Project 5: Understanding Eating Habits and Dietary Preferences that can Accelerate Positive Climate Actions

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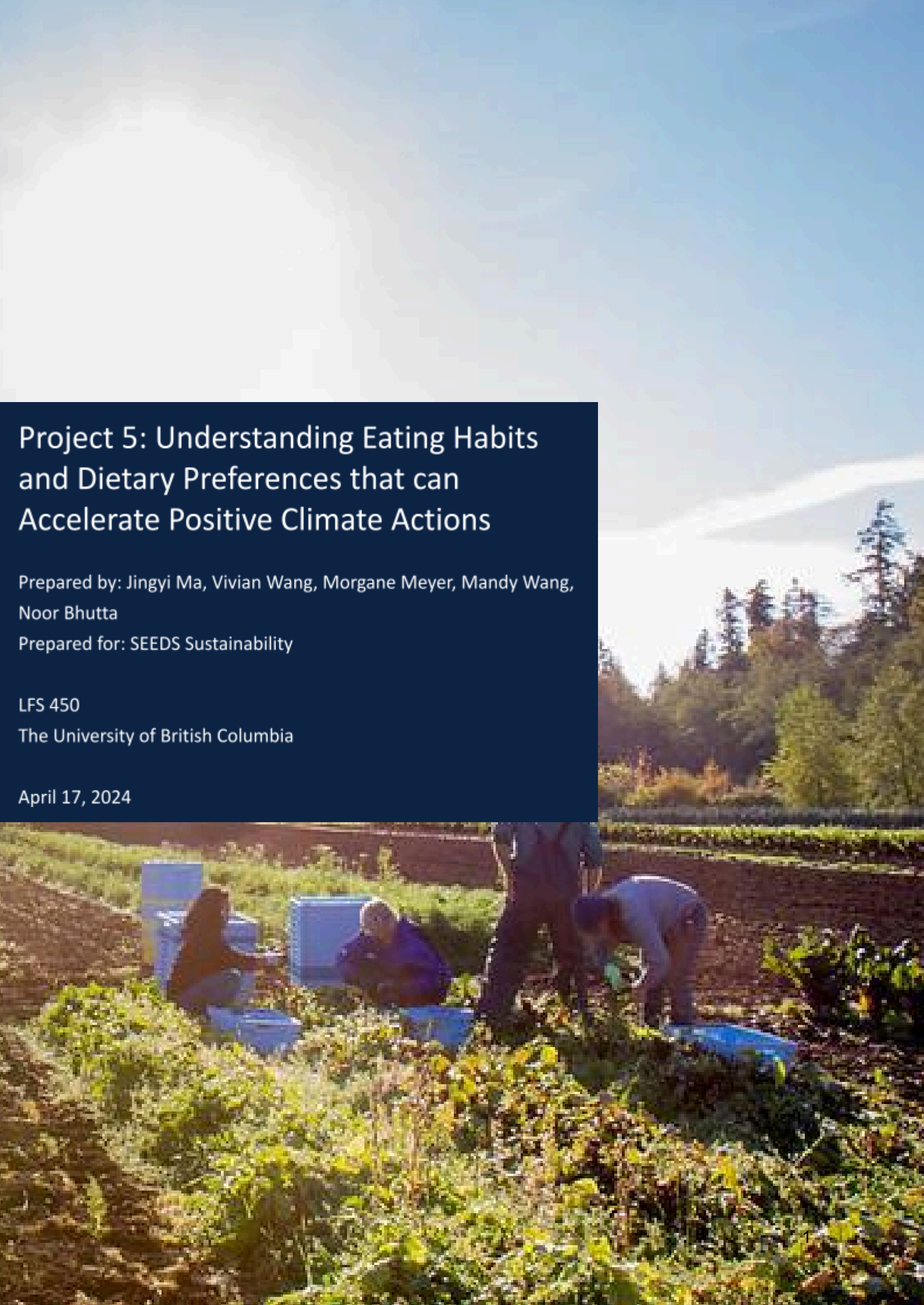

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Acknowledgement

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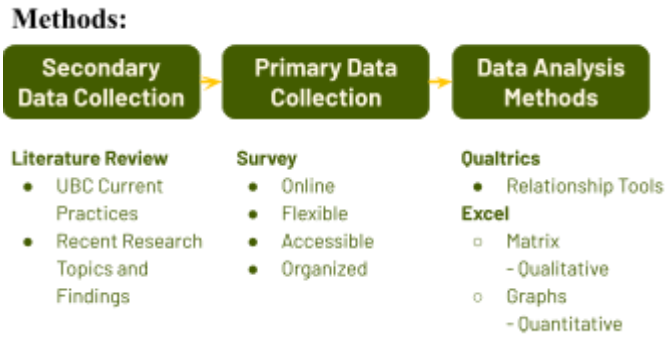
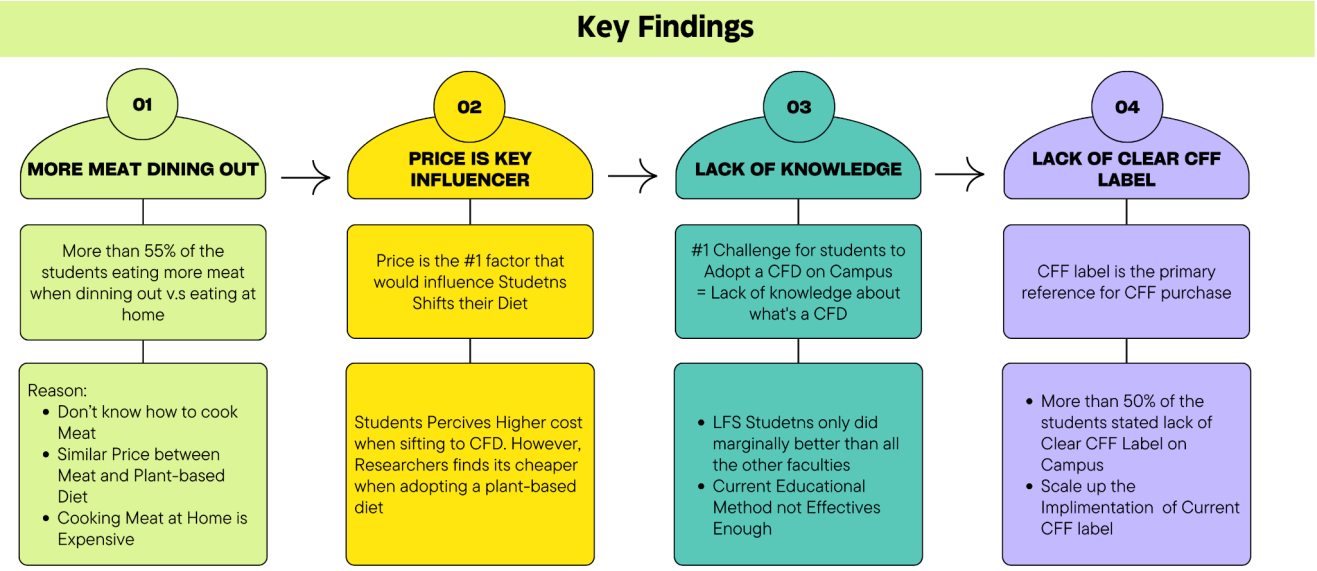
Practitioners' Summary

Background:
Food systems are significant contributors to Global Greenhouse Gas (GHG) emissions, with animal-based foods generating over twice the GHGs of plant-based foods, and refined grains emitting over 20% more GHGs than whole grains (Xu et al., 2021; Mitchell et al., 2024). Shifting to a diet low in red meat, animal products such as dairy, and refined grains could offer substantial environmental benefits. Specifically at the University of British Columbia (UBC), the university's food system accounts for more than 21% of its GHG emissions (Vockeroth, n.d.). Given the substantial influence universities have on local food systems, it's vital to understand student dietary habits and preferences both at home and on campus to promote effective climate actions. This research aims to provide a detailed analysis of these eating patterns and identify the challenges in adopting more sustainable dietary practices among UBC students.

Goals: To develop a thorough comprehension of UBC students' dietary habits and preferences, and identify barriers to adopting climate-friendly diets.

Objectives: Investigate variations in UBC students' eating habits at home vs dining out and create an actionable plan to promote sustainable dietary choices.





* CFF = Climate-Friendly Food

* CFD = Climate-Friendly Diet

Executive Summary

Food systems are major contributors to greenhouse gas (GHG) emissions worldwide (Crippa et al., 2021). Animal-based foods emit more than twice the GHG than plant-based foods (Xu et al., 2021). Additionally, refined grains emit more than 20% of GHG when compared to whole-grains (Mitchell et al., 2024). Shifting diets towards a climate-friendly diet (low in red meat and refined grains) can show benefits.

In the UBC context, more than 21% of GHG emissions are from the University's food system (Vockeroth, n.d.). Because universities can have a lot of power in local food systems, due to the number of students living and using the campus–in UBC's case that is about 60,000, the size of a mid-sized town–understanding eating patterns and dietary preferences of students is crucial to accelerate positive climate actions. The purpose of this research was to develop a comprehensive understanding of UBC students' eating habits and dietary preferences at home and on campus, and identify barriers affecting adoption of these habits.

The research objective explores students' eating habits across demographics and situations and analyzing factors influencing consumption patterns. Based on this data, an action plan was developed to promote sustainable dietary choices. Recommendations were to be derived that could contribute to the advancement of the Climate Action Plan (CAP) 2030.

The project utilized Community-Based Action Research (CBAR), by gathering data directly from the researchers' community through various forms of interactions, e.g., survey questions, in-person, and future actions formulated for the community. Methods included secondary data collection via a literature review and primary data collection through a Qualtrics survey conducted from March 7th to March 23rd, 2024. Promotion of the survey involved undergraduate societies, the Graduate Student Society (GSS), professors, personal networks, posters, and in-person outreach. The literature review provided foundational knowledge, while the survey yielded insights into UBC students' dietary preferences.

Firstly, our findings show that disparities in dietary preferences exist across different demographics such as ethnicity and faculty, e.g., omnivorous preferences were common among Latin American, Korean, and Chinese students, while Caucasians and Southeast/South Asians were likelier to be vegetarians or vegans. Secondly, there is a notable trend of consuming more meat when dining out compared to eating at home, influenced by lack of knowledge on meat cooking methods, cost considerations, and availability. Thirdly, students prioritize price, taste, and nutritional value when purchasing food products, with environmental impact ranking relatively low.

Challenges are faced by survey respondents in adopting climate-friendly diets on campus due to limited knowledge, unclear labeling, and perceived higher costs. Reluctance to switch to climate-friendly diets is influenced by concerns about taste, price, and lack of awareness about the environmental impact of dietary choices. Factors influencing decisions regarding climate-friendly options include price, accessibility, and awareness.

The discussion investigates the potential misconception of climate-friendly foods, e.g., taste, not a good source of protein, one of the factors deterring students from shifting patterns. Other factors that influence the adoption of a climate-friendly diet on campus are lack of awareness of what a climate-friendly diet constitutes of and where to find these foods on campus, the perception of the climate-friendly food label by students, and the availability, or lack of, climate-friendly food on campus. Limitations of our research include sample bias and representation issues, the potential influence of social desirability bias when responding, and the survey design and project time line.

Recommendations from this research span short-, mid-, and long-term initiatives, as well as suggestions for future studies. Short-term recommendations include recognizing student diversity in information campaigns and employing both longitudinal (e.g., empowering student leaders) and

latitudinal (e.g., integrating sustainability into curriculum) approaches. Mid-term suggestions involve menu modifications, such as having an all climate-friendly food menu with the option of meat additions, while long-term strategies entail campus-wide adoption of the Climate-Friendly Food Label and a product emission database. Future research should focus on understanding perceptions of the Climate-Friendly Food Label and assessing program effectiveness.

Table of Contents

List of Figures

List of Abbreviations

UBC	University of British Columbia
GHG	Greenhouse Gas
UBCFS	University of British Columbia Food Systems
CAP	Climate Action Plan
CF	Climate-Friendly
CFF	Climate-Friendly Food
CFD	Climate-Friendly Diet
CFFS	Climate-Friendly Food System

1. Introduction

In today's rapidly evolving environmental landscape, with floods, droughts, and uncertainty, the intersection of dietary choices and their impact on climate change has become increasingly apparent. Understanding eating habits and dietary preferences is crucial in accelerating positive climate actions. From the production and distribution of food to its consumption, every aspect of the food system has implications for greenhouse gas emissions, land use, and biodiversity loss. By delving into the complexities of our food choices, we can uncover opportunities for sustainable practices that not only mitigate environmental harm but also promote health and well-being. This exploration invites us to reevaluate our relationship with food and empowers us to make informed decisions and provide thoughtful strategies that contribute to a healthier planet for present and future generations. The topic of research focuses on understanding eating habits and dietary preferences that can accelerate positive climate actions, especially among the University of British Columbia (UBC) Vancouver campus.

