Food choices and the transition to sustainable diets: motivations among Brazilian university students with different dietary profiles

Escolhas alimentares e transição para dietas sustentáveis: motivações de universitários brasileiros com diferentes perfis alimentares

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ABSTRACT

In a context of growing demand for sustainable food systems, this study examines the psychosocial determinants of food choices among Brazilian university students, employing the Food Choice Questionnaire (FCQ) expanded to include a "concern for animals" dimension. The sample consisted of 1,582 students. Four dietary groups (omnivores, flexitarians, vegetarians, and vegans) were compared using ANOVA and Tukey's post-hoc tests. The results indicated statistically significant differences across all evaluated dimensions. Health, convenience, and sensory appeal yielded the highest average scores. Vegetarians and vegans placed more value on ethical aspects and animal welfare. Animal concern emerged as the most salient dimension differentiating the groups, with progressively higher scores from omnivores to vegans. Omnivores placed less importance on ethics and animal welfare. The findings contribute to the understanding of food motivations in contexts of food transition and provide directions for promoting more sustainable choices among university students.

Keywords: Animal welfare. Food choice. Food Choice Questionnaire. University students. Sustainable eating.

RESUMO

Em um contexto de crescente necessidade de sistemas alimentares sustentáveis, este estudo investigou fatores psicossociais das escolhas alimentares de universitários brasileiros, utilizando o Food Choice Questionnaire (FCQ) ampliado com a dimensão "preocupação com os animais". A amostra foi de 1.582 estudantes. Quatro grupos alimentares (onívoros, flexitarianos, vegetarianos e veganos) foram comparados por ANOVA e testes post hoc de Tukey. Os resultados indicaram diferenças estatisticamente significativas em todas as dimensões avaliadas. Saúde, conveniência e apelo sensorial tiveram médias elevadas. Aspectos éticos e bem-estar animal foram mais valorizados por vegetarianos e veganos. A preocupação animal demonstrou ser a dimensão de maior magnitude na diferenciação entre os grupos, com escores progressivamente mais altos de onívoros a veganos. Onívoros atribuíram menor importância à ética e à preocupação animal. Os achados contribuem para a compreensão das motivações alimentares em contextos de transição alimentar e apontam caminhos para escolhas mais sustentáveis entre universitários.

Palavras-chave: *Bem-estar animal. Comportamento alimentar. Food Choice Questionnaire. Universitários. Sustentabilidade alimentar.*

1 INTRODUCTION

In the face of global public health and environmental sustainability challenges, individual food choices are assuming a central role. Issues such as population growth, ecosystem degradation, and resource scarcity underscore the urgent need for more sustainable dietary practices that promote food security and mitigate environmental impacts (El Bilali, 2019; Hartmann; Siegrist, 2017; Hendin *et al.*, 2019; Willett *et al.*, 2019). Awareness of the effects of diet on health and the environment has grown among consumers, driving changes toward healthier, more sustainable patterns (Boer; Aiking, 2019; Bryant, 2019; Hoek *et al.*, 2017).

Food choices are shaped by a broad set of factors, ranging from individual preferences and nutritional needs to social, cultural, economic, and ideological values. Among these, the environmental impact of food production has gained increasing public and academic attention. The food industry, among many others, is recognised for its carbon emissions, natural resource use, and environmental degradation (Ivanova *et al.*, 2016; Rust *et al.*, 2020; Vermeir *et al.*, 2020; Willits-Smith *et al.*, 2020). Consequently, movements such as vegetarianism, veganism, and flexitarianism—the latter characterised by reducing the consumption of animal-based foods without their complete elimination—have gained traction (Raphaely; Marinova, 2014; Révillion *et al.*, 2020).

However, the complexity of the factors that guide individuals' food choices poses a significant challenge for researchers and practitioners in the field. The theoretical model proposed by Steptoe, Pollard, and Wardle (1995), operationalised through the Food Choice Questionnaire (FCQ), offers a means of investigating the motivations that guide dietary decisions. The FCQ measures dimensions such as health, convenience, sensory appeal, price, weight control, familiarity, and ethical concerns. Together, these influences reflect the multifaceted nature of food decision-making, integrating from personal preferences to cultural and ideological beliefs about food and sustainability (Cabral *et al.*, 2017; Markovina *et al.*, 2015). The interaction between these variables reveals the complexity of eating behaviour, especially among university students, who are increasingly aware of the impacts of their choices on the environment and health.

