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Campus Decarbonization: Students' Perceptions for Reducing Meat Consumption in a Portuguese University

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Abstract: This study is focused on perceptions regarding meat consumption, targeting university students. This is a timely topic in a context of climate change (CC), sustainability in agri-food systems and in universities. Recently, some universities adopted food-related CC mitigation measures, by removing some types of meat from their canteens. This research intended to find trends, at a Portuguese university, on consumption habits and on willingness to reduce meat. The methodology follows a quantitative and descriptive approach. The universe is the students' community from the University of Aveiro, with a random sample of 876 valid questionnaires. Although results show that meat is a substantial part of students' diet, most of them are willing to reduce this product, and mainly for environmental reasons. Undergraduate students have higher level of awareness in this matter, namely from Natural Sciences. Female students are more receptive to diet changes. Further studies and educational actions on Diet-CC should be promoted in all levels of Academy, especially in PhD, Social Sciences and with gender differentiation. Such results may support an effectively participatory discussion to better decide on decarbonization of the Campus through the diet.

Keywords: climate change mitigation; meat consumption; universities; education; health

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1. Introduction

As the human population increases, it is necessary to satisfy its dietary needs properly. In this way, the market should increase its production quickly and efficiently [1]. The livestock industry expansion over the years needs knowledge and technology, as well as financing, to a better improvement towards sustainability [2]. While the production should be more efficient, the rest of the agri-food cycle should also be sustainable and adapt to CC, since meat production has tripled in the last 50 years [3] with impacts in the greenhouse gas (GHG) emissions [4].

In the consumption side, changing eating habits in the western diet from meat eating toward more plant-based foods is an impactful mitigation measure. Despite livestock production being a very relevant component in global changes, the meat consumption have high impact in the environment, especially when we are considering the red and processed meat [5]. Thus, there is an increasing concern in the way human beings choose to eat. CC has effects on food yields, but food production itself contributes substantially to CC [6]. Even if there are techniques that would reduce GHG emissions, such as methane and nitrous oxide (e.g., renewable energy for processing and animals higher-quality digestible feed-grain), it is important that consumers adapt their own practices in reducing meat consumption [6]. It should also be considered that improving production efficiency, usually, comes at high costs, as more ambitious policy targets and systemic changes are needed [7].

The connection meat-CC has been the catalyzer to adopt more sustainable policies in Higher Education Institutions (HEI), with different measures depending on the university and with policies applied in various sectors, including Sustainable Food Consumption [8].

Various research questions on food consumption in HEI arose and point out to: What is the profile of university students and canteen' users concerning meat consumption? Which main factors conditionate students' decision of having meat in general and specific types of meat in their meals? Does factors such as gender, field of study and study degree in the university influence? Therefore, the objectives of this study are to analyze different choices of university students at the University of Aveiro (UA), Portugal, when it comes to dietary options; to understand how eventual changes in the menus in HEI are perceived by them; and addressing how these changes are motivated by environmental reasons.

Finally, this study intends to support a participative discussion about dietary choices, impacts to the environment and CC, and about decarbonization through dietary changes.

1.1. Meat Consumption and Climate Change

CC is more and more in the agenda of the scientific community, Mass Media and Social Media. Nevertheless, CC and GHG emissions resulting from agri-food systems (production and consumption) need more debate. GHG emissions from agri-food systems represent about a 25% of global total emissions, the contribution similar to non-food industry and greater than power generation and transport [9]. Considering only meat products and livestock production, it emits about half of all the GHG amount deriving from agriculture and land use [9]. These values can be explained in the way that meat industry involves many factors, such as production and transporting of grain (cattle feed), as well as, deforestation, gases from animal manure and enteric fermentation [10]. Concerning the consumption side of agri-food systems, a vegan diet presents the lowest impact, followed by vegetarian and, at last "omnivores" [11]. Plant-based flexitarian diets that reflects the current evidence on healthy eating can reduce the projected increase of GHG emissions from 187% of present impacts to 90% [12]. When the food is evaluated in terms of global warming potential and considering only the types of meat present on most western diets, beef appears as the most significant, followed by lamb [13].

Despite the population's great knowledge of anthropological causes for carbon dioxide emissions, methane and nitrous oxide are also GHG closely related to livestock industry [12]. Beef is responsible for the larger portion of CO_2 emissions (14–32 kg CO_2 -e per kg product) when comparing with other meats like pork (3.9–10 kg CO_2) and chicken (3.7–6.9 kg CO_2). GHG emissions in ruminant livestock are highly relevant, also due to the emissions of methane from manure and enteric fermentation [11].

In face of those challenges, CC mitigation should happen at different levels, going from the broadest level of stakeholders to daily life actions by citizens, as stated in the 2030 Agenda for Sustainable Development of the United Nations [2]. In this Agenda, there are sustainable development goals (SDGs) especially related to this subject—SDG 12 (responsible production and consumption) and SDG 13 (education and communication to take action to mitigate CC) [2]. Besides the GHG reduction, moderating meat, in the diet, can generate significant changes, in terms of land use, eutrophication, acidification and even in the maintenance of freshwater quality [14]. In Portugal, the Guide for Carbon Neutrality 2050 [15] established a path to achieve decarbonization in all sector in 2050, following the Paris Agreement. Education on climate change is also formally defended in Portugal through the National Strategy for Environmental Education 2017–2020, currently under revision. This Portuguese strategy has two main goals directly related to agri-food systems: decarbonize society; and guarantee a circular economy. Besides, it recognizes that each citizen, economic agents, decision-makers and technicians should be involved with the environment, especially with the local environmental measures [16].