1.1 Research Relevance

1.1.1 Societal Issues

Food systems play a significant role globally in driving climate change, contributing to more than one-third of global greenhouse gas (GHG) emissions (Crippa et al., 2021). These emissions, spanning from land-use changes and agricultural practices to packaging and waste management, represents a total of 17.9 billion tonnes of carbon dioxide (Crippa et al., 2021). The growing meat consumption trend leading to increased amounts of feed crops for livestock is considered one of the leading causes of species extinction, ocean dead zones, water pollution, and habitat destruction (FAO, 2006).

Rice and beef were the largest GHG-contributing plant- and animal-based commodities in 2021 (12% and 25%, respectively) (Xu et al., 2021). It is shown that global greenhouse gas emissions from animal-based foods are twice those of plant-based foods, however, it is also important to note that converting raw crops to refined-grains, such as white rice, white flour, etc., contributes about 20% more to the environmental impact compared to whole-grains (Mitchell et al., 2024). Therefore, to help mitigate the effects of climate change on the global, national, and regional scales, a shift in dietary

pattern towards a climate-friendly diet (CFD) is necessary. We define a CFD as a diet that contributes to reducing greenhouse gas emission and is particularly low in red meat and refined grains. In order to help better understand the current dietary patterns and develop strategies to promote changes, our research aims to establish a baseline of reasons behind food selection.

1.1.2 University of British Columbia Sustainability Issues, Plans, Policies & Practices

Food systems on UBC's Vancouver campus account for over 21% of UBC's overall GHG emissions (Vockeroth, n.d.). In response to address this issue, UBC Campus Food Systems has set goals and initiatives following the University's declaration of a climate emergency, particularly in reducing GHG emissions from local food production (The University of British Columbia, 2019).

UBC Food Services' (UBCFS) policies and plans as guidelines aim to enable and inspire a lifetime of healthy eating. UBCFS suggest meat production and food transportation are major contributors to climate change (UBC Food Services, 2024). Through practices such as purchasing high quality, nutritious, sustainable foods and prioritising fresh, minimally processed ingredients, UBCFS are committed to offer and actively promote an abundance of affordable, healthy choices for all meals (UBC Food Services, 2024). Along with the UBCFS Visions and Values, the UBC's Climate Action Plan (CAP) 2030 Targets and Actions envisions that by 2030, UBC would achieve a 50% GHG reduction in food systems and the development of a Food System Resilience and Climate Action Strategy which advances climate-friendly foods (CFF) at UBC (UBC Campus + Community Planning, 2024).

Previous reports have examined the dietary patterns of UBC students, revealing a difference between those living on-campus and off-campus. The students living on-campus tend to have a higher consumption of meat and junk food, coupled with lower consumption of plant-based food, compared with those living off-campus (Rossa-Roccor, 2019). This dietary trend, recognized as environmentally unfriendly, may contribute to the greenhouse gas emissions of UBC's Food Systems. However, it has already been five years since this report was published and there is a gap in analysing research of dietary habits in recent years. It is essential to investigate whether there has been any shifts in dietary patterns among the student population on the UBC Vancouver campus. By identifying main drivers behind UBC student consumer choices, we were able to develop strategies that could potentially shift

the dietary patterns and increase adoption of Climate Friendly and sustainable diets among the UBC population.

1.2 Project Context

Previous research investigating the complex relationship between diet quality and GHG emissions found that diets high in red meat tend to contribute to higher GHG emission. A study by Deforche et al. (2015) assessed if there were changes in food choices during the transition from high school to college among Belgian students. The data showed vegetables, dietary fibre and calcium consumption decreased, while consumption of convenience items such as crisps, sweets, and soft drinks increased. This shift suggests an existing trend in having different food preferences when eating at home during high school, and living alone at college.

Understanding the change in foods consumed on campus, Lambrecht et al. (2023) further explored the effects that choosing to eat less meat products on campus have on GHG emissions. The findings revealed that animal-source foods contributed significantly to GHG emissions, with beef and dairy being the largest contributors. Eliminating red meat purchases and reducing procurement of poultry, fish, and seafood could reduce GHG emissions from the university dining halls by almost half (Lambrecht et al., 2023). This demonstrates the potential for significant shifts in dietary choices to substantially reduce environmental impact.

Based on these findings, our research was to conduct quantitative data analysis to further understand the relationship between food choices, GHG emissions and whether the changes in what students eat on campus will affect the GHG emissions resulting from campus food.

1.3 Project purposes, goals and objectives

1.3.1 Purpose

Our project purpose was to develop a comprehensive understanding of UBC students' eating habits and dietary preferences at home and on campus in ways that can ultimately contribute to advancing UBC’s Climate Action Plan (CAP) 2030 Food Actions target to reduce GHG emissions resulting from campus food consumption at UBC.

1.3.2 Goals

- Create a baseline understanding of UBC student eating habits and dietary preferences at home and when eating out at UBC campus
- Identify ways to increase the adoption of sustainable eating habits by identifying barriers affecting adoption of these habits and uncovering opportunities to encourage their uptake.
- Develop recommendations that can increase sustainable eating habits on campus and beyond the university setting

1.3.3 Objectives

- Determine if differences exist in student eating habits and dietary preferences among different demographics and in different situations (e.g., at home and eating out at UBC, diverse level of education on sustainability, etc.) through conducting a survey with students;
- Analyze the driving factors influencing students' consumption patterns and what they prioritize when selecting foods;
- Develop a feasible action-plan based on survey data that provides advice to motivate the student population to transition towards sustainable dietary selections.

2. Research Methodology and Methods

2.1 Research Methodology

Community-based action research (CBAR) is a type of research where the researchers are, or become, part of the community they are trying to research on, and do research with the community instead of on the community. They are not simply researchers, "they are at once researchers, community members and activists…"(Magnus & Rai, 2023 p.2). This is done by integrating the community into research, so that community members are participants, and not just subjects that are being studied by an outsider. The premise here is that it is assumed "that people are able to assess their own needs and to act upon them" (Minkler, 2004; Minkler & Wallerstein, 2003 in Maiter et al., 2008, p. 306). Thus, researchers act more as facilitators to achieve certain outcomes that the community (and the researchers) would like to see.

Since we, the researchers, are part of the community that was studied, the UBC community, we were already connected with the participants. In the survey that we administered, we gave

participants space to express their opinions and give us feedback on the current proceedings at UBC, especially with regards to the teachings of climate change and the strengths of UBC's current actions. We also personally interacted with 112 participants, and more students (n=124) as we promoted our survey in person on the 21st of March. This allowed us to explain our research to participants and why our research is important.

Lastly, the findings of our research will eventually feed back to the community as the recommendations and strategies will concern the UBC campus and its proceedings.

2.2 Research Methods

To gather data, we have used two methods: secondary data collection via literature reviews and primary data collection via the distribution of an online survey. Data was analysed through functions in Qualtrics, mainly via the "Relate" tool, and in Excel, using Matrix for qualitative analysis and frequency diagrams and pie charts for quantitative analysis. The subsections will go into more detail about each collection method and the methods of administration.

2.2.1 Secondary Data Collection

The secondary data collection happened in multiple steps. First, we started off with a broad and unfocused data collection to familiarise ourselves with the topic and with the research in place. Key words such as "climate-friendly diet", "Sustainable diet", "students dietary choice", and "University Interventions". These were entered in the UBC Library search bar, Google and Google Scholar. A full list of keywords can be found in Appendix F. In addition to a world-wide literature review, current practices in place at UBC, such as the CFF label, were reviewed and campus-specific policies, such as the Climate Action Plan (CAP) 2030, were studied.

After an initial introduction to the topic, further secondary data collection was performed to gain insights into potential survey questions, what has been done in similar research as well as the results and patterns that emerged from previous research that we might expect to see. Keywords were the same as the introductory research.

In total, more than 30 papers and UBC policy and action plan have been reviewed, from which 22 papers have been included in this report, and 10 of the UBC documents.

2.2.2 Primary Data Collection

The primary data collection for this project was conducted through an online survey. We used Qualtrics as a survey tool, as prescribed by the University of British Columbia (UBC) for privacy reasons. A complete sample of the survey can be found in Appendix B.

The survey itself constituted 29 questions, including 2 short answer questions. The questions were a mix of multiple choice, sliders, and matrices. To make the building easier and to have the questions thematically categorised, we created a number of building blocks, 10 in total, that each had 0-6 questions. Themes of the building blocks included demographics, dietary information, CFD, and statements. The survey script with all the building blocks and branching patterns, can be viewed in Appendix C.

The target population of the survey was every member of UBC: all the students, faculty members, and staff members, with a particular focus towards the undergraduate population and graduate population. Initially, there was no target for one faculty in particular. We tried to get a representative sample of the University, and had a target sample size of 382 participants. This sample size was determined using a chart provided by Taherdoost (2017) and corresponds to a sample size required for a population of 50,000 to 100,000—UBC's population falls within this range.

In the end, we received a n=456 responses, with 363 filling out 100% of the survey, representing a 79.6% completion rate.

We also used incentives as a method to encourage people to participate in the survey. Three gift cards for the UBC Food Services in the value of $50 each were given away to three participants. Incentive winners were determined by a randomised draw generator (randomresult.com) which was randomly chosen. All the email addresses of people that entered the draw were put into the website, which was set to "Pick Items", and the item number was selected (3). All the winners were communicated to our SEEDS representative. The SEEDS team contacted winners to arrange for a meeting time and to hand over the gift cards.

2.2.3 Methods of Administration

We chose to do an online survey, as it allows for continuous collection during the active period of the survey—that is we did not need to actively solicit people; it allowed for flexibility, as

people could click on the link no matter where they physically were at that moment; it allowed for the participants to start the survey, stop, and come back to it, so they had more freedom to complete it in their own time; and lastly, all the data received were collected in one location.

We also chose to do an online survey, as it allowed us to gather a baseline of data. While we thought of hosting a focus group, to gain more in-depth thoughts and opinions on the topic, we ended up not doing the focus group due to lack of time.

The survey was open from Thursday, March 7th until Saturday, March 23rd, which is just over two weeks. March 7th was the day our first contact, the Arts Undergraduate Society (AUS), decided to promote our survey on their Instagram story. By March 23rd, we noticed that there were no more responses coming in and we needed sufficient time to analyse the data we gathered, thus we closed the survey.

The survey took approximately 5 to 8 minutes to complete depending on how in-depth their answers were.

Initially, we contacted various undergraduate societies, e.g., Land and Food Systems Undergraduate Society (LFSUS), Engineering Undergraduate Society (EUS), AUS, Commercer Undergraduate Society (CUS) (a full list is provided in Appendix D), via email and Instagram. After receiving a low response rate from our initial contacts, we sent a second email to the ones that had not responded within a week from the initial contact and also searched up new people to contact. Additionally, we hung up physical posters (see Appendix E for promotion material) in the Life building, the AMS Nest, the Nest Plaza, Hebb, the Abdul Ladha Science Student Center, and the IRC. We promoted the survey on our personal networks for multiple days and asked people (9 in total) in OC 4002 from 3-4:30pm on March 13th to fill out the survey.

By closely monitoring the responses that we got, we were able to see what faculties we were not reaching with our first recruitment approaches, namely the Faculty of Applied Sciences. On the 21st of March, we used 2 iPads provided by the SEEDS team and targeted some buildings to boost the response rate from the missing faculties. In Appendix F, times of visits and buildings visited are detailed. We chose to approach every person in the common spaces of these buildings, unless their body language signalled us that they did not want to be approached. The cues of not wanting to talk

included staring ahead onto their work as we approached and not looking up when we talked to people around the table.

