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RESEARCH

Freedom and the Ethics of Plant-Based Diets in University Food Services

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Abstract
A number of universities have implemented policies to increase the proportion of plant-based items offered by their food services as part of efforts to promote environmental sustainability and health. This article explores student freedom as an ethical issue in this context. Our central claim is that, while freedom is indeed an important ethical concern for university plant-based food initiatives, these efforts can avoid unjustifiably interfering with freedom if certain conditions are met. We suggest four criteria: (1) public messaging surrounding dietary choices should avoid stigmatizing meat-eating, (2) menus should retain some animal-source foods and ensure that plant-based substitutes included nutritionally fortified and whole food options, (3) the aggressiveness of the transition should be calibrated to student support, and (4) plant-based menu items should be appealing on their own terms.

Keywords Food ethics · Food services · Freedom · Liberty · Plant-based food · Public sector · Vegetarianism

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Introduction

A growing number of universities in Europe and North America are implementing initiatives to increase the proportion of plant-based offerings and reduce animal products in their food service menus. For example, four universities in Berlin have committed to serving only one meat option four days a week, resulting in a menu that is 68% vegan and 28% vegetarian (BBC 2021). Many Canadian universities are also implementing policies that aim to increase the proportion of plant-based offerings, including the University of British Columbia's plan to serve 80% plant-based foods in dining halls by 2025 (Ahouman 2023). Similar initiatives can also be found at universities in the United States (Elliott 2020), such as at the University of Texas Austin, which achieved a target of offering 50% plant-based meals in 2024 (Gingerella 2024). Additionally, large food service providers that work with hundreds of universities across North America have goals for plant-based offerings. Sodexo and Aramark aim to serve 33% and 44% plant-based options respectively by 2025 (Aramark 2022; Sodexo 2024). These initiatives are motivated by climate and public health concerns, as a shift towards plant-based diets is widely seen as an important for addressing climate change and beneficial for population health (Bellarby et al. 2013; Djekic and Tomsevic 2021; Springmann 2020; Gerber et al. 2013; Mbow et al. 2019; Willett et al. 2019).

We use the term "plant-based food" and related expressions like "plant-based options" to refer to foods sourced from plants, while "plant-based diet" is used in a looser way to refer to a variety of diets—vegan, vegetarian, pescatarian, flexitarian—that reduce meat consumption (Kent et al. 2022). University plant-based food initiatives, then, aim to increase the proportion of plant-based foods on the menus of university foods services.

While plant-based food initiatives are gaining steam on university campuses across North America and Europe, criticisms that such measures unduly restrict freedom of choice have also emerged. At the University of Kent, students and staff expressed concerns over lack of options for those with allergies and intolerances, and loss of food variety and freedom of choice (Pallant 2023). And at the University of British Columbia, an increase in plant-based options led some students to request more meat dishes (Ahouman 2023). Such concerns occur within a polarized media context in which opponents of plant-based food initiatives stoke fears of a "Vegan Agenda" promoted by an authoritarian elite and warn of "infringement on personal choice and traditional values" (Sievert et al. 2022).

Consequently, it is worth exploring whether university initiatives to increase plant-based food offerings in their food services may unjustifiably restrict student freedom. Of course, freedom is not the only relevant concern to university decision-makers on this matter. Whether a university should adopt a plant-based food initiative is a complex question that involves a number of considerations, including costs,[1] student receptiveness, and expected impacts. While freedom is one aspect of the issue, we believe it is important, especially with respect to ethics. After all, if removing the majority of meat dishes from university food service menus were an unjustifiable intrusion upon the freedom of students, then there would be a reason against it even if it were cheap and effective. In addition, the question

[1] Minimal data are available detailing the costs of shifting university food services toward plant-based options. However, a two-year initiative increasing plant-based proteins and reducing animal-source proteins in a public school district in California saved $42,000, or 1% per meal (Hamerschlag & Kraus-Polk 2017). Additionally, a study of 6,000 food service providers in France, including colleges and hospitals, found meals were cheaper in locations that more frequently served vegetarian options (Un Plus Bio 2020).

is complex enough to merit careful consideration, because "freedom" can be interpreted in multiple ways and because some restrictions on freedom are justifiable.

Our ethical analysis examines two ways in which plant-based food initiatives in university food services could constrain student freedom. Such initiatives might coerce students to change their diets, and they might restrict students' freedom of choice. These two concerns are ethically distinct insofar as avoiding unjustified coercion is a negative duty, while providing a good range of options that support free choice is a positive obligation. Whereas a negative duty is a responsibility *to not do* something, such as harming others, a positive duty is an obligation *to do* something, such as providing assistance (Capriati 2018). Negative duties of the state to avoid coercion are sometimes claimed to be especially weighty when it comes to behaviors, such as religious and cultural practices, closely tied to people's identities (M'hamdi 2021). Since meat eating is arguably an identity-linked behavior of this sort, some question the justifiability of state coercion as a means for reducing it (Rajczi 2016, p. 107). Transitioning to exclusively or predominantly plant-based items in university food services might also be thought to conflict with a positive duty to provide a broad array of dietary options. Since universities plausibly have negative duty to avoid unjustifiably coercing students and a positive duty to provide students a good range of options, we take our discussion to be relevant to governing bodies of universities. And given that freedom is a central issue in controversies surrounding calls for reduced meat consumption (Sievert et al. 2022), our ethical analysis is also relevant to public debate on the issue.