The main reasons to citizens adopt a more plant-based diet are related to health, environment, ethics towards animals and social issues [17]. Regarding health and according to the Portuguese Health Ministry [18], meat continues to be an important product to

include in the diet, since it has a high protein, vitamin, and mineral value, being rich in micronutrients such as iron and zinc. Nevertheless, red and processed meat should be moderated, as a precaution. Processed meat causes the most concern, being considered carcinogenic to humans and should have a limited consumption [19].

Although the efforts and strategies to involve the population, consumers have certain convictions and resistance against changes concerning excessive meat consumption. Public opinion, regarding meat, is still mostly linked to important personal, social, and cultural values, with the complete ending of meat consumption unthinkable, for a large part of the population. However, to achieve healthy and sustainable diets, it is necessary to integrate and rethink these values [20].

1.2. Education for Climate Emergency in Portuguese Universities

Universities are fundamental in the development of environmentally sustainable policies, being the key to educate environmentally responsible students. Such Higher Education Institutions are increasingly aware of this role and committed to reducing carbon and other gases emissions, incorporating "green" into the curriculum, developing eco-friendly buildings, and promoting green transportation [21].

To reduce the GHG emissions, the University of Cambridge has taken measures, including dietary changes. It was developed the Sustainable Food Policy and, according to studies carried out by the university itself, many advantages came from these changes. Carbon footprint has reduced by 500 tons of carbon dioxide (CO_2) per year. Kg of CO_2 per kg of food purchased was also reduced by 33% between 2015 and 2018 and food waste has dropped slightly by 6% comparing 2017 to 2019 [22].

The integration of environmental sustainability in Portuguese HEIs implies sharing information and forming networks, essential to define efficient and sustainable strategies [23]. Four Portuguese universities are included in the 200 best universities related to the integration of SGDs, being the UA one of them [24]. Although most Portuguese institutions are implementing policies [23], universities' measures are mostly related to waste separation, recycling, and waste reduction plans [25]. Furthermore, in Portuguese universities, the influence of the livestock industry in the CC is not often perceived by the students [26]. Concerning common diets, the pattern is the adoption of a less healthy diet against the Mediterranean Diet Guidelines [27]. Moreover, the intake of sugar, salt, processed foods, fat, and meat has increased [27]. The availability of hot dogs, hamburgers and pizza in universities' snack bars are examples of the previous statement [28]. In Portugal, University of Coimbra was the first to ban beef and lamb from their menus and is expected that other institutions will follow this path [29].

Referring to the case of the present study, UA is a Portuguese public university with more than 14,000 students that go from undergraduate, to masters and doctoral, in areas like Science, Social Sciences, Technologies and Engineering, Arts and Humanities [30]. Six canteens are present in UA, with different snack bars in each department. A total of four canteens offers a meal that includes bread, soup, main course (meat, fish or vegetarian), salad, fruit/dessert and a drink with the cost of 2.5€ for the students (at the time of the questionnaire). UA has implemented an environmental management system, Campus + Sustentável (Campus more Sustainable), with several goals in areas like energy, water, waste and green spaces. The university presents a great sense of responsibility towards the environment, namely in the incorporation of the SGDs. The better results happen in the Goals 6, 9, 15 and 17. The goals corresponds to avoidance in wasting water (goal 6), investments in basic infrastructures (goal 9), protection of the forests (goal 15) and partnerships to boost development (goal 17) [24]. There is also a concern with local farmers [31]. The UA sustainable path is also shown by initiatives, such as, the participation in the European project "FairFood - for a smart life", which focuses on healthy and sustainable food habits [32].

2. Methodology

The methodology follows a quantitative and descriptive approach [33], using a survey technique.

2.1. Instrument and Application

The survey inquiries about meat consumption habits; students' knowledge and awareness on recent events of meat removal in universities' canteens; opinion on this subject and connection to CC and, at last, their knowledge on other sustainable actions. The questionnaire employed contained 25 questions - 17 closed-ended questions and 8 open-ended option.

The questions are focused in two specific categories: Diet habits and Awareness of Reducing Meat Consumption. Diet habits has four closed-ended items that explore the characteristics of the university student population, regarding the inclusion of meat and beef in their diets (yes/no) and its frequencies of consumption (five options from Rarely to Twice a day). Other four items ask to indicate the extent of the agreement (from Strongly Disagree to Strongly Agree) on reasons to reduce meat: Health, Environmental and Ethics [17]. There was also the option "not to have reasons".

The questionnaire was submitted to the Ethics Commission and approved by the General Regulation on Data Protection of the UA. Participants were informed of their rights and confidentiality. The survey was tested with a sample of university students and it was then sent by email to all UA students. The questionnaire stayed online for a period of 1 month (10 February to 17 March 2020). A total of 876 surveys were considered valid (Table 1).

Table 1. Sampling details.

	Universe	Confidence Level	*n*	Error
Total	14,561	95%	876	3.21%

Note: p = q = 0.05; data from 2020.

2.2. Data Analyses

Considering data characteristics, non-parametric tests were selected (Pearson Chi-square test for $p < 0.05$).