When we approached people, we said the following sentence and variations of it: “Hi, sorry, do you have a minute? [If affirmative, then we continued with the interpellation.] We are conducting a survey to learn more about students’ dietary habits and consumer behaviour. You also get the chance to win a $50 gift card for UBC Food Services. If you want, you can scan the QR code just here, or you can fill out the survey on the iPad.” Most people chose to scan the QR code with their phones and fill it out in their own time. We noticed that we were a little bit uncomfortable hovering around participants as they filled out the survey, so the approach that most people chose to take worked for us as well.

3. Results

3.1 Secondary Data Collection Results

3.1.1 Current dietary preference

Within the UBC context, we could not find any data about recent students’ dietary preferences. However, we have found a study done by Verena Rossa-Roccor (2019), which investigated dietary intakes and mental wellness. Here it was found that students living on campus consume a diet high in meats and junk food, and low in plant-based foods (Rosa-Roccor, 2019). The inverse was found for students living off campus: low intakes of meat and junk food, higher intakes of plant-based foods (Rossa-Roccor, 2019). This UBC specific trend is already quite old, especially when taking drastic world events that have taken place since then, so new research is necessary.

3.1.2 Factors

When considering a widespread shift in diets, towards sustainability, various knowledge gaps and (perceived) barriers need to be acknowledged. Rust et al. (2020) conducted a survey with 50 sustainable diet experts and “[t]he most frequently mentioned knowledge gaps were related to working out how to encourage consumers to buy more sustainable food” (Rust et al., 2020, p.3). This shows the importance of getting to know the target audience and their current knowledge gaps as well as concerns. Rust et al. (2020) also mentions the importance of trying to bring dietary inequalities closer together.

According to research done by Mäkiniemi and Vainio (2014), disbelief in the effects of diets on climate change was wide-ranging in Finnish university students, especially amongst male students. Similarly, Slotnick et al. (2023) have found misinformation among American students with regards to the effectiveness of meat intake reduction and climate change. This lack of knowledge is also mentioned in the barriers that consumers face as adapted from Stubbs et al. (2018) in Rust et al. (2020), which include: Choice architecture, which relates to social factors and cultural references; Ingrained habits; Lack of consumer knowledge; Belief of meat being the best protein source; Reluctance to learn about negative impacts; Lack of prioritising sustainability; Short-term payoffs; Subsidies and incentives, making meat cheaper; Power of large food businesses; Strong belief in the innovative action of (agricultural) technology; and lastly, Lack of incentives for food business to change. All these factors combined lead to the current food system and consumer behaviour we see.

3.1.3 Survey Building

The survey is built based on the potential factors outlined in section 3.1.2, which could be the potential factors leading to students' dietary patterns. The survey structure was created into different sections, using as reference research done by Corallo et al. (2019), with each section aimed to investigate one particular factor affecting food choice behaviours.

3.1.4 Solutions

In a comment by Krattenmacher et al. (2023), they point out the importance of universities and their role and power in change. Pressure from student-led organisations across campus, and welcomed by university leaders, has led to the establishment of an animal-based food free campus 2030 at the Erasmus University in the Netherlands. Consumer behaviour and requests have also led to reduced availability in Berlin's university canteens (Krattenmacher et al., 2023). Canteens across most universities in Berlin are operated by one operator "studierendenWERK Berlin" (studierendenWERK Berlin, 2024). Universities need to use the resources they have to analyse their respective populations and make changes for sustainability based on current knowledge and willingness of students. Thus, if students show great willingness, somewhat more drastic steps can be taken, e.g., mainly vegetarian and vegan options with meat-free days, alternatively slow implementation of reduced meat options is

important, so that the population may adapt to the changes and does not feel like they are missing something.

3.1.5 Current UBC Policies and Actions

Current UBC practices, such as the Climate-Friendly Food (CFF) label (Climate-Friendly Food Label, 2022) are a good start, however, needs to be rolled out more across the campus, as it maximises awareness and sells a compelling benefit (Rust et al., 2020).

3.2 Primary Data Collection Results

3.2.1 Demographics

To discern whether disparities in dietary preferences exist among various demographics and situations, e.g., type of housing, on- vs. off-campus, among UBC students, we examined the following data categories: ethnicity, faculty, and living locations.

3.2.1.1 Ethnicity

Variations in dietary preferences were depicted among UBC students based on their ethnic backgrounds. It is revealed that a significant portion of Latin American (87.5%), Korean (82.4%), and Chinese students (82.1%) were omnivorous students, whereas the majority of vegetarians were Caucasian (40.5%), Southeast Asian (42.1%), or South Asian (51.6%) (see Appendix Figure G1). These findings suggest a probable correlation between food choices and ethnic identity.

3.2.1.2 Faculty

Examining UBC's various faculties in connection with students' dietary choices revealed that those in Applied Science had the lowest proportion of vegetarians (15.7%) and the highest proportion of omnivores (84.3%). Students enrolled in other faculties were found to be twice as likely to be vegetarians compared to those in Applied Science (see Appendix Figure G2).

3.2.2 Meat Consumption Eating Out vs. Eating at Home

The survey results reveal a notable inclination towards consuming more meat than plant-based food when dining out compared to eating at home. A total of 413 responses were collected. A substantial portion of respondents, comprising 229 respondents (55.5%), either strongly

agreed or agreed with this statement, suggesting a prevailing preference for meat-centric options in restaurant settings. While 87 respondents (21.1%) remained neutral, indicating a balanced approach or perhaps a lack of strong preference, a minority of 51 respondents (12.3%) disagreed with the statement. Interestingly, a smaller yet still significant portion of 46 respondents (11.1%) strongly disagreed, implying a clear preference for plant-based choices or a reduced inclination towards meat when dining out.

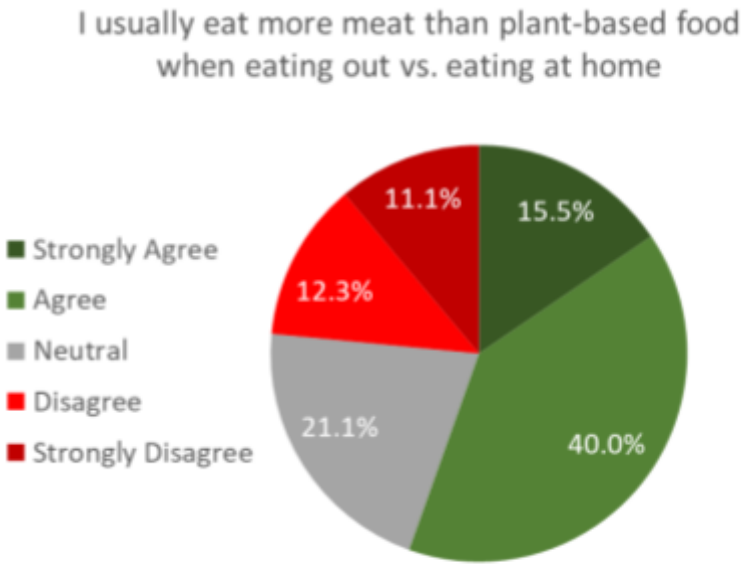


Figure 1. Dietary preference eating out vs. eating at home

3.2.3 Factors Influencing Dietary Patterns When Eating Out vs. Eating at Home

The findings from the follow-up open-ended question regarding the reasons behind respondents' choices between meat and plant-based options when dining out versus eating at home, as can be seen in Figure 2 below, suggests a multitude of factors shaping dietary behaviours.

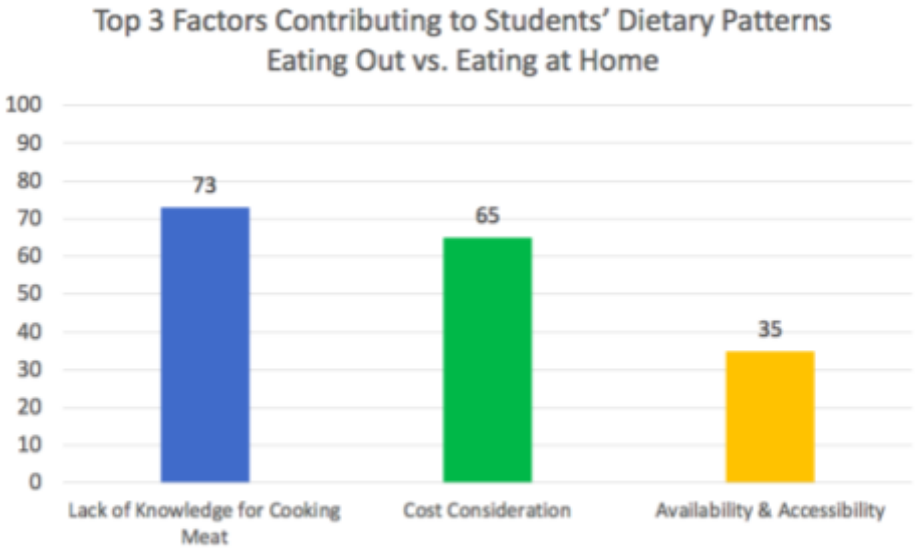


Figure 2. Top three factors behind dietary patterns of students when eating at home vs eating out

Out of the people who indicated eating more meat than plant-based food when eating out, we filtered out all the responses that do not contribute to a difference in meat consumption eating at home versus eating outside. These categories of answer include: preference for meat, dislike for plant-based foods, nutrition value difference between plant-based options and meat, cultural and family factors, concerns with meat alternatives, and social/peer pressures. After filtering the results, 112 respondents provided valid responses.

The top three factors contributing to students' dietary patterns eating out vs. eating at home are identified based on the valid responses. Out of 112 respondents, 73 (65.2%) respondents indicated there is a lack of knowledge regarding cooking methods of meat, 65 (58.0%) respondents indicated they take into account the cost considerations, and 35 (31.3%) respondents indicated they choose food based on availability and accessibility.

3.2.3.1 Lack of Knowledge on Meat Cooking Methods

In Figure 3, below, 73 (65.2%) respondents indicated that there is a lack of knowledge regarding preparation methods of meat dishes at home. Therefore people would choose meat dishes more frequently at restaurants.

3.2.3.2 Cost

From Figure 3, 65 (58.0%) respondents suggested cost considerations played a significant role in shaping dietary preferences, with 50 (44.6%) respondents noting the affordability or perceived value of meat dishes in restaurants compared to the cost and effort involved in cooking meat at home. They note that meat at grocery stores can be expensive, leading them to consume less of it at home and opt for meat dishes when dining out to make the meal feel more "worth it." At the same time, 15 (13.4%) respondents mentioned that plant-based dishes are generally more expensive at restaurants.

3.2.3.3 Availability and Accessibility

35 (31.3%) respondents from Figure 3 mentioned choosing meat-based options due to the factor of convenience and accessibility of dishes. They noted that meat dishes are more readily available and easier to find at restaurants compared to plant-based dishes, leading them to opt for these choices based on convenience alone. Additionally, the availability and variety of plant-based options emerged as a contributing factor, with some respondents noting the limited availability or less options of plant-based dishes in restaurants compared to meat-based options.

3.2.4 Values Students Consider When Purchase Food Product

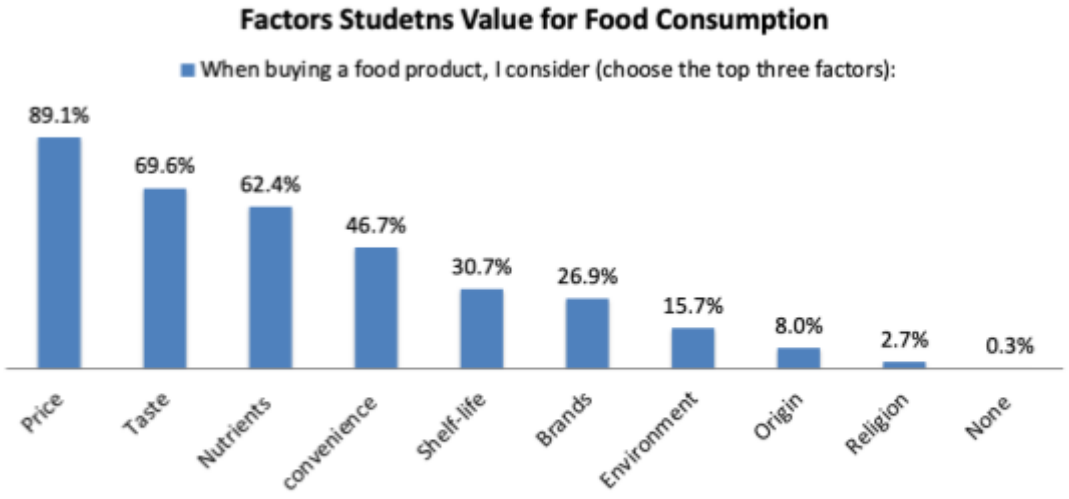


Figure 3. The top three factors students consider when buying food products, with a total 375 students' responses.