Although numerous investigations into food choices across different cultural contexts exist, a significant gap persists in the literature regarding the application of the FCQ to understand the factors influencing these choices in the Brazilian context (Cabral *et al.*, 2017; Markovina *et al.*, 2015). This scarcity limits the understanding of how specific cultural and social contexts shape dietary decisions in

emerging countries, such as Brazil, where young people play a key role in promoting more ethical and environmentally responsible consumption practices.

Therefore, this study aims to investigate the psychosocial factors that influence food choices among Brazilian university students, drawing on the FCQ and including an extension on animal welfare. Furthermore, it examines how these motivations vary across different dietary profiles, providing a detailed analysis of the factors driving the transition towards more sustainable diets. By exploring this gap, this research contributes to understanding how the ethical, environmental, and psychosocial dimensions interact in the formation of more conscious dietary patterns, offering evidence to inform educational actions, public policies, and institutional strategies aimed at promoting healthy and sustainable food choices.

2 METHODOLOGICAL PROCEDURES

2.1 PARTICIPANTS AND INCLUSION AND EXCLUSION CRITERIA

The sample consisted of Brazilian university students enrolled in higher education institutions located in large urban centres across all regions of the country. This focus is justified by the relevance of young adults in forming new dietary patterns and sustainable consumption practices. Generation Z, which constitutes a significant portion of university students, is distinguished from previous generations by its engagement in conscious dietary practices, such as plant-based diets, and by its inclination towards sustainable behaviours, with the potential to shape the future of food systems (Gazzola *et al.*, 2020; Priporas; Stylos; Fotiadis, 2017).

University students represent a population transitioning to food independence, making their choices particularly relevant for studying new consumption trends (Bogueva; Marinova, 2022; Priporas *et al.*, 2017). Additionally, research indicates that individuals with higher levels of education tend to be more familiar with sustainability and conscious consumption (Hedlund, 2011; Paul *et al.*, 2016). Thus, including this group enables a more in-depth investigation of the psychosocial factors associated with conscious food choices. The predominance of respondents from the Southeast region reflects the structure of Brazilian higher education, which concentrates the largest number of institutions and enrolments (Inep, 2021).

The sample was designed to represent the profile of Brazilian university students in terms of age (over 18 years), dietary habits, income, and region. Participants received an invitation to take part in a survey lasting up to 15 minutes and were informed that their participation was voluntary. As an inclusion criterion, only students actively enrolled in higher education institutions were considered eligible. Incomplete responses to items that would prevent analysis were excluded. Among the respondents who completed the measurement items for this article (n = 1,582), 16 students preferred not to answer all the demographic and profile questions (n = 1,566).

2.2 DATA COLLECTION INSTRUMENT

The instrument used was the FCQ, translated and validated for the Brazilian context by Heitor *et al.* (2015; 2019), based on the original version by Steptoe *et al.* (1995). The questionnaire included 36 items distributed across dimensions such as health, convenience, sensory appeal, natural content, price, familiarity, weight control, mood, and ethics. Additionally, questions regarding animal welfare, adapted from Lindeman and Väänänen (2000), were included to measure the salience of ethical concerns in participants' food choices.

Each item was evaluated on a four-point scale (1 = not at all important to 4 = very important) to indicate the degree of importance attributed to food motivators, such as sensory appeal, familiarity, health, price, ethics, mood, natural content, weight control, and convenience

2.3 DATA COLLECTION PROCEDURE

Participant recruitment took place between September and November 2021 using convenience sampling via the Qualtrics platform. Efforts were made to ensure broad geographical dispersion and the inclusion of different institutional profiles. To this end, various private and public universities located in large urban centres across all geographical regions of Brazil were contacted, based on a mapping of the national higher education landscape (Inep, 2021). The invitation to the survey was sent via email to institutional contacts (administrative offices, faculty, and researchers), requesting that they directly disseminate the survey link to actively enrolled undergraduate students. This method aimed to ensure an equivalent number of respondents from each region, although the nature of convenience sampling led to a concentration of the sample.

Upon accessing the link, participants were first asked whether they were university students; those who answered negatively were automatically excluded, ensuring sample eligibility. After accepting the Informed Consent Form (ICF), participants answered the filter question and, subsequently, the full questionnaire.

The first part of the instrument assessed the importance of various aspects of participants' daily diet using the FCQ dimensions. Next, a question about dietary habits was administered to understand current behaviour regarding the consumption of animal-based foods.

To minimise biases associated with self-declaration (e.g., “I am vegan”), participants could select descriptions that reflected their dietary habits and intentions, including acknowledging those who were transitioning or did not identify with labels like “flexitarian”.