To properly apply Chi-square analysis (avoiding cells with an expected count of less than 5) some of the response options were reconverted:

- Once a day and Twice a day were merged into 1 or 2 times a day;
- Rarely and 2 to 3 times per month were merged into 2 to 3 times per month.

2.3. Study Sample Characterization

Table 2 shows the sample characterization. Most of the participants were female students (68%) however, they are the ones with a minor representation in Master and PhD studies ($\alpha = 0.016$). The respondents are divided into the fields of study presents in the university (Table 2) [30]. Male students are enrolled in Engineering and Technologies much more than female students whereas women are, in a bigger proportion than men, in Sciences and, Humanities and Social Sciences fields ($\alpha = 0.000$).

Table 2. Crosstabulation of independent variables that characterize the study sample.

		Total	Female Students % of Total/% within Gender	Male Students % of Total/% within Gender
Study degree	College Degree	54.3%	38.7%/56.9%	15.6%/48.9%
	Master's Degree	32.9%	22.1%/32.4%	10.9%/34.1%
	PhD Student	12.7%	7.3%/10.7%	5.4%/17.0%
Field of study	Sciences	33.1%	24.3%/35.7%	8.8%/27.5%
	Engineering & Technologies	30.5%	14.9%/21.9%	15.6%/48.9%
	Humanities and Social Sciences	36.4%	28.9%/42.4%	7.5%/23.6%

Note: n = 865. Pearson Chi-square test offered statistically significant differences by comparing Gender and Study Degree variables (α = 0.016), and Gender and Field of study variables (α = 0.000).

3. Results

3.1. Frequency of Eating in the Canteen and Choosing Meat and Beef

Figure 1 illustrates the frequency of the canteens' use by students from the UA:

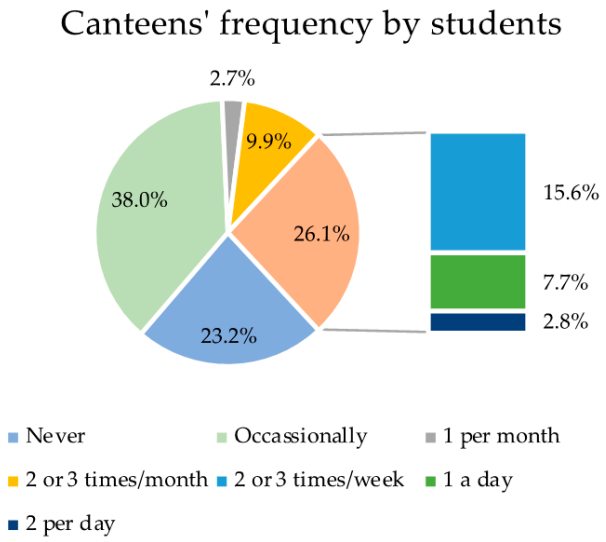


Figure 1. Frequency of the canteens' use by students.

More than 60% of the respondents do not go to the canteens of the UA or do it sporadically, whereas a quarter of the students declared to go at least 2 to 3 times a week (Figure 1).

Concerning gender habits, Figure 2 shows that females used to access less to this kind of services than males (α = 0.000). More than 25% of the female students declared that never go to the canteen comparing to males' declarations (around 15%). By contrast, male students indicated to go 2 or more times per week, near 15% more than female students.

Regarding the study degree, we found significant differences (α = 0.004). PhD students use these services more often than College and Master's students. Nevertheless, this relation is influenced by gender variable, since female students declared to go to the university's canteens fewer times than male, and there are fewer female students on PhD programs. Conducting analysis by grouping female and male students, only female presented differences. Thus, female students who are enrolled in PhD studies go more often to the canteens than those who are enrolled in college or Master's degree (Figure 3).

There are also differences when comparing the field of study variable (Figure 4, α = 0.004). In this case, gender variable is not relevant. Thus, it suggests there are differences between the field of study and canteen frequency, being Engineering and Technologies students those that use more often the canteens' services, in contrast to Humanities and Social Sciences' students, that use it less often.