The values students prioritize when buying food products have a clear emphasis on price (89%), taste (70%), and nutritional value (62%) as the most influential factors. However,

environmental impact is considered by only 15.7% of students, which points to a relatively low prioritization of sustainability in food choices among the student population.

3.2.5 Challenges or Barriers Choosing Climate-Friendly Diet on UBC Campus

When dining at UBC, the top three challenges and barriers students face when trying to opt for a climate-friendly diet were identified. Out of 326 responses, 117 (55%) students indicated that they struggle due to limited knowledge about which food choices are environmentally sustainable. Nearly as prevalent, 167 (52%) students suggested that there is absence of clear labelling for options. Lastly, there's a widespread perception that 154 (47%) students think climate-friendly options are more expensive, dissuading many from choosing them.

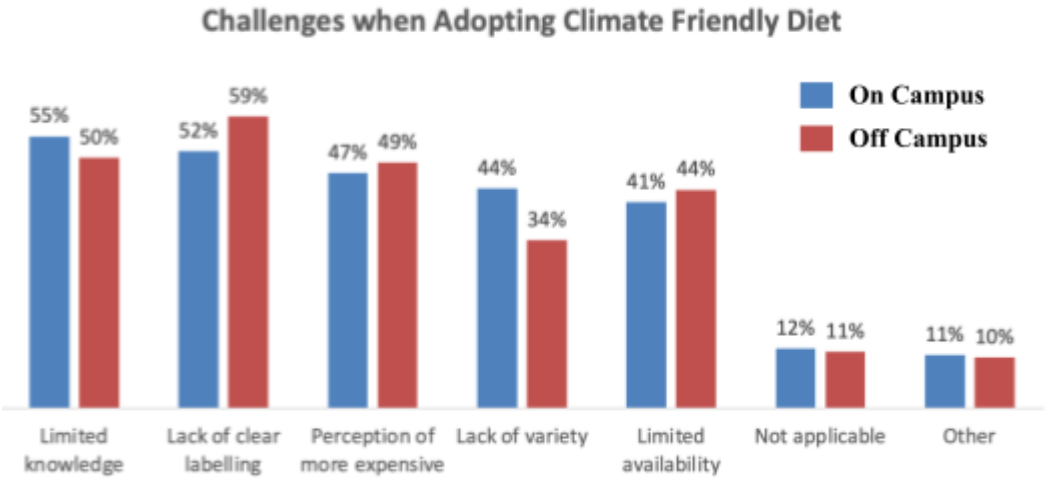


Figure 4. Comparison between student's Challenges to adopt a CFD on and off campus

3.2.5.1 Comparison with Off-Campus Dining

When contrasting the obstacles encountered by students when dining on-campus versus off-campus, there's minimal difference, aside from a slight decrease in the prominence of lack of knowledge as the primary factor, shifting from 55% (117 respondents) to 50% (164 respondents) when dining off-campus. Conversely, the prevalence of unclear labelling as a factor increased from 52% (167 respondents) to 59% (191 respondents) when dining off-campus.

3.2.5.2 Factors for Reluctance to Switch to Climate-Friendly Diet

Among 363 respondents, 224 (61.7%) students stated that they would like to take the initiative to adapt to a more climate-friendly diet, while 32 (8.8%) explicitly said they refused to shift to a more CFD. Out of the 32 responses for not willing to switch to a climate-friendly diet, 4 (12.5%)

respondents suggested switching to a climate-friendly diet would compromise other aspects, such as taste, price, and convenience. Another 4 (12.5%) respondents indicated that they are unaware of how dietary choices contribute to the overall climate change.

3.2.6 Factors Influencing Students' Decisions in Choosing Climate-Friendly Options

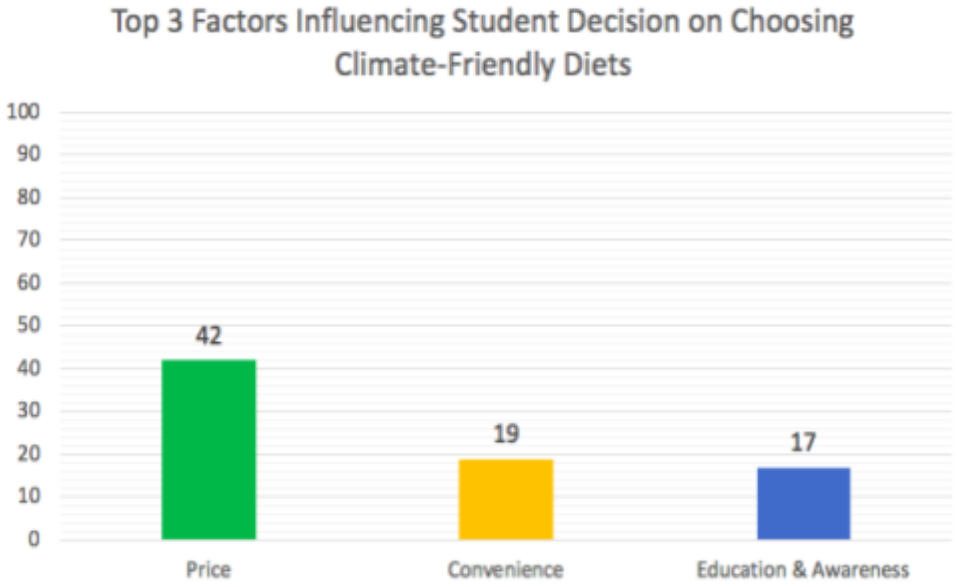


Figure 5. Top 3 factors influencing student choices on selecting climate-friendly diets

Out of the 61 responses regarding the open-ended question: 'What other factors, if any, do you believe influence university students' decisions regarding climate-friendly dining options', 42 respondents (68.9%) indicated that price plays a significant role in influencing university students' decisions regarding climate-friendly options. Many students express concerns about the cost of groceries and meals, with affordability being a primary consideration.

19 respondents (31.2%) indicated that accessibility and availability/convenience significantly influence students' dietary choices. Time constraints and location play an important role, with many students opting for convenient and readily available food sources, sometimes overlooking considerations for climate-friendliness.

Moreover, 17 respondents (27.9%) suggested that education and awareness are crucial factors, with a lack of knowledge about what constitutes climate-friendly dining. It is interesting to note that some respondents commented there is a deficiency in the comprehensive education provided by universities regarding the environmental consequences of dietary habits.

3.2.7 Stress and Dietary Patterns

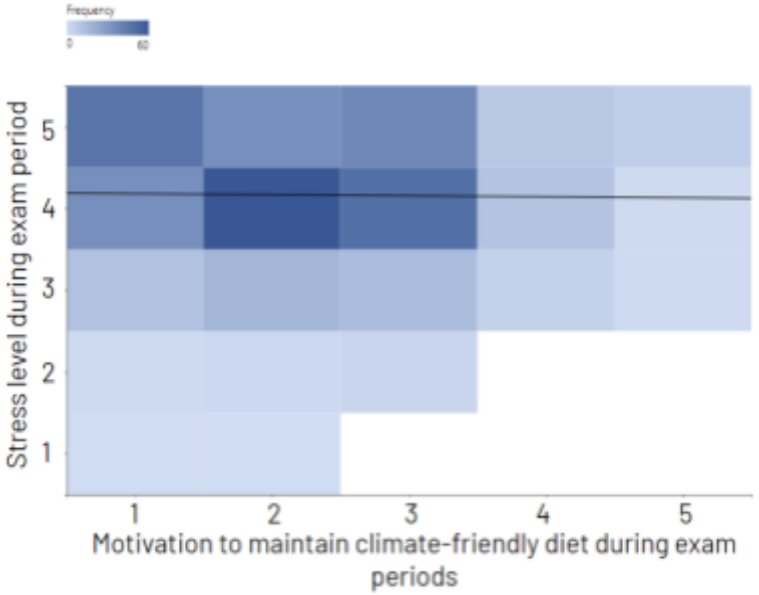


Figure 6. Correlation between stress level and motivation to maintain climate-friendly diet during exam periods

The results from the survey questions revealed a moderate to high level of stress among 360 participants during exam/major assignment deadline periods, with the majority rating their stress level between 4 and 5 on a scale of 1 to 5. In contrast, the motivation to maintain a climate-friendly diet during exam periods was relatively low, with most respondents rating their motivation between 1 and 3 on the same scale. Statistical analysis revealed a negative correlation between stress levels and motivation to maintain a climate-friendly diet during exam periods, indicating that as stress levels

4. Discussion

4.1 Climate-Friendly Food Cost Misconception

In the analysis of open-ended survey responses examining student attitudes towards decision-making regarding environmentally friendly food choices, three primary sectors emerged regarding the factors influencing students' decisions on adopting a climate-friendly diet. The data results revealed trends in the high prevalence of price emerging as one of the top three factors influencing UBC students' decisions regarding adopting a climate-friendly diet.

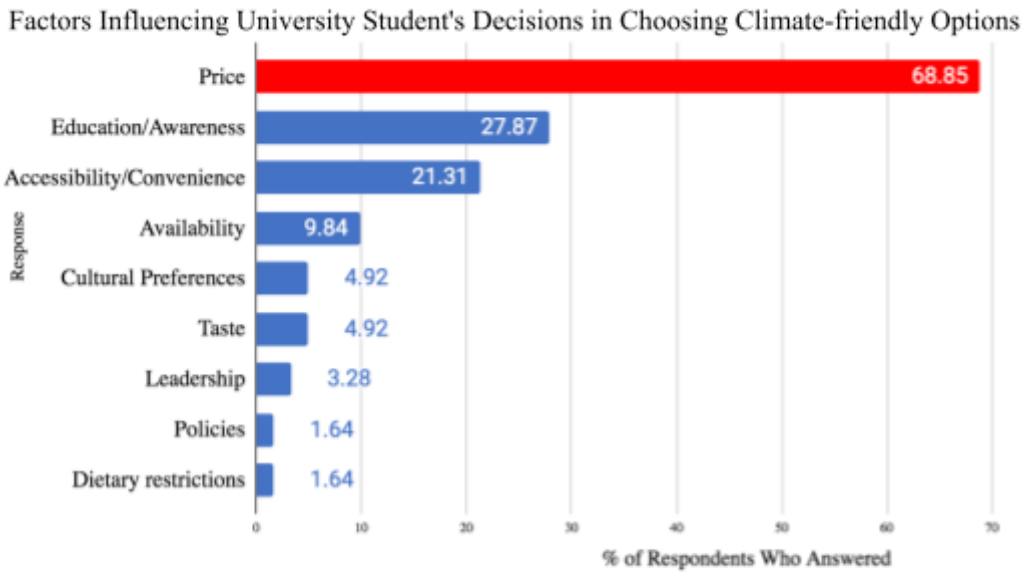


Figure 7. Factors potentially influencing University Student's Decisions in Choosing Climate-Friendly Options, n=63 students.

Figure 7 indicates that price holds the highest level of influence among students, with 68.9% of participants stating that price is the lead influencing factor that could potentially shift their dietary habits. Following price, the subsequent factors were identified as the education and awareness regarding what constitutes a CFD, as well as the accessibility of these CFF in proximity to student living areas.

With price as a critical influence, more than half of the respondents reported they perceive that CFD as more costly (Result 3.2.5), with reasons such as wanting to afford their meals and planning diets within budget. Despite student perceptions that CFF are more costly, research suggests that high price is a common misconception towards achieving a sustainable diet. Pais et al., (2022) have indicated that adopting a CFD, such as a plant-based or vegetarian diet, may not be as expensive as an omnivorous diet. However, regional factors significantly influence food prices, it is important to analyse the misconception under specific context.

This knowledge shows the common misconception that environmentally friendly food options demand a higher price. This finding is important for advocating plant-based diets within the university campus, especially among students who are mindful of their food budgets and are becoming acquainted with the concept of a climate-friendly diet.