In the final stage, sociodemographic information was collected (age, gender, undergraduate course, place of residence, and income). Of the 2,971 initial respondents, 2,488 agreed to participate after reading and accepting the Informed Consent Form (ICF), and 11 declined. The questionnaire remained available for up to four hours, in order to prevent responses with long intervals. After removing incomplete submissions, the final sample comprised 1,582 participants. This sample size is considered adequate for the proposed multi-group analyses (ANOVA and MANOVA), exceeding the minimum methodological recommendation of approximately 30 cases per group to ensure satisfactory statistical power (Hair *et al.*, 2010).

The study adhered to ethical principles in research and was approved by the ethics committee under protocol CAAE 48959621.7.0000.5347. All participants provided voluntary consent by signing the ICF at the beginning of the questionnaire.

2.4 DATA ANALYSIS

The analysis included descriptive statistics (means, standard deviations, and frequencies), assessment of the scales’ internal consistency, and correlations between the FCQ factors.

To examine differences between the groups with different dietary patterns (omnivorous, reductionist, vegetarian, and vegan) regarding food choice motives, a multivariate analysis of variance (MANOVA) was conducted, with the FCQ factors as dependent variables: health, mood, convenience, sensory

appeal, natural content, price, weight control, familiarity, ethics, and animal welfare concerns, the latter included as an additional dimension in the present study.

Subsequently, univariate analyses (ANOVA) were performed for each factor, followed by Tukey's HSD post hoc tests to identify significant differences between the groups. A significance level of 5% ($p < 0.05$) was adopted. The analyses were performed using SPSS software (version 18).

3 RESULTS

3.1 SOCIODEMOGRAPHIC PROFILE AND CLASSIFICATION OF DIETARY GROUPS

Participants were classified into five main dietary groups based on their practices and intentions regarding the consumption of animal-based foods (Springmann *et al.*, 2018): omnivores (those who regularly consume animal-based products and do not plan to change their habits); flexitarians, divided into meat reductionists (specifically seek to reduce meat consumption) and general reductionists (seek to reduce the consumption of all types of animal-based products, including dairy and eggs); vegetarians (do not consume meat but include dairy and eggs in their diets); and vegans (completely avoid animal-based products). This segmentation allowed for a detailed analysis of the motivations and dietary preferences of each group

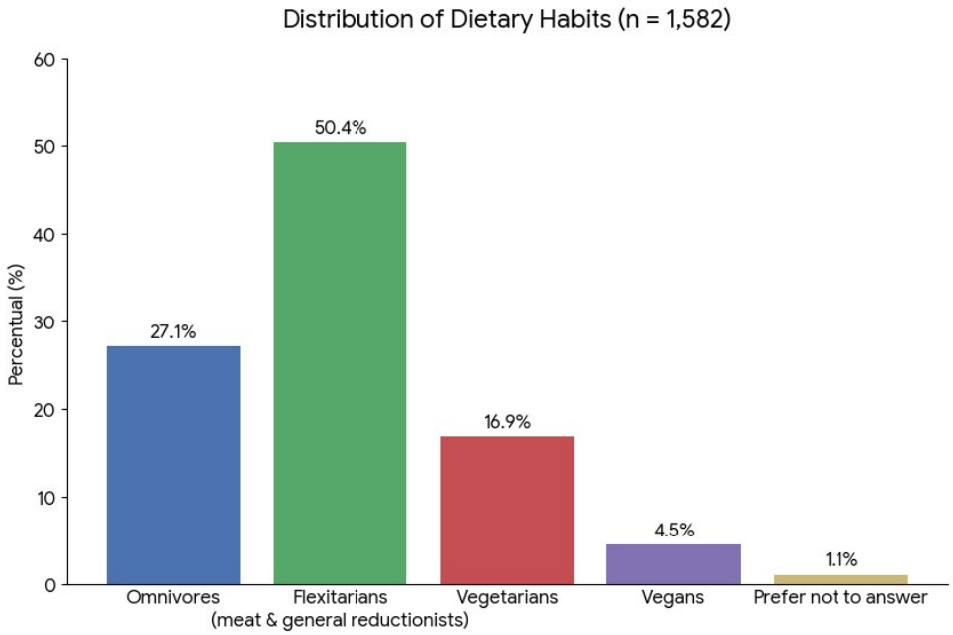

Figure 1 – Dietary habits

Source: The authors (2025)

The detailed distribution of dietary habits and future consumption intentions is presented in Table 1, with a graphical summary in Figure 1. Results indicate that the majority of the sample is composed of flexitarians, while omnivores constitute the second-largest group.