Our approach is one of normative ethics concerned with clarifying and rationally assessing claims about what should and should not be done. We employ a method of reflective equilibrium, which seeks to find a well-reasoned balance between moral principles and informed judgments about concrete examples (Helms 2024). Given this approach, we propose that initiatives to increase plant-based options can avoid unjustifiable interference in student freedom provided that certain conditions are met. These conditions are: (1) public messaging should steer clear of stigmatizing meat eating, (2) menus should retain some animal-source foods and ensure that plant-based substitutes include nutritionally fortified and whole food options, (3) the aggressiveness of the initiative should be calibrated to student support, and (4) plant-based menu items should be appealing on their own terms. Conditions (1) and (2) arise mainly from our discussion of coercion, while (3) and (4) are relevant to ensuring adequate freedom of choice.

Our paper is structured into three further sections. The next Sec2 provides a background to the ethics of the topic, explaining that, while a few authors have argued in favor of plant-based food transitions at universities, they have not adequately addressed concerns that such measures would unjustifiably restrict freedom. The following Sec3 examines the issues of coercion and freedom of choice noted above and develops recommendations in connection with that ethical analysis. Finally, the concluding Sec6 considers the relevance of our arguments to other institutions, such as hospitals, that may be considering increasing the proportions of plant-based meals that they serve.

Ethics and University Plant-Based Food Initiatives

We take initiatives by university food services to reduce meat and increase the proportion of plant-based items in their menus to involve a package of elements. These include new arrangements with suppliers, retraining food service staff, updating menus, and public messaging that informs the university community of the changes and their rationale. These initiatives can be more or less aggressive in the proportion of plant-based meals they aim to serve and in how quickly they plan to make the transition.

A variety of ethical issues might be raised in connection with university plant-based food initiatives, but our focus here will be on the possibility that they may constrain the freedom of students who rely on university food services for most of their meals. While other members of the university community, such as staff and faculty, may also make use of university food services, we focus on students. Students typically far outnumber staff and faculty at universities and importantly are more likely to live on campus and eat multiple meals per day at university dining halls. Moreover, students residing in on-campus residences are sometimes required to purchase a university meal plan. As a result, plant-based food initiatives at universities impact the freedom of students more than staff and faculty.

However, the fact that a policy restricts the freedom of a particular group does not necessarily mean that it is unjustified. The question of when interventions that restrict freedom to promote a broader public good can be justified is in fact a central question of public health ethics (Childress et al. 2002; Upshur 2002). Justifications for freedom-restricting interventions include preventing harm to others as well as securing equal access to essential services and opportunities, such as health care and education (Rajczi 2016). For example, indoor smoking prohibitions restrict the freedom of smokers but are justified because they reduce health risks of second-hand smoke exposure. A publicly funded universal healthcare system levies taxes and thus limits people's freedom to do what they want with their money but can be defended on the grounds that it is necessary for an equitable society (Daniels 1985).

Some authors argue that freedom can be interpreted in multiple ways, and that interventions may restrict freedom in one sense while increasing it in others (Griffiths and West 2015). For instance, a tax on sugar sweetened beverages might restrict freedom by forcing some to reduce their consumption of soft drinks, but it could also increase freedom by improving health, which is necessary for making effective use of opportunities (Véliz et al. 2019).

Many of the justifications for restricting freedom noted above apply to university initiatives to transition their food service menus towards a greater proportion of plant-based options. Begin with the idea that preventing harm to others can be a justification for interventions that restrict freedom (Upshur 2002). Animal agriculture contributes significantly to climate change, accounting for an estimated 12% of overall anthropogenic greenhouse gas (GHG) emissions as of 2015 (FAO 2023), and approximately 57% of total emissions from food production (Xu et al. 2021). In terms of other environmental impacts, livestock production is a prominent driver of habitat loss, soil loss, and water and nutrient pollution (Machovina et al. 2015). According to the FAO, the "livestock sector emerges as one of the top two or three most significant contributors to the most serious environmental problems" at all scales (FAO 2006). In contrast, research indicates vegan diets have the lowest average carbon footprint, followed by vegetarian diets, then omnivorous diets (O'Malley et al. 2023; Rosi et al. 2017). In addition, harmful effects of climate change tend to fall most heavily

on low-income people, racialized minorities, and Indigenous groups (Parsons et al. 2024). Thus, a duty to avoid causing wrongful harm to third parties is a potential justification of plant-based food initiatives at universities.