4.2 Factors influencing students' adoption of CFD on campus

4.2.1 Student's Awareness of CFD

It's essential to raise awareness about the environmental impact of dietary choices, especially in university environments like UBC. Astonishingly, only 15% of students consider environmental impact when purchasing food (Result 3.2.4). This lack of awareness severely hampers the potential for behaviour change toward more sustainable practices. Bimbo (2023) asserts that individuals who are aware of the environmental impacts of their food choices, particularly red meat consumption, are more likely to adjust their diets in favour of more sustainable options. However, at UBC, the challenge is more pronounced as over half of the students face difficulties in adopting a CFD, primarily because they are unsure of what constitutes such a diet. This underscores a critical knowledge gap that, if addressed, could lead to significant behavioural changes as more than 61% of the students would like to take the initiative to accommodate a more climate-friendly diet (Result 3.2.5.3).

4.2.1.1 Unexpected Finding

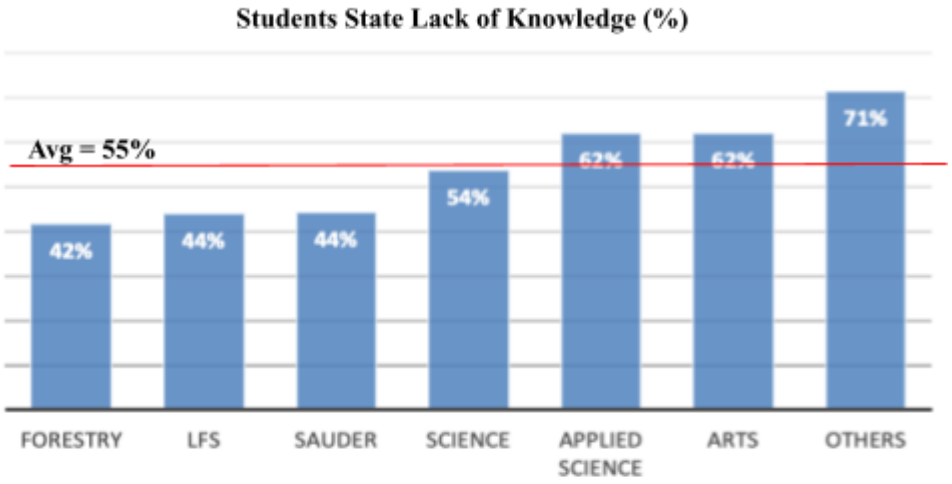


Figure 8. Number of students (in %) from different faculties state that they lack knowledge about which food choices are climate-friendly

The finding that only a marginally higher percentage (11%) of students from the LFS at UBC are aware of CFD compared to the broader student population (Figure 8.) is unexpected and highlights potential issues in the effectiveness of sustainability education within LFS and UBC. This result is surprising because food system sustainability is a key component of the LFS curriculum (e.g.

LFS 250, 350, 450), suggesting that students should have a significantly better understanding and awareness of sustainable practices, including dietary choices.

4.2.2 Student's perception of the CFF label

The importance of clear labelling in guiding students towards climate-friendly food choices is highlighted by the evidence indicating that a vast majority (80%) of students who consider environmental factors when consuming food products rely on CFF labels as a primary reference. This reliance underscores the critical role that clear and visible labelling plays in informing student choices. However, the effectiveness of these labels appears to be limited by a couple of significant issues.

4.2.2.1 Limitation of Current CFF Label

Firstly, more than half of the students report a lack of clear CFF labels on campus. This suggests either an inadequate presence of the label or imperceivable to students. Students' unfamiliarity with the existing CFF labels or their inability to easily recognize them can severely limit the intended impact of these initiatives. The research conducted in Norway indicates that while the introduction of CFF labels can effectively shift student food consumption patterns toward more sustainable options, this effect tends to reach a plateau within two months (Slapo and Karevold, 2019). This finding implies that while labels are effective in the short term, their impact diminishes over time as the novelty wears off. In the long run, labels tend to serve more as a communication channel, primarily appealing to those students already concerned about environmental impacts, rather than continuously influencing a broader student population.

4.2.2.2 Linkage Between Factors

The short-lived efficacy of food labelling as a driver of change highlights a need for ongoing efforts to keep environmental concerns pertinent and visible. It suggests that while labels are crucial, they should be part of a larger, more dynamic strategy involving continuous educational campaigns, periodic updates to labelling information, and perhaps integration with other incentives that encourage sustainable consumption. Clear, effective labelling, coupled with sustained educational efforts, can help maintain student engagement with climate-friendly choices, making environmental considerations a more consistent factor in their dietary decisions.

4.2.3 Availability of CFF on Campus

Increasing the availability of CFF on campus is crucial for influencing sustainable dietary choices among students. According to survey data, 31% of students report that accessibility and convenience significantly dictate their food choices, emphasising the importance of making CFF options more readily available. Additionally, over 40% of students perceive a lack of availability of such options at UBC, indicating a substantial gap between the demand for sustainable choices and their accessibility.

4.2.3.1 UBC Sustainable Food Guide

UBC Food System Projects has responded by creating a UBC Sustainable Campus Food Guide that lists plant-based food products along with the names of food outlets where they can be found (Barker-French & Richer, 2013). This guide is a step towards bridging the availability gap, but its effectiveness hinges on students' awareness and its visibility on campus. If students are unaware of where to find CFF options, even the best-intended resources may not sufficiently influence dietary behaviours towards sustainability.

4.3 Limitations of our survey and data

The limitations of our survey conducted at UBC regarding student dietary choices and awareness of CFF options can be attributed to several key factors:

4.3.1 Sample Bias and Representation Issues

While our survey sample was generally representative from a faculty perspective compared to UBC undergraduate students' demographics (UBC, 2023)—particularly strong in Arts, Science, and Applied Sciences—it exhibited biases concerning other faculties and ethnicity. Notably, Sauder students were underrepresented, and students from the LFS were over-recruited, likely due to the recruitment strategies employed primarily within our personal networks. This imbalance could skew the data toward the views and behaviours of LFS students. Additionally, the representation across different ethnic groups was inadequate, which may limit the generalizability of our findings to the entire student body.

4.3.2 Social Desirability Bias in Responses

A significant portion of the survey responses, particularly to questions regarding future intentions to adopt a CFD (with over 90% of respondents indicating a positive or uncertain attitude), might reflect a social desirability bias rather than genuine preferences or intentions. Students may have responded in ways they perceive as socially acceptable, potentially overestimating their interest in sustainable diets.

4.3.3 Survey Design and Time Constraint

The rushed timeline within a single semester led to some shortcomings in the survey design. For example, although we noted a trend where students consider environmental impacts less during high-stress periods like finals, we missed to analyse how significant this factor was compared to others discussed in the survey. In our survey questions assessing stress levels related to exams, students rated the severity of exam impact on their motivation to transition to climate-friendly diets on a scale of 1-5. However, through open-ended responses, students also highlighted other factors restricting their adoption of these diets, including price, awareness, and a lack of knowledge about climate-friendly eating habits. It is uncertain whether exam stress or these other factors serve as the primary barriers that prevent students from shifting to environmentally friendly diets. This oversight suggests that a more thorough preliminary analysis of sample trial data could have identified and addressed logical gaps before the full survey launch.

4.3.4 Lack of High-Quality Qualitative Data

Our qualitative data, particularly responses to follow-up questions asking for reasons behind previous answers (Result 3.2.3), lacked consistency and depth. Many responses suggested that students rushed through these questions without fully engaging, highlighting a need for improving the design of qualitative questions that encourage more thoughtful and detailed responses.

4.3.5 Recommendation for Future Survey

Addressing these limitations in future surveys could involve more balanced recruitment strategies, careful question design to mitigate bias, and enhanced qualitative data collection techniques to ensure that the findings are both representative and insightful.

5. Recommendation

5.1 Recommendation for Actions

Outlined below are actionable steps for UBC Food Services and various stakeholders within the UBC Food System, categorized by timelines: short-term (within one year), mid-term (one to two years), and long-term (over two years). These recommendations are designed to significantly reduce GHG emissions by promoting a CFD among UBC students, thereby ensuring the long-term sustainability of the UBC Food System. This strategic plan also provides valuable insights and considerations for the future development of a Campus Food Services Policy, promising a more sustainable and environmentally conscious future.

5.1.1 Short-term Recommendation

Enhancing students' understanding of the necessity and possibility of shifting diets to reduce GHG emissions in our daily practices. We would like to approach it by customizing educational delivery methods to different demographics.

5.1.1.1 Diverse factors influencing students' dietary preferences

As we have introduced in the discussion, different demographics exhibit varying levels of knowledge and motivation regarding CFD, reflecting diverse educational backgrounds, cultural influences, and personal values. Recognizing diversity would be the key to targeting different demographics and customizing the way of delivering information adapted to their interests and habits.

5.1.1.2 Longitudinal and Latitudinal Approaches

To effectively promote the adoption of a CFD among students at the university, a strategic framework can be implemented that utilizes both longitudinal and latitudinal methods of idea dissemination:

- Longitudinal Approach: Empowering Student Leaders

The longitudinal element focuses on providing targeted educational workshops to influential student leaders, such as executives of faculty undergraduate societies, leaders of large clubs, and other pivotal figures within the student community. These workshops would aim to deepen their understanding of CFD and the critical role they play in sustainability. We believe that encouraging

them to set a precedent by choosing sustainable options for events and meetings could significantly influence the dietary habits of their members.

- Latitudinal Approach: Integrating into Broader Educational Experiences

Simultaneously, the latitudinal approach focuses on embedding CFD education into broader educational settings and existing student engagement platforms. For academic integration, particularly within relevant faculties like LFS, introduce CFD concepts into foundational courses such as LFS 100. This could involve lectures, projects, or assignments that explore the impact of dietary choices on the environment and personal health. For students living in residence, provide a welcome kit that includes a booklet with information on selecting CFF, along with simple recipes that use sustainable ingredients available on campus. This ensures that new students receive this crucial information right from the start of their university experience.

This dual approach ensures that the message of sustainable eating permeates through the leadership and influences broader student activities while also being ingrained in the educational experiences of all students, regardless of their involvement in student organizations. The university can create a comprehensive and pervasive culture of sustainability that could significantly impact students' dietary choices and awareness.

5.1.2 Midterm-Term Recommendations

Once students have an increased awareness of the relationship between food choices and environmental impact, it becomes crucial to enhance the visibility of CFF options. As discussed, there is a significant need to increase both the affordability and availability of these options across UBC food outlets. To address this, we propose introducing a pilot project to the UBC Food Service Team aimed at modifying existing menus to highlight CFD more prominently. This initiative is designed to make sustainable choices more apparent and accessible to students, supporting a shift towards environmentally responsible eating habits on campus.

5.1.2.1 Pilot Project: Menu Modification

The proposed pilot project involves transitioning the standard menu offerings to primarily vegetarian dishes, with the option to add meat as a topping (de Vaan et al., 2019). According to de Vaan et al. 's research (2019), by adopting this modified menu, it increases the choice for a CFF dish

while keeping the willingness to eat at a restaurant. This structure inherently promotes CFF choices as the default, emphasising their environmental benefits. Each menu item will be clearly CFF labelled to educate students about its environmental impact, enhancing their understanding and awareness. Example menu modification provided in the (see Figure G4)

5.1.2.2 Benefits of this pilot project

- *Cost-Effectiveness:* It requires minimal initial investment since it primarily involves menu redesign rather than changes to the ingredients or pricing structure. The possibility of further lowering the price of the vegetarian option depends on the budget analysis by UBC Food Service.
- *Perception Management:* By standardising costs across vegetarian and non-vegetarian options and only adding charges for meat toppings, this approach challenges the perception that CFF options are more expensive.

5.1.2.3 Limitations of this pilot project

- *Assessment Needs:* A dedicated team is necessary to evaluate the project's impact and effectiveness, ensuring that the menu modifications achieve the desired outcomes.
- *Scalability Challenges:* Adapting this model to various types of food outlets, such as those specialising in burgers (e.g., Triple O's), may require additional customization to fit different culinary formats.

5.1.3 Long-Term Recommendations

Currently, the UBC CFF label has been introduced only within the UBC Residence Dining halls (Open Kitchen, Gather, and Feast) (Climate-Friendly Food Label, 2022), we would recommend to scale up to other UBC food outlets on campus including the vendors in the AMS Nest. This consistency helps in building familiarity and trust in the labels, which can significantly influence students' dietary choices. By integrating these labels effectively, UBC can foster a culture of sustainability that supports students in making informed food choices that are aligned with their values and the University's sustainability goals.