The sample is predominantly composed of women (66%), followed by men (31%), individuals who identify as non-binary or third gender (1.9%), and those who preferred not to declare (0.6%). The majority of participants (65%) are aged 21-35, while 27% are aged 18-20. Only 5.8% are between 36 and 49 years old, and 2% are over 50.

Table 1 – Dietary habits and future intentions of the sample

Dietary habits and future intentions	*Categorisation*	*n*	*%*
I consume foods with animal-based ingredients and do not plan to change my diet	Omnivore/diet with animal-based foods	429	27.12
I consume foods with animal-based ingredients, but I am trying to reduce only meat consumption	Meat reductionist/ flexitarian	570	36.04
I consume foods with animal-based ingredients, but I am trying to reduce the consumption of all animal-based foods (e.g., dairy, eggs, and meats)	General reductionist/ flexitarian	227	14.35
I consume some animal-based foods (e.g., dairy and eggs), but I do not eat meat	Vegetarian	267	16.88
I do not consume any animal-based foods	Vegan	71	4.49
No response	-	18	1.14

Source: The authors (2025)

Regarding monthly income, 31% of participants reported earning up to R$ 2,200; 33% are in the R$ 2,200 to R$ 5,500 range; 22% are in the R$ 5,500 to R$ 11,000 range; and 14% have an income exceeding R$ 11,000. In terms of geographical location, the majority reside in the Southeast region (79%), followed by participants from the South (5%), the Centre-West (1.4%), the North (1%), and the Northeast (0.8%). Furthermore, 12.8% of participants reported living in inland cities, regardless of the region.

The analysis of the sociodemographic profile by dietary pattern revealed that the flexitarian, vegetarian, and vegan groups are predominantly composed of women, a finding consistent with the literature (Pfeiler; Egloff, 2018; Ruby, 2012). Although the 79% concentration in the Southeast is a limitation arising from convenience sampling and final participant adherence, it is coherent with the structure of Brazilian higher education, which has a larger number of higher education institutions in this region. This regional concentration may also reflect trends observed in other contexts, where vegetarian, vegan, and flexitarian diets are more common in urban centres and among younger individuals, groups frequently associated with more conscious and sustainable dietary patterns (Dagevos, 2021; Lea; Worsley, 2003; Ruby, 2012).

3.2 DESCRIPTIVE ANALYSIS: MEANS, STANDARD DEVIATIONS, AND FREQUENCIES

First, mean scores and standard deviations were calculated for each FCQ dimension among the dietary groups (omnivores, flexitarians, vegetarians, and vegans). This descriptive analysis provides an overview of typical scores and variability in participants' food motivations, as shown in Table 2.

Considering the results, the "health" dimension showed means above 3 across all groups, suggesting that maintaining a healthy diet is widely valued by participants. Other dimensions with high means include "convenience", "sensory appeal", "mood", "price", and "ethical/animal concern".

Table 2 – Descriptive table by dietary group (means and standard deviation)

FCQ Factor	*Omnivore (n=429)*	*Flexitarian (n=797)*	*Vegetarian (n=267)*	*Vegan (n=71)*
Health	3.40 (0.58)	3.47 (0.50)	3.53 (0.49)	3.51 (0.43)
Mood	3.06 (0.76)	3.32 (0.64)	3.29 (0.63)	3.21 (0.63)
Convenience	3.33 (0.65)	3.45 (0.51)	3.46 (0.52)	3.25 (0.55)

FCQ Factor	Omnivore (n=429)	Flexitarian (n=797)	Vegetarian (n=267)	Vegan (n=71)
Sensory appeal	3.40 (0.58)	3.47 (0.50)	3.53 (0.49)	3.37 (0.54)
Natural content	3.40 (0.58)	3.47 (0.50)	3.53 (0.49)	3.34 (0.66)
Price	3.53 (0.50)	3.63 (0.42)	3.66 (0.37)	3.55 (0.43)
Weight control	2.51 (0.89)	2.74 (0.81)	2.65 (0.86)	2.39 (0.82)
Familiarity	2.55 (0.75)	2.45 (0.72)	2.35 (0.65)	2.31 (0.74)
Ethics	2.27 (0.92)	2.87 (0.80)	2.98 (0.82)	2.93 (0.76)
Animal concern	2.57 (1.03)	3.35 (0.79)	3.79 (0.49)	3.94 (0.29)

Source: The authors (2025)

On the other hand, the lowest means were observed in the "weight control" and "familiarity" dimensions, the latter being the only one with items below the average. These findings indicate that although all FCQ factors are relevant, certain dimensions stand out as more central in Brazilian students' food choices.