Health benefits for those impacted by the intervention are also relevant. Consumption of processed meats is strongly associated with negative health outcomes including increased risk of cardiovascular disease, type 2 diabetes, as well as colorectal, breast and endometrial cancers (Richi et al. 2015). There is also evidence suggesting that red meat consumption increases risks of coronary heart disease (Al-Shaar et al. 2020) and colorectal cancer (Kossenas and Constantinou 2021). In comparison, plant-based diets have been found to be associated with reduced risks of cardiovascular disease, type-2 diabetes, cancer, obesity and osteoporosis (Bui et al. 2024; Bye et al. 2021). A recent clinical trial that randomly assigned twins to vegan or omnivorous diets also found that vegan diets resulted in improved cardiometabolic outcomes (Landry et al. 2023). However, some studies find potential health risks associated with plant-based diets, including deficiencies in vitamin B_{12}, vitamin D, calcium, and iodine (Key et al. 2022). Overall, the healthiest diet is not necessarily completely plant-based, but instead one that is high in plants and low in processed foods (Katz and Meller 2014). Consequently, while university plant-based initiatives may cause omnivore students to consume less meat than they otherwise would, a shift toward diets with more fruits and vegetables has the potential to improve health. Since health is important for a person's ability to access opportunities, dietary changes in this direction can arguably enhance freedom in a similar manner as consuming less sugar sweetened beverages (Véliz et al. 2019).

A case can be made, however, that there are morally relevant differences between interventions to discourage meat-eating and similar policies directed at things like sugar sweetened beverages, smoking, and alcohol. For example, Rajczi (2016) argues that tobacco taxes are ethically justifiable from the perspective of political liberalism, in which freedom is the most important value, but he nevertheless suggests that state interventions to strongly discourage meat consumption are impermissible, even if supported by a majority of the populace.

Consider two interconnected rationales for this view. First, meat consumption is often of cultural significance, as illustrated by roasting a Thanksgiving turkey or eating lamb on Eid al-Adha. Thus, interventions that restrict people's ability to consume meat could be viewed as an unjustifiable form of state perfectionism, in which the government seeks to impose a specific vision of the good life on the population (cf. M'hamdi 2021). Second, meat and other animal-source foods differ from products like tobacco and sugar sweetened beverages in being a source of nutrition. The fact that some people report adverse health effects as reasons for being unable to maintain a vegan diet (Williams et al. 2023) reinforces concerns that university food service menus in which plant-based foods were the only option would unjustifiably restrict student freedom.

Several authors have proposed justifications for policies that aim to reduce meat consumption (Bernstein and Dutkiewicz 2021; Ferguson 2024; Kiesselbach and Pissarskoi 2023; Krattenmacher et al. 2023). However, we know of only two publications that discuss the ethics of university plant-based food initiatives. Krattenmacher et al. (2023) argue that, because of the climate impacts of animal agriculture, universities have a moral obligation to reduce the quantity of animal-source foods they serve. Furthermore, they claim that meat-centric menus in university dining halls undermine public statements regarding the urgency of climate change by sending an implicit message that such pronouncements are empty and

entail no significant responsibility to act (Krattenmacher et al. 2023). Krattenmacher et al. recommend starting with "soft measures," such as providing information and ensuring that plant-based options are available and warn that overly abrupt policies to discourage meat consumption may be counter-productive (2023). However, they do not discuss concerns that university plant-based food initiatives would unjustifiably restrict student freedom.

The ethics of university plant-based food initiatives are also discussed in an article by Ferguson (2024). Ferguson argues that people responsible for catered events within midsize organizations like universities, businesses, hospitals, and municipal governments should adopt a policy of ordering only plant-based foods. Ferguson suggests that such efforts fall in a sweet spot between providing information and raising prices of animal-source foods (2024). Unlike informational approaches, plant-based catering at universities has a direct impact on food procurement and consumption, while being, in Ferguson's view, much more politically feasible than taxes on meat (2024). Importantly for our purposes, Ferguson takes up the objection that university plant-based food initiatives could unjustifiably restrict the freedom of omnivores (2024, 12–13). In response to this objection, Ferguson points out that the variety of foods offered at a single catered event is inevitably limited, so there is no reasonable expectation of a broad array of culinary choices in such contexts. The absence of meat options at an event, Ferguson contends, is not a morally significant restriction of freedom.

While interesting, Ferguson's argument only considers event catering, not regular university food services like dining halls, which matters for concerns about freedom. One reason to think eliminating meat options at a catered event is not a morally significant limitation of freedom is that it does not impact the day-to-day food choices of attendees. That differs significantly from the situation of a student who depends on university cafeterias for most meals. In this case, exclusively plant-based menus would enforce a major shift in diet upon omnivorous students. That makes the concerns noted above—about state perfectionism and the difficulty of some to gain adequate nutrition from a vegan diet—more acute.

University plant-based food initiatives, then, raise ethical concerns relating to freedom that have yet to be adequately addressed. The major unresolved issues have to do with the fact that some students rely on university food services for most of their meals, along with cultural significance of meat-eating and the fact that some may struggle nutritionally with a vegan diet. These factors make concerns about coercion and freedom of choice more acute than they would be for products like tobacco and alcohol.

