4.10 (± 0.79)	3.79 (± 0.99)	.046
Convenience	4.24 (± 0.78)	4.27 (± 0.86)	.856
Sensory Appeal*	4.68 (± 0.47)	4.38 (± 0.68)	.004
Natural Content*	3.68 (± 1.03)	4.10 (± 0.81)	.009
Price*	4.40 (± 0.72)	3.93 (± 0.72)	.001
Weight Control	3.79 (± 0.90)	3.49 (± 0.98)	.065
Familiarity	3.64 (± 1.09)	3.31 (± 1.03)	.081
Ethical Concern*	2.98 (± 1.26)	3.55 (± 1.08)	.005

^aLNSE: Brasilândia, Grajaú, Iguatemi, Jardim Ângela e Marsilac.

^bHNSE: Itaim Bibi, Jardim Paulista, Pinheiros, Santo Amaro e Vila Mariana.

*Statistically significant differences ($p < .05$).

concern (2.98) and familiarity (3.64) were rated as the least important. A similar trend was observed in the HNSE group, where sensory appeal (4.38), health (4.34), and convenience (4.27) ranked highest, while familiarity (3.31) and weight control (3.49) received the lowest average scores. Regarding the independent samples t-test, there were significant differences in the mean scores for mood ($p = .046$), sensory appeal ($p = .004$), natural content ($p = .009$), price ($p = .001$), and ethical concern ($p = .005$) (Table 3).

Discussion

General discussion

This study confirmed adequate factorial validity for the original FCQ data. Although Cunha et al. (2018) reported significant intercultural variability in the original model, our results align with studies that also found such consistency (da Silva et al. 2022; Heitor et al. 2019; Markovina et al. 2015). Thus, the model used was a valid and reliable tool to assess food choice motives in the studied sample. On the other hand, Marsola et al. (2020) had to modify the factorial structure of the FCQ to apply the questionnaire to 525 Brazilian adults, indicating that even within the same country, the tool needs adjustments due to the varied factors influencing food choices.

Additionally, the results partially confirmed the initial hypothesis about the food choice motives in socioeconomic inequalities. It was found that as socioeconomic status increases, hedonic eating becomes more prominent, surpassing concerns about price among high socioeconomic status (HNSE) individuals. However, the hypothesis that price would limit the food choices of low socioeconomic status (LNSE) individuals to more familiar and less sensory-driven options, as reported in other studies (Ares et al. 2017; Gama, Adhikari, and Hoisington 2018; Markovina et al. 2015), was not confirmed.

Nevertheless, the food choice motives of the LNSE group align with numerous studies conducted in Brazil, which highlight “sensory appeal” as the most important factor and “ethical concern” as the least important in food choices (da Silva et al. 2022; Heitor et al. 2019; Souza et al. 2020). Similarly, findings on food choice motives in the HNSE group are consistent with both national and international literature, which identified “sensory appeal” and “familiarity” as the most and least relevant factors, respectively (Markovina et al. 2015; Marsola et al. 2020).

The comparative analysis between the two groups demonstrated significant differences in five of the nine food choice motives (mood, sensory appeal, natural content, price, and ethical concern). Of these, the LNSE group showed significantly higher means for mood, sensory appeal, and price, while natural content and ethical concern were significantly more important for the HNSE group. These results confirm the existence of differences in food choice motives across socioeconomic levels, as reported in previous studies (Konttinen et al. 2021; Maina et al. 2024; Moraes et al. 2020).

Indeed, price consistently appears in the literature as a factor associated with food choices in disparate groups. Darmon and Drewnowski (2015), in evaluating the cost of diets within contexts of socioeconomic inequality, highlighted the concept of energy cost of food – that is, the cost per calorie – finding that foods with lower nutritional value tend to cost less per kilocalorie and are more likely to be chosen by individuals from lower socioeconomic groups. Moreover, the authors noted that inferior diet quality could result in higher rates of non-communicable chronic diseases within this population. This was reflected in the present study, as the average BMI was significantly higher among LNSE participants (27.9 kg/m²) compared to those in the HNSE group (25.2 kg/m²; $p = .001$).