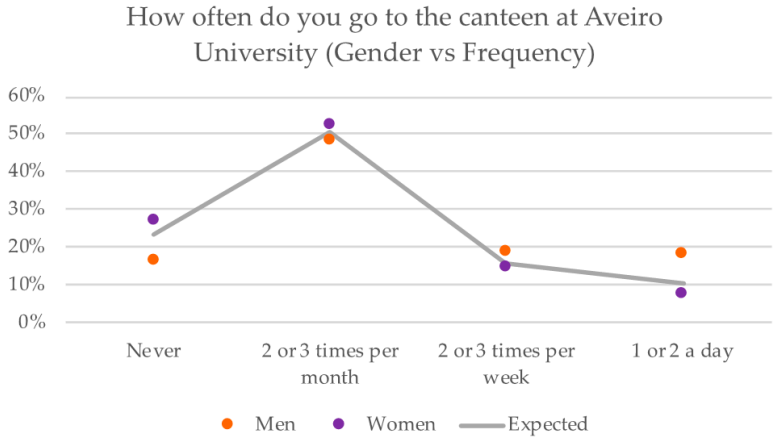
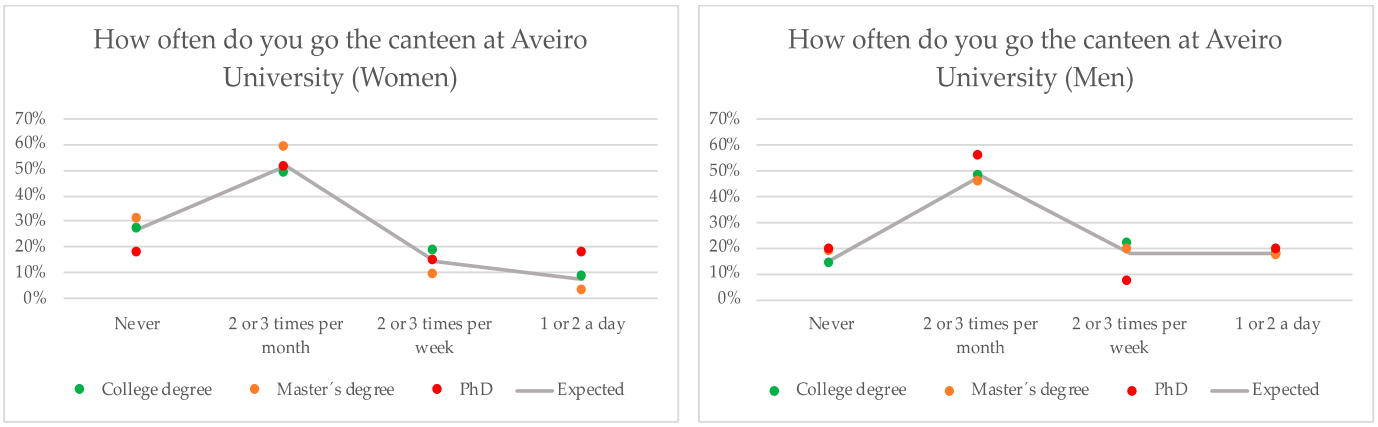


Figure 2. Frequency of using canteen services regarding gender.



(**a**) (**b**)

Figure 3. (**a**) Contrast analysis of the variable Canteen Frequency with Gender (women) and Study Degree. (**b**) Contrast analysis of the variable Canteen Frequency with Gender (men) and Study Degree. Only Gender variable offered statistically significant differences ($\alpha = 0.000$).

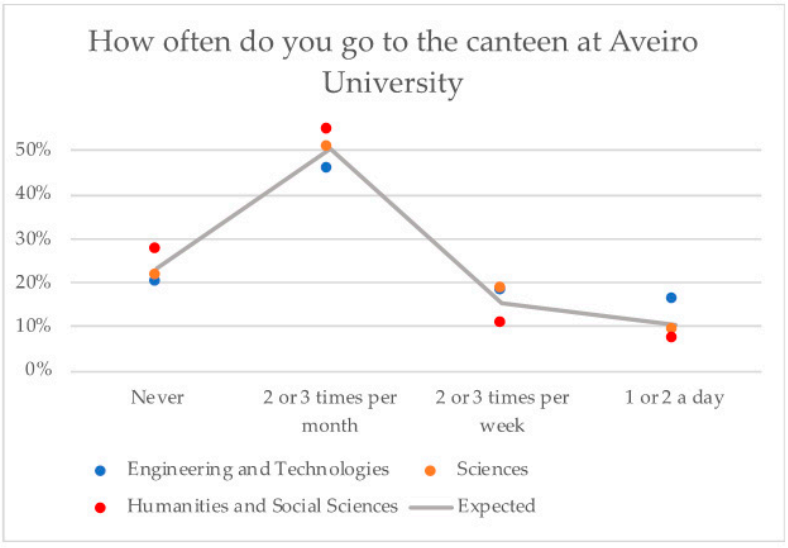


Figure 4. Frequency of using canteen services by Field of Study.

Regarding meat as a component of diet, the results had shown that the higher percentage of respondents (87%) have meat in their food choices, the majority (56%), once or more a day. The percentages can be even higher if the analysis goes for the students that eat this food product at least 2 to 3 times a week (82%) (Figure 5).

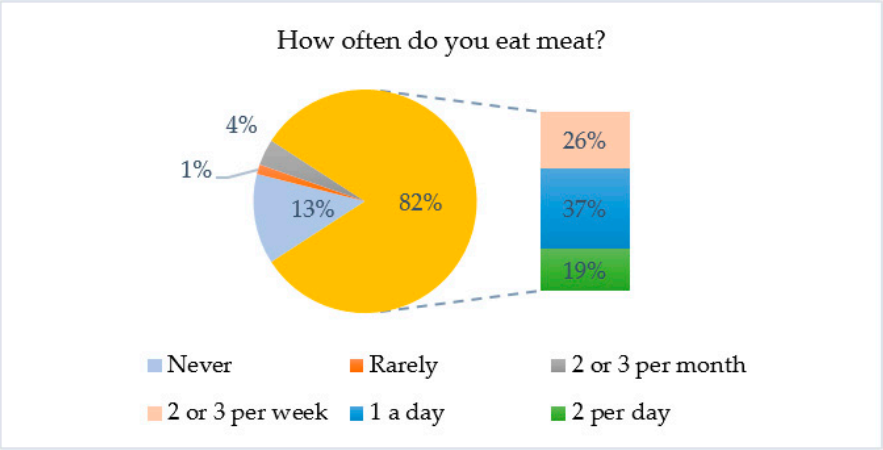


Figure 5. Frequency of meat in the students' meals.

Only significant differences were found attending to gender variable ($\alpha = 0.030$). More male than female students (62.7% vs. 52.9%) declared to eat meat at least 1 per day, whereas 47.1% of the females indicated never or 2 or 3 times per week, compare to 37.3% of the males (Figure 6).