Freedom and University Food Services

In this section, we explore two ways that plant-based food initiatives at universities could be argued to unjustifiably restrict student freedom: by coercing omnivore students to change their diets and by restricting freedom of choice. We argue that, while important, these concerns can be addressed if plant-based food initiatives at universities are implemented appropriately.

Our ethical analysis employs a method of reflective equilibrium, in which ethical principles are balanced against considered judgments about examples to form a recommendation (Helms 2024). The central principle in Sec4 is that reducing risks of wrongful harm to others can justify restricting freedoms, while the key principle in Sec5 is that university food

services should provide students with a good range of options. Applying these principles requires carefully considering their limits and interpretation, which a reflective equilibrium approach can support. A reflective equilibrium is considered "wide" if it considers ethical principles in connection with more general theories as well as examples (Daniels 1996). One aim of wide reflective equilibrium is to identify principles that a broad range of ethical theories can support (Rawls 1971). We think that is the case for both of the principles we focus on here (Rajczi 2016). In addition, wide reflective equilibrium can inform decisions about how to interpret ethical principles. Theoretically informed reasoning about what constitutes coercion and a good range of options play important role in the following respective subsections.

Negative Freedom and Coercion

Negative freedom, or negative liberty, is the absence of external interference in one's behavior, such as physical constraints and coercion (Berlin 1969). Locking someone up in a jail cell and threatening harm unless a person does what you want are both examples of restrictions on negative freedom. Since replacing meat with plant-based options in the menus of university food services does not physically constrain anyone, coercion is the natural focus here. Does limiting animal-source food options in university food services unjustifiably coerce omnivorous students to change their diets?

To answer this question, it is first necessary to consider whether plant-based food initiatives at universities are coercive. Whether a policy is judged coercive depends in part on how "coercion" is understood. Anderson (2010) distinguishes two approaches to coercion that he labels "pressure" and "enforcement." Pressure approaches take coercion to entail communicating a credible threat of harm or penalty if a person does not behave as desired. Enacting a law that fines people for eating meat would be an example of coercion in this sense. However, replacing meat dishes with vegan alternatives in university dining halls would not be coercion according to the pressure approach. No penalty is threatened against those who choose animal-source items that remain on the menu or who obtain meat outside the confines of university dining halls.

However, an argument for a threat to negative freedom is more plausible given an enforcement approach to coercion. According to enforcement approaches, coercion occurs when powerful actors, such as governments or large corporations, create conditions that determine the behavior of others (Anderson 2010). This includes but is not limited to using threats, as social circumstances can also be designed to enforce a behavior by systematically excluding alternatives. For example, consider car-centric urban design in which all modes of transportation except driving are extremely dangerous and inconvenient. While the decision-makers who implemented this design have not threatened would-be pedestrians and cyclists, they have created conditions in which walking and cycling come with prohibitive risks. Normalizing car-centric urban design can also impact majority views about those who don't drive. Non-driving may come to be stigmatized as an option that only poor people or self-righteous environmentalist do-gooders would select. These conditions, it could be argued, exert a strong coercive force on people to drive. One might claim that extremely limited or non-existent animal-source offerings in university food services could have a similar effect on omnivorous students. While students are technically free to seek alternative food options off campus, these might be inconvenient to access or expensive. And if public

messaging explaining the menu change implies that meat eating is immoral, omnivores may be stigmatized as morally deficient.

In response, one might insist that the pressure approach to coercion is correct, so plant-based menus at university dining halls simply do not impinge on negative freedom at all. But we think it is worth taking the enforcement approach to coercion seriously. One reason is that our argument is more robust if it does not depend upon a narrow and disputable interpretation of "coercion." Robustness in the sense of not being overly dependent on a single theoretical outlook is an important aspect of wide reflective equilibrium. Besides that, we think there is a good deal of plausibility to the idea that social systems can coerce without making threats. As the example of car-dependent urban design suggests, one way to coerce people to adopt a behavior is to make alternatives highly inconvenient and to encourage a culture in which those alternatives are stigmatized.

There is, then, a plausible sense in which plant-based food initiatives at universities *could* coerce students. However, whether such initiatives *actually* coerce and do so *unjustifiably* depends on the details. To start, whether a university's plant-based initiative actually coerces depends on the proportion and quality of animal-source foods that are retained. For example, it would be difficult to argue that the University of Texas at Austin coerced omnivores when 50% of the meals it served in 2024 were plant-based (Gingerella 2024). To the contrary, if the status quo ante had been meat-centric menus with few plant-based options, the primary change would be to reduce coercion of vegan and vegetarian students. However, some universities have more ambitious plans for plant-based foods. Erasmus University in Rotterdam, for instance, aims to make vegan foods the norm on its campus by 2030 (Erasmus University Rotterdam 2023). The term "norm" suggests a high proportion that may fall short of 100%. However, the example of car-dependent urban design suggests that coercion can exist even if alternatives are not eliminated. A painted bicycle lane on the fringes of a congested six-lane road does little to reduce the coercion to drive. Thus, exclusively plant-based menus in university food services could be coercive, as could retaining only a few, poor quality animal-source items.