Furthermore, a frequency analysis indicates that the "sensory appeal" dimension was considered one of the most important, with a high frequency of responses in the "very important" category (81%). In contrast, the "familiarity" dimension was less valued, with only 22% of responses considering it "very important". These data help to contextualise the food motivations prior to the inferential analysis, providing an overview of the participants' preferences.

3.3 RELIABILITY OF THE FCQ SCALES

To ensure the precision of the measures, internal consistency coefficients (Cronbach's Alpha) were calculated for each of the FCQ dimensions. Previous studies suggest that Cronbach's Alpha values above 0.5 are considered acceptable for behavioural research (Hair *et al.*, 2009; Streiner, 2003). The results indicated satisfactory internal consistency, with coefficients ranging from 0.62 to 0.94, suggesting that the items adequately measure the constructs.

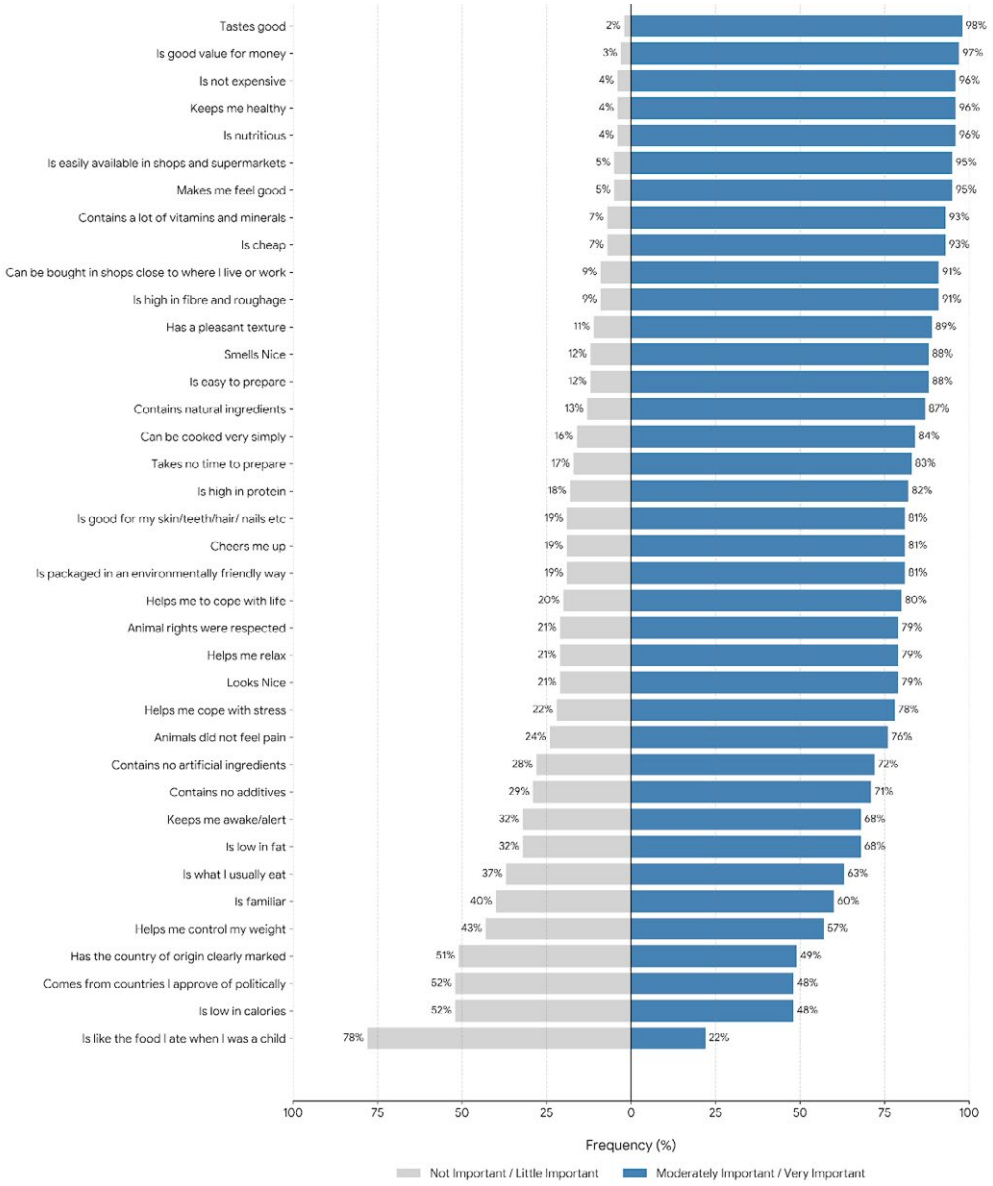

Figure 2 – Frequency distribution of responses by item

Source: The authors (2025)