In a focus group study in Uruguay, Ares et al. (2017) observed that low-income individuals identified price and satiety as key factors for food choice. As a result, their strategy was to prioritize price over diet quality, which was predominantly composed of a high intake of starchy foods and low consumption of fruits, vegetables, and meats due to the perception that these did not provide the same satiety as complex carbohydrates. These findings may suggest that, in contexts of socioeconomic vulnerability, food choices are often guided by economic and functional criteria, such as the perceived satiety value of foods.

As mentioned, healthier diets are associated with higher energy costs. In this regard, Pechey and Monsivais (2016) investigated that families with higher socioeconomic levels tend to spend more on food and adopt healthier purchasing patterns, with greater energy contributions from fruits, vegetables, and greens. The authors noted that in these groups, choosing healthier options does not involve a simultaneous concern about food expenses, reinforcing the findings of this study where “price” was the fifth most important factor in the HNSE food choices, and the item “is cheap” received the lowest importance score regarding price (3.46).

Regarding mood, some studies indicate that poverty and poor mental health are interconnected, leading to more emotional eating behaviors among low socioeconomic status individuals. Puddephatt et al. (2020) found that food insecurity and uncertainty about the next meal were associated with feelings of depression, stress, and hopelessness, as well as frustration and bad mood due to the inability to purchase desired foods. Additionally, a study in England confirmed that psychological distress caused by socioeconomic disadvantage was significantly associated with higher emotional eating, which, in turn, explained the higher BMI observed in participants (Spinosa et al. 2019).

Sensory appeal, although considered the most important factor in food choices for both groups, was significantly more relevant for the LNSE group. This result contrasts with the literature, which suggests that sensory appeal is less important for individuals with low income and education, as food scarcity limits choices based on this factor (Gama, Adhikari, and Hoisington 2018; Maina et al. 2024). For these individuals, satisfying basic physiological needs such as hunger is a priority, and taste-driven eating might be considered a “luxury” (Ares et al. 2017). Therefore, further studies in Brazil are recommended to explore this topic comparatively.

Ethical concern was significantly more important for the HNSE group. In this regard, Huddart Kennedy, Baumann, and Johnston (2019) investigated the relationship between socioeconomic status and ethical consumer practices. They found that ethical consumption could manifest in specific food choices and involve shopping at specialized locations, such as farmers’ markets, rather than cheaper stores or discount retailers. These factors may pose barriers for low socioeconomic status individuals, as they require greater financial resources.

Similarly, Ghvanidze et al. (2016), in investigating consumer environmental and ethical awareness, found that respondents with lower education levels were less sensitive to environmental issues and less concerned with the ethical production of food. The authors noted that individuals with higher education levels are more exposed to discussions of these complex and challenging topics. However, more studies are needed to evaluate how socioeconomic disparities influence ethical concerns, as current literature on this topic remains limited.

Finally, natural content also received significantly higher importance from the HNSE group. This factor is evaluated in the FCQ through items such as “contains no additives,” “contains natural ingredients,” and “contains no artificial ingredients,” which are primarily obtained through food labeling. Some studies document that sociodemographic differences influence the understanding of food labels, with lower socioeconomic status associated with more limited comprehension and use of such information (Shrestha et al. 2023; Sinclair, Hammond, and Goodman 2013).

Nevertheless, little is known about the relationship between socioeconomic disparities and concerns over natural content. In this context, the cross-cultural study by Markovina et al. (2015), although not directly addressing

this topic, provides interesting insights. The authors found that price and sensory appeal varied as the most important factors between countries with weaker and stronger economies, respectively. However, among the nine European countries included in the study, natural content was considered the most relevant factor only in Poland, which notably had the highest proportion of individuals with medium to high education levels.

It is also important to acknowledge the methodological limitations related to sampling. Given the non-probabilistic and voluntary nature of the sample, the findings cannot be generalized to the entire population of São Paulo or even to all residents of the selected neighborhoods. Instead, the results should be interpreted as indicative of trends and patterns in food choice determinants within contrasting socioeconomic contexts.