Turn then to the question of whether such coercion could be justified. Since greenhouse gas emissions linked to university food services are an external harm, the principle that preventing harm to third parties can justify coercion is relevant here. However, it is obvious that this principle cannot be invoked without limit. The degree of coercion should be reasonably proportional to the reduction of harm. The more minimal the coercion, therefore, the easier it is to justify. We suggest that coercion in the present case can indeed be kept to a fairly minimal level provided that stigmatization is avoided, the menu retains some animal-source foods and includes nutritious plant-based options.

To begin, note that coercion in the broader sense of the enforcement approach is to some extent inevitable. Societies cannot be designed to prioritize all interests and choices, so social structures will necessarily favor some over others. Not everything can be on the menus of university dining halls, and choices must be made about what to leave off. In the same manner, no system of transportation can prioritize all forms of mobility. Ethical worries about coercion in the enforcement sense, then, become significant only when alternatives are systematically limited in a way that is harmful or unjust. Thus, car-centric urban design is ethically problematic because it has adverse environmental and health effects, discourages active transportation, and disproportionately subjects racialized minorities and people with low-incomes to deadly risks (Roll and McNeil 2022). Absent harm or injustice,

we suggest that coercion in the sense of the enforcement approach is fairly minimal. That leads to the question of whether harms or injustices might arise in the case of university plant-based food initiatives.

To explore this issue, let us return to a concern raised in section two, namely, state perfectionism. State perfectionism occurs when the state attempts to force a particular view of the good life onto its population, and its opposite, state neutrality, means that the state remains impartial between different conceptions of how people should live their lives (Lowry 2011). Hafez M'hamdi argues that complete state neutrality is incompatible with public health, since the state has good reason to encourage such things as non-smoking, exercise, and healthy diet (2021). Nevertheless, M'hamdi suggests that there are limits to how far state perfectionism can be justified. Most importantly for our purposes, he claims that "public health policy should not force or coerce citizens to abandon or revise their deepest personal, morally acceptable and epistemically sound conceptions of what constitutes a valuable life in their eyes" (M'hamdi 2021, p. 40). A legal requirement to wear a seatbelt while riding a car plausibly does not contravene this criterion, but a ban on meat arguably would.

Consider how state perfectionism relates to university plant-based food initiatives. To make the connection, one would need to see universities as agents of the state. This is relatively unproblematic for public universities, which may be expected to uphold key aspects of state neutrality, for instance, on the matter of religion. It is less clear that private universities have obligations of neutrality, but since all the examples of plant-based initiatives mentioned above involved public universities, we set aside that complication here. Given M'hamdi's criterion, then, the question is whether exclusively plant-based menus at university dining halls would force or coerce students to abandon fundamental aspects of their identity related to eating animal-source foods. We claim that the answer here is *no*. The reason is that students can continue to engage in those practices outside of university canteens. For example, a student could share a Thanksgiving turkey with family and friends in a private residence. Indeed, we think it is ordinary for cultural and religious practices linked to meat eating to be practiced in settings not under the aegis of the state.

But concerns about state perfectionism do suggest that university plant-based food initiatives should be careful not to stigmatize meat consumption. Stigmatization can be viewed as a form of social coercion that enforces particular behaviors. While varying definitions of stigmatization exist, the term generally refers to marking certain human characteristics as undesirable and shameful (Courtwright 2009). Stigma is usually driven by negative moral judgments that more powerful members of society make about a marginalized group (Frost 2011). In addition, stigmatization often imposes social costs upon those who engage in behaviors that run counter to social norms (Frost 2011). Public messaging surrounding a university's sustainable food service initiative would risk stigmatizing omnivorous students if it suggested that meat eating is immoral.[2] There are strong ethical reasons to avoid stigma in public health, including its potential to generate health inequities (Courtwright 2009) and to encourage moral complacency among the non-stigmatized (Dean 2014). Moreover, some research finds that stigmatization is ineffective in motivating positive behavior change (Pont et al. 2017). The cultural and religious importance of meat to many people reinforces these

[2] Note that our claim here is only about public messaging. We support discussing arguments about the morality of meat eating in ethics classes, and recognize that such discussions may have behavioral effects (Schwitzgebel et al. 2020).

arguments, since it suggests that stigmatizing meat eating could unjustifiably coerce people to abandon important aspects of their identities.[3]

Avoiding stigmatization entails that public messaging surrounding plant-based initiatives at university food services should be framed positively. Messaging should emphasize the appeal and tastiness of plant-based options as well as environmental sustainability. Since omnivores tend to associate positive food experiences with meat dishes, promoting plant-based options with language and images suggesting enjoyment may be needed to increase uptake in the broader population (Papies et al. 2024). Think "crispy veggie straws with decadent miso dip," not "meat is murder."