5.1.3.1 Challenges for Scaling Up

Implementing sustainable practices often comes with higher initial costs, which can be a significant barrier. A lot of work is required with chefs and menu planners at each food outlet to assess and categorise existing menu items according to the established climate-friendly criteria. This will involve training and continuous collaboration to adapt and develop new recipes that meet these standards.

5.1.3.2 Possible Solution - Database Building

To manage the complexity of the assessment of CFF labels in different food outlets, the establishment of CFF ingredient database, which would be a reproducible and accessible data analysis method for food outlet owners to easily evaluate their food products with a consistent and accurate CFF label on the menu to all the food outlets on campus. However, we recognize the multifaceted challenges of establishing a comprehensive database, such as the multi-dimensional environmental impact of different food production and the consistency and accuracy of data.

5.1.3.3 Collaboration with peer institution

Due to the extensive workload and complexity of the data, collaborating with peer institutions would be helpful in terms of enhancing the accuracy and comprehensiveness of the data, which also advocates for a future implementation into communities.

5.2 Recommendation for Future Research

Following our project, there is a substantial opportunity for future research to understand further and address key aspects of student perceptions and behaviours regarding CFD at UBC. One promising avenue is to utilize the CBAR approach to investigate the prevalent misconception among students that adopting a CFD is more expensive. Despite literature suggesting that maintaining a plant-based diet should be less costly (Pais et al., 2022), this perception persists. Research could focus on verifying the actual costs of such diets within the specific contexts of Vancouver and UBC, providing concrete data to challenge or confirm these beliefs.

Despite the various commendable initiatives that UBC has already implemented such as CFF labels, the plant-based food outlet Agora, and the Meatless Mondays Initiative at Open Kitchen; there is a noticeable gap in the evaluation of these programs' effectiveness. Future studies could examine

the adherence and adaptability of these actions, providing insights that could inform further policy decisions regarding food system sustainability. This research would not only assess the current impact but also guide improvements and encourage greater student engagement, ultimately enhancing the overall efficacy of UBC's sustainability efforts in its food services. Such investigations are essential for refining and expanding initiatives to make the university's food system more sustainable and in alignment with global environmental goals.

6. Conclusion

The comprehensive investigation into the eating habits and dietary preferences of UBC students, with a focused objective of aligning with the UBC's Climate Action Plan (CAP) 2030 Food Actions target, has yielded significant insights and outcomes. The primary research goals were multifaceted: to establish a foundational understanding of UBC students' dietary behaviours, identify barriers hindering the adoption of sustainable eating habits, and develop actionable recommendations to propel UBC towards a more sustainable food system.

Throughout our study, various demographic factors, cultural influences, economic considerations, and accessibility/availability issues shaping students' dietary choices have been examined. Notably, the findings revealed complex and interesting patterns, with demographic backgrounds, including ethnicity and faculty affiliation, exerting considerable influence on dietary preferences. We discovered there are prevalent misconceptions regarding the affordability of climate-friendly diets, indicating a crucial need for targeted education and awareness campaigns to dispel such notions.

The study contributes significantly to the existing body of knowledge surrounding sustainable food systems, particularly within university settings. By explaining the complexities of students' dietary behaviours and the underlying determinants, actionable insights are provided that can inform policy decisions and strategic initiatives aimed at fostering sustainability on campus and beyond.

However, it is imperative to acknowledge the limitations encountered during the research process. Despite efforts to ensure sample representativeness, potential biases may have influenced survey responses, such as underrepresentation of certain demographics. Moreover, the qualitative data

collected may have lacked depth and consistency in some instances, warranting further exploration and refinement of data collection methods.

Moving forward, addressing these limitations and conducting additional research will be essential for refining strategies and enhancing our understanding of sustainable food systems within university environments. Moreover, the implementation of our recommendations, ranging from targeted educational campaigns to menu modifications and labeling initiatives, holds the potential to effect tangible change and catalyze a paradigm shift towards sustainability at UBC.

This study underscores the pivotal role of universities in advancing sustainability agendas and fostering environmentally conscious behaviours among students. By leveraging our findings and recommendations, UBC can lead the way for a more sustainable future, aligning with broader societal goals of mitigating climate change and promoting environmental stewardship.

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8. Appendices

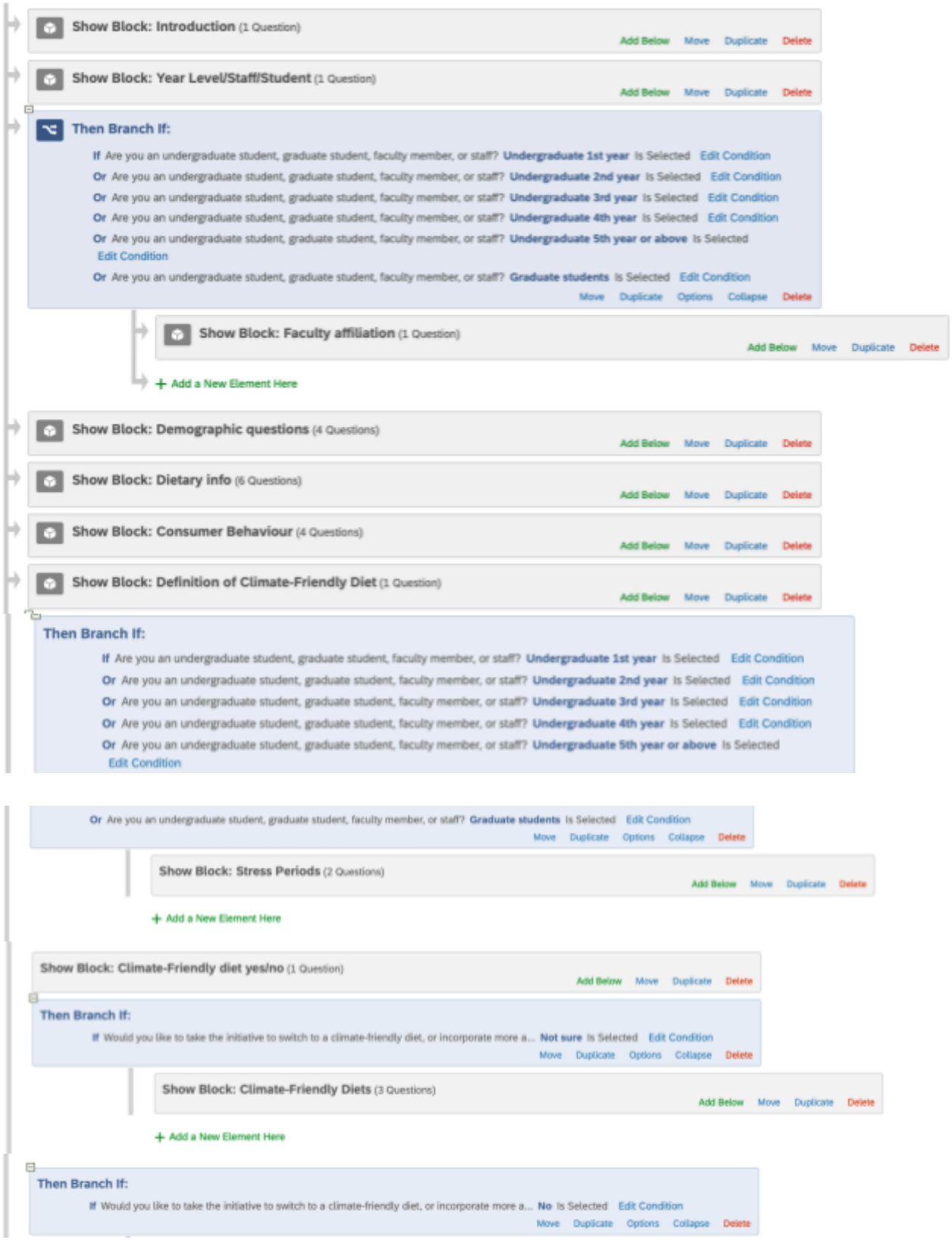
Appendix A: Key Words

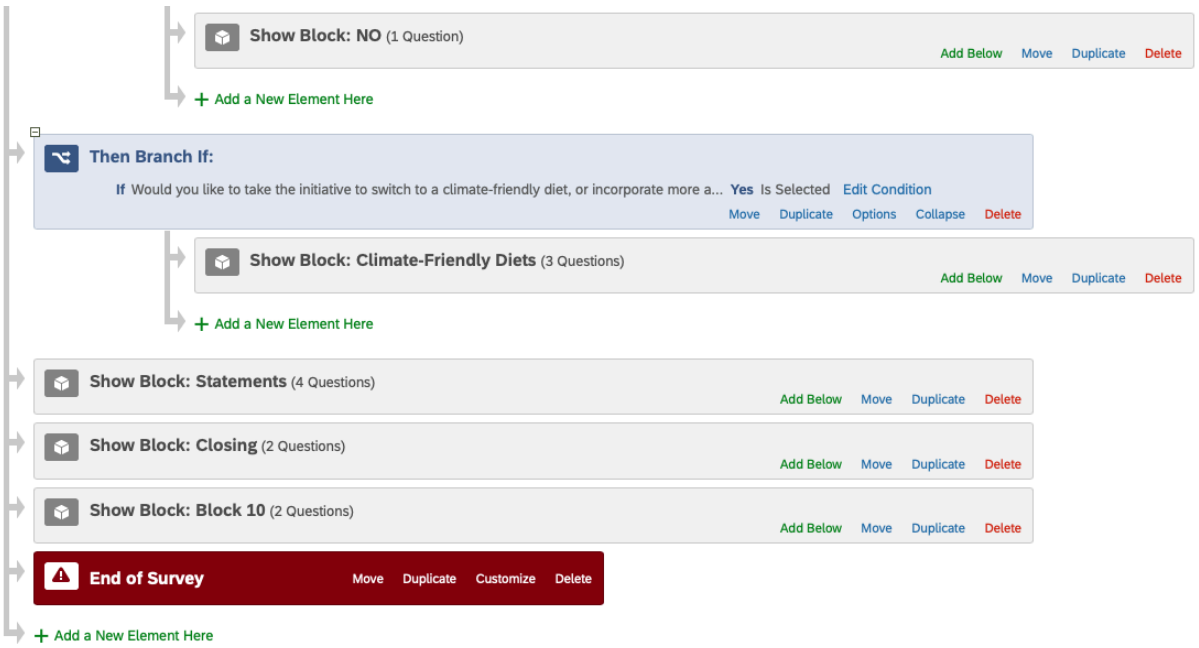
- dietary choice climate change
- dietary choice climate change university
- students dietary choice
- students dietary choice GHG
- Reduce Red Meat consumption
- On campus
- Current university policies, actions, guidelines
- Sustainable diet
- Reduce GHG emission
- University interventions
- Shifts of dietary pattern for university students
- Climate-friendly diet
- Climate impact with the consumption of meat
- Dietary shifts in recent years
- University campus diets
- Sustainable eating on university campus
- Low GHG diets

Appendix B: Survey Questions

Survey_sample.pdf

Appendix C: Survey Flow/building




Show Block: NO (1 Question)
Add Below Move Duplicate Delete
Add a New Element Here
Then Branch If:
If Would you like to take the initiative to switch to a climate-friendly diet, or incorporate more a... Yes Is Selected Edit Condition
Move Duplicate Options Collapse Delete
Show Block: Climate-Friendly Diets (3 Questions)
Add Below Move Duplicate Delete
Add a New Element Here
Show Block: Statements (4 Questions)
Add Below Move Duplicate Delete
Show Block: Closing (2 Questions)
Add Below Move Duplicate Delete
Show Block: Block 10 (2 Questions)
Add Below Move Duplicate Delete
End of Survey
Move Duplicate Customize Delete
Add a New Element Here

Appendix D: List of People Contacted for Survey Promotion

The persons in bold have replied and promoted the survey.