Practical implications and future directions

The findings of this study offer valuable insights for the planning of public policies aimed at promoting healthy eating, with particular attention to socioeconomic inequalities. Results indicate that, within the low socioeconomic status (LNSE) group, price was a key determinant of food choice, reinforcing the need for strategies that make nutritious foods more accessible and available. In Brazil, the National Program for Strengthening Family Agriculture (Programa Nacional de Fortalecimento da Agricultura Familiar – PRONAF) stands out as a noteworthy initiative. This program supports agroecological and organic production by family farmers and includes subprograms specifically targeting women and young producers. It represents a concrete example of a policy capable of mitigating inequalities through income generation, productive inclusion, and improved access to public services, ultimately promoting food security among vulnerable populations. Additionally, initiatives such as community gardens and urban agriculture programs can play a complementary role in enhancing food self-sufficiency and strengthening ties between communities and their local food systems.

Moreover, the prominence of sensory appeal across both groups highlights the importance of campaigns that promote a positive image of healthy foods, emphasizing flavor, color, aroma, and texture. Among the high socioeconomic status (HNSE) group, factors such as natural content and ethical concern also stood out. However, it is crucial to critically reflect on the growing commercialization of these concepts. Foods marketed as “natural” or “ethical” often become premium commodities, accessible mainly to wealthier consumers, and do not always guarantee socially or environmentally sustainable practices. This trend risks reinforcing inequalities and diluting the transformative potential of ethical and sustainable consumption.

Therefore, food and nutrition policies should be universal and inclusive, while also implementing specific actions that ethically and responsibly account for social determinants. Instead of directing distinct public policies to LNSE and HNSE

groups, it is more appropriate to pursue integrated strategies that reduce disparities. For instance, the often-overlooked factor of familiarity should be fostered across the population through the revitalization of traditional food cultures, the appreciation of regional products, and the protection of culinary heritage – resisting the imposition of globalized and hegemonic dietary patterns. These approaches help build collective identities around food and support cultural resilience.

Future studies should consider how sociodemographic characteristics – such as gender, age, and cultural identity – influence food choice motives and interact with social vulnerability, ideally using larger and more representative samples to allow for robust subgroup analyses. Longitudinal studies would be especially useful in understanding how preferences evolve in response to educational, fiscal, or policy interventions. It is also essential to investigate how these determinants intersect with sustainable and ethical consumption practices, in order to align public health policies with more conscious, democratic, and inclusive forms of consumption.

Finally, analyzing and comparing distinct regional and cultural contexts – including other major Brazilian cities or even countries with varying levels of socioeconomic inequality – may reveal important variations and contribute to the design of more effective strategies. These should be sensitive to local realities while integrated into a comprehensive and equitable national food policy.

Conclusion

This study confirmed that the determinants of food choice vary significantly in scenarios of socioeconomic inequality. While sensory appeal was unanimously relevant for both groups, the low socioeconomic status group (LNSE) placed greater importance on price and mood, whereas natural content and ethical concern were more prominent in the high socioeconomic status group (HNSE). Although price emerged as a decisive factor for the LNSE, income restrictions did not exclusively limit their choices to familiar and less sensory-driven foods, contrary to expectations.

These findings underscore the need for tailored strategies to promote healthy eating. Making nutritious foods more financially accessible is essential for lower-income populations, while interventions emphasizing the importance of conscious and sustainable choices may be effective for higher socioeconomic groups. Additionally, future research could explore how these differences in food choice motives impact dietary diversity and health outcomes.

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Author contributions

João Carlos Valdivino Pereira: Conceptualization, Methodology, Validation, Formal Analysis, Investigation, Data Curation, Writing – Original Draft, Writing – Review & Editing. Diogo Thimoteo da Cunha: Methodology, Formal Analysis, Writing – Review & Editing. Luis Gustavo Saboia Ponte: Conceptualization, Methodology, Validation, Formal Analysis, Investigation, Data Curation, Writing – Review & Editing, Visualization, Supervision, Project Administration.

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