Another concern is that a vegan diet may not be nutritionally adequate for some people. Some vitamin deficiencies may be more common among vegans and vegetarians than omnivores (Key et al. 2022), and some individuals have quit vegan diets due to feelings of undernourishment (Williams et al. 2023). The nutrition and dietetics profession endorses vegetarian and vegan diets comprised of whole foods, fortified foods and supplements (Melina et al. 2016), which have been shown to attenuate vitamin deficiencies in vegans (Weikert et al. 2020). Nevertheless, we think this concern should be taken seriously. This issue is particularly relevant to students who depend on university food services for the bulk of their meals. A student who struggled to gain adequate nutrition from a vegan diet might suffer health problems because of exclusively plant-based menus at university dining halls, especially since it is not feasible to administer vitamin B_{12} supplements to individual students. And feeling unsatisfied or fatigued, regardless of actual nutrient deficiency, is arguably harmful. Thus, there is a reasonable argument for viewing such circumstances as unjustifiably coercive. Note that similar concerns are not relevant to plant-based events catering, as occasionally eating a vegan meal is not a health risk for anyone. It is also possible that increased availability of healthy plant-based foods, future research and product development may eliminate nutritional concerns (Espinosa et al. 2024; Key et al. 2022). But at present, we suggest university plant-based food initiatives should not aim for 100% vegan menus in all university food services, and should ensure that any animal-source options taken off the menu are replaced with plant-based options that consist of whole foods and fortified foods (e.g., soy milk fortified with vitamin D and calcium)., soy milk fortified with vitamin D and calcium).

To sum up, we think it is possible for plant-based food initiatives in university food services to be coercive and infringe on negative freedom. However, the details matter for whether they do in fact coerce, and if so, whether the coercion is justified. A university food service could avoid being coercive in at all simply by retaining a wide range of both animal-source and plant-based options. Food service menus consisting predominantly plant-based foods might be coercive in the sense of the enforcement approach. It is possible for such coercion to be justified on the grounds of reducing external risks related to greenhouse gas emissions. However, following the method of reflective equilibrium, this justification requires balancing the principle that coercion can be justified by preventing harms to others against considered judgments about examples of unjustified coercion. The two problematic types of coercion in this case involved stigmatization and risks of adverse health effects among those who struggle to obtain adequate nutrition from a vegan diet. That results in two recommendations about how university plant-based food initiatives can be implemented

[3] Of course, stigmatization of plant-based diets is also bad, and perhaps more prevalent in many parts of the world.

while avoiding unjustified forms of coercion: (1) public messaging surrounding university plant-based food initiatives should avoid stigmatizing meat-eating, and (2) menus should retain some animal-source foods and ensure that plant-based substitutes included nutritionally fortified and whole food options. The discussion of pressure and enforcement views of coercion is an important aspect of this argument that illustrates the interplay of theory and principles in wide reflective equilibrium. For the reflective equilibrium to be wide, it is important that our argument not rely on a narrow understanding of coercion.

Freedom of Choice

While negative freedom is the absence of external interference, freedom of choice as elaborated by Sen (1988) means having a good set of options to choose from.[4] In contrast to a negative duty of non-interference, freedom of choice entails a positive obligation to make options available. This often requires intervention by collective actors like educational institutions and government agencies. Thus, Sen (1988) emphasizes government programs that promote universal access to education, nutrition, and medical care as crucial to freedom of choice. This leads us to a second potential ethical concern for efforts to transition university food services to mostly plant-based menus. Would these unjustifiably restrict students' freedom to choose?

We approach this question from the principle that university food services have an obligation to offer a good set of options to students. There are of course limitations to this principle, such as cost and consistency with other values to which the university is committed. Thus, a university commitment to environmental sustainability might motivate a reduction in the meat dishes served independently of considerations about a good range of options. However, that line of thought leads back to the previous subsection, where we examined the extent to which avoiding harms to others can justify reducing animal-source foods in university dining halls. In this subsection, we focus specifically on a different issue, namely, what constitutes a good set of options.

We interpret a "good set of options" from the perspective of Sen's capability approach (Sen 1999). Capabilities are substantive freedoms, such as access to healthcare and education, that enable people to achieve "functionings," that is, desired states such as health, relationships, and a career. Since access to nutritious food is a capability, it is obvious that a good set of food options would have to meet nutritional needs. Given uncertainty about whether everyone can acquire adequate nutrition from an exclusively vegan diet (Key et al. 2022), freedom of choice reinforces the recommendation to retain some animal-source foods in university food-service menus.

We suggest that preferences also matter within a capability approach. Only having access to nutritious food that one strongly dislikes because of taste or other reasons is analogous to a child who must walk ten kilometers to go to school. In both cases, there is a signifi-

[4] Sen uses the terms "freedom of choice" and "positive freedom" interchangeably, but this differs from Isiah Berlin's (1969) seminal usage of "positive liberty." For Berlin, "positive liberty" refers to the ability to be self-governing and free of external manipulation. Berlin argued that positive liberty could serve as a rationale for authoritarianism, since the state might for example justify censorship on the grounds that it protects citizens from indoctrination. In contrast, Sen's freedom of choice is not focused on the authenticity of preferences, but instead emphasizes the value of being able to choose from a decent set of options. Since Berlin's understanding of positive liberty remains prominent (cf. Carter 2003), we use the term "freedom of choice" to avoid misunderstanding.

cant impediment to the capability. Conversely, access to foods that are both nutritious and desired is freedom-enhancing from the perspective of the capabilities approach. The range isn't good if you hate everything on offer, but a good set of options can include nutritious foods you dislike and exclude some unhealthy foods you desire. Consequently, the quality of a set of options is related to but not determined by preferences among the population in question.