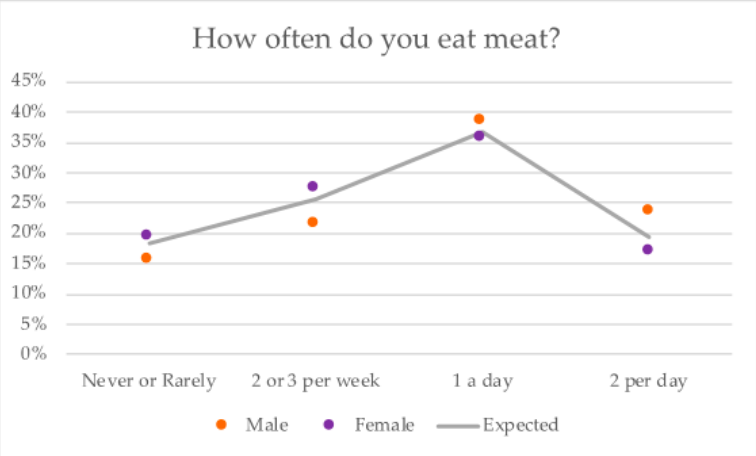


Figure 6. Frequency of including meat in dairy diet regarding *Gender*.

When considering only beef, the results are a little different, one third (31%) of the students do not eat beef and only near 6% pointed to eat beef once or more a day (Figure 7).

Regarding beef consumption, females declared to eat beef ($\alpha = 0.000$) less often than males (Figure 8a). More than 70% of female students asserted they do not eat beef or eat it only 2 or 3 times per month whereas almost 50% of male students indicated they eat beef 2 or more times per week. There are also differences concerning the study degree ($\alpha = 0.002$), being PhD students the ones that declared to eat more often (Figure 8b). This last study degree presents less percentage in the option "never eat beef". When comparing female and male students separately, no differences were found.

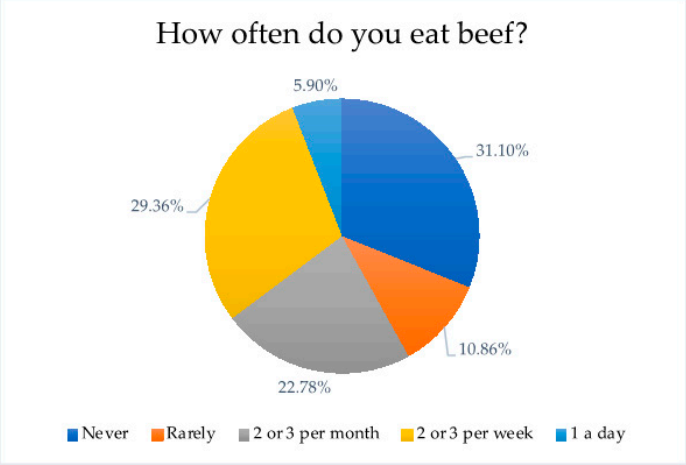
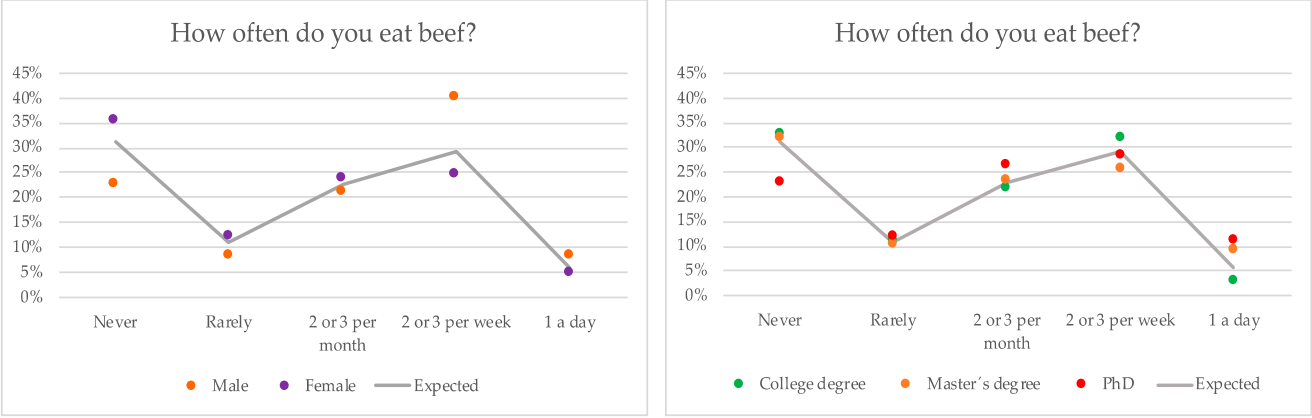


Figure 7. Student's responses regarding the presence of beef in their diet and its frequency.



(**a**) (**b**)

Figure 8. (**a**) Contrast analysis between the variables Gender with Beef Frequency in Diet. (**b**) Contrast analysis between the variables Study Degree with Beef Frequency.

3.2. Awareness and Willingness to Reduce Meat Consumption

When questioned about the reasons that would make respondents reduce meat consumption (Table 3), concern for the environment emerges as the most popular (71%) followed by health (69%) and in less proportion, ethics (40%). On the other side, just near 15% of respondents assert not to have reason to reduce meat consumption.