- VP Communication from Science Undergrad Society (SUS): vpcommunications@sus.ubc.ca
- Media (media@aus.ubc.ca), **Marketing (marketing@aus.ubc.ca), and VP Engagement (vpengagement@aus.ubc.ca) from Arts Undergraduate Society (AUS)**
- **LFSUS**
- VP Communication from Engineering Undergraduate Society (EUS): vpcomm@ubcengineers.ca
- VP Communication from Law Student Society (LSS): info@ubclss.com
- Commerce Undergraduate Society (CUS): communications@cus.ca
- VP Communication from Kinesiology Undergraduate Society (KUS): kus.comms@gmail.com
- **VP Students (vpstudents@gss.ubc.ca) from Graduate Student Society (GSS) (communications@gss.ubc.ca)**
- Undergraduate Chemistry Society (UCS): undergraduatechemistrysociety@gmail.com
- UBC Biological Sciences Society: bio.soc@ubc.ca
- UBC Microbiology and Immunology Students' Association: ubcmisa.contact@gmail.com
- Social Coordinator from Storm Club: stormclububc@gmail.com
- VP Social from Environmental Science Students' Association: essa.ubc@gmail.com
- UBC Mental Health Awareness Club (MHAC): ubcmhac@gmail.com
- Biomedical Engineering Undergraduate Student Association: ugradbmesocial@gmail.com
- Media & Communications Head from the Civil Engineering Graduate Student Society (CEGSS): cegss@civil.ubc.ca
- IT Manager from UBC Fizz: itmanager@ubcfizz.com
- Geological Engineering Undergraduate Club: geopresident@ubcengineers.ca
- VP Communication from Integrated Engineers: site@integratedengineers.ca
- Jessica Wolf from Medical Engineering Graduate Association (MEGA): jessica.wolf@ubc.ca
- UBC Mining: ubcminingmedia@gmail.com

- **G. M. Dawson Club: dawsonexecs@gmail.com**
- **UBC Sustaingineering: sustaingineering@gmail.com**
- UBC Physics Society: physsoc@phas.ubc.ca

Appendix E: Promotional Material

Poster:

Instagram Story Design:

GSS Graphic:

Appendix F: Times and Buildings visited on March 21st, 2024

- 12:00 CIRS
- 14:00-14:10 Fred Kaiser, ground floor and study spaces on the first floor close to the stairs
- 14:10-14:25 MacLoed, first floor and ground floor
- 14:25-14:30 The Rusty Hut
- 14:30-14:45 Forestry Sciences, main study space on the ground floor
- 14:45-15:00 IC/CS Building, where Pho Real is, up the stairs where study spaces are and the study spaces that are perpendicular to Main Mall on the first floor
- 15:00-15:15 Earth Science Building, ground floor
- 15:15-15:30 CIRS, ground floor, first and second floor

Appendix G: Primary Data Tables and Graphs

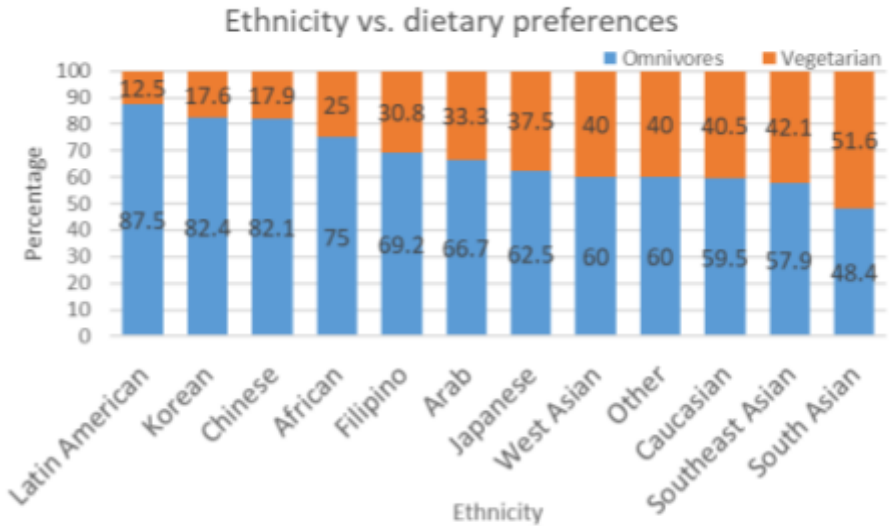


Figure G1: The dietary preferences of UBC students and their ethnic backgrounds.

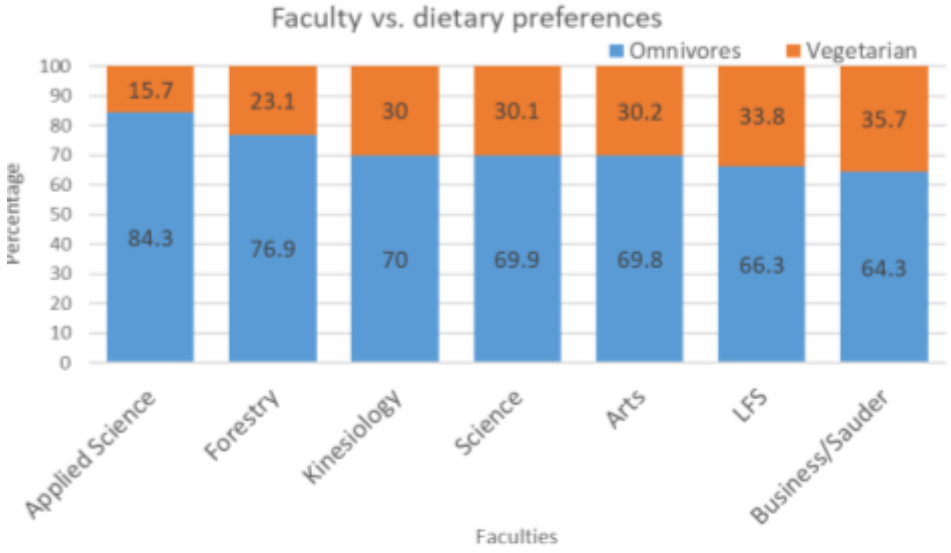


Figure G2: The dietary preferences of UBC students categorized by their faculties.

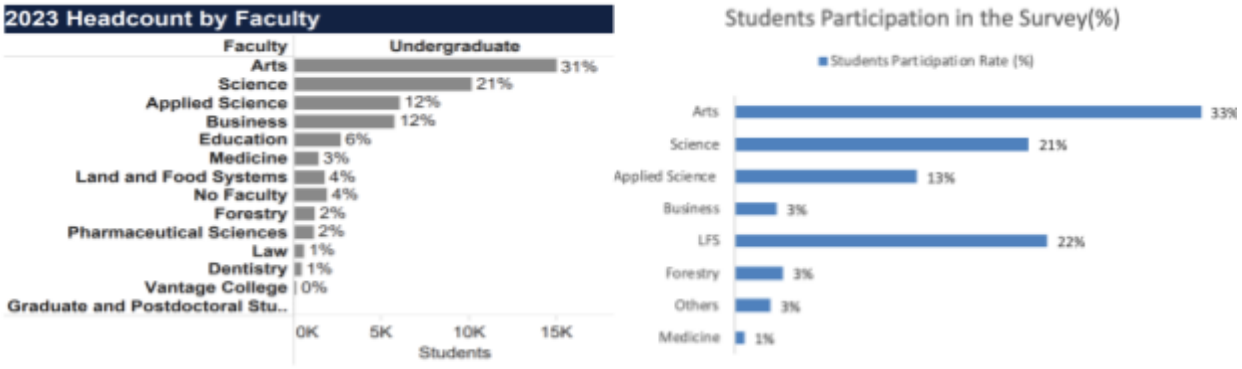
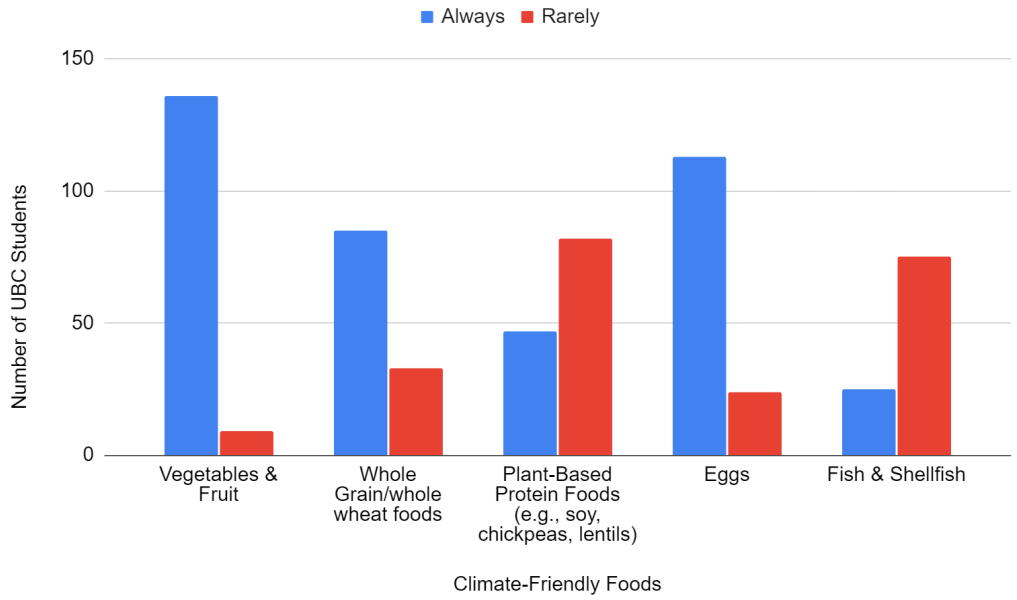


Figure G3: Data Representativeness: Compare the recruitment of % of students from each faculty in our survey with UBC Demographic Reports

Figure G4: The original Pho Real menu is on the left, while the modified version features meat served as toppings instead of main dishes on the right. Each topping is accompanied by earth images indicating their climate-friendliness, with green representing eco-friendly options and red denoting non-environmentally friendly choices.

Appendix H: Supplementary Data Tables and Graphs of the survey questions

Figures H1. and H2: Climate and non-climate friendly dietary sources predominantly consumed by UBC students.



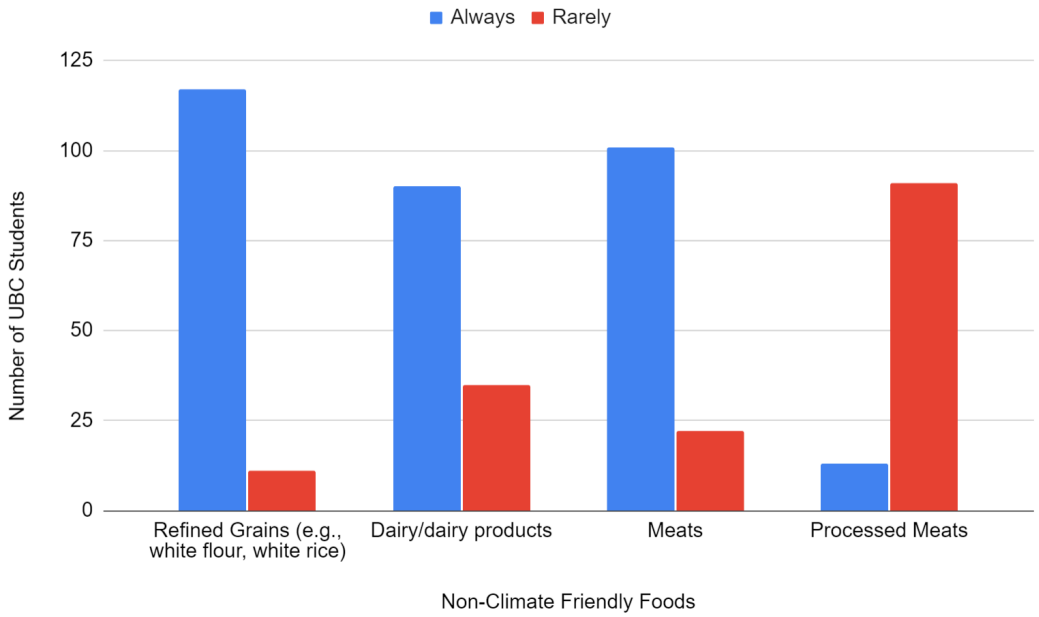


Figure H3: Different criteria taken into consideration by UBC students when purchasing food items.