Preferences are not simply a matter of habitual choices, since people may prefer to change their habits (Frankfurt 1987; Sen 1977). Although rates of vegetarianism and veganism sit at 10% or lower at several post-secondary institutions (Caravello et al. 2023; Izmirli and Phillips 2011; Middleton and Littler 2019; Olfert et al. 2020), a larger percentage of students report reduced meat consumption and there is strong student advocacy for plant-based menus at several universities in Canada, the US, the UK, and Germany (Bedendo 2024; Dullaghan 2024; Ahouman 2023; BBC 2021; Middleton and Littler 2019; Izmirli and Phillips 2011). Furthermore, many students who eat meat regularly may wish to cut back. For example, one survey at an American university found that 30% of respondents wanted to reduce their meat consumption, despite roughly 90% following an omnivorous diet (Davitt et al. 2021). The above statistics suggest that exposure to appealing, tasty, and nutritious plant-based foods in university dining halls would assist a non-trivial percentage of students in changing their diets in a desired way.

A consideration of freedom of choice, then, suggests a link between student preferences and how aggressive university plant-based food initiatives should be. Efforts to increase plant-based options in university food services can be more or less aggressive, for example, aiming for fully or partially plant-based menus, and if the latter, a lower or higher percentage. The timelines for achieving the chosen targets can also be longer or shorter. The higher the target proportion of plant-based items and the faster that target is to be achieved, the more aggressive the initiative. Other things being equal, the stronger and more prevalent meat preferences are among the student body, the farther an aggressive plant-based initiative will depart from a good set of food options. An emphasis on freedom of choice, therefore, suggests that the aggressiveness of a university plant-based food initiative should be calibrated to student support. Since food preferences likely vary from university to another, this entails a reason for different universities to proceed at different paces.

We suggest that freedom of choice is also linked to autonomy. Autonomy is the ability to be self-governing, which not only means being able to make informed, rational decisions in accordance with one's own values and goals, but also the ability to critically reflect on one's motivations and desires (Dworkin 2015). Exposure to novel alternatives can promote autonomy by increasing knowledge of the range of options and how they interact with one's preferences. Discovering new foods that one enjoys can be an opportunity to rethink habits, and to consider behavior changes that better promote one's well-being. Autonomy in these matters depends not only on factual knowledge about the nutritional content and environmental impacts of different foods but also direct experience with them.

Autonomy can be viewed as a capability because it is linked to agency, which Sen understands to include reflection on one's values (Terzi 2022). In a similar manner, Martha Nussbaum views practical reason as a core capability, where practical reason involves the ability to critically reflect on one's life plans (Nussbaum 2000). Critical reflection about what constitutes a good life requires some understanding of the possibilities. For example, exposure to tasty and nutritious plant-based foods might prompt critical reflection about one's diet.

The importance of varied experiences to critical reflection about values fits with the central theme of the capabilities approach that freedom requires substantive supports and opportunities, not merely being left alone.

Consequently, we suggest that being exposed to plant-based cuisines can enhance autonomy by providing students with knowledge and experiences needed to make informed choices about which types of diets are best for them. Given that omnivore diets tend to be the most common, students are more likely to be aware of the ways that meat-based meals can be enjoyable while having less experience with tasty plant-based foods. Greater exposure to plant-based cuisine would promote the autonomy of students who are concerned about environmental or health issues and wish to alter their diets accordingly but are unsure of how to do so in a satisfying way. If behaving in a manner that is consistent with one's moral beliefs contributes to happiness (Miles & Upenieks 2022), then regular exposure to appealing plant-based food can enhance the happiness of people concerned about the environmental impacts of their diet. The autonomy of students who have never given much thought to the environmental or health impacts of their diet can also benefit, since experience with novel food types can result in more informed and reflective dietary preferences. Consequently, exposure to a broader array of plant-based options than one would ordinarily choose can arguably enhance freedom of choice by promoting autonomy.

The above considerations of preferences and autonomy also suggest that it is important for freedom of choice that plant-based foods be appealing in terms of taste and presentation. To be a good range of choices, the options must also be reasonably desirable. Thus, securing a good range of choices can depend on finding ways to make the more environmentally sustainable options preferable. Given that reduced meat consumption is widely seen as a key component of addressing climate change (Springmann 2020; Mbow et al. 2019), this entails a moral imperative to make plant-based foods attractive on their own terms, apart from considerations about nutrition and the environment. Similar points pertain to the link between freedom of choice and autonomy. Exposure to unsavory and unappealing plant-based foods would do little to broaden a person's culinary horizons. To play an autonomy-enhancing role, it is essential that the options demonstrate that the novel options can be attractive.