Table 3. Reasons that could lead students to decrease meat consumption and responses of refusal to do so.

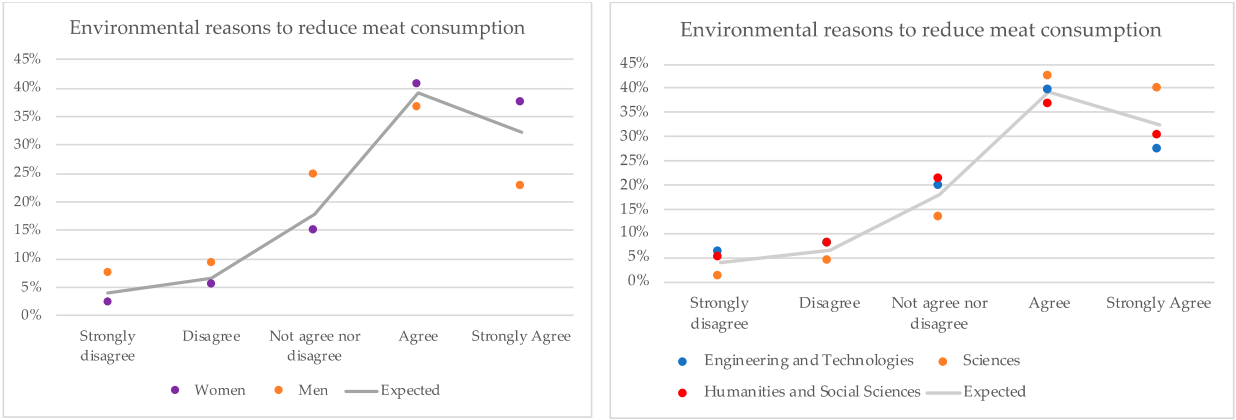
	Reasons That Could Lead to Decrease Meat Consumption			Refusal to Reduce
	Environment	Health	Ethics	
Strongly disagree	3.9%	7.0%	13.3%	37.0%
Disagree	6.5%	7.6%	14.4%	24.7%
Not agree nor disagree	18.0%	16.2%	31.3%	23.9%
Agree	39.2%	44.8%	27.0%	9.0%
Strongly Agree	32.4%	24.4%	14.0%	5.4%

Note: n = 752 (only counted those that indicated eat meat).

In this question and in "other reasons" (option of the open-ended question) that could also trigger this change, economic reasons, taste, and animal welfare were the most prevalent.

When conducting Chi-square test Gender and Field of Study variables offered significant differences whereas Study degree does not.

Regarding Environmental reasons, there are differences between both variables, but Gender and Field of study are not related between them. Regarding gender ($\alpha = 0.000$) female students agree to this reason in a higher percentage than male students (77.8% vs. 59%) (Figure 9a). On the other side, students enrolled in Natural Science courses ($\alpha = 0.001$) are more willing to reduce meat than the rest of the students (Figure 9b).



(**a**) (**b**)

Figure 9. (**a**) Willingness to reduce meat from diet due to environmental reasons by Gender. (**b**) Willingness to reduce meat from diet due to environmental reasons by Field of study.

In the case of health reasons, only gender variable offered differences ($\alpha = 0.000$). The main difference come out within both extreme options (Figure 10).