3.4 ANALYSIS OF VARIANCE BETWEEN DIETARY GROUPS AND TUKEY'S POST HOC TEST

To investigate whether food motivations vary by dietary pattern, a MANOVA was performed, with the ten factors of this study as dependent variables and diet type (omnivore, flexitarian, vegetarian, and vegan) as the independent variable. The results indicated a significant multivariate effect for dietary group (Wilks' Lambda = 0.693, $F(30, 4553) = 20.20$, $p < 0.001$). Subsequently, ANOVAs and Tukey's HSD post hoc tests identified significant group differences across all FCQ dimensions (Table 3).

Table 3 – ANOVA results and Tukey's test

Factor	*F (3,1560)*	*p-value*	*Groups with significant differences (Tukey HSD)*
Animal concern	161.45	<0.001	Vegan > Vegetarian > Reductionist > Omnivore (*)
Ethics	59.13	<0.001	Vegan = Vegetarian > Reductionist > Omnivore (*)

Factor	F (3,1560)	p-value	Groups with significant differences (Tukey HSD)
Natural content	33.75	<0.001	Vegan = Vegetarian > Reductionist > Omnivore (*)
Mood	14.08	<0.001	Reductionist > Omnivore
Weight control	8.90	<0.001	Reductionist > Vegan
Price	8.02	<0.001	Reductionist = Vegetarian > Omnivore
Familiarity	5.12	0.002	Omnivore > Vegan
Convenience	7.46	<0.001	Vegetarian = Reductionist > Vegan
Health	3.79	0.010	Vegetarian > Omnivore
Sensory appeal	2.84	0.037	Minor differences

Note. Post hoc comparisons using Tukey HSD. (*) Indicates the factors with the greatest magnitude and practical relevance, showing clear patterns of differentiation among all groups (p < 0.001).

Source: The authors (2025)

3.5 FACTOR-BY-FACTOR COMPARATIVE ANALYSIS

The ANOVA results indicated statistically significant differences between the dietary groups for all FCQ factors ($p < 0.05$). The largest differences were observed for the "animal concern" ($F(3,1560) = 161.45$, $p < 0.001$), "ethics" ($F = 59.13$, $p < 0.001$), and "natural content" ($F = 33.75$, $p < 0.001$) factors, with the vegan and vegetarian groups showing higher means compared to omnivores and reductionists. These differences highlight that food motivations vary across participants' dietary profiles.

For "mood", "price", "weight control", "familiarity", "convenience", "health", and "sensory appeal" factors, although the differences were statistically significant ($p < .05$), the contrasts between the groups were less pronounced, suggesting effects of smaller practical magnitude.

The detailed results by factor are presented below, based on group means and the statistically significant differences indicated by Tukey's test.

Health. A significant difference was observed only between vegetarians ($M = 3.53$; $SD = 0.49$) and omnivores ($M = 3.40$; $SD = 0.58$; $p < 0.05$), indicating that vegetarians attribute greater importance to health as a motivator for their food choices.

Mood. Omnivores ($M = 3.06$; $SD = 0.76$) differed significantly from flexitarians ($M = 3.32$; $SD = 0.64$), vegetarians ($M = 3.29$; $SD = 0.63$), and vegans ($M = 3.21$; $SD = 0.63$; $p < 0.001$), the latter being the only group that did not statistically differ from omnivores. This suggests that omnivores tend to value the emotional impact of food less than the other groups do.

Convenience. Vegetarians ($M = 3.46$; $SD = 0.52$) attributed greater importance to convenience than omnivores ($M = 3.33$; $SD = 0.65$; $p < 0.001$). This finding may be related to the need for greater planning and availability of options compatible with vegetarian diets.

Sensory appeal. A marginally significant difference between vegetarians ($M = 3.39$; $SD = 0.54$) and flexitarians ($M = 3.49$; $SD = 0.53$; $p = 0.09$) suggests that all groups tend to value the sensory aspects of food similarly.

Natural content. Omnivores ($M = 2.82$; $SD = 0.79$) had the lowest scores, which differed significantly from those of all other groups ($p < 0.001$). Flexitarians ($M = 3.16$; $SD = 0.71$) also differed from vegetarians ($M = 3.31$; $SD = 0.70$) and vegans ($M = 3.34$; $SD = 0.66$), who had higher scores. This indicates that the greater the restriction on consuming animal-based products, the higher the value placed on the natural content of food, suggesting an association between dietary restriction and valuing less processed foods.