This section has argued that university plant-based food initiatives can respect students' freedom of choice provided they are implemented appropriately. Our argument again follows the reflective equilibrium approach, starting from the principle that university food services should provide students with a good range of options to choose from. The key problem in this case is to clarify what "a good range of options" entails. On the basis of examples and theoretical reasoning concerning capabilities, we suggest that preferences are an important but not the sole factor in whether a set of options is good for an agent. In the case of food, nutritional content also matters. Exposure to novel cuisines can also promote freedom of choice by enhancing autonomous decisions about diet. And preferences should not be equated with mere habits, which people may wish to change. For example, students may wish to shift to a more sustainable diet but be unsure how to do so. Thus, university plant-based food initiatives can be justifiable from the perspective of freedom choice, even apart from arguments about restricting freedom to prevent harm to others.

Nevertheless, our reflective equilibrium argument suggests two additional conditions for maintaining freedom of choice in university plant-based food initiatives: (3) aggressiveness of university plant-based food initiatives should be calibrated to student support, and (4) plant-based foods served in university canteens should be appealing on their own

terms. Condition (3) follows from preferences being an important factor in what constitutes a good set of options. University food service menus that diverged too radically from student preferences would not provide a good set of options and therefore would be difficult to justify. Condition (4) is linked to preferences as well as to autonomy. A more attractive set of options means less compulsion to choose among unpreferred alternatives, while novel food items have the potential to expand culinary horizons only if they are appealing.

Concluding Discussion

A number of universities have embarked on initiatives to transition their food services towards more plant-based fare and reduced reliance on animal-source foods. We have explored the question of whether such efforts might unjustifiably infringe on student freedom. That question is complicated by the existence of multiple interpretations of freedom and several possible justifications for restricting it. Freedom might be understood negatively, as the absence of coercion, or positively as requiring the provision of a good range of options to choose from. And while some reasons for limiting freedom, such as avoiding harm to others, are relevant to both, different ethical arguments arise in these cases.

Our central conclusion is that unjustifiable restrictions of freedom can be avoided in this context if certain conditions are met. These conditions are: (1) avoid stigmatization of meat eating, (2) retain some animal-source foods on the menu and ensure that plant-based substitutes include nutritionally fortified and whole food options, (3) calibrate aggressiveness of the initiative to student support, and (4) make plant-based foods appealing in their own right. Our discussion mainly supported (1) and (2) in connection with avoiding unjustified coercion, and (3) and (4) in connection with freedom of choice. Thus, stigmatization of meat eating is an unjustifiable form of social coercion, while the possibility that some fare poorly on vegan diets suggests that 100% vegan menus in university food services risks being unjustifiably coercive to omnivorous students. Our third recommendation—policy aggressiveness should be calibrated to student support—is linked to preferences being one component of what constitutes a good range of options needed for freedom of choice. Lastly, attractiveness of plant-based foods is important for offering a good range of sustainable food options. Note that freedom of choice can also provide reasons for recommendations (1) and (2). Stigmatization of meat eating would be an impediment to freedom of choice of omnivorous students, and 100% vegan menus would not be a good set of options for people who have difficulty with a vegan diet. Similarly, (3) and (4) make plant-based initiatives less coercive by reducing the compulsion to consume non-preferred foods.

Our arguments have several limitations. Since we have focused on ethical concerns surrounding freedom, we have not explored other considerations relevant to decisions about whether a university should embark on a plant-based foods initiative, such as cost effectiveness. We also have not examined animal rights or utilitarian arguments that eating meat is immoral (Regan 1980; Singer 1980). Limitations of the method of reflective equilibrium also should be noted, especially insofar as it relies on an intuitive balancing of principles and examples that might be done differently by different people (Holmgren 1989). In addition, our arguments are made entirely from the perspective of normative ethics and do not introduce new empirical arguments or data about the issue. For example, it would be interesting to know the extent to which university students see plant-based food initiatives as a

constraint on freedom, and whether views on this matter vary geographically or by other factors. Since our examples of university plant-based food initiatives are from Europe and North America, such data would be useful for assessing how broadly relevant our arguments are. We also have not explored the specifics of how university governance structures, which may vary from one educational institution to another, intersect with this issue. Finally, we have focused solely on universities, and have not discussed other public institutions, like hospitals and K-12 schools, that may also implement plant-based foods policies.

Although we have focused on university food services, we believe that our ethical analysis can be helpful in other contexts. Concerns relating to coercion and freedom of choice are relevant to other institutions, such as hospitals, that may consider plant-based food initiative (NYC Health+Hospitals 2024). Hospitals plausibly have a negative duty to avoid unjustifiably coercing patients and a positive duty to provide a good set of options in food services menus. In addition, health systems arguably have a moral responsibility to reduce their environmental footprint (Katz 2022). While the specific recommendations for hospitals might differ from those for universities, we think that the interplay between respecting freedom and meeting environmental responsibilities arises for plant-based food initiatives in both cases.

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Declarations

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