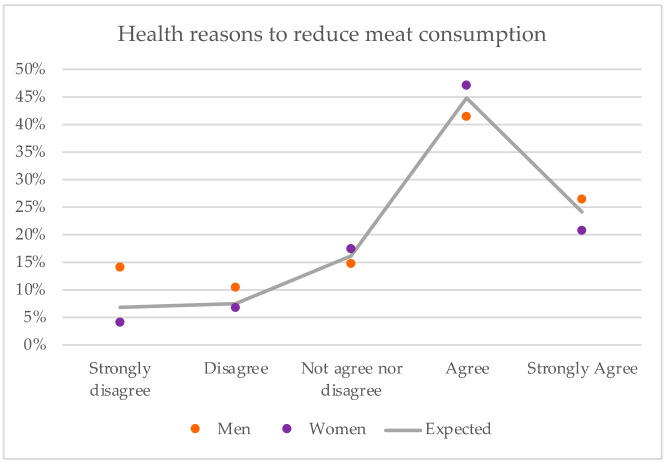
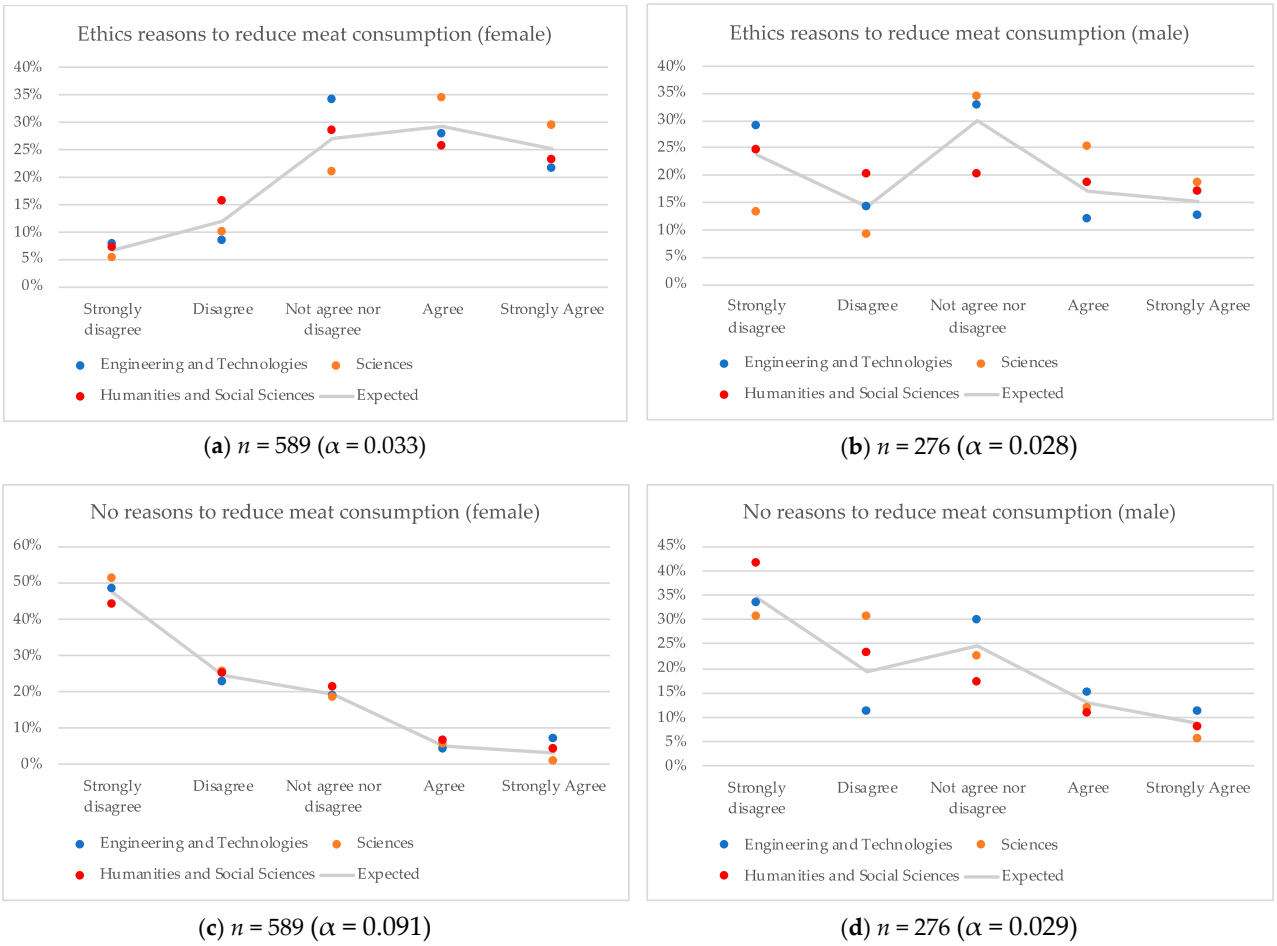


Figure 10. Willingness to reduce meat from diet cue to health reasons (*Gender*).

Finally, Ethics reason and "not to have reasons to reduce meat" offered differences by relating Gender and Field of Study variables (Figure 11). In this case, Female students that are enrolled in Sciences courses are more willing to reduce meat due to ethics reasons (63.8%) than those that are enrolled in Engineering and Technologies (E&T) (49.6%), and Humanities and Social Sciences (H&SS) (48.8%) courses (Figure 11a). On the other hand (Figure 11b), male students that are enrolled in Sciences (43.4%) and H&SS (35.4%) are more willing to reduce meat than those enrolled in E&T (24.5%).



(**a**) $n = 589$ ($\alpha = 0.033$)

(**b**) $n = 276$ ($\alpha = 0.028$)

(**c**) $n = 589$ ($\alpha = 0.091$)

(**d**) $n = 276$ ($\alpha = 0.029$)

Figure 11. Willingness to reduce meat consumption due to ethics reasons and not to have reason to reduce meat from diet.

Regarding those students that asserted "do not have reasons to reduce meat consumption", male student presented differences. Those enrolled in E&T courses are not willing to change their diets in 25.9%, whereas those enrolled in H&SS courses declared this option (strongly disagree or disagree to refuse their habits) in 64.6% (Figure 11d).

4. Discussion

4.1. Discussion on the Frequency of Eating in the Canteen and Choosing Meat and Beef

The frequency of eating in the canteens could be influenced by gender (Figure 2) and also by study degree (Figure 3), since female students declared go to the UA canteens less times than male students. However, female students that are in PhD degrees use the canteens' services more frequently comparing to other degrees and other fields of studies. These results can be related to time spent in the university, due to the workload or the financial independence of scholarships. Nevertheless, gender differences in canteens' frequency is highlighted because it may lead to different gender results regarding sustainability initiatives in these places [34].

The frequency of eating in the canteens is also influenced by the field of study (Figure 4), being the Engineering and Technologies students the most frequent users of these facilities. Such results may be explained by the fact that most of these students are male (Table 2 - around 50%), comparing with other fields of study, and male students eat more often in the canteens than female students.

The relation between meat consumption and health or environment is a key topic to be addressed [35]. Through the results (Figure 5), we can infer that meat is an important element in the university student's diet, being consequently relevant in canteens menus. There are several published examples about food choices and sustainable food consumption

in Universities [8,28,36,37] or [38], clearly demonstrating the importance and pertinence of this thematic. Recommendations from the World Cancer Research Fund [39] say that the population should limit red meat consumption to no more than 3 portions and reduce processed meat consumption to the bare minimum. In our study, a higher percentage of male students reported eating meat more often than female students. Proportionally more undergraduate students than masters or PhD indicated to eat meat only once or twice a week (Figure 6). This result could be explained in the way that female are more worried about the consequences of meat consumption [40]. Similar conclusions can be drawn to red meat consumption where female students, a majority on college courses, reported eating less beef and a higher percentage did not have beef as part of their diet (Figure 8).