Price. Omnivores (M = 3.53; SD = 0.50) and vegans (M = 3.55; SD = 0.43) showed similar scores and significantly lower scores than reductionists (M = 3.63; SD = 0.42) and vegetarians (M = 3.66; SD = 0.37). The results suggest that price is a more relevant factor for those adopting partially restrictive diets.

Weight control. Reductionist groups (M = 2.74; SD = 0.81) attributed greater importance to this dimension than omnivores (M = 2.51; SD = 0.89) and vegans (M = 2.39; SD = 0.82; $p < 0.05$). Although weight control was not a strongly valued factor among the sample as a whole, it carries greater weight among flexitarians.

Familiarity. Only omnivores (M = 2.55; SD = 0.75) and vegetarians (M = 2.35; SD = 0.65) differed significantly, suggesting that omnivores tend to value foods they are accustomed to more.

Ethics. Omnivores (M = 2.27; SD = 0.92) had the lowest scores and differed from all other groups ($p < 0.001$). Vegetarians (M = 2.98; SD = 0.82), flexitarians (M = 2.87; SD = 0.80), and vegans (M = 2.93; SD = 0.76) attribute greater importance to ethics, although comparisons between these groups reveal only partial differences among themselves.

Animal concern. Omnivores (M = 2.57; SD = 1.03) differed significantly from all others ($p < 0.001$). Flexitarians (M = 3.35; SD = 0.79), vegetarians (M = 3.79; SD = 0.49), and vegans (M = 3.94; SD = 0.29) presented progressively higher scores. Vegetarians and vegans were the only groups that did not differ from each other, confirming that this motivation is central to more restrictive diets.

In summary, the results demonstrate that ethical motivations, related to animal welfare and the natural content of food, are more strongly associated with restrictive dietary patterns, while factors like familiarity and weight control tend to have greater relevance among participants with less restrictive dietary patterns. These findings reinforce the importance of considering the dietary profile in understanding the motivations for more sustainable food choices.

4 DISCUSSION

This study investigated the psychosocial factors influencing food choices among Brazilian university students, with an emphasis on differences across dietary groups, to understand the underlying motivations for adopting healthier, more sustainable dietary patterns. The findings revealed that vegetarians attribute greater importance to health-related motivations compared to omnivores ($p < 0.05$), suggesting a greater predisposition among vegetarians to associate their food choices with health benefits. This finding aligns with previous evidence (Bryant, 2019; Graça *et al.*, 2015; Rosenfeld; Burrow, 2017) and indicates that restrictive diets are associated with greater awareness of preventive health.

Similarly, groups such as flexitarians, vegetarians, and vegans demonstrated a higher valuation of convenience ($p < 0.001$). This result corroborates previous literature (Bryant, 2019) and may be related to the practical challenges of maintaining restrictive diets within environments still dominated by animal-based options. These discoveries reinforce that different dietary patterns are associated with different motivational priorities.

The results statistically indicated significant differences between the groups for all dimensions assessed in this study ($p < 0.05$). Particularly noteworthy are “health” (vegetarians: M = 3.53; omnivores: M = 3.40), “convenience” (vegetarians: M = 3.46; omnivores: M = 3.33), and “animal concern” dimensions, with a clear progression of mean scores from omnivores (M = 2.57) to vegans (M = 3.94). Understanding this motivation through the lens of animal concern is important for the field of sustainability, as the focus on ethics and animal welfare is a pillar of a more sustainable food transition (Dagevos, 2021). The

progressive valuation of these aspects is the main behavioural indicator that university students are aligning their choices with values of social justice and lower environmental impact (Ruby, 2012).

This progression in the animal welfare dimension scores reflects the concept of "food-related cognitive dissonance" (Loughnan *et al.*, 2010), according to which individuals with more restrictive diets tend to value the ethical dimensions of consumption more. Omnivores indicated the lowest score in animal welfare concern (M = 2.57; SD = 1.03), a result that aligns with the phenomenon of "strategic dehumanisation" described by Loughnan, Haslam, and Bastian (2010). According to the authors, meat consumers tend to deny mental characteristics (such as the capacity for suffering) and moral status to animals intended for consumption, in a psychological process that reduces the cognitive dissonance between personal ethical values and dietary practice. This mechanism would explain the lower relevance that omnivores attribute to animal welfare compared to other groups, especially vegans (M = 3.94). The wide variability among omnivores (SD = 1.03) suggests that part of this group may be in the initial stages of a dietary transition, as observed in the literature (Rothgerber, 2020). On the other hand, the higher score of vegans in the "animal concern" dimension, compared to omnivores ($p < 0.01$), reinforces that ethical motivations are central to this group. This result aligns with the literature, which associates vegan choices with valuing animal welfare and sustainability (Bryant, 2019; Rosenfeld; Burrow, 2017).