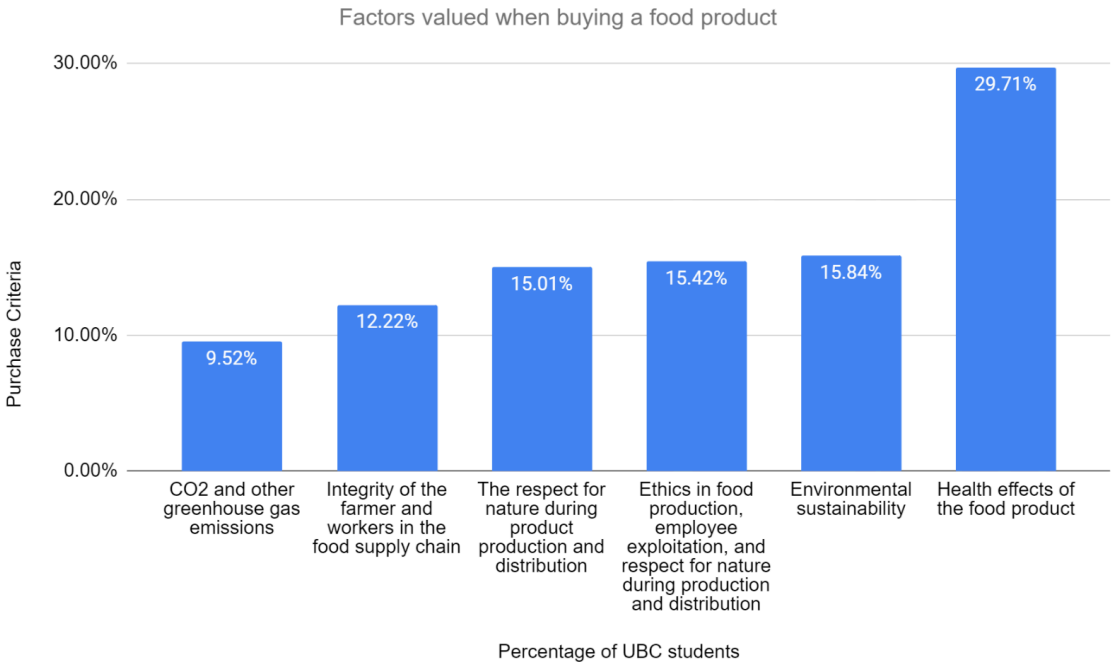


Figure H4: The impact of food labels on the food purchasing decisions of UBC students.

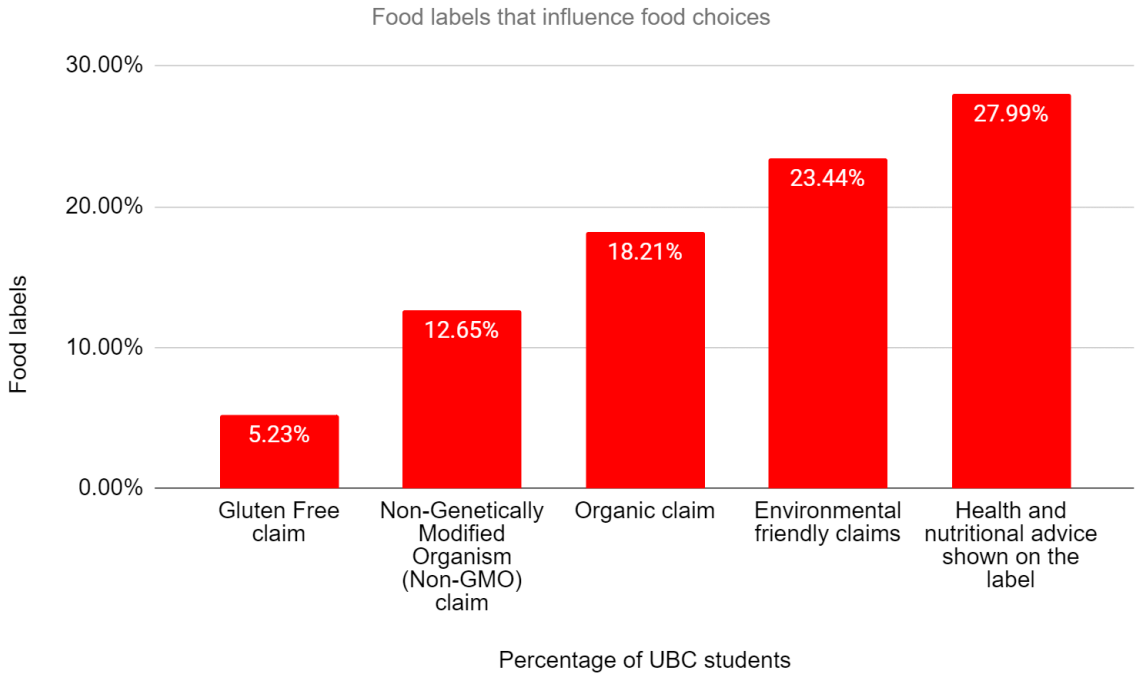


Figure H5: The motivation of UBC students to adhere to a climate-friendly diet during exam periods (1: not motivated at all, 5: very motivated).

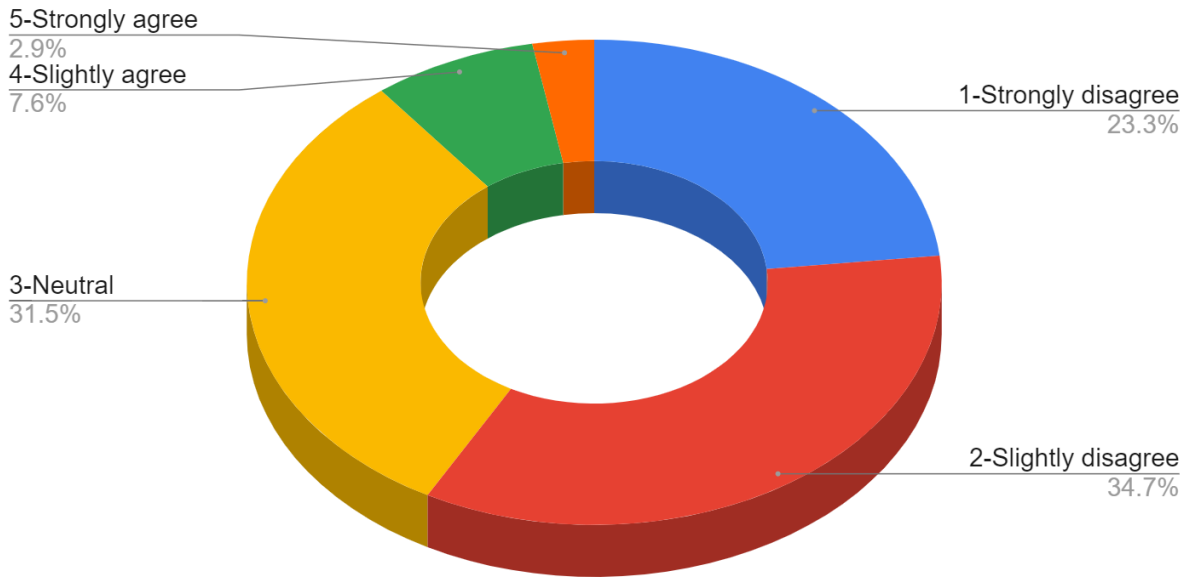


Figure H6: Difficulties encountered by UBC students while attempting to select climate-friendly options when dining at UBC.

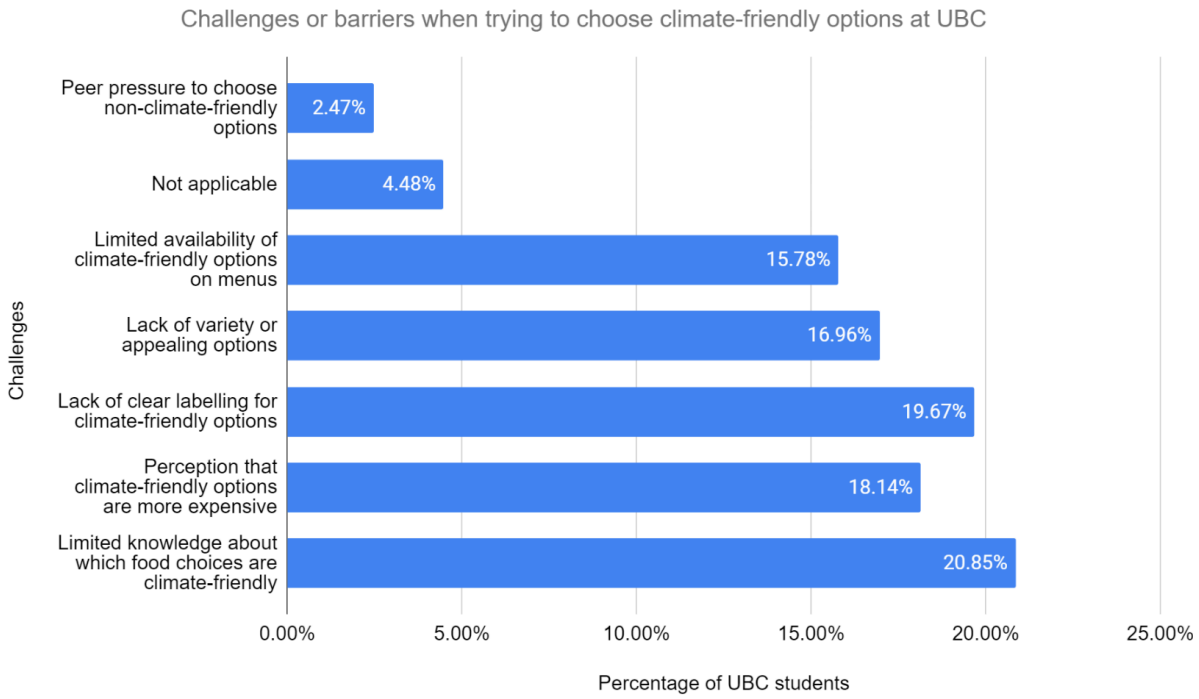


Figure H7: Difficulties encountered by UBC students while attempting to select climate-friendly options when dining outside of UBC.

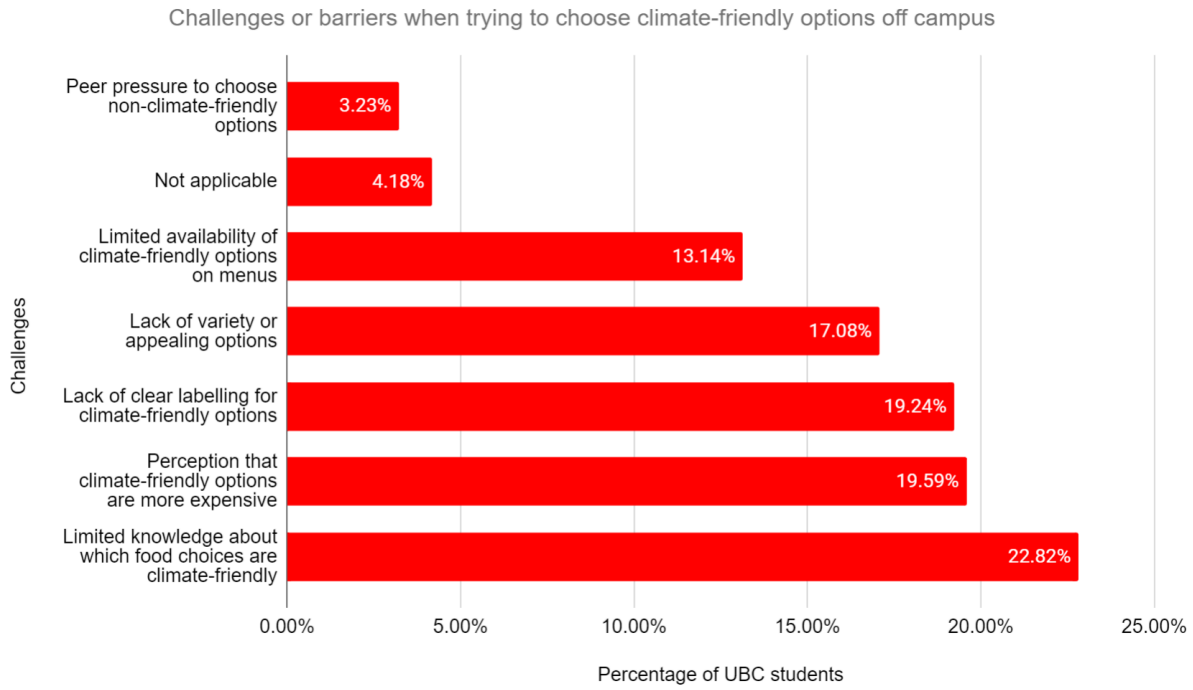


Figure H8: The extent to which UBC students concur with the statement: "I am willing to change my dietary habits to align with my environmental values, even if it requires sacrificing some convenience or taste preferences".