The restriction to a specific kind of meat, like beef (ruminant meats) considered worse for the environment when compared to non-ruminant meats [13], was used to perceive how these or other topics can influence students' diet (Figure 7). Even if the values for beef are lower compared to meat in general, these results are, however, worrying since all kinds of red meat should be limited, especially for health reasons [39], (Figure 7). The same pattern appears in the other related studies [27].

4.2. Discussion on the Awareness and Willingness to Reduce Meat Consumption

Depending on the way that people choose to eat from animal sources, there are different perceptions on advantages or disadvantages to the human health and the environment, or even to animal wellbeing [17].

Regarding the reasons that could lead respondents to decrease meat consumption were also analysed (Table 3). Most of the students (75% of them) are concerned about environmental impacts of their meat consumption and this could be a relevant issue to promote awareness on meat consumption habits. This is related to the higher level of exposure to major global environmental issues in local news and documentaries, being the new generation increasingly aware of environmental problems [41]. Despite a fraction of the students (between 18 and 30%) is neutral regarding any of the reasons of to reduce meat (environment, health, ethics or refusal) and probably did not think about how their food choices could influence all the previous subject matters (Table 3), the refusal to reduce meat comes just from 15% of the students. Thus, students are willing to try reducing meat from their plate. Students are concerned and conscious about the lack of knowledge about sustainability [42].

The data (Figures 9–11) show a greater tendency for female students, and inferring the undergraduate students, to the possibility of changing their eating habits when talking about excessive consumption of meat. Previous studies show some resistance from the general population to possible changes, however female students are the most receptive [43], according with the present results.

With a higher percentage of female students present in fields like Science or Health (Table 2), it can be suggested that they are more aware of the consequences that exceeding meat consumption can have in the environment or health (Figures 9 and 10). Also studies in Belgium have shown that females are more likely to reduce this consumption because of consequences to the environment and express greater support for animal rights and welfare [44] (Figure 11) and that the consumption of meat is often associated with masculinity [40]. Therefore, there is a need for social change, in which concern for the environment is not something that is exclusive to just females [45]. PhD students' responses are, in the majority, from male, being also male students that frequent the canteen the most and likewise does not consider changes in their diet when it comes to meat. Well thought changes in the canteens, as well as education (e.g., curricular "greening"), could influence some students to rethink the way they choose to eat. These results can be explained in a way that, often, new generations are more involved in environmental problems, through the social media [46]. Also, young adults appear to reduce their consumption due to environmental or health concerns [47]. However, these observations could be substantially related to the

differences between genders since studies, such as of García-Vinuesa et al. [45], observed that younger people are resistant to altering lifestyles in the face of CC's warnings.

5. Conclusions

This study extended previous literature on sustainability in the university context, with special emphasis on education for sustainable food consumption and on students' perceptions about decarbonization through meat consumption reduction. Universities have a crucial role to play, so students can be more and more conscious about individual and collective consume choices. Often consumers with a higher level of education are more likely to voice environmental concerns [17]. This research demonstrated that meat represents a substantial part of university students' diet. However, most of the students are willing to reduce this consumption based mainly on environmental reasons. Education and awareness are one of the alternatives most commented through this study. PhD and male students show a low level of awareness of the need to reduce meat consumption, thus stressing the importance of education for climate emergency and climate literacy in Universities, which is crucial to achieve sustainable consumption patterns. When implementing policies based on a sustainable and healthy diet, policy makers should consider the gender differences observed in this and other studies such as García-Vinuesa et al. [45]. It should be considered the higher awareness of female students to adopt less-meat diets in future approaches. Nevertheless, universities should diagnose students' choices and redirect their teaching towards a participatory "green" knowledge. This study contributes to a better knowledge of the profile of the students that university tries to reach to continuously review goals in education.

Portugal is a country characterized by the high consumption of meat, with a need for a food transition [48]. Consequently, understanding students and the replication to other Portuguese universities and at international level could be decisive. Besides, results open a new perspective for educative interventions and action-research approaches. Such perspectives aim at effective behavior changes in university Campus, following integrative dietary guidelines. Further research should be also done to identify the possible relation between PhD courses (and other degrees) and education for climate emergency. Also, sustainability measures, which include students' diets, are not common. Thus, more studies should be carried out such as in Portuguese universities, with other food products like dairy [23]. Above all, the research urgency of involving the students in sustainability policies or measures in universities is clear. Universities should establish formal structures to guide the implementation of sustainable development policies and programs [49] and make available information [47]. Besides that, the internationalization of HEIs, allowing collaborative work as well as active participation of the students in sustainability initiatives, is essential in universities [23].

Finally, recommendations on how to improve the situation regarding students' knowledge and awareness are proposed to the Universities' authorities:

(1) Intervention initiatives (food choices and sustainable food consumption, canteen menus);
(2) Awareness Campaigns and Campus Decarbonisation Participatory Activities;
(3) Promote the integration of climate literacy and sustainable consumption literacy contents (SDGs) in the curricula.

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