Furthermore, health emerges as a primary motivator for restrictive groups (M = 3.53), a finding that corroborates the literature on health as one of the main perceived benefits of transitioning to plant-based diets (Bryant, 2019; Lea; Worsley, 2003). This convergence reinforces the need for approaches that combine personal (health) and planetary (sustainability) benefits.

The ANOVA and Tukey's post hoc test results revealed significant differences among groups across various FCQ dimensions, demonstrating that motivations vary substantially by dietary pattern. Factors such as health, ethics, convenience, and natural content proved to be strongly associated with more restrictive dietary profiles.

Relevant differences were also observed for the "convenience" dimension, with vegetarians and flexitarians attributing greater importance to the ease of food preparation than omnivores. This finding suggests that these groups face more challenges in finding foods that align with their dietary preferences and ethical values, which may justify the higher valuation of convenience as a consumption factor.

Boer and Aiking (2019) highlight the need for strategies to promote sustainable protein consumption at both the ingredient and prepared-dish levels, findings that align with this study's results, which show that convenience is a central dimension for Brazilian university students. In this context, developing policies to expand the offering of practical, plant-based meals in university canteens could facilitate the transition to more sustainable and healthy diets. Another study identified that most consumers recognise the ethical and environmental benefits of vegetarian and vegan diets but still face practical barriers related to price and convenience (Bryant, 2019), challenges similar to those observed among Brazilian university students. These findings suggest that greater accessibility and lower costs of plant-based products may be important factors in promoting adherence to these diets, especially among young consumers, who are increasingly aware of the impacts of their choices.

Besides health, other factors such as sensory appeal and price also significantly influence food choices, suggesting that taste and affordability remain relevant practical criteria, even among groups with greater ethical awareness. The familiarity dimension, on the other hand, did not obtain consistently high scores across all scales, with one specific item receiving a lower score. This suggests that, while familiarity is relevant to some respondents, it may not be a predominant factor in food choice for all. This discovery highlights the diversity in food motivations.

In general, as expected, omnivores attributed less importance to ethical and environmental dimensions, while factors like sensory appeal, convenience, and price were more prominent for this group.

Vegetarians and vegans, in turn, demonstrated significantly greater valuation of ethics and animal welfare ($p < 0.01$), which aligns with studies identifying strong links between restrictive diets and socio-environmental concerns (Rosenfeld; Burrow, 2017). The marginal difference between flexitarians and vegetarians ($p < 0.09$) suggests that the former group may be undergoing a shift in values, representing an intermediate point on the motivational spectrum. Future studies could investigate how this gradual transition influences the importance attributed to ethics, especially among young people.

These findings offer relevant insights for developing strategies that encourage healthier and more sustainable food choices in the university environment. The valuation of factors like health, convenience, and sensory appeal suggests that educational campaigns may achieve greater adherence by emphasising practical benefits, such as physical well-being and ease of preparation. Programmes promoting plant-based meals, focusing on accessibility and practicality, tend to be especially effective among young flexitarians, a group in potential transition towards more sustainable dietary patterns.

Furthermore, the greater valuation of ethical and environmental aspects among vegetarians and flexitarians highlights the importance of institutional policies that expand the offering of foods with lower environmental impact in university restaurants. This approach is supported by studies in the Brazilian context showing that the vegetarian menu has a significantly smaller water footprint than the traditional one, with reductions in animal protein as the main strategy for the service's sustainability (Hatjiathanassiadou *et al.*, 2019). Such interventions would be in line with growing student interest in conscious consumption practices and universities' commitments to sustainability.

Although these analyses offer important practical and theoretical implications, they also entail some limitations. This is a cross-sectional study based on self-reported data, which limits causal inferences and may be subject to social biases. The ANOVA, in turn, assessed mean differences among university students, which restricts generalisation to broader populations.

Future investigations could adopt longitudinal or qualitative methods to explore the processes of dietary change in greater depth, especially among flexitarians. In-depth interviews could reveal emotional, social, and ethical aspects that guide these transitions.

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STATEMENT ON THE USE OF ARTIFICIAL INTELLIGENCE

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